



FFAW | UNIFOR
Fish, Food & Allied Workers

Submission for Reinstatement of the Northern Cod Stewardship Fishery & Reaffirmation of the 115K Commitment

PREPARED BY :THE FISH, FOOD, AND ALLIED WORKERS UNION (FFAW-UNIFOR)

JULY 2024



About FFAW-Unifor

The Fish, Food and Allied Workers (FFAW-Unifor) is the largest private sector union in Newfoundland and Labrador, representing more than 14,000 workers in the inshore fishery, seafood processing, brewing, hospitality, marine transportation, metal fabrication, and other skilled trades.

Since 1971, FFAW-Unifor has played a vital role in shaping the economic, social, and cultural landscape of the province as a primarily rural, community-driven union. Our members live in hundreds of communities in every region of Newfoundland and Labrador, and most members live in small communities of 500 or fewer residents.

The vast majority of our members work directly in harvesting, processing, or monitoring of the inshore fishery, including 10,000 professional inshore fish harvesters, and as a result, FFAW-Unifor is the primary advocate for the economic and social growth and sustainability of coastal communities in the province.

The inshore fishery is a core component of our identity as Newfoundlanders and Labradorians and is also central to the province's thriving tourism industry. When we engage in matters of fisheries science, policies, markets, and innovation, we are engaged in community building and planning.

The future of the fishery is the future of these communities.



Executive Summary

FFAW-Unifor is calling for the Government of Canada, Prime Minister Justin Trudeau, and the Honourable Diane LeBouthillier, Minister of Fisheries and Oceans Canada (DFO), to **reinstate the Northern Cod Stewardship Fishery in Newfoundland and Labrador and reaffirm the 115,000mt commitment to protect the inshore fishery.**

By lifting the 32-year moratorium on commercial fishing on June 26, 2024, the Government of Canada is further corporatizing public resources, limiting the economic sustainability of coastal communities, and breaking a decades long promise to the province of Newfoundland and Labrador.

The 115,000mt commitment is historically referenced dozens of times; as recently as in the 2021 management plan for 2J3KL Groundfish as well as in a 2015 letter from Justin Trudeau, and as early as 1982 with the Kirby Report and then-Fisheries Minister, Romeo LeBlanc. Specifically, the promise was that the first 115,000mt of 2J3KL Northern cod quota would be allocated **ONLY** to inshore and Indigenous groups, before offshore/corporate groups gained access. This was to reflect the economic and historical dependency the inshore fleet has on the resource, which is repeatedly cited by the federal government pre-1982.

Instead, at a total harvest amount of just ~19,000mt, Canadian and international offshore draggers are being permitted access to harvest Northern cod.

Historic overfishing by offshore draggers was a primary factor that contributed to the collapse of Northern cod, and their preference to fish on pre-spawning aggregations is gravely concerning to those working towards the recovery of the culturally significant species.

This federal decision must be reversed before the 2024 Northern cod fishing season commences. A true commitment to sustainable oceans management and balancing stakeholder interests would be for immediate reinstatement of the Northern Cod Stewardship Fishery with the same conditions as 2023 until the stock has rebuilt enough to meet the 115,000mt commitment to inshore harvesters and Indigenous groups. **Only once this threshold has been met should there be consultation for Canadian and international offshore allocations.**

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President

JASON SPINGLE
Secretary-Treasurer

March 12, 2024

Honourable Diane LeBouthillier
Minister of Fisheries, Oceans, and CCG
200 Kent Street
Ottawa, Ontario, K1A 0A6

Dear Minister LeBouthillier,

We appreciated your time and attention on January 15th in St. John's to discuss our Union's key priorities for the inshore fishery in Newfoundland and Labrador. We look forward to working with you and your department to enhance opportunities and equity on the water, however, the announcement for the Unit 1 Redfish allocation key has created serious concern for imminent decisions, notably those pertaining to Northern cod. Please accept this letter as a request to meet virtually as early as can be accommodated to discuss the prospective 2J3KL cod fishery and the future of the commercial mackerel fishery in Newfoundland and Labrador, both of which present great opportunity for enterprise owners and rural communities in our province.

FFAW-Unifor's position on access and allocation for 2J3KL cod remains the same as historically recorded, with the first 115,000t being allocated to the Inshore Sector and Indigenous Groups. The Union representing all 2J3KL cod harvesters will under no circumstances support DFO reneging on this longstanding, historically documented, commitment.

Not only is this the FFAW's position, but this has also been the documented position of the Federal Government for decades, most recently in 2021 within the Department's Integrated Fisheries Management Plan:

"When a total allowable catch (TAC) for Northern (2J3KL) cod is established, the first 115,000 t of directed Canadian access will be allocated to the inshore sector and Indigenous groups in Newfoundland and Labrador. At a TAC level less than or equal to 115,000 t, directed fishing activity will be limited to inshore harvesters and Indigenous groups in Newfoundland and Labrador."

The concept of priority in allocation of the TAC to the inshore sector was repeatedly stated in 1977 to 1980 by then Minister Romeo LeBlanc:

"I have a bias for the inshore fisherman not because of some romantic regard, not because of the picture on

the calendars, but because he cannot travel far after fish, because he depends on fishing for his income, because his community in turn depends on his fishery being protected.”

From 1982 to the time the moratorium was called, the inshore 2J3KL fixed gear fleet was allocated a portion of the TAC that equated to 115,000 t. It is quite clear that from 1982 onwards, the inshore sector had priority access to the first 115,000 t – and that is documented in quota tables pre-moratorium and in the Department’s own approach to fisheries management in the time since.

This is a more than 40-year commitment that speaks to the Department’s recognition that the coastal based fisheries in this province have a current reliance upon and historical dependency to the Northern Cod fishery. Moreover, modernizations to the Fisheries Act made in 2019 prioritizes the owner-operator fishery and socio-economic considerations of adjacent communities. While we were certainly dismayed to see decisions made contrary to this Act in the recent Unit 1 Redfish allocations, we are hopeful the right decision will be made with Northern Cod.

Since the stewardship fishery began in 2006, inshore harvesters have been and continue to be stewards of the Northern Cod resource, investing time and money in sustainable fishing gear and technology, and in quality handling techniques. The Fishery Improvement Project for Northern Cod just [received an “A” rating](#) from international NGOs, validating that inshore harvesters have demonstrated a continued commitment to improving the sustainability of this stock. This ranking also recognizes on-the-water, regulatory, and research commitments.

We are pleased to attach the following materials that support the FFAW-Unifor’s position for access to 2J3KL Northern Cod, and give detailed background on Canada’s commitment for the first 115,000t to be allocated to Inshore and Indigenous groups before allocations are decided for offshore companies:

1. Background on 115,000MT Northern Cod Commitment, historical and current citations
2. Letter issued May 27, 2019, to then Minister Jonathan Wilkinson
3. Letter issued February 9, 2024, to William MacGillivray, NL Regional Director General
4. Media Release issued February 9, 2024, *Commercial Cod Harvesters Opposed to Drastic Increase in Rec Fishery*
5. Letter issued February 27, 2024, to Julie Diamond, Acting Director, Resource Management

On March 30th, 2022, the Department of Fisheries and Oceans announced a moratorium on the commercial and bait fisheries on Atlantic mackerel, despite evidence that the assessment of Atlantic mackerel was not accurately reflecting the status of the stock, particularly in Newfoundland and Labrador waters.

Newfoundland and Labrador harvesters and FFAW-Unifor staff participate in Atlantic mackerel stock assessments and advisory meetings and have consistently raised questions and objections to the current assessment method which has not reflected Newfoundland harvesters’ observations. As an example, Newfoundland based harvesters have reported young of the year mackerel broadly distributed around the province and have questioned whether these mackerel were spawned in the southern Gulf of St. Lawrence and therefore, were not accounted for in the annual egg and larvae survey used as the basis of the assessment. Long-time harvesters have presented detailed observations of mackerel abundance in NL waters at assessments and at the Atlantic Mackerel Advisory Committee (AMAC).

Harvesters on the south coast continue to report an abundance of 18-inch mackerel, with a range of mackerel sizes still being reported in waters off the Northeast Coast and Avalon peninsula. In addition, harvesters,

particularly in 3K, have noted the wide range of mackerel sizes (e.g., 15 to 45 cm mackerel), which means there is more than one cohort or age class in the catch. FFAW-Unifor has been advocating for additional mackerel research for several years, given the important changes observed in distribution and spawning patterns that are not accounted for by DFO-Science's current surveys.

Instead, DFO has maintained a moratorium on the mackerel fishery despite the endurance of the recreational mackerel fishery and commercial mackerel fishery in the US – Both of which DFO-Science does not have significant data on the impact of removals. NL harvesters did not expect the closure, especially without a commitment to increasing stock assessment surveys, and DFO has not pursued recommendations to work collaboratively to explore the at-sea observations by harvesters that strongly suggest that the biomass of mackerel is being underestimated.

We have provided the following attachments that explain the need for co-constructing a sampling, monitoring and assessment program that can capture shifts in the abundance and distribution of this highly migratory species to enhance potential for reopening of the commercial mackerel fishery in NL:

1. Media Release issued August 29, 2022: *Closure Without Cause: Unprecedented Levels of Mackerel Call into Questions Minister's Decision to Close Fishery*;
2. Letter issued August 30, 2022, to then Minister Joyce Murray;
3. Brief to the Standing Committee on Fisheries and Oceans for their study, *Regarding the Closure of Mackerel Fishing in Atlantic Canada and the Gulf of St. Lawrence*, November 4, 2022;
4. Letter issued March 17, 2023, to Todd Williams, Chairperson of the Atlantic Mackerel Advisory Committee;
5. Presentation delivered by FFAW-Unifor March 23, 2023: *Newfoundland Fish Harvesters' Knowledge of Atlantic Mackerel: Comparing fisher's knowledge to model outputs (and inputs) for the northwest Atlantic Mackerel Stock*

Your lived experience of the socio-economic benefits that the owner-operator fishery brings to adjacent coastal communities is a valuable perspective that we continue to have expectations for complete consideration.

We look forward to pursuing these critical discussions as soon as possible.

Sincerely,



Signed by Greg Pretty (2024/03/12) Verify with verifio.com or Adobe Reader.



Greg Pretty
President, FFAW-Unifor

CC: William MacGillivray, Regional Director General, DFO
Honourable Gudie Hutchings, Minister of Rural Economic Development Canada
Honourable Seamus O'Regan, Minister of Labour Canada

Churence Rogers, MP for Bonavista—Burin—Trinity

Ken McDonald, MP for Avalon

Yvonne Jones, MP for Labrador

Joanne Thompson, MP for St. John's East

Clifford Small, MP for Coast of Bays—Central—Notre Dame



KEITH SULLIVAN
President

DAVID DECKER
Secretary-Treasurer

BACKGROUND ON THE FEDERAL GOVERNMENT'S COMMITMENT TO ALLOCATING THE FIRST 115,000 TONNES OF NORTHERN COD TO THE INSHORE FLEET

The commitment to a 115,000-tonne allowance allocated to inshore harvesters in NAFO divisions 2J3KL is clear and consistent throughout groundfish management plans of the 1980s, before the stock entered moratorium. Securing this commitment was a shared effort between the provincial government of Newfoundland and Labrador and the federal department of Fisheries and Oceans.

The commitment to ensuring the inshore allowance of 115,000 tonnes was maintained was first made by the Peckford government. The announcement took place at the Corner Brook Northern Cod Seminar in August of 1979, held at the Glynmill Inn, Corner Brook, Newfoundland & Labrador. In making this decision Peckford stated,

Over the last number of years, corporate and other interests in mainland Canada have conducted an extensive lobbying campaign to influence the Government of Canada's policies in this regard. The result is that there appears to be great doubt in the minds of Federal bureaucrats as to the proper role of the Newfoundland inshore and longliner (or what might be called the middle distance) fleet. The balance is slowly but surely shifting to an emphasis on offshore trawlers. In 1979, for instance, only 56% of the Total Allowable Catch for these northeast cod stocks was allocated to the inshore fishery.

This can only mean disaster for our inshore fishermen and the many seasonal fish plants and communities which depend upon them. These policies must be reversed.

Peckford then went on to say, "It is the policy of my Government that about 85% of all northeastern cod should be taken by our inshore and middle-distance fleet. This fleet is backbone of the economy of hundreds of small fishing communities".

It was confirmation of a statement made by the Hon. Brian Tobin in 1978 at a speech to the St. John's Board of Trade (HOA, 2015). Further, the Newfoundland and Labrador government agreed with projections for the stock made at the Seminar and recommended the inshore fishery always catch 85 percent of the total (GNL, 1980).

The allowance followed a 1976 change in approach to fisheries management. In a ten-year strategic plan, the Canadian government stated, "The guiding principle in fishery management no longer would be the maximization of the crop sustainable over time but the best use of society's resources. 'Best use' is defined by the sum of net social benefits (personal income, occupational opportunity, consumer satisfaction and so on) derived from the fisheries and industries linked to them." (Leblanc, 1976)

The allowance is evident in management plans of the pre-moratorium era, and inshore catches reached 115,000 tonnes in 1982 (Steele et al, 1992). The allowance was built around ensuring the principles of the department were supported.

Vardy and Dunne (2003) reiterate these principles that guided fish management during this period, and ones that still hold true today. They write, "In addition to increasing the inshore allowance the province sought to have the allocation principles established by the federal minister used to protect the interests of the Newfoundland fishery. The 1984 Atlantic Groundfish Management Plan identified the allocation principles as being adjacency to the resource, the relative dependency of coastal communities and the various fleet sectors along with economic efficiency and fleet mobility. The province had emphasized the adjacency principle, along with historical dependence, to ensure that Northern cod was harvested principally for the benefit of the Newfoundland industry." The inshore allowance was a direct support mechanism for ensuring those who relied most on the resource were the ones to benefit.

Indeed, the Kirby Report (1982) had recommended an inshore allowance of 145,000 tonnes and is one of the first records to solidify this commitment in writing. Kirby stated that an allowance of 200,000 tonnes would be more in line with historical landings by the inshore fleet. The allowance was then confirmed at 115,000 tonnes. At the time of the moratorium in 1992, the offshore fleet had been removed from the fishery at 120,000 tonnes (Steele et al, 1992).

While some have argued the inshore lacked capacity to harvest this amount due to low landings during this time, Lear et al (1986) and Blackwood (1996) put this argument to rest with the political and environmental realities of the stock at the time.

Blackwood states, "The result was that the inshore sector, which was promised first priority in allocation and were supposed to get two thirds of the TAC was, by 1986, receiving only 43 per cent of the TAC as an allocation, and due to the low level of the stock and foreign harvest outside 200 miles, was accounting for only 26 per cent of the total catch" (Blackwood, 1996, p. 53). Similarly, Lear et al (1986) had earlier stated water temperature, lack of food availability and general lack of ecosystem productivity were responsible for the decrease in inshore landings.

Further, in a report resulting from the Royal Commission on Renewing and Strengthening our Place in Canada, entitled "New Arrangements for Fisheries Management in Newfoundland and Labrador," David Vardy and Eric Dunne backed up Blackwood's assertions.

When referring to the inshore's declining catches in the 1980s, Vardy and Dunne state, "The reason for this was that the biomass had been overestimated and the ability of inshore vessels to harvest a declining resource fell far short of the technical capacity of the offshore fleet to home in upon a shrinking biomass. The inshore allowance itself did not protect the stock or those who depended upon it as had been hoped."

In 1994, Richard Cashin chaired a task force on incomes and adjustment in the Atlantic fishery. In a subsequent article in the Financial Post (1994), it is stated that, "In his task force report, Cashin cautioned the return of a directed offshore cod fishery. On this point, Brian Tobin seems to agree. Both Tobin and Cashin have tossed out the figure of about 115,000 tonnes, a level the northern cod quota would have to reach before the offshore could return to those fishing grounds."

Further confirmation of the allowance was made by senior DFO official David Bevan on March 13, 2008 during a presentation to the Standing Committee on Fisheries and Oceans. Referring to

allocation policies, Bevan stated, "That policy was put in place as we made significant decisions, for example, on 2J3KL cod. The first 115,000 tonnes go to the inshore and the remainder would be shared between the inshore and the offshore." (SCOFO, 2008)

Prior to the 2015 federal election, FFAW-Unifor submitted a questionnaire to each of the political parties requesting their responses to a number of questions. The 115,000-tonne inshore allowance was one of the key questions on the questionnaire. The Liberal Party of Canada reaffirmed their commitment to this allocation. The Party wrote,

A Trudeau-led Liberal government will re-affirm the federal commitment to allocate the first 115,000 MT of northern cod quota to the inshore harvesters so that, as the resource rebounds, the benefits of a future cod fishery flow to inshore harvesters and coastal communities.

The Liberal Party of Canada knows that we must be diligent and ensure that a resource rebound is real and sustainable, but when the stock achieves the proper threshold, we are committed to the policy that the first 115,000 MY will go to the inshore fleet.

We understand the fundamental importance of the cod fishery to Newfoundland and Labrador, and the importance of this commitment after the devastating effects of the cod collapse, which saw the largest layoffs in Canadian history. We must ensure that the future benefits of the cod fishery flow to the inshore harvesters and coastal communities, with spinoff benefits throughout the province.

In July 2016, then-Minister of Fisheries and Oceans Dominic LeBlanc held up the Liberal Party's commitment. Minister LeBlanc ensured the inshore harvesters of Newfoundland and Labrador that the federal Liberal government continue to support ensuring the first 115,000 tonnes of northern cod remain for inshore harvesters. This commitment has been re-stated and reiterated throughout the tenure of the Trudeau government.

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KEITH SULLIVAN
President

DAVID DECKER
Secretary-Treasurer

May 27, 2019

The Honourable Jonathan Wilkinson
Minister of Fisheries and Oceans
200 Kent Street
Ottawa, Ontario
K1A 0A6

Dear Minister Wilkinson,

The Fish Food and Allied Workers (FFAW-Unifor) is the largest private sector union in Newfoundland and Labrador. FFAW-Unifor represents 15,000 workers, the majority of which are employed in the fishery through either the owner-operator inshore fishery or the corresponding processing sector. Our members reside in more than 500 communities across the province, the vast majority of which are rural and coastal.

The inshore fishery in NL is in the midst of a transition that is providing both opportunities and challenges. The shellfish fisheries, which have been essential for economic growth in coastal communities and the province, in general, are in decline. The decline of shellfish has brought a corresponding increase in groundfish, particularly cod, halibut, and turbot, and the inshore sector is heavily engaged in how this new groundfish fishery will look and function. As the pace of this ecological shift is uncertain, FFAW-Unifor has devoted significant resources to planning how to manage the current transition and to maximize the benefit of what comes next.

As the Department of Fisheries and Oceans prepares a management approach for the upcoming 2J3KL cod stewardship fishery, we are providing you with background and context on our recommendations for the 2019 stewardship fishery.

Newfoundland and Labrador Groundfish Industry Development Council

The Fish, Food and Allied Workers (FFAW-Unifor) is a founding member of the Newfoundland and Labrador Groundfish Industry Development Council (NLGIDC), formed in the Spring of 2016. The Council was founded by FFAW-Unifor and five processing companies. Today, membership has grown to include FFAW-Unifor, 23 processing companies and 4 ex-officio members (the Department of Fisheries and Oceans, NL Department of Fisheries and Land Resources, WWF-Canada and Whitecap International Seafood Exporters).

The NLGIDC is working to assist the Newfoundland and Labrador fishing industry in the ongoing transition from a shellfish dominant industry to one that has a focus on groundfish fisheries (primarily cod).

The NLGIDC is guided by 3 overarching sustainability objectives that are outlined in the 2018-2020 Strategic Plan (www.NLGIDC.ca):

1. Conservation and Sustainable Use
2. Economic Viability and Sustainability
3. Community and Social Sustainability

Since 2016, the NLGIDC has provided proposals to the Department of Fisheries and Oceans (DFO) for the management of the northern cod stewardship fishery. These proposals were generally accepted by DFO from 2016 to 2018.

In addition to the provision of annual integrated management advice to DFO, the NLGIDC:

- Provides support to the FFAW-Unifor fish quality project;
- Is currently working with the Atlantic Fishery Fund on projects related to Boxing of Fish at Sea, the Designation of Key Landing Ports for the NL fishing industry and the identification of current challenges and opportunities for cod products;
- Participates in scientific and management meetings organized by DFO;
- Meets regularly with our membership and others to operationalize annual management plans.

2J3KL Cod Limit Reference Point Meeting

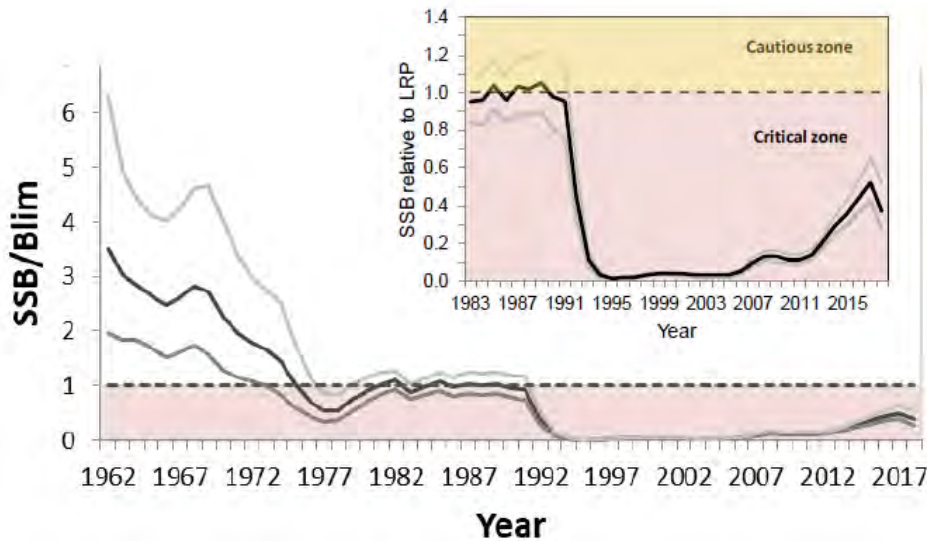
DFO convened a meeting to review the Limit Reference Point for 2J3KL cod in January 2019. The NLGIDC and FFAW-Unifor participated in the meeting. The outcome was that, *“the peer review meeting reached a consensus that the method for determining the LRP and the reference point itself remain valid.”*

While this consensus was accepted, there was considerable discussion regarding other potential outcomes for the LRP. B_{LIM} is currently the only reference point determined for this stock. For a number of other stocks, the Upper Stock Reference (USR) is defined as twice the B_{LIM} level. In the case of 2J3KL cod, this would lead to a scenario with a B_{LIM} of approximately 800,000 tonnes and an USR of 1.6 million tonnes. This is not a practical outcome given that the stock has only been at this level in the early 1960's – when the biomass was likely near virgin biomass levels.

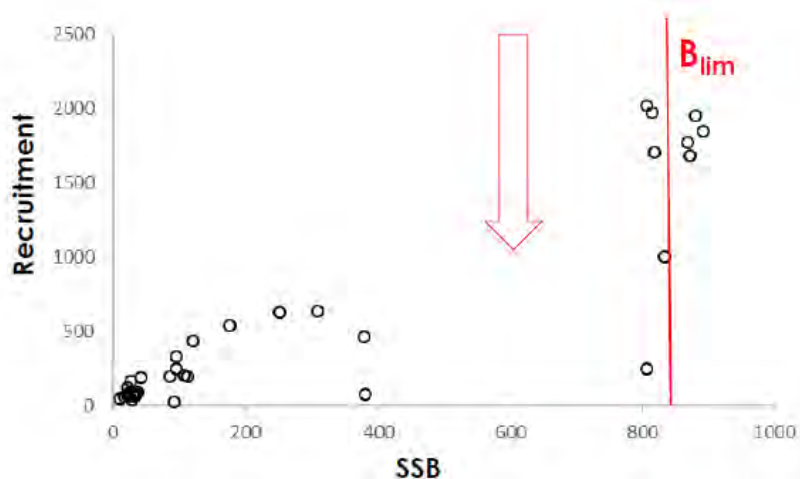
The extended NCAM model clearly showed that the 2J3KL stock rebuilt from a low point in the mid to late 1970's and sustained a level of about 800,000 tonnes during the 1980's. The relatively high SSBs in the 1980's were sustained with harvest levels greater than 230,000 tonnes annually.

The use of the extended NCAM model would suggest that the LRP could be at a lower level than currently concluded – potentially in the range of 500,000 – 600,000 tonnes.

Additionally, at the Limit Reference Point review meeting, one of the external reviewers provided three empirical estimates (B_{LOSS} , $B_{RECOVER}$ and one other). These determinations were based on the extended NCAM model and were all considerably less than the current 800,000 tonnes level of B_{LIM} .



The current, shorter-term model indicated a gap in the observed SSB levels in the 1983-2018 time period for SSB's between 400,000 t and 800,000 t.



The meeting concluded that the LRP will be re-evaluated with further information on the productivity of the stock within this gap. This can be done two ways:

1. Refinement of the extended NCAM model
2. Future years with higher SSB

Every new data point (option 2) takes a full year to determine, while the refinement of the extended NCAM model will produce 4 or 5 additional data points within this gap area immediately. When the appropriate refinements to the extended NCAM model are completed other empirical methods for determining the LRP should also be evaluated.

There was an expectation that refinement work on the extended NCAM model would occur at the recent assessment meeting. That did not happen. The assessment scientists have now concluded that this work requires a framework meeting.

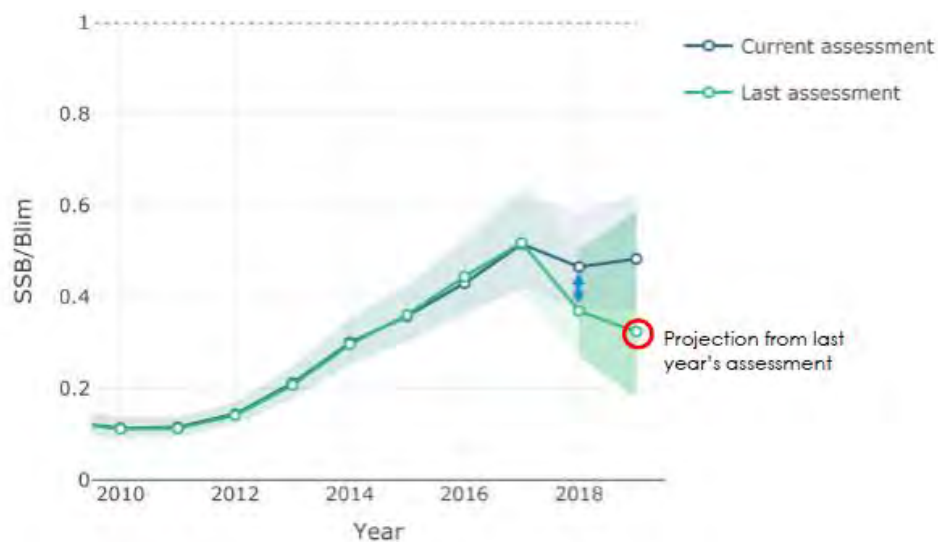
Recent 2J3KL Cod Scientific Assessment

The most recent 2J3KL cod assessment occurred at the end of March 2019 and found:

- Northern cod abundance increased over the last year but remains in the critical zone.
- SSB remains in the critical zone in 2019 and is now at 48% of the Limit Reference Point.
- The SSB increased from 2018 from 383 to 398 Kilotons and is anticipated to increase in 2020.
- Estimated natural mortality for fish aged 5 and above declined from higher levels in 2017 to a value similar to the 2012-16 average.
- Estimated fishing mortality remains low for fish aged 5 and older.

A clarification between the different results in 2019 compared to 2018 was provided:

- SSB for 2019 is greater than was projected during the 2018 stock assessment.
- This improvement is largely due to a better understanding of mortality from 2017.



If there is a better understanding of the mortality from 2017, we are not sure that was adequately explained either at the assessment meeting or at the technical briefing.

Projections were completed for 3 years for a range of catch as follows:

- 0.7, 0.85, 1.0, 1.15, 1.3 x the model estimated catch for 2018

The probability that the SSB will continue to grow in a one-year projection:

- 62% with status quo (13,797 tonnes)
- 61% with 15% increase (15,867 tonnes)
- 59% with 30% increase (17,936 tonnes)

The projected F's at these levels for 2019:

- with status quo F=0.022
- with 15% increase F=0.026
- with 30% increase F=0.0295

During the meeting the NLGIDC asked for additional options for projections. This request was denied. Projections should be conducted over a range of fishing mortality, not only catch. For example: F=0.01, 0.02, 0.03, 0.04, 0.05.

Many participants at the assessment meeting were expecting to see some refinement on the extended NCAM. This would have potentially had an impact on the assessment results. At the assessment meeting, DFO scientific staff felt they could not complete this work without a framework meeting. When the assessment model was originally completed, it was obvious that the model did not fit the data. This was originally observed by the developer of the NCAM model and others at the meeting.

The need for analysis at a framework meeting was clear, however there is no such framework meeting scheduled. If these issues are not addressed, the assessment and other work for 2020 will be questioned.

Potential New Framework Meeting

It is clear that a new framework meeting is required for 2J3KL cod, unless a decision is made to continue work on the extended NCAM and the use of sentinel data in the NCAM model during regular assessment meetings. This framework meeting should be scheduled with high priority and could coincide with a 3Ps framework meeting taking place in Fall 2019.

Rebuilding Plans in General

DFO must rethink the strategy of single-species rebuilding plans. At present there are plans in place to rebuild a number of stocks in the same ecosystem to at or near all-time highs. In the 2J3KL area this would include cod, shrimp and snow crab. It is not even clear if the ecosystem can support all three of these stocks at very high levels of biomass at the same time.

Never in our observed history have these three stocks all co-existed at all-time highs. The current combination of rebuilding strategies is very likely impossible to achieve. In fact, the rebuilding of shellfish stocks is more likely to occur under a different environmental profile than rebuilding of cod and other groundfish stocks.

We do not have an answer to this problem, but DFO should be aware that simultaneous rebuilding of these three key stocks is not possible.

Management of the 2019 Stewardship Fishery

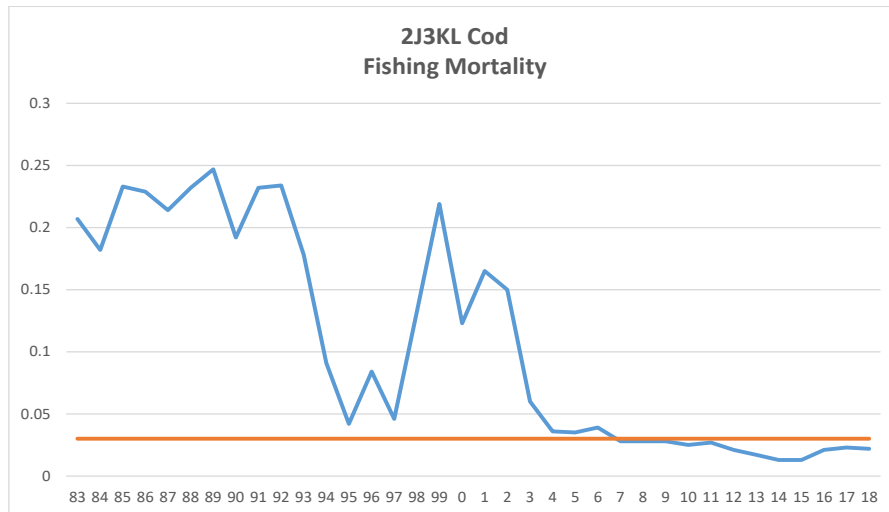
It is proposed that most operational aspects of the fishery (weekly harvest limits, seasons, autumn fishery, double weekly limits, etc.) will continue in 2019. It is hoped that we can avoid mid-season shut downs that were experienced in 2018.

The NLGIDC proposed a level of removals from all sources in 2019 to be 30% higher than the level of the catch for 2018 estimated by the NCAM model. This would be total removals of approximately 18,000 tonnes including the stewardship fishery, the recreational fishery, the sentinel fishery and bycatch in other fisheries.

Our proposal was based on removals from all sources as this is the basis for the determination of fishing mortality from the NCAM model. The assessment results do not include specific fishing mortality levels for the stewardship fishery.

The range of fishing mortality in the projections are all low, including the F associated with our proposal, and are consistent with NLGIDC recommendations in previous years of maintaining a low fishing mortality to promote stock growth.

The F's from the 2007-2019 period are all less than 0.03.



The NLGIDC believes that an F-based rebuilding strategy will be appropriate for this stock. It is time to stop focusing on multiples of catch and to begin looking at options for harvest caps that maintain relatively low levels of fishing mortality until this stock clears the critical zone.

DFO scientists maintain that seals do not have much impact on the rebuilding of the 2J3KL cod stock. Available data indicates that in 2000, with a population of 4 million animals, seals consumed 37,000 tonnes of cod. This occurred when the cod population was at very low level.

It can be concluded that seal consumption today with much higher populations of both seals and cod is considerably higher than 37,000 tonnes and is more likely in the range of 60,000 to 100,000 tonnes. Clearly, if this level of predation by seals on cod is not having a measurable impact on cod rebuilding, then total removals from fishing that are less than 20,000 tonnes would also have very little impact on the rebuilding of this stock.

Federal Commitment to Inshore Harvesters

Since 1979, consecutive fisheries ministers have reaffirmed the federal government's commitment to grant exclusive access to the first 115,000 metric tonnes of northern cod to inshore owner operator fish harvesters and Indigenous groups. This commitment ensures that as the stock rebounds, the benefits of the northern cod fishery will flow to inshore fish harvesters and coastal communities.

As the ecosystem transitions from shellfish-dominated back to groundfish, northern cod and other groundfish species will once again play a fundamental role in the inshore fishery in Newfoundland and Labrador. The federal government must demonstrate its commitment to coastal communities and inshore fish harvesters by enshrining this 40-year old policy in the 2J3KL northern cod stewardship fishery management approach.

FFAW-Unifor would be pleased to meet with you at your earliest convenience to further discuss our recommendations for the 2019 2J3KL cod stewardship fishery and we look forward to a timely announcement of this year's management approach.

Yours truly,

A handwritten signature in black ink that reads "K Sullivan". The signature is written in a cursive style with a large, stylized initial "K".

Keith Sullivan
President, FFAW-Unifor

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GREG PRETTY
President

JASON SPINGLE
Secretary-Treasurer

February 9, 2024

William MacGillivray
Regional Director General
Department of Fisheries and Oceans Canada
Northwest Atlantic Fisheries Centre
80 East White Hills Road
St. John's, NL A1A 5J7

Mr. McGillivray,

We are writing to express great concern for and opposition to Petition e-4781 which calls upon the House of Commons and the Minister of Fisheries, Oceans and the Canadian Coast Guard to: (1) Instate a recreational cod fishery in Newfoundland and Labrador which allows for retention of cod, every day from July 1 through to October 1, with recreational fishers being allowed to retain five cod fish per day, with a limit of 20 fish per boat per day, and tourist licensed operators being allowed to retain two cod fish per tourist per day; and (2) Mandate that the Minister announce the season dates and regulations by May 1 of each year.

It is very positive that the northern cod stock is on the path to recovery, and commercial fish harvesters in Newfoundland and Labrador are calling for stricter monitoring of the recreational cod fishery in the province to ensure its protection into the future. Petition e-4781, initiated by Graham Wood and supported by Conservative MP Clifford Small, is for DFO to more than double the number of days in the recreational fishery from 39 to roughly 90. Recreational removals are a significant source of uncertainty in DFO science and management, as well as blatantly contradictory to the Department's mandate to monitor fish landings.

The severity of unaccounted removals in the recreational fishery could threaten the conservation integrity of continued growth of northern cod. Moreover, unaccounted for removals in the recreational fishery are harming cod stocks on the south (3Ps) and west coast (3Pn, 4RS) – both cod stocks are presently in the critical zone. DFO currently does not have the enforcement

capacity to ensure sufficient monitoring for greater access to the recreational cod fishery. Frankly, monitoring of the current recreational fishery is lacking, specifically monitoring and enforcement of the daily limit and requirement to land all cod (i.e., no high-grading).

Sustainable management of groundfish stocks must be a concerted effort across both commercial and recreational fisheries. Any plans for an increase in recreational removals cannot be reckless to the detriment of the health of the stock and for the commercial harvesters who rely on it for their livelihoods.

We strongly encourage consultation with FFAW-Unifor elected leadership to affirm our position at your earliest opportunity.

Sincerely,


Signed by Greg Pretty (2024/02/09) | Verify
with [verifio.com](https://www.verifio.com) or Adobe Reader.



Greg Pretty
President, FFAW-Unifor

CC: Honourable Gudie Hutchings, MP for Long Range Mountains
Honourable Seamus O'Regan, MP for St. John's South-Mount Pearl
MP Churence Rogers, MP for Bonavista-Burin-Trinity
MP Ken McDonald, MP for Avalon
MP Yvonne Jones, MP for Labrador
MP Joanne Thompson, MP for St. John's East
MP Clifford Small, MP for Coast of Bays—Central—Notre Dame
Honourable Elvis Loveless, Minister of Fisheries, Forestry, and Agriculture NL
Helen Griffiths, Regional Manager, Fisheries and Oceans Canada
Shawna Powell, A/Section Head, Fisheries and Oceans Canada



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GREG PRETTY
President

JASON SPINGLE
Secretary-Treasurer

February 27, 2024

Julie Diamond
A/Director, Resource Management
Fisheries and Oceans Canada
Newfoundland and Labrador Region

Dear Julie,

FFAW-Unifor's position on access and allocation for 2J3KL cod remains the same as historically recorded, with the first 115,000t being allocated to the Inshore Sector and Indigenous Groups. The Union representing all 2J3KL cod harvesters will under no circumstances support DFO reneging on this longstanding commitment.

Not only is this the FFAW's position, but this has also been the documented position of the Federal Government for decades, most recently in 2021 within the Department's Integrated Fisheries Management Plan:

"When a total allowable catch (TAC) for Northern (2J3KL) cod is established, the first 115,000 t of directed Canadian access will be allocated to the inshore sector and Indigenous groups in Newfoundland and Labrador. At a TAC level less than or equal to 115,000 t, directed fishing activity will be limited to inshore harvesters and Indigenous groups in Newfoundland and Labrador."

The concept of first priority in allocation of the TAC to the inshore sector was repeatedly stated in 1977 to 1980 by then Minister Romeo LeBlanc:

"I have a bias for the inshore fisherman not because of some romantic regard, not because of the picture on the calendars, but because he cannot travel far after fish, because he depends on fishing for his income, because his community in turn depends on his fishery being protected."

At the Special Government Industry Seminar on the management and allocation of Northern Cod in Corner Brook in August of 1979, then Minister of Fisheries and Oceans, the Honorable James McGrath stated:

“The Northern Cod were the staff of life to the people of Northeast Newfoundland and Labrador... that the policy of the government was that the inshore fisherman had first call on this resource” (Lear and Parsons, 1993).

From 1982 to the time the moratorium was called, the inshore 2J3KL fixed gear fleet was allocated a portion of the TAC that equated to 115,000 t. It is quite clear that from 1982 onwards, the inshore sector had priority access to the first 115,000 t – and that is documented in quota tables pre-moratorium and in the Department’s own approach to fisheries management in the time since.

This is more than a political commitment from the Minister-of-the-day. **It is a more than 40-year commitment that speaks to the Department’s recognition that the inshore sector in this province has a reliance upon and a commitment to the Northern Cod fishery.**

Moreover, may we kindly remind you of modernizations to the Fisheries Act made in 2019, which prioritizes the owner-operator fishery and socioeconomic considerations of adjacent communities. While we were certainly dismayed to see decisions made contrary to this Act in the recent Unit 1 Redfish allocations, we are hopeful the right decision will be made with Northern Cod.

Since the stewardship fishery began in 2006, inshore harvesters have been and continue to be stewards of the Northern Cod resource, taking the care to grow this stock out of the critical zone and into the cautious zone. They’ve invested time and money in sustainable fishing gear and technology, and in quality handling techniques to ensure that the cod fishery of today is not the cod fishery of our past.

Moreover, the Fishery Improvement Project for Northern Cod just received an “A” rating from international NGOs. This means inshore harvesters have demonstrated an ongoing and continued commitment to improving the sustainability of this stock. This ranking also recognizes on-the-water, regulatory and research commitments.

Introducing offshore dragnets at this important period of continued growth would not be beneficial for the stock’s continued recovery. Based on historical data, Northern Cod are highly aggregated along the shelf edge in January and February, which is why the offshore fleets targeted these dense overwintering and pre-spawning aggregations prior to the cod collapse.

These fish are tightly packed and extremely vulnerable. Historically, researchers used a lower catch rate limit of 1.5 tonnes per hour to identify commercially significant concentrations. These catch rates show how densely packed and vulnerable cod are at this time of year and that is something that must not be targeted during the rebuilding period.

The inshore fleet has tremendous capacity to land fish, and we do not need to introduce new capacity to this fishery. In 2023, the MAH for the 2J3KL stewardship fishery was 12,999t. In just four weeks (three summer, one fall), inshore harvesters landed 9,114t or 70% of the MAH, with the remainder spread out over seven additional weeks. That's an incredible capacity to land fish, especially considering the crab fishery was still open during three of those four weeks and harvesters were restricted by a weekly landing limit as part of the Conservation Harvesting Plan.

Further, catch rates were so good that harvesters were fishing much fewer than their maximum number of nets. For example, inshore harvesters were allowed between nine and 15 nets for most of the season in 3KL, yet most fished just three to five nets and still managed to land over 9,000t within four weeks.

2023 was not an anomaly. The stewardship fishery in 2022 brought similar results, with 70% of the 2J3KL quota landed in a four-week period. The capacity to catch fish within the inshore sector in Newfoundland and Labrador is enormous and offers great potential for the economic future of coastal communities in the province.

Harvesters have been devastated by the downturn in multiple fisheries in recent years and rightfully see cod as an opportunity to diversify their enterprises and make a living fishing a longer season. Our harvesters now have vessels in a variety of sizes and capabilities, some of which will benefit from the closeness of the stock within the summer months, while many others have ample capability to fish further offshore during the fall season. NL harvesters have the ability to have a lengthy fishery, making frozen product available all year round, without the need to target spawning and pre-spawning aggregations.

Newfoundland and Labrador has a 500-year history of commercially harvesting Northern Cod, and the fishery continues to be critically important to inshore fish harvesters and processing plant workers in our province. There is a vast amount of economic development that is happening in our small coastal communities with inshore fisheries, and as we continue working for rural economic sustainability, the value of these fisheries and their capacity to directly employ tens of thousands of people should not be understated.

Now is also the time to step up monitoring and enforcement of the so-called recreational fishery. On average, landed recreational fish are 50 or 60 cm in length - which is notably longer than what commercial harvesters record during cod tagging by our at-sea technicians. This is evidence of high-grading happening at-sea.

We are in support of a provincial food fishery; however, many recreational fishers are doing so to create a black-market local fishery, with limited enforcement and monitoring to deter. FFAW-Unifor does not support the current petition to the House of Commons to expand the recreational fishery. We are adamantly against, is unregulated removals and a semi-commercial fishery by unlicensed harvesters. Landings from the food fishery must be monitored and enforced.

FFAW-Unifor maintains that current by-catch limitations on Northern Cod should remain the same, as increasing by-catch limitations puts more unnecessary pressure on the stock. Any harvester or group should be focused on targeting their directed species.

In closing, we are reiterating the importance of the commitment for the 115,000t to the inshore sector. Our Union vehemently rejects any attempts to undermine this commitment. The historic paper trail backed by our commitment to a sustainable fishery and capacity to harvest at significantly higher levels leaves no room for debate.

Sincerely,

A handwritten signature in black ink that reads "greg pretty". The signature is written in a cursive, lowercase style.

Greg Pretty
President, FFAW-Unifor

CC: Shelley Dwyer
Robert Fagan
Robyn Morris

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GREG PRETTY
President

JASON SPINGLE
Secretary-Treasurer

April 4, 2024

Honourable Diane Lebouthillier
Minister of Fisheries, Oceans, and CCG
200 Kent Street
Ottawa, Ontario, K1A 0A6

Dear Minister Lebouthillier,

We are writing to oppose recent proposals for offshore otter-trawling during the winter, which coincide with pre-spawning and spawning periods in 2J, and more broadly for the 2J3KL cod stock. FFAW-Unifor is vehemently opposed to any offshore trawling activity on the 2J3KL cod stock due to well-supported sustainability concerns for the important stock, as it continues to rebuild. It is important to emphasize that catch rates in the offshore trawler fishery were the last to drop prior to the collapse because they were fishing on overwintering (pre-spawning) and spawning aggregations – when they were trouncing the remnant of the northern cod stock.

Northern cod is rebuilding and can continue to rebuild if we do not repeat past mistakes. Reopening an offshore fishery as soon as it enters the Cautious Zone is an unconscionable and grave mistake.

There is considerable inshore capacity to land northern cod; growth of the inshore fishery has been limited by (1) underestimation of stock status, (2) weekly limits, and (3) processing capacity. Inshore harvesters and our coastal communities must be the primary beneficiaries of a rebuilt northern cod stock. In recent years, harvesters in 2J have seen unprecedented catch rates; catch rates in 2J are considerably higher than they were prior to the moratorium. As such, it is incumbent on the federal government to support the development of this fishery and avoid intensifying the economic crisis inshore harvesters are facing in this area.

FFAW-Unifor is adamantly opposed to the recent proposals to “reopen an otter-trawl fishery” in 2J. Such proposals are effectively advocating that the federal government renege on commitments to inshore harvesters and coastal communities. Such proposals are motivated by perceived short-term political concerns and would not only undermine sustainability and growth of northern cod but would also further undermine the decision-making integrity of Fisheries and Oceans Canada and the current Liberal government.

We strongly encourage a consultation with FFAW leadership and 2J harvesters to discuss how prohibiting offshore otter-trawling during pre-spawning and spawning periods for 2J cod is a responsible approach.

Sincerely,



Signed by Greg Pretty (2024/04/04) Verify with
verifio.com or Adobe Reader.



Greg Pretty
President, FFAW-Unifor

CC: William MacGillivray, Regional Director General, DFO
Ray Walsh, Director General, DFO
Ty Bradley, DFO Atlantic Desk
Honourable Gudie Hutchings, Minister of Rural Economic Development Canada
Honourable Seamus O'Regan, Minister of Labour Canada
Churence Rogers, MP for Bonavista—Burin—Trinity
Ken McDonald, MP for Avalon
Yvonne Jones, MP for Labrador
Joanne Thompson, MP for St. John's East
Clifford Small, MP for Coast of Bays—Central—Notre Dame

The Northern Cod Stewardship Fishery: Science Guiding Sustainability Since 2006



Established in 2006, the Northern Cod Stewardship Fishery enabled a limited fishery by the inshore fleet and was limited to Canadian inshore fleets using handline, longline, and gillnets.

In the spring of 2015, FFAW–Unifor and the World Wildlife Fund launched the 2J3KL Stewardship Cod Fishery Improvement Project (FIP) in partnership with the Fogo Island Co-op and the Seafood Producers of Newfoundland and Labrador.

The FIP included a multi-step, multi-stakeholder process with the aim of improving fishing practices and management to establish the conditions to promote the 2J3KL cod stock to rebuild and either meet or exceed the Marine Stewardship Council standard for sustainable fisheries.

The Stewardship fishery prioritized rebuilding of this stock, and the limited fishery saw an increase in spawning stock biomass from 10,000t in 1995 to 342,000t in 2024.

NORTHERN COD REASSESSMENT GROUNDS FOR INCREASED STEWARDSHIP FISHERY AND GOVERNMENT'S COMMITMENT TO NL INSHORE

HOME » NORTHERN COD REASSESSMENT GROUNDS FOR INCREASED STEWARDSHIP FISHERY AND GOVERNMENT'S COMMITMENT TO NL INSHORE

May 2, 2024

The position of the Fish, Food, and Allied Workers Union (FFAW-Unifor) on access and allocation for Northern cod remains the same as historically recorded, with the first 115,000t being allocated to the inshore sector and Indigenous groups.

Not only is this the FFAW's position, but this has also been the documented position of the federal government for decades, most recently in 2021 within the Department of Fisheries and Oceans' (DFO) Integrated Fisheries Management Plan:

"When a total allowable catch (TAC) for Northern (2J3KL) cod is established, the first 115,000 t of directed Canadian access will be allocated to the inshore sector and Indigenous groups in Newfoundland and Labrador. At a TAC level less than or equal to 115,000 t, directed fishing activity will be limited to inshore harvesters and Indigenous groups in Newfoundland and Labrador."

Northern cod, fished under the 2J3KL Stewardship Fishery, is a population of the Atlantic cod species that inhabits the waters between the tip of the Grand Banks, in eastern Newfoundland, all the way to Hopedale, Labrador. DFO held the technical briefing for the 2J3KL Northern Cod stock on March 26th, highlighting stability of the stock overall. Changes to the stock assessment model have brought the historic species out of the critical zone, and harvesters are hopeful that will mean corresponding increases to harvest amounts. As it stands, last year's quota rollover sustained only a few days' work for harvesters and plant workers.

Lee Melindy, a harvester in area 3K, attended the technical briefing and explained that the stock is showing excellent health. "The fish were bigger and fatter the longer we fished into the fall, and that tells me that the stock is in good order. We are getting an average of up to two pounds per hook on longlines in the fall, which is considered excellent fishing in other countries that use longlines."

FFAW has reiterated its position to DFO repeatedly since the Union's first meeting with Minister Diane Lebouthillier on January 15th, assuring that the inshore owner-operator fleet has the capacity to harvest the first 115,000 metric

tonnes of Northern cod with ease. Moreover, it is extremely important for federal government to make good on its commitment to coastal Newfoundland and Labrador.

“This longstanding commitment ensures that as the stock rebounds, the benefits of the Northern cod fishery will flow to inshore fish harvesters as well as processing plant workers,” said Greg Pretty, FFAW-Unifor President. “Harvesters have done enormous work to protect and grow the resource, and they must be the primary beneficiaries. Increasing the Northern cod harvest amount this season is an opportunity to diversify and reduce the pressure surrounding EI for all seasonal workers in the sector. Not only is Northern cod historically significant to our industry and our province, but the revitalization of a commercial fishery presents great opportunity for the future of enterprise owners and rural communities.”

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MEDIA RELEASE: FFAW NORTHERN COD GRADED 'A' FOR SUSTAINABILITY

HOME » MEDIA RELEASE: FFAW NORTHERN COD GRADED 'A' FOR SUSTAINABILITY

February 16, 2024

ST. JOHN'S, NL – This month, FFAW-Unifor's Northern Cod (2J3KL) Fisheries Improvement Project (FIP) was awarded a Grade A by the Sustainable Fisheries Partnership (SFP) – an internationally recognized seafood sustainability grading system.

An 'A' progress rating is reserved for comprehensive FIPs that have documented improvements in fishing practices or fisheries management within the last 12 months. FFAW's Northern Cod FIP demonstrates the commitment to sustainable fishing with documented improvements to cod habitats with, for example, over 16,000 pounds of lost gear removed from the Punch Bowl cod fishing ground in Labrador.

"These grade rankings are something the sustainably minded consumer looks for when shopping for seafood all around the world," explains FFAW-Unifor President Greg Pretty. "It's a testament to the progress made by inshore fish harvesters in our province to turn the northern cod fishery in Newfoundland and Labrador into a world-renowned, trustworthy and sustainable source of seafood," Pretty says.

FFAW-Unifor's FIP efforts also include partnerships with Tangly Whales and WWF-Canada to [build and distribute line cutters](#); ensuring harvesters have the tools in hand to safely release leatherback turtles or other bycatch.

"When we started this FIP over 10 years ago, we asked ourselves what we would need to do to have a truly sustainable cod fishery",

says FFAW-Unifor Senior Fisheries Scientist, Dr. Erin Carruthers. “In addition to the core fishery management and stock growth objectives, our FIP also includes commitments to take care of cod habitats, to give harvesters the tools and training for better handling of bycatch, and to improve monitoring of the recreational cod fishery.”

Receiving this top grade acknowledges FFAW-Unifor’s continued commitment and work to build a sustainable and healthy fishery.

History of the Commitment by the Government of Canada

The commitment to a 115,000-tonne allowance allocated to inshore harvesters in NAFO divisions 2J3KL is clear and consistent throughout groundfish management plans of the 1980s, before the stock entered moratorium. Securing this commitment was a shared effort between the provincial government of Newfoundland and Labrador and the federal department of Fisheries and Oceans.

The commitment to ensuring the inshore allowance of 115,000 tonnes was maintained was first made by the Peckford government. The announcement took place at the Corner Brook Northern Cod Seminar in August of 1979, held at the Glynmill Inn, Corner Brook, Newfoundland and Labrador. In making this decision Peckford stated,

Over the last number of years, corporate and other interests in mainland Canada have conducted an extensive lobbying campaign to influence the Government of Canada's policies in this regard. The result is that there appears to be great doubt in the minds of Federal bureaucrats as to the proper role of the Newfoundland inshore and longliner (or what might be called the middle distance) fleet. The balance is slowly but surely shifting to an emphasis on offshore trawlers. In 1979, for instance, only 56% of the Total Allowable Catch for these northeast cod stocks was allocated to the inshore fishery.

This can only mean disaster for our inshore fishermen and the many seasonal fish plants and communities which depend upon them. These policies must be reversed.

Peckford then went on to say, "It is the policy of my Government that about 85% of all northeastern cod should be taken by our inshore and middle-distance fleet. This fleet is backbone of the economy of hundreds of small fishing communities".

It was confirmation of a statement made by the Hon. Brian Tobin in 1978 at a speech to the St. John's Board of Trade (HOA, 2015). Further, the Newfoundland and Labrador government agreed with projections for the stock made at the Seminar and recommended the inshore fishery always catch 85 percent of the total (GNL, 1980).

The allowance followed a 1976 change in approach to fisheries management. In a ten-year strategic plan, the Canadian government stated, "The guiding principle in fishery management no longer would be the maximization of the crop sustainable over time but the best use of society's resources. 'Best use' is defined by the sum of net social benefits (personal income, occupational opportunity, consumer satisfaction and so on) derived from the fisheries and industries linked to them." (Leblanc, 1976).

The allowance is evident in management plans of the pre-moratorium era, and inshore catches reached 115,000 tonnes in 1982 (Steele et al, 1992). The allowance was built around ensuring the principles of the department were supported.

Vardy and Dunne (2003) reiterate these principles that guided fish management during this period, and ones that still hold true today. They write, "In addition to increasing the inshore allowance the province sought to have the allocation principles established by the federal minister used to protect the interests of the Newfoundland fishery. The 1984 Atlantic Groundfish Management Plan identified the allocation principles as being adjacency to the resource, the relative dependency of coastal communities and the various fleet sectors along with economic efficiency and fleet mobility. The province had emphasized the adjacency principle, along with historical dependence, to ensure that Northern cod was harvested principally for the benefit of the Newfoundland industry." The inshore allowance was a direct support mechanism for ensuring those who relied most on the resource were the ones to benefit.

Indeed, the Kirby Report (1982) had recommended an inshore allowance of 145,000 tonnes and is one of the first records to solidify this commitment in writing. Kirby stated that an allowance of 200,000 tonnes would be more in line with historical landings by the inshore fleet. The allowance was then confirmed at 115,000 tonnes. At the time of the moratorium in 1992, the offshore fleet had been removed from the fishery at 120,000 tonnes (Steele et al, 1992).

While some have argued the inshore lacked capacity to harvest this amount due to low landings during this time, Lear et al (1986) and Blackwood (1996) put this argument to rest with the political and environmental realities of the stock at the time.

Blackwood states, "The result was that the inshore sector, which was promised first priority in allocation and were supposed to get two thirds of the TAC was, by 1986, receiving only 43 per cent of the TAC as an allocation, and due to the low level of the stock and foreign harvest outside 200 miles, was accounting for only 26 per cent of the total catch" (Blackwood, 1996, p. 53). Similarly, Lear et al (1986) had earlier stated water temperature, lack of food availability and general lack of ecosystem productivity were responsible for the decrease in inshore landings.

Further, in a report resulting from the Royal Commission on Renewing and Strengthening our Place in Canada, entitled "New Arrangements for Fisheries Management in Newfoundland and Labrador," David Vardy and Eric Dunne backed up Blackwood's assertions.

When referring to the inshore's declining catches in the 1980s, Vardy and Dunne state, "The reason for this was that the biomass had been overestimated and the ability of inshore vessels to harvest a declining resource fell far short of the technical capacity of the offshore fleet to home in upon a shrinking biomass. The inshore allowance itself did not protect the stock or those who depended upon it as had been hoped."

In 1994, Richard Cashin chaired a task force on incomes and adjustment in the Atlantic fishery. In a subsequent article in the Financial Post (1994), it is stated that, "In his task force report, Cashin cautioned the return of a directed offshore cod fishery. On this point, Brian Tobin seems to agree. Both Tobin and Cashin have tossed out the figure of about 115,000 tonnes, a level the northern cod quota would have to reach before the offshore could return to those fishing grounds."

Further confirmation of the allowance was made by senior DFO official David Bevan on March 13, 2008 during a presentation to the Standing Committee on Fisheries and Oceans. Referring to allocation policies, Bevan stated, "That policy was put in place as we made significant decisions, for example, on 2J3KL cod. The first 115,000 tonnes go to the inshore and the remainder would be shared between the inshore and the offshore." (SCOFO, 2008).

Prior to the 2015 federal election, FFAW-Unifor submitted a questionnaire to each of the political parties requesting their responses to a number of questions. The 115,000-tonne inshore allowance was one of the key questions on the questionnaire. The Liberal Party of Canada reaffirmed their commitment to this allocation. The Party wrote,

"A Trudeau-led Liberal government will re-affirm the federal commitment to allocate the first 115,000 MT of northern cod quota to the inshore harvesters so that, as the resource rebounds, the benefits of a future cod fishery flow to inshore harvesters and coastal communities.

The Liberal Party of Canada knows that we must be diligent and ensure that a resource rebound is real and sustainable, but when the stock achieves the proper threshold, we are committed to the policy that the first 115,000 MY will go to the inshore fleet.

We understand the fundamental importance of the cod fishery to Newfoundland and Labrador, and the importance of this commitment after the devastating effects of the cod collapse, which saw the largest layoffs in Canadian history. We must ensure that the future benefits of the cod fishery flow to the inshore harvesters and coastal communities, with spinoff benefits throughout the province."

In July 2016, then-Minister of Fisheries and Oceans Dominic LeBlanc held up the Liberal Party's commitment. Minister Leblanc ensured the inshore harvesters of Newfoundland and Labrador that the federal Liberal government continue to support ensuring the first 115,000 tonnes of northern cod remain for inshore harvesters.

Restated again in the 2021 federal management plan under Minister Bernadette Jordan, the media release explicitly stated: "Northern Cod remains under moratorium, however, when a total allowable catch is established, the first 115,000 tonnes of directed Canadian access will be allocated to the inshore sector and Indigenous groups in Newfoundland and Labrador."

That promise - that commitment to the coastal sustainability of Newfoundland and Labrador- has been broken.



THE PREMIER
GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

July 3, 2024

The Honourable Diane Lebouthillier
Minister of Fisheries and Oceans and the Canadian Coast Guard
Fisheries and Oceans Canada, 200 Kent Street
Ottawa, ON K1A 0E6
min@dfpo-mpo.qc.ca

Dear Minister Lebouthillier:

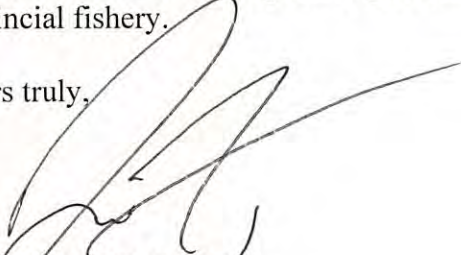
I am writing regarding the announcement of the Department of Fisheries and Oceans that it will end the northern cod moratorium and increase the total allowable catch. Based on science advice, we are encouraged to see the progress in the recovery of the stock.

As you are acutely aware, the fishery has served as the historic lifeblood of communities of Newfoundland and Labrador. Since the moratorium, we have been waiting for the growth of this stock with a renewed commitment to the importance of enhanced stewardship. Going forward, Newfoundland and Labrador and these communities deserve to be the sole beneficiary. This is particularly important at this point in the recovery.

This is why we are very concerned with the allocations that have been announced. Changes that provide increased access to foreign fleets, coupled with the risk of overfishing, are an affront to the patience and commitment to stewardship demonstrated by the hardworking harvesters and processors of this province. The province simply cannot support fish being harvested by foreign countries at the expense of our own harvesters. I have raised these concerns with the Prime Minister, and felt compelled to bring them to your attention directly.

These decisions should not have been taken without consultation with stakeholders in Newfoundland and Labrador. The time has come for the province to have a direct say over our resources. This lack of consultation and potential negative outcome requires an immediate discussion on how our respective governments can structure a joint management approach to the provincial fishery.

Yours truly,



DR. ANDREW FUREY
Premier

cc: Prime Minister Justin Trudeau

**JAGMEET SINGH**

DÉPUTÉ | MP, BURNABY SOUTH | BURNABY-SUD

July 5th, 2024

The Honourable Diane Lebouthillier
Minister of Fisheries, Oceans, and the Canadian Coast Guard
House of Commons
Ottawa, Ontario

Dear Minister Lebouthillier,

We are writing today in support of inshore fish harvesters, fish plant workers, and their communities in Newfoundland and Labrador. We strongly urge you to immediately return the Northern Cod commercial fishery to stewardship status, and reaffirm the promise made by the Prime Minister and the Liberal Party to the inshore fleet in 2015.

Independent inshore harvesters and Indigenous groups were assured that the first 115,000 tonnes of quota as the stocks rebuilt would be allocated to the inshore fleet, and only after that threshold was reached would there be consultation for the offshore commercial fleet to be permitted access. As the Total Allowable Catch (TAC) in this year's planned Northern Cod fishery is approximately 19,000 tonnes, far below the 115,000-tonne threshold, we do not see how this decision can be justified. We ask that you keep the promise made to harvesters and restore the Northern Cod stewardship fishery with the same conditions regarding inshore fleet access that applied in 2023.

Disappointingly, your announcement on June 26th moves us in the wrong direction. If your department proceeds with the proposed measures, you will be breaking a commitment to harvesters that was first made in 1982 by then Minister Romeo LeBlanc. This was clearly affirmed by the now Prime Minister, Justin Trudeau, in a 2015 letter to the Fish, Food and Allied Workers Union (FFAW) outlining promises to follow through on these commitments (see attached). FFAW represents over 10,000 fish harvesters in Newfoundland and Labrador. This promise was also a part of your department's very own 2023 fisheries management plan.

By lifting the 32-year moratorium and opening the door to large corporate interests including overseas corporations and offshore druggers, while the stock is in the cautious zone and continues to rebuild, you will be once again jeopardizing the future of Northern Cod stocks, local industry, and coastal communities.

Historic overfishing by large corporations including Canadian and foreign-owned offshore druggers depleted cod stocks and hurt harvesters and marine ecosystems. The resulting closure of the cod fishery 32 years ago had devastating impacts for everyone in Newfoundland and Labrador. These impacts are well documented. If this Liberal government wants to fix its mistakes and the mistakes of the Conservatives before it, the correct measures must be in place to support inshore fish harvesters, local plant workers, and their communities. This government must protect

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Jagmeet.Singh@parl.gc.ca

the cod fishery for generations to come, by immediately returning it to stewardship status to allow further monitoring and rebuilding of stocks.

Abandoning your government's commitment despite clear awareness of its significance is both irresponsible and unacceptable. Coastal communities, inshore harvesters, and plant workers cannot be the trade-off for corporate greed yet again. A progressive, equitable, and accountable approach to fisheries management will support stock rebuilding in a way that will sustain communities throughout Newfoundland and Labrador.

Northern Cod stocks remain in the cautious zone and cannot currently withstand the intense fishing pressure from Canadian and international offshore fleets. Keeping your government's promise regarding the 115,000-tonne threshold is the only way to ensure that communities are supported and that the safe rebuilding of this precious stock continues. Failure to do so will have enormous cultural and economic implications for a province that has already been through the largest layoffs in Canadian history as a result of poor management and bad decision making by consecutive Liberal and Conservative governments.

We urge you to immediately reverse this decision which threatens the rebuilding of the fishery and has the potential to wipe out all of the hard work and sacrifices made by inshore fish harvesters since 1992. The people of Newfoundland and Labrador deserve no less. We look forward to your timely reply.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jagmeet Singh', written in a cursive style.

Jagmeet Singh, M.P. (Burnaby South)
Leader of the New Democratic Party of Canada

A handwritten signature in black ink, appearing to read 'Lisa Marie Barron', written in a cursive style.

Lisa Marie Barron, M.P. (Nanaimo – Ladysmith)
NDP Critic for Fisheries, Oceans, and the Canadian Coast Guard

A handwritten signature in black ink, appearing to read 'Mary Shortall', written in a cursive style.

Mary Shortall
NDP Special Advisor for Newfoundland and Labrador

From: davardy4@gmail.com

Date: July 7, 2024 at 3:17:03 PM NDT

To: Churence Rogers <Churence.Rogers@parl.gc.ca>, Clifford Small <clifford.small@parl.gc.ca>, Gudie Hutchings <gudie.hutchings@parl.gc.ca>, Joanne Thompson <joanne.thompson@parl.gc.ca>, Ken McDonald <ken.mcdonald@parl.gc.ca>, Seamus O'Regan <Seamus.OREgan@parl.gc.ca>, Yvonne Jones <yvonne.jones@parl.gc.ca>

Cc: George Rose <g.rose@oceans.ubc.ca>, Greg Pretty <GPretty@ffaw.ca>, Elvis Loveless <elvisloveless@gov.nl.ca>, Les Dean <leslie_dean@hotmail.com>, "Ray Andrews (New)" <raymondandrews@me.com>, Alberto Wareham <awareham@icewaterseafoods.com>, Fred Way <fred.way57@gmail.com>, Victor Young <vicyoung@hotmail.com>, Peter Miles <petermiles@gov.nl.ca>, Diane Lebouthillier <DFO.Minister-Ministre.MPO@dfo-mpo.gc.ca>, Blaine Sullivan <bsullivan@oceanchoice.com>, Fred Way <fred.way57@gmail.com>, Herb Clarke <herbmclarke@gmail.com>, Glenn Blackwood <glenn.blackwood@mi.mun.ca>, "Gabe Gregory (Home)" <ggregory@nl.rogers.com>, JamieChippett@gov.nl.ca, Krista Quinlan <KristaQuinlan@gov.nl.ca>, Robert Greenwood <RobertGreenwood@gov.nl.ca>, Michael Clair <mpclair@icloud.com>, Wilfred Bartlett <wilfbartlett@hotmail.com>, David Wells <David.Wells@sen.parl.gc.ca>, Elizabeth Marshall <elizabeth.marshall@sen.parl.gc.ca>, Fabian Manning <fabian.manning@sen.parl.gc.ca>, Iris Petten <ipetten@oceanchoice.com>, Judy White <Judy.White@sen.parl.gc.ca>, Mohamed-iqbal Ravalia <Mohamed-iqbal.ravalia@sen.parl.gc.ca>

Subject: The Northern Cod Fishery Revised Letter to MPs

ATTENTION: Members of Parliament representing the province of Newfoundland and Labrador

On June 26 the Federal Fisheries Minister made an [announcement of Biblical proportions](#). “The Honourable Diane Lebouthillier, Minister of Fisheries, Oceans, and the Canadian Coast Guard announced the end of the Northern cod moratorium off the north and east coasts of Newfoundland and Labrador. This historic decision re-establishes a commercial Northern cod fishery in NAFO Divisions 2J3KL with a Canadian Total Allowable Catch (TAC) of 18,000 tonnes for the 2024 season. The inshore fleet sector will receive approximately eighty-four percent of the TAC, with twenty percent of this inshore sector allocation provided to 2J-based harvesters and six percent of the TAC is allocated to the Canadian offshore fleet.”

The opening of the commercial fishery allows foreign fleets to fish again now that the moratorium is lifted. To quote the June 26 release again: “The Northwest Atlantic Fisheries Organization (NAFO) previously established a measure to allocate five per cent of the overall TAC to other NAFO contracting parties when Canada re-opens its commercial Northern cod fishery. The Canadian TAC of 18,000t is considered 95 per cent of the overall TAC.

The Federal Fisheries Minister's decision to allocate a share of the initial quota of 18,000 tonnes to the offshore sector flies in the face of a federal fisheries policy commitment made in the wake of the 1992 moratorium that the first 115,000 tonnes of a reopened northern cod fishery would be allocated to the inshore sector.” The door has now been opened to the offshore fleet and to foreign fishing trawlers.

The moratorium of 1992 was implemented quickly and painfully. I was deputy minister for the province on that fateful day, July 2, 1992. We have since had 32 years to put in place an orderly, measured approach to the reopening of the Northern cod fishery but yet the recent decision appears to have been taken in haste. The uncertainty in the science remains problematic and the implications for future fishing effort outside the Zone are troubling. We do not need to encourage fishing activity outside the EEZ. We have no effective mechanism to control foreign fishing outside 200 miles, despite the long and disappointing history of NAFO, and ICNAF before NAFO, which goes back to 1949.

The decision to reopen the Northern cod fishery is a fundamental decision on the future of the province, one which requires a broad hearing from citizenry at large and not a sudden announcement by the federal government. It demands provincial input and engagement by communities through an open public review. There was no advance warning to GNL in 1992 and I suspect the recent announcement also came as a surprise.

Our province brought the fishery resources and subsea mineral and petroleum resources of the continent to Canada when Canada joined us in 1949. We gained access to royalty revenues and a role in the management of oil and gas, even though the management role we negotiated in the Atlantic Accord of 1985 has since been eroded. Our province has no joint management role concerning the all-important Northern cod fishery. The recent announcement is at odds with stated federal policy on resource allocation.

The recent announcement should not have been made without a joint federal provincial review, conducted by an eminent independent group, such as the Task Force on Northern cod, ably chaired by the late Dr. Leslie Harris, former President of Memorial University. Dr. Harris recommended joint management, as did Dr. Richard Cashin, former MP and Leader of the FFAW. Attached to this letter is a list of 12 federal and provincial reports endorsing joint fisheries management.

In his [Independent Review of the State of the Northern Cod Stock](#) of February 1989, Dr. Harris recommended (page 153) “That the Government of Canada and the Government of Newfoundland and Labrador should jointly establish a Board or Commission in the context of which information can be shared, management objectives clarified and coordinated, policy directions set, and strategies developed.”

The November 2005 “[Report of the Chairman RMS Review Committee](#)” chaired by Dr. Richard Cashin recommended “the Provincial Government seek a workable arrangement with the Federal Government for coordinated and joint management of the harvesting and processing sectors. This would be an arrangement where the decision making powers of both governments are delegated to a single management authority. This authority should administer an agreed set of management policies.”

The October 2023 “[Report of Fish Price-Setting Strategic Review Team](#)” also recommended joint management. The Review Team, chaired by Glenn Blackwood, former head of Memorial University’s Marine Institute, concluded that “much of the disruption in the industry through the current crisis was avoidable, however to avoid such outcomes, an independent fisheries management structure is required. Such a management structure was recommended in the past by Vardy and Dunne (2003) and by Cashin (2005). The review team concurs with their recommendation that the Government of Newfoundland and Labrador seek a workable arrangement with the Federal Government for coordinated and joint management of the harvesting and processing sectors. This would be an arrangement where the decision-making powers of both governments be delegated to a single management authority. An authority similar to that utilized in the oil and gas sector.”

Joint management was also recommended by [The Our Place in Canada](#), The 2003 Report of the Commission on the Renewal and Strengthening of Our Place in Canada (pages 111-112), Chaired by Dr. Victor L. Young, former CEO of Fishery Products International.

The Commission’s view is that institutional reform should be initiated whereby a determination of the policy framework for the conservation, management and development of the Newfoundland and Labrador fisheries can be carried out jointly by the federal and provincial governments. In this regard, the Commission was influenced by the extensive research carried out on its behalf by David Vardy, Eric Dunne and George Rose.

It is no longer acceptable for the federal government to make decisions so crucial to the province without a formal mechanism for meaningful input from the people of Newfoundland and Labrador. During the course of finalizing our recommendations on the fishery, the Government of Newfoundland and Labrador introduced a resolution into the House of Assembly seeking a formal amendment to the Terms of Union and released a White Paper entitled Joint Management of Newfoundland and Labrador Fisheries. This resolution and paper seek amendments to the Terms of Union to provide for shared and

equal constitutional authority between the federal parliament and the provincial legislature over fisheries adjacent to the shores of Newfoundland and Labrador. They also propose the negotiation and constitutional entrenchment of a new Joint Management Fisheries Board to manage fishery resources. The Commission endorses a joint approach for fisheries management. Such an approach does not need a change in the Terms of Union and could follow a route similar to that which led to the establishment of the Canada-Newfoundland Offshore Petroleum Board. There will have to be much discussion and consultation on the details of this approach, but the following three principles should apply to any new mechanisms:

The primary decisions regarding the annual setting of the Total Allowable Catch (TAC), the allocations of TACs and the regulation of the harvesting and processing sectors be made jointly by the federal and provincial governments.

- Joint mechanisms be open, transparent and include full opportunity for stakeholder consultation.
- The licensing of the harvesting and processing sectors be done on an integrated basis by an arm's length regulatory body jointly appointed by the two governments.

The Government of Newfoundland and Labrador should reaffirm its commitment to the fishery and should ask the Government of Canada to suspend recent decisions to end the moratorium pending the report of a jointly appointed independent panel.

Furthermore, GNL should energetically implement the Young Royal Commission recommendation that: *Negotiations should begin as soon as possible to establish a Joint Management Fisheries Board.*

The Premier has written to the Federal Minister to express his concerns over the announcement. At the same time, he has invited the Government of Canada to open discussions with the province on joint management. This is an important step toward better management of our most important industry.

As our Members of Parliament for this province you should reconsider your support for this decision and ask that it be rescinded and that an alternative approach as outlined herein be pursued. You should consult with the province to learn how best to support the development of a new approach to fisheries management, recognizing that past arrangements have failed abysmally.

I am requesting the courtesy of an acknowledgement that you have personally seen this email, as well as a reply.

I am copying all Senators, the federal and provincial fishery ministers, the President of the FFAW, senior fishing industry people, senior provincial public servants, along with past and former colleagues.

David Vardy

List (partial) of Reports Endorsing Joint Management (in chronological order)

1. GNL. 1980 *Managing All Our Resources: A Development Plan for Newfoundland and Labrador, 1980-85*. St. John's: Government of Newfoundland.
2. House, Douglas, 1986, "Report of the Royal Commission on Employment and Unemployment", prepared for the Government of Newfoundland and Labrador.
3. Harris, L. Dr. (Chairman), 1990. [*Independent Review of the State of the Northern Cod Stock*](#). Final Report Prepared for the Minister of Fisheries and Oceans.
4. Maloney, Aidan, 1990, *Report of the Commission of Enquiry into the Alleged Erosion of the Newfoundland Fishery by Non-Newfoundland Interests*, prepared for the Honourable Clyde K. Wells, Premier of the Province of Newfoundland and Labrador.
5. DFO. 1991, [*Fisheries Management: A Proposal for Reforming Licensing and Allocation Systems*](#), DFO/4652, ISBN 0-662-19260-5. Ottawa, ON [\[i\]](#).

6. GNL, 1991. *Effective Fisheries Management: Joint Management and Government Cooperation in the Newfoundland and Labrador Fishery*. GNL Discussion Paper, St. John's NL.
7. Dean, Leslie, 2001 *Report of the Special Panel on Corporate Concentration in the Newfoundland and Labrador Fishing Industry*, prepared for the Minister of Fisheries and Aquaculture.
8. Vardy, David and Eric Dunne, 2003, *New Arrangements for Fisheries Management In Newfoundland And Labrador*; A Report Prepared for the Royal Commission on the Renewal and Strengthening of Our Place in Canada.
9. Young, Victor L, et al, 2003, [Our Place in Canada](#), The Report of the Commission on the Renewal and Strengthening of Our Place in Canada.
10. GNL, May 26, 2003, [White Paper on Joint Management of Newfoundland and Labrador Fisheries](#).^[ii]
11. Cashin, Richard, November 2005, [Report of the Chairman RMS Review Committee](#), Report to GNL.
12. Blackwood, Glenn, Gabe Gregory and William Broderick, October 2023 [“Report of Fish Price-Setting Strategic Review Team”](#).

^[i] This was part of a major reform initiated by DFO Minister John Crosbie and is the only federal proposal for joint management of which I am aware. “The new system calls for the establishment, through legislation, of two independent Boards, one for the Atlantic and one for the Pacific, that would license fishermen, allocate fish and apply sanctions. Panels of the Boards which could be organized along the lines of DFO regions in the Atlantic and by fish species on the Pacific, will make recommendations on allocations. The Boards would operate at arm's length from the government and would take over responsibility for what are now ministerial decisions on licensing and allocation as well as decisions on violations that are now made by the courts. The Department and the Minister would still set fisheries policies, taking into account the principles in the legislation; applying this policy in individual decisions would be done by the Boards.”

^[ii] This comprehensive document includes draft legislation “An Act Respecting Joint Management of The Fisheries Adjacent To The Province Of Newfoundland And Labrador”.

APPENDIX 1

Sourced History of the Commitment by the Government of Canada

Policy for Canada's Commercial Fisheries Department of the Environment; May 1976

Hon. Roméo LeBlanc Speech to the St. John's Rotary Club; May 19, 1977

Towards a Policy for the Utilization of Northern Cod, Department of Fisheries and Oceans; September 28, 1979

Steele, D.H., Andersen, R. & Green, J.M. 1992. "The Managed Commercial Annihilation of Northern Cod." Newfoundland Studies 8:1.

NEWSWATCH, Telegraph Journal St. John, NB; April 29, 1996

Blackwood, Glenn. 1996. "Past and Future Goals and Objectives in the Allocation of the Northern Cod Resource". M. A. Thesis, Memorial University, St. John's, NL

Standing Committee on Fisheries and Oceans (SCFO). March 13, 2008. No. 20, 2nd session, 39th Parliament.

Liberal Party of Canada Letter to FFAW-Unifor; September 19, 2015

DFO 2021 Newfoundland and Labrador Fisheries Decisions: May 28, 2021

DFO 2021 Northern Cod (2J3KL) Stewardship Fishery Management Approach

FFAW-Unifor Media Release: "First 115K Confirmed in 2021 Management Plan"; May 28, 2021

DFO Groundfish Newfoundland and Labrador Region NAFO Subarea 2 + Divisions 3KLMNO; March 23, 2023

ADDITIONAL (Not Appended)

Financial Post. 1994. "Fishermen caught up in Ottawa's Political Net." 21 May 1994

House of Assembly (HOA). June 3, 2015. House of Assembly Proceedings. Vol. XLVII No. 2

Kirby, M.J.L. 1982. "Navigating Troubled Waters. A New Policy for the Atlantic Fisheries." Supply and Services. Ottawa

Lear, W.H., Baird, J.W., Rice, J.C., Carscadden, J.E., Lilly, G.R. and Aikenhead, S.A. 1986. "An Examination of Factors Affecting Catch in the Inshore Cod Fishery of Labrador and Eastern Newfoundland." Canadian Technical Report of Fisheries and Aquatic Sciences, No. 1469.



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Policy For Canada's Commercial Fisheries

May, 1976

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Fisheries and Marine Service,
Department of the Environment,
Ottawa, Canada

Cette publication est disponible en
français sous le titre "Politique
canadienne pour la pêche commerciale".

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Foreword

Since late 1974 the government of Canada has been taking a fresh look at current problems of Canada's commercial fisheries. We have been looking for ways to solve these problems and then to create a healthy, stable industry; one which can bring prosperity and security to the people in it.

We made this study not only because of the acute economic crisis which afflicted the industry over the past 18 months but also because it is time to prepare for the extension of Canadian jurisdiction over what could, with wise management, become one of the richest fishing areas in the world.

As a result of this study, I presented to the government in mid-1975 an overall plan for managing and developing the fisheries. This plan has now been adopted as government policy: it has become a guide for the rebuilding of Canada's commercial fisheries over the next ten years.

It is important that everyone in the industry: fishermen, processors, distributors, suppliers, investors - as well as consumers and other interested citizens - understand the plan and the reasoning behind it; including the problems it has been designed to deal with. In describing these previous troubles we are not being pessimistic; in the recognition of problems lies the beginning of solutions.

Although most of this report deals with the problems of the sea fisheries, the principles evolved apply generally to the freshwater fisheries as well. We are, right now, working with the governments of the central provinces, to which administration of freshwater fisheries has been delegated, to make plans for the best use - commercial as well as recreational - of our freshwater fish resources.

Apart from transmitting information about the government's plan of action, this booklet has another purpose: to enlist the cooperation of Canadians, particularly those in the industry, in designing the many programs needed to translate policy into action. Work has begun in a number of areas. We shall be seeking advice on the programs with the people who will be affected by them.

If you want more information than this booklet contains, or if you need additional copies of it, please write or phone the nearest regional office of the Fisheries and Marine Service (see the back cover) or write:

Information Branch
Fisheries and Marine Service
Department of the Environment
580 Booth Street
Ottawa, Ontario
K1A 0H3

I hope too that this booklet will stimulate comment from readers.

If you do have comments please feel free to write me.

A handwritten signature in black ink that reads "Roméo LeBlanc". The signature is written in a cursive style with a long horizontal stroke at the end.

Roméo LeBlanc
Minister of State for Fisheries

House of Commons
Ottawa, Ontario
April, 1976

INTRODUCTION

In 1975 the federal government decided on a new approach to fisheries management and development, one aimed at revitalizing all branches of Canada's commercial fisheries.

This decision has implications for the whole country. In large areas of the country the fisheries are the principal industry. With the impending advent of extended coastal-state jurisdiction, the industry can play an even greater part in Canada's economic and social development.

The importance the federal government attaches to the fisheries is reflected in the amount of money spent on them in recent years. For the period July, 1974 - March, 1977, the government allocated approximately \$130 million for special aid to the fisheries. (By March, 1976, about \$65 million had been spent.) This was in addition to normal expenditures estimated at more than \$200 million per year, by federal and provincial governments. Some special expenditure may be expected to continue, though on a reduced scale until the measures now being planned result in the emergence of an industry that can stand on its own feet.

Such large-scale expenditure demonstrates how seriously weakened the fishing industry is. Without special assistance over the past year, many elements of the industry (including some of the leading firms) would have collapsed. Most of the special aid was provided for that section of the industry which depends on exports of frozen groundfish (cod, flatfish, ocean perch, and similar "whitefish" species). This part of the industry has run into severe marketing difficulties at intervals of approximately six years. Although some parts of the industry are well-off, the fishing industry has through the years failed to yield to its participants the kind of reward that similar effort yields in other occupations.

CANADA'S POSITION IN WORLD FISHERY PRODUCTION, 1973

<u>COUNTRY</u> ^{1/}	<u>NOMINAL CATCH</u> ^{2/} metric tons
Japan	10,700,000
U.S.S.R.	8,600,000
China	7,600,000
Norway	3,000,000
U.S.A.	2,700,000
Peru	2,300,000
India	2,000,000
Thailand	1,700,000
Republic of Korea	1,600,000
Spain	1,600,000
Denmark	1,500,000
South Africa	1,300,000
Indonesia	1,300,000
Philippines	1,200,000
<u>Canada</u>	1,200,000
United Kingdom	1,100,000
All others	16,300,000
Total	65,700,000

1/ The countries listed by name are those producing one million metric tons or more

2/ Landings, in whatever form, converted to "round" (live) weight.

Source: FAO, Yearbook of Fishery Statistics, Vol. 36, 1974

The extension of Canada's fisheries jurisdiction will not, by itself, solve the industry's problems. Even before the recent growth of foreign fishing off our coasts, there were major problems in areas already under Canadian jurisdiction, for example some lake fisheries and some Gulf of St. Lawrence fisheries. Canadian fleets have shown that they too can overcrowd fishing grounds and deplete fish stocks. In any case, the state of the resource (i.e. the fish) is only one of many factors that influence the health of the industry. In 1973, a year when the stocks were becoming depleted, the groundfish industry registered one of its best years ever, in economic terms. In the following year, markets deteriorated, costs rose steeply, and the roof fell in.

Extended jurisdiction, then, should be seen as being as much a challenge as an opportunity, and in facing up to that challenge we should always keep in mind that the fortunes of the fishing industry depend on more than fish. They depend on markets, on production costs, on the industry's built-in ability to compete, and on a myriad other factors. Many of the problems are inherent in the industry's structure. Too often the fishing industry has been unstable and self-debilitating, prone to crises, and providing an inadequate and nearly always insecure source of income to those who work in it.

When in 1974 it became clear that large sections of the industry would probably collapse, the Minister of State for Fisheries launched the most thorough inquiry yet made into Canada's post-war fishing industry. Experts from government and the private sector consulted with people in every part of the industry. The resulting analysis of the industry's problems has been generally accepted in the industry and in government. From this analysis have come the interim special aid programs that have kept stricken sections of the industry afloat during the present crisis.

CANADA'S POSITION IN THE WORLD'S FISH TRADE, 1973

<u>Country</u> ^{1/}	<u>Exports</u>
	\$ U.S.
Japan	553,900,000
Norway	514,000,000
<u>Canada</u>	490,700,000
Denmark	377,200,000
U.S.A.	285,200,000
Iceland	212,700,000
Netherlands	207,900,000
Spain	169,200,000
Peru	152,500,000
Republic of Korea	145,500,000
Federal Republic of Germany	139,300,000
U.S.S.R.	122,700,000
United Kingdom	133,800,000
Australia	104,100,000
All others	644,300,000
Total	5,233,000,000

1/ The countries listed by name are those exporting fishery products to a value of one hundred million dollars (U.S.) or more.

Source: FAO, Yearbook of Fishery Statistics, Vol. 37, 1974

The study produced a set of strategies recommended for the rehabilitation and reconstruction of the industry over the long haul. Like the problems they address, these initiatives are interlinked and overlapping. They have a common aim: the creation of a climate of prosperity and security for all who participate in the commercial fisheries.

The crisis which gave rise to this study affected primarily the groundfishery of the Atlantic coast, and research was concentrated in that region. As a result, the analytical content of this report to the public acquired a perceptible down-east flavour. Nevertheless, the policy objectives and strategies formulated are intended to be applicable generally throughout all fisheries and fishing regions of the country. In the design and implementation of programs, of course, account will be taken of variation from place to place in the relevance of specific strategies.

The strategies adopted reflect a fundamental redirection in the government's policy for fishery management and development. Although commercial fishing has long been a highly regulated activity in Canada, the object of regulation has, with rare exception, been protection of the renewable resource. In other words, fishing has been regulated in the interest of the fish. In the future it is to be regulated in the interest of the people who depend on the fishing industry. Implicit in the new orientation is more direct intervention by government in controlling the use of fishery resources, from the water to the table, and also more direct participation by the people affected in the formulation and implementation of fishery policy.

THE COMMERCIAL FISHERIES IN CANADIAN SOCIETY

Structure and Dimensions*

Many parts of Canada depend on the commercial fisheries. This dependence is absolute in many places, including some where the fishing industry is economically weak.

The Atlantic region (including Newfoundland, the Maritimes and the coastal areas of Quebec) depends heavily on fishing. About 75 per cent of the communities in this region take part in commercial fishing. Of these communities, some 20 per cent (roughly 250,000 people) have no other economic base.

Relatively speaking the Pacific area is less dependent on the fisheries. Much of the industry is centered in Prince Rupert and Vancouver. In both areas there are other ways to make a living - certainly more than in most parts of the Atlantic coast. Nevertheless many isolated coastal communities, and a significant sector of the Pacific coast's economy depend on fisheries and fishery-related industry and services.

Nearly as many people work in the freshwater fisheries of Canada as in the sea fisheries of the Pacific coast. Dependence on fishing is especially high in some Indian communities of the Northwest Territories, in the northern parts of Manitoba, Saskatchewan and Alberta, and in northwestern Ontario.

There are an estimated 20,000 fishing enterprises in the primary sector of the commercial fisheries in Canada. These enterprises operate about 40,000 fishing craft of all types and sizes, and employ between 55,000 and 60,000 fishermen as owner/operators and crew. The investment in these operations currently approximates \$375 million, 90 per cent of which is in fishing craft.

* Appendix II contains a series of 20 tables providing additional detailed information on various aspects of Canadian fisheries.

The Primary Fishing Industry in Canada ^{1/}

1973

	<u>Pacific</u> <u>Region</u> ^{2/} no.	<u>Central</u> <u>Region</u> ^{3/} no.	<u>Atlantic</u> <u>Region</u> ^{4/} no.	<u>All</u> <u>Canada</u> no.
Communities ^{5/}	N/A	N/A	700	N/A
Bases ^{6/}	N/A	N/A	2,100	N/A
Landing Points	N/A	N/A	1,700	N/A
Enterprises ^{7/}	3,000	2,000	15,000	20,000
Fishing Craft	6,600	N/A	28,900	N/A
Employment ^{8/}				
Full-time	N/A	N/A	5,300	N/A
Part-time	N/A	N/A	13,200	N/A
Occasional	N/A	N/A	20,500	N/A
Total	11,700	8,000	39,000	58,700
Investment - ^{9/}	\$ million	\$ million	\$ million	\$ million
Craft	142.5	5.8	189.2	337.5
Gear	6.4	N/A	29.8	N/A
Total	148.9	N/A	219.0	N/A
Production -	metric tons	metric tons	metric tons	metric tons
Nominal Catch ^{10/}	183,800	45,500	888,500	1,117.8
Value of Landings ^{11/}	\$ million 13.4	\$ million 19.1	\$ million 171.1	\$ million 320.6
Average Gross Income Per Man ^{12/}	\$	\$	\$	\$
Mode {				
Total, all sources	4,300	3,700	3,600	3,700
Proportion from fishing	% 45	% 30	% 40	% 40
Mean {				
Total, all sources	\$ 12,800	\$ 5,900	\$ 5,100	\$ 6,900
Proportion from fishing	% 70	% 40	% 50	% 60

1/ Source: Annual Statistical Review of Canadian Fisheries, Vol.7, 1974, except as otherwise noted. 2/ Includes British Columbia and the Yukon. 3/ Includes the Northwest Territories, the three Prairie Provinces and Ontario. 4/ Includes Quebec, the three Maritime Provinces and Newfoundland. 5/ As defined for Census purposes, i.e. including groups of settlements in some cases. 6/ Settlements from which fishing operations are conducted. 7/ Estimated from earlier Census data. 8/ Fishermen are classified as "full-time" if they are engaged in fishing for at least ten months a year, as "part-time" if engaged for five to ten months and as "occasional" if engaged for less than five months. 9/ The data represent an estimate of the depreciated value of vessels and boats and the annual expenditure on gear. 10/ The calculated live-weight equivalent of the quantity, in whatever form, actually brought ashore. 11/ Based mainly on prices at first sale. 12/ A calculation based on taxation returns from filers (numbering 31,700) claiming fishing as their main source of income.

For the most part the Canadian fishing fleet is a small-craft fleet. Even in the sea fisheries, over 95 per cent of the boats are under 25 gross tons and generally they stay within a day's voyage of home port. Most by far are owner-operated, the principal exceptions being about 250 larger vessels (generally 100 feet and up in length) owned by vertically integrated enterprises that catch, process, and trade fish on the Atlantic coast. Working chiefly in the groundfish, herring and scallop fisheries, these boats make up perhaps half the total investment in the Atlantic coast fleets and they take roughly half the regional catch. In other regions and fisheries "vertical integration" is much less significant.

Although by head-count the number of fishermen is over 55,000, the fulltime man-years involved are probably less than 30,000. In the majority of cases fishermen, especially in seasonal fisheries, have other part-time jobs. In parts of the Maritimes, for example, the fisherman/farmer/logger combination is common. Although the proportion has declined, a few fishermen still process their catch themselves and in some cases sell their fish directly to consumers.

The incomes of commercial fishermen tend generally to be low but the variation, between and within regions, is extremely wide. In Canada as a whole, 50 per cent of all fishermen are found to earn less than \$5,000 (gross) each year from all sources. Only 20 per cent of fishermen in the Pacific region fall into this bracket. In that region, slightly over 50 per cent of fishermen earn more than \$10,000 per year - almost 45 per cent do better than \$12,000.

The Central region conforms with the national average, that is, 50 per cent of fishermen there earn less than \$5,000 per year. In the Atlantic region the proportion of fishermen earning less than \$5,000 per year is 60 per cent. In these two regions, the proportion earning upwards of \$10,000 drops to 15 per cent and seven per cent, respectively, varying among Atlantic provinces between 12 and two per cent.

A striking feature of fishermen's income is how little of the income earned by those in the lower brackets comes from fishing. In Canada as a whole, it is only when average gross income from all sources reaches \$6,500 to \$7,000 that income from fishing begins to account for more than half of the fisherman's total income. In some areas (e.g. British Columbia and Nova Scotia) specialization in fishing takes place at a lower level (\$5,500 - \$6,000). In others, Newfoundland for example, it occurs higher (\$9,500 - \$10,000). Above \$10,000, income from fishing begins to exceed 75 per cent of the fisherman's total income in every part of Canada except the Central region and areas bordering the Gulf of St. Lawrence in the Atlantic region.

These figures reflect the presence in the fisheries of many part-time and occasional participants, especially in the Atlantic provinces. In this connection it may be observed that although there are three times as many fishermen in the Atlantic region as there are in the Pacific, the gross value of the Atlantic region's primary production is a bit less than one third higher than the Pacific value. In other words, in terms of landed value, manpower in the Pacific fisheries is 2.5 times as productive as manpower in the Atlantic fisheries.

There are approximately 650 processing plants, of all types and scale of operation, in the secondary sector of the commercial fisheries. The number of "manufacturing establishments" as defined by Statistics Canada is 330 (see footnote, p. 11). Average monthly employment, that is, total man-years, in the latter group is just over 21,000, almost 90 per cent being in production and the rest in sales and administration. Slightly more than one third of this work force are women. Seventy per cent of establishments employ less than 50 people and only one per cent employ more than 500. Production from these establishments is valued at about \$620 million, and the total production of the sector, including fish without significant change in form, at about \$785 million (1973).

The Fish-Processing Industry in Canada ^{1/}
1973

	<u>Pacific</u> <u>Region</u> ^{2/} no.	<u>Central</u> <u>Region</u> ^{2/} no.	<u>Atlantic</u> <u>Region</u> ^{2/} no.	<u>All</u> <u>Canada</u> no.
Plants ^{3/}	105	145	405	655
Establishments ^{4/}	45	30	255	330
Employment ^{5/} -				
Production { male	1,600	500	9,700	11,800
{ female	1,400	500	5,300	7,200
Other ^{6/} { male	500	100	1,100	1,700
{ female	200	Ø	500	700
Total	3,700	1,100	16,600	21,400
Payroll -	\$ million	\$ million	\$ million	\$ million
Production workers	23.4	6.2	65.3	94.9
Other Staff ^{6/}	6.5	1.8	12.3	20.6
Total	29.9	8.0	77.6	115.5
Purchases -				
Materials & Supplies ^{7/}	150.7	26.9	193.7	371.3
Services ^{8/}	1.1	0.3	6.2	7.6
Total	151.8	27.2	199.9	378.9
Value Added ^{9/}	98.5	15.8	166.1	280.4
Output ^{10/}	236.5	41.5	343.4	621.4
Sectoral Production ^{11/}	285.0	38.5	462.7	786.2

1/ Source: Statistics Canada, Fish Products Industry, 1973, except as otherwise noted. 2/ See preceding table for definition of regions. 3/ These data are derived from a registry of fish-processing operations maintained by the inspection branch of the Fisheries & Marine Service, DOE. 4/ An establishment is defined in the Census of Manufacturing as "the smallest operating unit capable of reporting certain specified input and output data." Packing plants and other facilities where fish do not undergo a change of form are not included in this group. The total number of units in the group varies considerably from year to year, averaging 360 on a slowly declining trend over the past decade - hence the rounding here to the nearest five. 5/ This represents the monthly average for the year. 6/ The group comprises sales and administrative personnel. 7/ Purchases of raw fish, amounting to 85-90 per cent of the primary industry's output, would account for approximately 75 per cent of the total, the balance being made up of packaging and other processing materials. 8/ These are chiefly energy purchases, i.e. fuel and electricity. 9/ This includes the value added in distribution and other operations as well as in processing strictly defined. 10/ Output represents "the value of shipments of goods of own manufacture". 11/ The difference between this and the preceding row represents the output of untransformed products, e.g. live lobsters, shell oysters and the like. The discrepancy in the case of the Central Region is not explained.

Fishing and fish-processing provide less than one per cent of Canada's total employment. Leaving out processing and marketing, fishing itself provides less than one half of one per cent of the Gross Domestic Product. However, in certain regions of the country fishing is tremendously important, both economically and socially. In Newfoundland, for example, nearly 15 per cent of the labour force is employed in fishing and processing. The industry's influence is pervasive: for every job created or lost in fishing, 0.4 jobs are created or lost elsewhere in the Province; for fish processing, the ratio is one to 1.8. In Nova Scotia (where the fish business accounts for 10 to 15 per cent of value added in all commodity production) these ratios are even higher, at 0.7 and 2.3. In terms of how each dollar of industry output affects provincial household income, only parts of the forest industry have greater impact in the province. The fishing industry has strong links with ship-building and service industries in this and other regions of the country. The fisheries are the sole reason for the existence of many coastal communities. If they were to fail, the economy of the area would founder and the people involved would be forced to migrate.

The industry will almost certainly become more significant for these regions and the nation. Canada's fishermen have closest access to what are, potentially, some of the world's most productive fishing grounds, and to some of the world's richest markets. When the area of national fisheries jurisdiction is extended, the availability of fish to Canadian fishermen will be improved. A fully-developed fishery based on nearby shores is capable of greater efficiency than a distant-water fishery and this improved performance would benefit the world at large. To establish a firm foundation for that full development, restructuring of the industry and trade is necessary.

THE COMMERCIAL FISHERIES IN THE NATIONAL AND REGIONAL ECONOMIES^{1/}

		<u>All Canada</u>	<u>Pacific Region</u>	<u>Central Region</u>	<u>Atlantic Region</u>	<u>Atlantic Provinces^{2/}</u>	<u>Nova Scotia</u>	<u>New- foundland</u>
Employment (1973):								
Total	thousand	8,816	942	4,821	3,053	678	261	159
Fisheries ^{3/}	(thousand	80	15	9	56	49	16	21
	(%	0.9	1.6	0.2	1.8	7.2	6.1	13.2
Value Added (1972):								
All Industry ^{4/}	\$million	43,364	4,655	26,199	12,396	2,251	840	612
Fisheries ^{3/}	(\$million	428	127	30	269	246	113	77
	(%	1.0	2.7	0.1	2.2	10.9	13.5	12.6
Contribution to Gross Product (1972): ^{5/}	%	N/A	N/A	N/A	N/A	3.6	3.8	5.1

^{1/} Source: Annual Statistical Review of Canadian Fisheries, Vol. 7, 1974, except as otherwise noted.

^{2/} The Atlantic Region excluding Quebec province.

^{3/} Including both primary and secondary sectors.

^{4/} Commodity-producing industries collectively.

^{5/} Data compiled by Analysis & Liaison Branch, DREE.

The Fish Trade

The commercial fisheries in Canada always have been highly export-oriented. At present approximately two-thirds of total fishery production is exported, and this country is among the leading nations in the international fish trade. Product groups are differentiated to a considerable extent according to market area. Fresh and frozen products are exported almost exclusively to the U.S.A., for example, cured products mainly to the Caribbean and southern Europe and canned products largely to western Europe. Although exports in total are destined for a wide range of countries, and trade diversification has improved in recent years, three or four markets are still dominant. About 60 per cent of all Canadian fish exports (nearly 40 per cent of total production) goes to the U.S. market alone. The sources of fish imports into Canada are similarly concentrated but that is of minor significance.

Fishery products of Canadian origin, occasionally from residual supplies, satisfy about 70 per cent of the requirements of the domestic market - the balance being provided by imports of species (such as tuna and shrimp) not found in great abundance in home waters. The per capita annual consumption of fish in Canada, as in the U.S.A., has remained low (at roughly 12 pounds or 5.5 kg., about 1/20 that of red meat and poultry combined) and relatively constant since at least the 1940s. Sales promotion and the introduction of new products have brought about some shifts in consumer preference but have not raised demand. The fact that consumption of fish is higher in coastal and lake shore areas than elsewhere, and higher in urban than in rural areas, suggests that proximity to the water or a fish shop (and the early acquisition of a taste) chiefly determines the frequency of fish on the table.

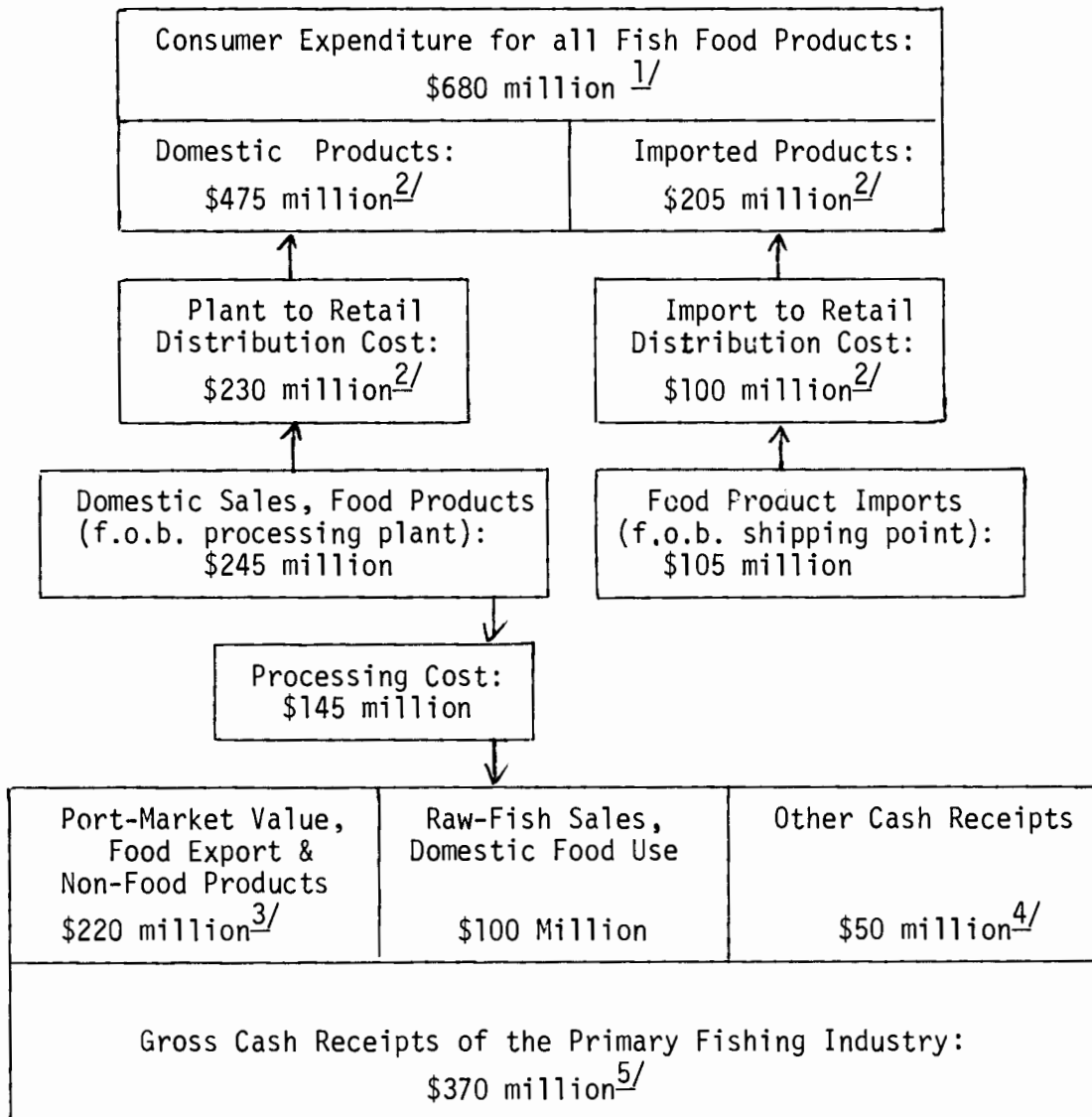
Canada's Foreign Trade in Fishery Products1973

<u>Country</u> <u>of Destination or Origin</u> ^{1/}	<u>Canadian Exports</u>		<u>Canadian Imports</u>	
	\$ million	%	\$ million	%
U. S. A.	294.1	59.0	54.2	48.7
Japan	57.1	11.4	27.8	25.0
U. K.	54.4	10.9	1.9	1.7
France	16.8	3.3	1.0	0.9
Sweden	9.7	1.9	Ø	Ø
Belgium - Luxembourg	9.7	1.9	Ø	Ø
Federal Republic of Germany	8.8	1.7	Ø	Ø
Puerto Rico	5.5	1.1	Ø	Ø
Netherlands	4.8	1.0	2.5	2.2
Denmark	4.3	0.9	1.3	1.2
New Zealand	4.3	0.9	Ø	Ø
Jamaica	3.7	0.8	Ø	Ø
Australia	3.4	0.7	Ø	Ø
Italy	2.8	0.6	Ø	Ø
South Korea	2.7	0.5	Ø	Ø
Norway	2.1	0.4	2.8	2.5
Trinidad-Tobago	1.8	0.4	Ø	Ø
Dominican Republic	1.4	0.3	Ø	Ø
South Africa	1.0	0.2	Ø	Ø
Cuba	Ø	Ø	7.2	6.5
Portugal	Ø	Ø	2.7	2.4
Mexico	Ø	Ø	2.5	2.2
Hong Kong	Ø	Ø	1.6	1.4
Peru	Ø	Ø	1.1	1.0
All Others	11.3	2.1	4.7	4.3
Total	498.7	100.0	111.3	100.0

^{1/} Countries listed are those importing from or exporting to Canada fishery products valued at \$ one million or more.

Source: Annual Statistical Review of Canadian Fisheries, Vol. 7, 1974.

Interrelationships
Between Consumer Food Expenditures and Primary-Fishery Cash Receipts,
Canada 1973
 (provisional estimate)



1/ Excluding direct consumption by commercial fishermen's and anglers' households.

2/ Calculated on the basis of general food storage charges and markups and, therefore, probably an underestimate. 3/ The value of landings used directly for the preparation of industrial products (meal, oil, etc.) in 1973 exceeded \$10 million. The output of such products in that year was valued at \$30 million, but this included by-products from food processing as well. Exports of food products and of industrial products in 1973 approximated \$480 million and \$20 million, respectively. 4/ A rough estimate of aggregate grants, bounties, charter payments and income supplementation in the form of net receipts by seasonally-engaged fishermen from the UIC. Bonus payments, received by some fishermen from buyers of their catch, are not capable of estimate at present.

5/ The total includes the "boat share" in vertically-integrated fishing enterprises, which accrues to owners and thus is not a component of fishermen's earnings. It might amount to \$50 million as a first approximation.

Source: calculations are based on data in Annual Statistical Review of Canadian Fisheries, Vol. 7, 1974.

Although the quantity of fishery products sold in Canada is but slightly more than one half the quantity exported, products sold at home acquire added value in the Canadian economy through transport, storage and resale. Thus the value of these products in retail, over-the-counter terms, equals or exceeds the value of fishery exports from Canada. Calculated on this basis, the annual output of the Canadian fishing industry and fish trade now is approximately one billion dollars, roughly 90 per cent of which is accounted for by food products and the remainder by a miscellaneous group of industrial products.

Social Dimensions

Over two-thirds of the people who work in the fishing industry live in the five Atlantic coast provinces. In these provinces, household income tends to be lower in fishing communities than in the region generally. There are exceptions: for example some parts of southwestern Nova Scotia and southern New Brunswick that depend heavily on fisheries, are relatively well-off. Nevertheless the general rule is that the more the community depends on fishing, the lower its average income tends to be. In Newfoundland the average household income was \$7,200 in 1971. For communities with some involvement in fishing it was \$5,600. For communities in which the fisheries industry was the major employer it was \$4,900.

Communities suffering worst from chronically low income tend to be those that depend on local small-boat fisheries. The causes of poverty in such areas are well known: dependence on fishing/farming/logging combinations and on non-monetary income, a relative lack of mobility, under-capitalization per enterprise and, in recent years, diminishing catches. Often the fishermen in these communities are older and less able to move from job to job. Tradition, a scarcity of choices and opportunities and, in some cases, an over-commitment of social resources frequently tend to immobilize fishermen in these places.

The Atlantic Region:
Fishery-Dependent Communities, 1971

<u>Specialization</u> Index ^{1/}	<u>Provincial Distribution</u>					
	<u>Qué</u> no.	<u>N.B.</u> no.	<u>P.E.I.</u> no.	<u>N.S.</u> no.	<u>Nfld.</u> no.	<u>Region</u> no.
.30 - .39	4	14	11	4	31	64
.40 - .49	3	3	3	3	25	37
.50 - .59	2	1	1	1	20	25
.60 - .69	1		1		7	9
.70 - .79					6	6
.80 - .89					1	1
High-Dependence Communities ^{2/}	10	18	16	8	90	142
All Dependent Communities ^{2/}	112	136	94	87	273	702
Total Fishing Settlements ^{3/}	252	302	207	765	615	2,141

Fishery-Based Household Income, 1971

<u>Community</u> Type	<u>Average Household Income</u>					
	<u>Qué</u> \$	<u>N.B.</u> \$	<u>P.E.I.</u> \$	<u>N.S.</u> \$	<u>Nfld.</u> \$	<u>Canada</u> \$
All Types	9,068	7,583	6,970	7,927	7,220	9,368
Some Fishing Employment	6,967	6,658	6,298	7,090	5,612	-
Fishing as 1st or 2nd Employer	6,194	5,972	5,450	6,364	4,901	-

^{1/}Specialization here is measured by the Herfindahl Concentration Index, the root-mean of the proportion of employment in each major industrial category in a community. The index has a maximum value of one, and a value equal to or greater than 0.30 is taken to indicate a high degree of economic dependence on fishing and fish processing. The measure may seriously under-estimate the actual extent of dependence in particular cases, a) because larger communities do not exhibit an index value of 0.30 or higher on account of population size and the correlated size of the service sector and b) because the index measures dependence in terms of direct employment, and as input/output studies demonstrate, much additional employment is generated by fishery-related activities. ^{2/} The communities are those defined by the Census of Canada. In some instances, a community may embrace a relatively large number of more or less discrete settlements. Of the total of 702 communities, 331 are organized communities. ^{3/} This category includes all the hamlets, wharf-sites and other localities identified as being a base of fishing operations. In size, these localities range from isolated coastal points with a score or so residents to metropolitan areas like Halifax/Dartmouth (population 230,000).

Source: Compilation by Analysis & Liaison Branch, DREE.

Government Involvement

Federal and provincial governments have spent a great deal of money trying to solve the problems of the troubled fishing industry. In the Atlantic region, apart from recent "extraordinary" expenditures to keep the industry alive, the normal run of governmental expenditures (including loans) in the last three years has been about \$140 million annually.

<u>Object</u>	<u>Average Yearly Expenditure,</u> <u>Atlantic Region, 1973-75</u>			
	(\$ million)			
	<u>DOE:FMS</u>	<u>All Federal</u>	<u>Provincial</u>	<u>Total</u>
Resource Management (conservation, protection, research, etc.)	49.2	51.8	10.1	61.9
Development (including services, grants, subsidies, shared-cost projects, etc.)	25.1	37.9	10.9	48.8
Sub-Total	<u>74.3</u>	<u>89.7</u>	<u>21.0</u>	<u>110.7</u>
Loans (mainly developmental)	<u>1.6</u>	<u>2.1</u>	<u>27.3</u>	<u>29.4</u>
Grand Total	<u>75.9</u>	<u>91.8</u>	<u>48.3</u>	<u>140.1</u>

Source: Special Compilation by Fisheries and Marine Service.

As these data suggest, government outlays often far exceed direct revenues to government from the commercial fishery. If account is taken of linkages between the fisheries and other industrial and trade sectors, however, the results may be different. The impact of activity in the fisheries is especially strong in the case of transportation and distribution and is not insignificant in that of energy and housing services, for example. Input/output analysis of the economy of the Atlantic provinces indicates that for every \$100 of production, either in primary fishing or in fish processing, government

acquires a net revenue (direct and "induced" revenues combined) of approximately \$25. This is shared among federal, provincial and municipal governments roughly in proportions of 40 per cent, 40 per cent and 20 per cent, respectively. The analysis pertains to 1965, to be sure, when the ratio of public expenditures to fishery production was lower than at present.

The federal government is committed to financial support of the fisheries because, among other things, it carries the jurisdictional responsibility for conserving fishery resources, which are the common property of the nation, and for allocating the distribution of these resources among competing users. Since the establishment of private-property rights in fishery resources is impracticable in the great majority of cases, the state's responsibility for resource conservation and allocation cannot be delegated.

All levels of government are committed to developing the fishing industry and trade, along with other sectors of the economy, and to ensuring the prosperity and security of the people who find their livelihood in the fisheries.

The government tends to be drawn more deeply into the developmental role because of two main factors:

- a) The importance of the industry to regions lacking industrial strength and diversification
- b) The heritage in some regions of an extreme dependence on "one-crop" fishery production, frequently combined with culturally-rooted immobility, a lack of social amenities (for example of medical and other basic services) and a paternalistic milieu.

In these circumstances, remedial action of an urgent nature may be confused with real fishery development. As a result, the effects of short-term programs sometimes conflict with long-term policy objectives. It has happened, for instance, that government has helped to fund additional fish-

processing facilities (as a contribution to industrial development) and imposed catch restrictions (for conservation purposes) in the same place at the same time.

It is likely that, in certain respects, past initiatives by government in the field of development have undermined the motivation of private agencies, firms and individuals to assume responsibility for their own affairs. This may have been a factor, for example, in the failure of the producers' co-operative movement in many places.

THE TROUBLED ATLANTIC GROUND FISHERIES

Beginning in 1974 and continuing to the present, a series of acute emergencies shook the fishing industry in Canada. The federal government responded with financial-aid programs totalling to date about \$130 million. Most of this money was used to prevent collapse of the groundfish industry which, although of secondary importance on the Pacific coast, is the major employer in the Atlantic coast fisheries. This industry has considerable prospects for growth. Close as it is to huge natural resources and to important markets, it should be able to look forward to a bright future at such time as Canada achieves expanded offshore jurisdiction and has rebuilt badly depleted groundfish stocks. At present, however, it exemplifies the common imperfections of the fish business in Canada.

The Primary Sector

The Atlantic groundfish industry employs over 20,000 fishermen (about 55 per cent of all fishermen in the region) and 12,000 plant workers. The groundfish fleet can be divided into three main classes:

- i) About 160 licensed trawlers (large draggers) above 100 feet overall length and capable of fairly long-range operation,
- ii) roughly 500 vessels of intermediate size and varying operating range, such as small draggers, long-liners and large gillnetters, and
- iii) 10,000 to 15,000 small vessels, including line-fishing craft, trap-tenders, and gillnetters. These generally work within a day's voyage of home port and many also engage in two or more fisheries.

Participation of Fishermen
in Major Commercial Fisheries of the Atlantic Coast, 1973

<u>Fishery</u>	<u>Que.</u>	<u>N.B.</u>	<u>P.E.I.</u>	<u>N.S.</u>	<u>Nfld.</u>	<u>Region</u>
	no.	no.	no.	no.	no.	no.
Groundfish	3,800	1,300	800	5,300	10,400 ^{2/}	21,600 ^{2/}
Lobster	1,600	3,100	2,700	7,700	5,300	20,400
Herring	1,500	2,100	600	2,400	5,500	12,100
Total ^{1/}	5,500	5,000	2,600	10,600	15,300	39,000

^{1/} Total number of fishermen engaged, not total of columns. Excepting the offshore fleets, specialization in one fishery is not the norm in the region.

^{2/} Estimated.

Source: Annual Statistical Review of Canadian Fisheries, Vol. 7, 1974

The groundfish fleet accounts for about 70 per cent of the value of the entire Atlantic fleet of fishing vessels. Its operations are conducted from Cape Cod in the south to Hamilton Inlet in the north. Although intermediate-sized vessels range as far offshore as Georges Bank, the large-vessel fleet dominates operations on most offshore grounds.

The small-boat fleet still takes more than half the codfish catch but their share of the total groundfish catch has declined steadily in recent years. About 70 per cent of the groundfish catch is now taken by the longer-range fleets of intermediate and large fishing craft. The largest vessels are owned by some 12 companies, representing a vertical integration of fishing, processing and, in varying degrees, marketing operations. This integration of operations has been brought about by:

- a) the need to secure a stable, year-around supply of raw material (supply by small boats tend to be seasonal and deficient in variety of species);
- b) the high cost of construction putting large vessels beyond the reach of most skipper/owners. Processing companies frequently help independent owners to buy boats and gear. These boats then become, to some extent, part of an integrated operation.

An integrated company getting most of its fish from its own fleet is likely to be more concerned with the total landed cost of fish than with the price paid for fish in the port market. The latter price, which usually is set by the leadership of the integrated firms themselves, assumes for them the character of an internal transfer price. The evidence suggests, however, that variations in market conditions for finished products are transmitted back to the fishermen's level with some time-lag but without undue distortion. However, port market prices in Canada are low compared with prices in European ports.

There is some evidence that, at current fish stock densities, vessels of intermediate size catch and land groundfish at lower unit cost than do larger craft. The evidence is far from conclusive, however, the issue being clouded by uneven representativeness (of the enterprises sampled), variation in species mix, differing share-systems of remuneration, and other factors.

Comparative costs for the various national fleets operating in the northwest Atlantic are not available but, in terms of average output per vessel/ton/year, the Canadian fleet of offshore and near-shore vessels appears to be the most efficient. Its performance in this respect, while it has declined substantially, is reported still to be almost twice as good as the average for all the fleets in the areas under management by the International Commission for the Northwest Atlantic Fisheries. Sources of excessive costs elsewhere in the industry offset this apparently dominant advantage.

The Processing Sector

Vessels based at some 2,000 locations along the Atlantic coast deliver groundfish to over 1,000 landing points. The landings are destined for more than 300 fish plants. Many of these plants are only collection stations or "feeder" plants which partly process the fish for delivery to larger plants. The vast majority of the plants supply a minimal range of products: basically frozen groundfish. Owned and operated by approximately 120 private companies and divisions of companies (including producer's co-operatives), the plants have a total rated annual capacity for product output of about 340,000 metric tons (product weight). About half of this capacity is now being put to use.

Plants belonging to the 12 vertically integrated companies (excluding

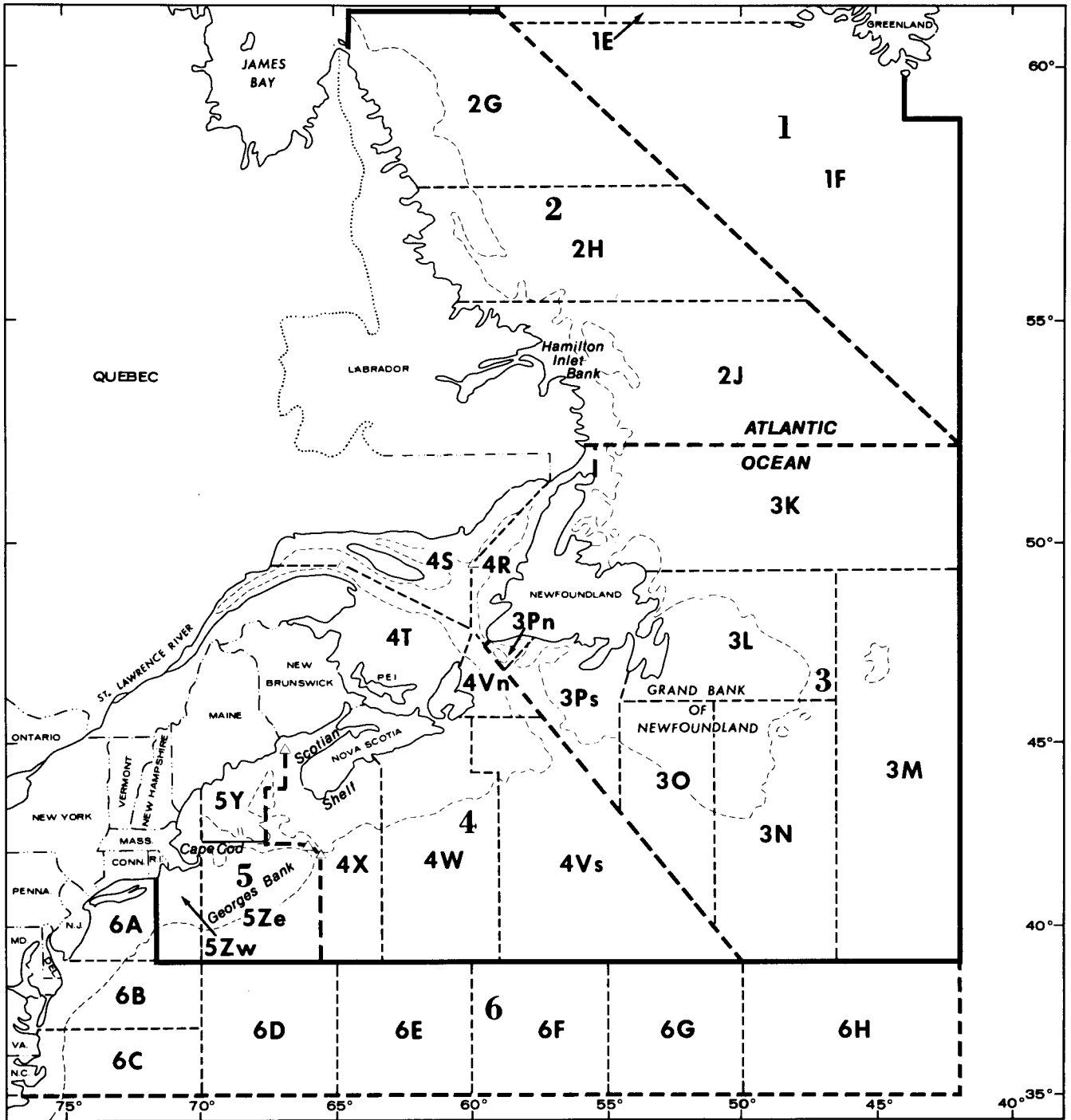
producer's co-operatives and crown corporations) number 50, more or less, 25 of which are served mainly by the large-vessel fleet. These companies account for 80 per cent of the output of fresh and frozen groundfish production (including cured fish and by-products) and 45 per cent of the total fishery production of the region.

At least half the plants operated by the integrated firms and virtually all plants in the non-integrated group are comparatively small in scale. Many are also subject to restricted periods of operation: in some areas the operating season is under five months. This is reflected in the capacity-utilization ratio, which averages about 45 per cent for the smaller plants in contrast with 65 per cent for the larger ones. As a result, there is evidence to suggest, the smaller plants' level of cost (per unit of output) in such cases is typically twice that of larger plants operating the year round.

The Growth of the International Fishery

Until about 1955, only Canada, the U.S.A. and five or six Western European countries fished off Canada's Atlantic coast. Some fleets still used selective fishing gear, i.e. baited trawl, to a considerable extent. Exploitation of the resource was light, productivity per vessel was high and the size of fish available was well suited for processing and marketing requirements.

Anticipating an expansion of fishing in the northwest Atlantic following the 2nd World War, the countries involved established the International Commission for the Northwest Atlantic Fisheries (ICNAF) in 1949. Since then, ICNAF has regulated the groundfish fisheries in international waters from the



INTERNATIONAL COMMISSION
FOR THE
NORTHWEST ATLANTIC FISHERIES

Boundary of the Commission area. ——— Boundary of sub-areas.....
Boundary of divisions..... - - - - - 100 fathom contour.....

west coast of Greenland to south of New England (see map, p. 28).

Until 1970, regulation was restricted to gear control (the setting of mesh sizes and the like). In recent years ICNAF has established closed areas and seasons and has set "total allowable catches" (TAC's) and allocated shares (quotas) to member nations based mainly on their catch levels in recent years, with special recognition of the needs of coastal states. The members of ICNAF, now increased in number to 18, represent every fleet of any importance in the area.

Fishing intensified continuously from the late 1950's onward. Total tonnage of the fleets (excluding inshore craft) rose from 500,000 to 1,700,000. The groundfish catch more than doubled, from 1,260,000 metric tons in 1951 to a peak of 2,829,000 tons in 1965. Although it had dropped back to 1,743,000 tons by 1974 and declined further in 1975, there was no comparable reduction of fishing effort.

The Canadian catch of groundfish rose from about 468,000 metric tons in 1951 to a peak of 638,000 tons in 1968. It has declined steadily since then and in 1974, at 418,000 tons, was 11 per cent less than in 1951. Canada's share of the annual groundfish catch dropped during this period from well over one third to somewhat less than one quarter. Canada's share of the catch of all species caught in the northwest Atlantic is now approximately 20 per cent, ranking third (after the U.S.A. and the U.S.S.R.) among the nations exploiting the fishery resources of the area.

A ranking of the participating countries on the basis of their relative position in production throughout the area can be misleading. Except for the important scallop fishery and minor groundfish and herring fisheries

Distribution of Nominal Catches in the Northwest Atlantic (ICNAF Statistical Area),By Participating Country1973Nominal Catch, All Species

<u>Country</u>	<u>Quantity</u>	<u>Share</u>
	'000 metric tons	%
U.S.S.R.	1,357	30.5
U.S.A.	1,074	24.1
Canada	885	19.9
Poland	255	5.7
German Democratic Republic	185	4.2
Spain	181	4.1
Portugal	135	3.0
Federal Republic of Germany	95	2.1
Denmark	71	1.6
Norway	71	1.6
France	42	0.9
Japan	41	0.9
Bulgaria	37	0.8
Romania	11	0.3
United Kingdom	8	0.2
Italy	4	0.1
Iceland	∅	∅
Others	∅	∅
Total	4,452	100.0

Source: International Commission for the Northwest Atlantic Fisheries,
Statistical Bulletin, Vol. 23, 1975

Distribution of Nominal Catches^{1/} in the Northwest Atlantic (ICNAF Statistical Area),
by Species Group and Sub-Area^{2/}, 1973

(expressed in 1000's of metric tons and percentages)

Species Group		One	Two	Three	Sub-Areas			Total
					Four	Five	Six	
All Species -								
All Countries	t	104.5	158.7	996.0	1,139.1	1,062.8	988.2	4,452.5
Canada	t	-	6.4	227.1	599.4	52.1	0.1	885.1
	%	-	4.0	22.8	52.6	4.9	∅	19.9
Finfish -								
All Countries	t	91.9	158.7	991.7	1,092.8	941.9	492.2	3,772.4
Canada	t	-	6.4	223.0	562.4	16.8	0.1	808.5
	%	-	4.0	22.5	51.5	1.8	∅	21.4
Groundfish ^{3/-}								
All Countries	t	85.8	96.1	755.2	787.4	312.9	55.7	2,096.3
Canada	t	-	4.8	195.8	333.0	7.6	-	541.2
	%	-	5.0	25.9	42.3	2.4	-	25.8
Pelagic Fish ^{3/}								
All Countries	t	0.1	0.8	19.7	269.2	578.2	396.4	1,264.4
Canada	t	-	0.8	19.5	217.7	9.3	0.1	247.3
	%	-	100.0	99.0	80.9	1.6	∅	19.6
Other Finfish								
All Countries	t	6.0	61.7	216.8	36.2	50.8	40.1	411.7
Canada	t	-	0.8	7.5	11.7	-	-	20.0
	%	-	1.3	3.5	32.3	-	-	4.9
Shellfish, etc.								
All Countries	t	12.6	-	4.2	46.3	120.9	496.0	680.1
Canada	t	-	-	4.2	37.0	35.3	-	76.6
	%	-	-	100.0	80.0	29.2	-	11.3

1/ Landings converted to "round" weight. Occasional inconsistencies are due to rounding. A dash (-) = no catch; the symbol ∅ = less than 0.1 per cent.

2/ Sub-Areas are, respectively, 1) West Greenland, 2) Labrador Coast, 3) the Grand Bank and Flemish Cap, 4) the Gulf of St. Lawrence and Scotian Shelf, 5) George's Bank and 6) the Middle Atlantic Coast.

3/ Groundfish (demersal species) and pelagic fish are the major sub-categories of finfish.

Source: International Commission for the Northwest Atlantic Fisheries,
Statistical Bulletin, Vol. 23, 1975

on Georges Bank in ICNAF Sub-Area 5, the operations of the Canadian fleets are concentrated in ICNAF Sub-Areas 3 and 4, i.e. the waters south and east of Newfoundland (including the Grand Bank) and the Gulf of St. Lawrence and Scotian Shelf. Sub-Area 2, off the Labrador coast, is comparatively neglected (except by small boats operating inshore) and only experimental voyages have been made to Sub-Area 1, the grounds west of Greenland.

The Canadian fleets predominate in the fisheries of Sub-Area 3 and 4, taking from 80 to 100 per cent of the catch of pelagic species (chiefly herring) and "shellfish" (crustaceans and molluscs) in these sub-areas. Their share of the groundfish catch is less impressive, however, ranging from 25 per cent in Sub-Area 3 to 40-45 per cent in Sub-Area 4. In Sub-Area 3, the summer run of codfish inshore has been drastically reduced as a result of heavy exploitation of the same stocks offshore by foreign fishing fleets. The Canadian fleet of large vessels has not attempted to replace the shortfall by fishing for cod on the off-shore grounds. A large foreign catch of hake in Sub-Area 3 accounts for the relatively low percentage of landings by the domestic groundfishing fleets in that Sub-Area.

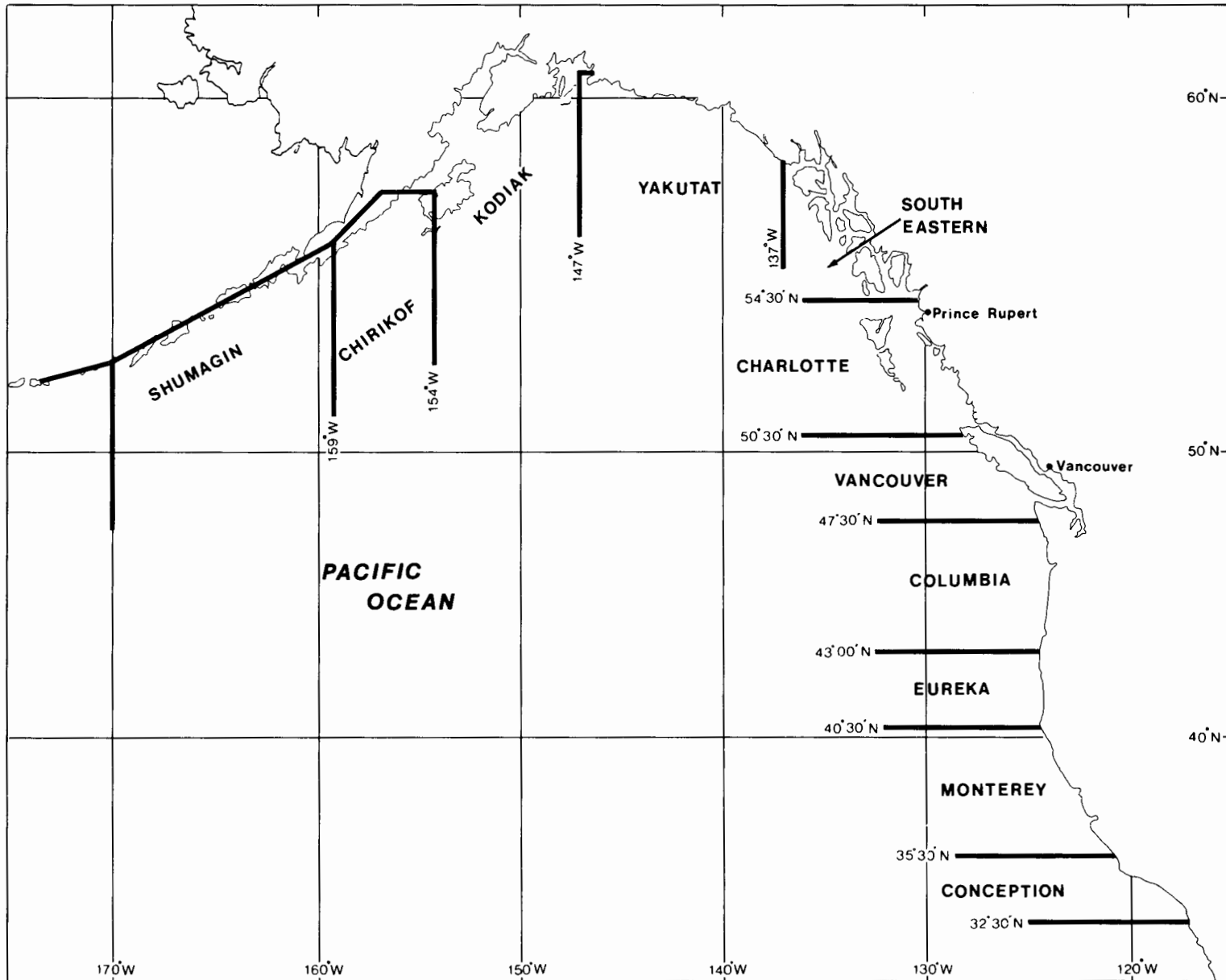
Although it is not possible to attach realistic prices to the catches taken by each of the international fleets, the relative position of Canada in these fisheries would be improved appreciably if production were measured in terms of value rather than physical quantity. The Canadian (and U.S.) catches include highly-valued species such as haddock, lobster and scallop which are absent from those of the European fleets, except as by-catches. Moreover, some of the species, such as silver hakes, argentine and capelin, that make up a significant proportion of the catch of some foreign fleets are at present virtually worthless in the port markets of this country.

PROBLEMS OF THE PACIFIC FISHERIES

Except for halibut, the Pacific groundfish fishery is new and effort in it has tended to fluctuate inversely with the success or failure of the salmon fishery of the region. Nevertheless, some important stocks (the cods and small flatfishes) are already fully utilized. Another major resource - rockfishes - is exploited by the fleets of other countries but the Canadian fleet is not equipped to fish these stocks on a large scale.

Canada and the U.S. have worked together since the 1920's to manage halibut stocks. Under this regime, the total catch, and Canada's share of the catch, gradually increased. However, since the mid-1960's evidence of resource depletion has accumulated rapidly. In 1974 the Canadian catch was about one-fifth of what it had been ten years before. The decline is probably due to intensified fishing for other groundfish species in the northeast Pacific, first by Japan and the U.S.S.R. and more recently by other Asian and East European countries. Large quantities of halibut, often immature, are taken by these fleets in the course of fishing for other species.

The history of the Pacific herring fishery has been different. This is almost exclusively a Canadian fishery and its fortunes have been in the hands of the domestic fishing industry and national resource management. The annual catch approached 250,000 metric tons in the early 1960's, dropped after that and collapsed in 1967. This course of events was to be repeated in part a few years later in the herring fishery of the Atlantic coast. After being closed for three years, the Pacific fishery was reopened and the annual catch, now limited under a strict quota, is steadily improving.



Statistical divisions of the International North Pacific Fisheries Commission

Distribution of Nominal Catches in the Northeast Pacific^{1/} (INPFC Area), 1972

<u>Country</u>	<u>Nominal Catch</u>			
	<u>Groundfish</u>		<u>Salmon</u>	
	<u>Quantity</u> '000 metric tons	<u>Share^{2/}</u> %	<u>Quantity</u> '000 metric tons	<u>Share^{2/}</u> %
Japan	136	33.3	114	38.8
U.S.S.R.	172	42.0	-	-
U.S.A.	67	16.4	103	35.0
Canada	34	8.3	77	26.2
Others	n.a.	n.a.	n.a.	n.a.

1/ Excluding southeastern Bering Sea

2/ Of recorded catch.

Source: Annual Statistical Review of Canadian Fisheries, Vol. 7, 1974.

The most important fishery on the Pacific coast is that of the salmons. This fishery too is vulnerable to uncontrolled international fishing. Many important salmon stocks range far to sea, beyond the projected 200-mile coastal zone. These stocks can be intercepted by foreign fleets on the high seas and during their homeward migration. From a conservation and production point of view, however, it is best to take salmon as close as possible to their native streams. Exploitation of Fraser River stocks of sockeye and pink salmon is controlled through a long-standing Canada-U.S. treaty. Over the past 20 years under the International North Pacific Fisheries Convention (signatories are Canada, Japan, and the U.S.A.) high seas fishing for salmon by Japan east of 175° W, and by Canada in the Bering Sea has been prohibited. The Commission established by the Convention does not represent all nations which exploit salmon fisheries of the area, but other participants' activity is conducted under the terms of bilateral treaties. The International North Pacific Fisheries Convention has provided substantial protection for Canadian salmon from exploitation by Japan.

Anadromous and freshwater fish face an equally serious threat in their waters of origin. Whole races of such species may be decimated or destroyed as a result of damage to, or pre-emption of the lakes and coastal river systems that make up their habitat. Already large parts of this habitat have been lost to competing uses such as energy generation, irrigation, navigation, waste disposal and other activities. This pressure, building steadily, vividly

demonstrates the need for not just international but national coordination of the management of natural resources.

THE CAUSES OF DISTRESS

"The Tragedy of the Commons"

The health of the fisheries cannot be defined simply in terms of how much fish is caught. The Atlantic groundfish industry, for example, has had poor years when the catch was good and profitable years when it was comparatively low. As already mentioned, 1973 was a very bad year in terms of catch; yet, in terms of gross value of output and net returns it was the most successful year in the industry's history. Keeping in mind exceptions in some areas, the industry has never enjoyed prosperity for long. Since the Second World War, price declines have pushed parts of it to the brink of collapse every six or seven years. Nor can foreign fishing be blamed for all of the industry's troubles. The imposition of elaborate regulatory measures has been shown to be necessary to prevent depletion of fishery resources by the Canadian industry itself. The Pacific salmon and Atlantic lobster fisheries are cases in point. The fishing industry suffers from a host of difficulties which bear no direct relation to the presence of foreign fleets on the fishing grounds off the coast.

The central problem of the groundfisheries, as of other commercial fisheries, is rooted in a conflict between individual interests and the collective interests. Although wise use of fishery resources obviously concerns the entire fishing industry, fishing enterprises separately must pursue their own interest: that of maximizing their catch. In an open-access, free-for-all fishery, competing fishermen try to catch all the fish available to them, regardless of the consequences. Unless they are checked, the usual consequence is a collapse of the fishery: that is, resource extinction in the commercial sense, repeating in a fishery context "the tragedy of the commons".

The abnormally high profits and earnings characteristic of a young fishery constitute a powerful incentive for the building of more fishing craft and processing facilities. In such a situation the industry over-expands, catch per vessel declines, production costs rise, supply becomes unstable and profit margins shrink or disappear. Many enterprises fail and those that survive do so as cripples in a debilitated industry. The end result is severe economic and social distress for the communities involved. A recent example of this familiar pattern of events can be found in the Gulf of St. Lawrence, where a great proliferation of processing and feeder plants for groundfish, herring, and crab, with a concurrent fleet expansion, occurred during the late 1960's and early 1970's. Indeed, the industry in most regions of Canada shows the chronic weaknesses associated with open access.

Over-Capacity

The fishing industry generally, particularly the inshore part, suffers from over-capacity, i.e. too many vessels and fishermen in relation to the available fish. Moreover, a significant amount of this capacity is wrongly located and unadapted to diverse use. The industry's over-capacity is the result of competition among fleet owners and fish buyers for a dwindling supply of groundfish and other species; competition conducted in a setting of generous public assistance (loans and subsidies) for vessel and plant construction.

Over-capacity in the fleets and congestion on the fishing grounds has intensified "gear conflicts" at two levels:

- between fishermen using stationary gear and those that fish from mobile craft;
- between fleets restricted to local waters and those more highly mobile (usually made up of larger vessels).

Although little known to the general public, these conflicts probably cause more stress than any other problem of fishery administration. In fact they are a smaller, home-grown version of the conflicts between distant water and coastal fleets in the international fisheries. In both cases what seems needed is a system of allocation by a body governing access to the resource.

Over-capacity in processing plants and distortions in the pattern of location have increased in recent years. Established processors have been induced to build additional plants and some "feeder" stations have been able to come into the market as direct suppliers. This has happened largely because of -

- a) buoyant demand for fishery products in the 1970's
- b) a desire to pre-empt rivals in the competition for raw-fish supply,
and
- c) federal and provincial incentives for promotion of economic
development.

Failings in the Market Place

In the market place, the Canadian industry has shown these characteristic shortcomings: excessive dependence on a single market, fragmented marketing effort, and inconsistent quality of products.

Sixty per cent of all Canadian fish exports, and nearly all groundfish exports go to the United States. Particularly in export markets, depending on a single outlet is risky practice, increasing the vulnerability of the industry to economic fluctuations. For example, starting in 1973 the price of certain meat products such as hamburger and poultry dropped in the U.S. market. The decline was accompanied by an increase in the supply of low-priced competitive fish products from other nations exporting to the U.S. A slump in prices followed, one cause of the problems Canadian groundfish exporters face today.

Besides competition from other suppliers, an uncontrolled rise in the price of Canadian fishery products relative to meat and poultry in the early 1970's (as in previous periods of market expansion), and a decline in domestic production may have contributed to the relative decline in Canada's share of this market. Between 1969 and 1974, Canada's sales of groundfish blocks dropped to 12 per cent from 33 per cent of the total market. In the case of fillets the descent to 48 per cent from 74 per cent.

Other countries have been steadily building their share of the U.S. groundfish market. Most do not suffer from the lack of coordination found in the Canadian industry, but have strongly centralized industries with consolidated marketing organizations.

Lack of coordinated effort among Canadian exporters frequently makes a bad marketing situation worse. A recent example is that of some 30 crab-meat producers on the Atlantic coast, some with shortages, some with surpluses, all of them marketing individually, competing for a narrow two per cent sliver of the American market; doing so moreover without any system of exchange or communication with each other. For many the result, by 1975, was imminent bankruptcy, and an appeal for government assistance.

The lack of forward integration to the retail level is a by-product of fragmentation of the industry. For example, there are 80 exporters of groundfish from Canada, only 40 of which are of some size (including the dozen or so vertically integrated major firms). This is a very large number of companies, as compared with Scandinavian and other countries competing with Canada in the U.S. market. Although the Canadian export trade is dominated by a relatively small number of the larger firms, market developmental and promotional efforts have been sporadic and diffuse.

The Quality Issue

Competition for an increasingly scarce supply of fish has been followed by deterioration of product quality, and consequent market losses. In the large-vessel groundfish fleet, for example, trips grew longer and fish size smaller. In the inshore fishery, buyers were more willing to accept improperly handled fish, often degraded further while being transported elsewhere to be processed. The end result is a situation in which groundfish landings with an estimated potential value of \$25 million are rejected outright as unfit for human consumption each year, and a further substantial loss sustained in the production of a lower quality product than could be obtained with proper methods. An additional loss, occasionally on a serious scale, is sustained from discards of undersized fish and of unwanted species taken while fishing for the sought-after groundfish species.

Variation in the quality of Canadian fish products has reduced their acceptability on the market. In some cases, foreign competitors get a higher price for the same basic product, because of a perceived difference in quality.

The Canadian fishing industry has taken no consistent position on this matter of product quality. This is partly because some traders have found it possible to dispose of products of less than prime quality and, if necessary, to evade consequent losses through manipulation of prices to fishermen.

An indifference to quality on the part of fishermen has been fostered by the knowledge that port markets seldom pay more for better quality. Generally speaking, there is no official inspection of the catch at dockside. Even properly handled fish leaving the vessel and the processing plant in first-class condition may deteriorate when stored for a long time at the wrong temperature. This is a particular problem at the retail level, where in almost every case the Canadian producer has no control.

Instability

The fishing industry along with many others suffers from unstable product prices and unstable material and service costs. The fisheries are also buffeted by forces of a special kind arising from the character of the resource base.

The movement of fish stocks, the appearance (time and place) of runs inshore and of concentrations on the offshore grounds, is controlled by such factors as water temperatures and food supply. The influence of these factors changes as stock density and inter-stock balance change: the degree of variation in resource availability, that is, tends to increase with intensive exploitation.

There is a seasonal pattern in some of these variations, which the industry may accommodate within the fishing year by effective fleet deployment and by the use of appropriate technology. The development of a highly mobile fleet operating from strategically placed bases in the Pacific salmon fishery is an example. Year-to-year variability is much more difficult to deal with particularly when (as is commonly the case) the variations cannot be accurately predicted. Over the past 20 years, for example, the annual catch of Atlantic cod in Canada has fluctuated (on a downward trend) between 20 per cent above and 20 per cent below that of the previous year - the average variation being about ten per cent. For the Pacific salmon fishery, the variations are even greater (if more predictable), namely 90 per cent above the previous year and 55 per cent below, with an average variation of 35 per cent.

Resource-based fluctuations of this magnitude from time to time may be superimposed on the movement in costs and prices stemming from the other sources mentioned. The result can be a steep, and usually unforeseen, fall or rise in earnings and profits. Industry reaction to this form of uncertainty frequently

has been to install sufficient catching and processing capacity to handle the peaks in supply, thereby inflating industrial overheads and reinforcing the inherent tendency toward over-expansion in the commercial fisheries.

NEW DIRECTIONS IN FISHERY MANAGEMENT AND DEVELOPMENT

The Need for Change

By mid-1974 the groundfish industry's appearance of health had vanished abruptly as the cost of gear, fuel and labour shot skyward. In that year it cost the large-vessel fleet ten to twelve cents per pound to catch fish, compared with five to six cents in the late 1960's. In the United States market, which takes over 90 per cent of Canadian groundfish exports, problems developed as the price to consumers of certain meat products went down. Retailers maintained high markups on fish products and, as a result, fish sales slackened and inventories rose. In this situation, suppliers of lower-cost competitive fish products, Japan and Korea in particular, acquired a decided advantage.

These developments, combined with structural weaknesses, threw the groundfish industry into deep crisis, and its leaders appealed to government for assistance to survive. On July 17, 1974 the federal Cabinet authorized the Minister of Fisheries to provide working-capital loans and assistance for inventory financing and product promotion, at an estimated cost of \$10 million. The program covered all frozen groundfish products as well as canned and frozen lobster and crab meat. In November 1974, Cabinet authorized the Minister of State for Fisheries to extend the program until the end of the following March at a cost of \$4.5 million. Two months earlier the Minister had announced that the government would purchase \$1.5 million worth of canned ocean perch (redfish) to reduce inventories, and also as a contribution to international food aid.

In December, 1974, the Cabinet authorized three more measures of assistance for the industry:

- i) \$14 million for short-term deficiency payments (conditional cash grants) on frozen groundfish production for the period January 1 - April 30, 1975.
- ii) \$3 million to salvage frozen groundfish inventories by canning. These supplies were earmarked for international food-aid programs.
- iii) \$3 million for working capital loans to proprietors of plants affected in early 1974 by ice conditions in eastern and northern Newfoundland and the lower North Shore of Quebec.

Pending long-term measures to reconstruct the industry, the Minister of State for Fisheries announced, in April 1975, an interim program funded to March 31, 1976 at \$51 million. This "bridging" program which applied throughout Canada comprised the following elements:

- deficiency payments directly to groundfish fishermen of 2.5 cents per pound for first-quality fish as landed (authorized funding \$27 million);
- conditional grants to processors of first-quality frozen groundfish fillets and fillet blocks (eight cents per pound of finished product) based on maintenance of at least the basic price to fishermen paid on July 1, 1974 (authorized funding \$14 million);
- conditional grants to processors on sales of first-quality fresh groundfish fillets within Canada (funding included in preceding item);
- deficiency payments to crab fishermen (authorized funding \$0.3 million) and to crab processors in the Atlantic region (authorized funding \$0.3 million);

- deficiency payments to primary producers in the freshwater fisheries for mullet production (authorized funding \$0.3 million) and for the production of cutter-grade whitefish (authorized funding \$0.2 million);
- deficiency payments to smelt fishermen (authorized funding \$0.2 million);
- purchase of canned lobster from the 1974 inventory carry-over (authorized funding \$0.2 million);
- purchase of mackerel, herring, gaspereau and groundfish for international food-aid and development programs (authorized funding \$3.5 million);
- cold storage and inventory-financing assistance for lobster and crab (authorized funding \$1.5 million);
- assistance to Newfoundland fishermen affected by abnormal ice conditions in 1975 (authorized funding \$0.6 million).

In March, 1976, the Minister of State for Fisheries announced that temporary assistance would continue in fiscal year 1976-77, under a program with authorized funding of \$44 million.

The total aid authorized would, if used entirely, work out to approximately \$6,500 per fishing enterprise or over \$2,200 for every fisherman in Canada. Many fishermen, however, received no part of this aid: by far the greater part of it was concentrated in certain segments of the Atlantic fisheries.

The crisis of the present, the chronic problems of the past, the expectation of national jurisdiction over offshore fishery resources in the future, the evidence of a potential for development of a viable fishing industry

and the deepening financial involvement of government, all combined to bring matters to a head. The Minister of State for Fisheries, late in 1974, inaugurated a comprehensive study into the whole field of fishery management and development in Canada, with particular reference to revitalization of the groundfisheries of the Atlantic region. The issue of salmon resource enhancement opportunities in the Pacific region was being studied separately.

Over its course, the study drew upon the resources of several government departments. Extensive consultations were held with provincial governments, processors and fishermen. The study found general agreement on the nature of the commercial fisheries' problems, such as over-capacity and fragmentation in the groundfish industry and on the need for a new approach to their solution: an approach that would strengthen the industry economically, benefit society generally, and involve fishermen and other interested parties in policy-planning and implementation processes.

Inadequacy of Traditional Approaches

Where an industry is based on a resource that belongs to all, the danger of over-expansion is always present. Only rarely do market forces prevent this. More often, competitors in an unchecked scramble for advantage force each other to the verge of collapse. Stability, with equitable access to a reliable resource, normally is maintained or restored only through the imposition of controls by government.

Traditional fishery policy in Canada, as in many other countries, has tended to be simplistic in the approach to resource management and relatively non-interventionist and uncoordinated in regard to industrial and trade development.

Resource-management strategies have been directed mainly toward:

- 1) regulation through international cooperation of foreign exploitation of the fishery resources of concern to Canada;
- 2) management of resource use on a discrete stock basis, with the research backup and enforcement service required for these purposes;
- 3) harvesting resources up to the biological "maximum sustainable yield" (MSY) level.

In the application of MSY, an assessment based on scientific information is made of the maximum yield in weight or numbers of fish available annually from separately identified stocks of a fish species. On the basis principally of that assessment, a total allowable catch (TAC) per year from each stock is established.

A major defect of this approach is that it does not pay enough attention to the equilibrium of the whole aquatic system, including the interaction (competitive and predator-prey relationships) between species. The "by-catch" issue is an aspect of this. Stock assessments are dependent on accurate catch statistics, but large quantities of fish from stocks under quota are caught incidentally in the course of fishing for other species, are discarded at sea, and usually go unrecorded.

A second defect is that the MSY approach, in association with free entry, tends to attract input of investment and employment in excess of the economically or socially optimal level.

The concepts of MSY and "full utilization" of fishery resources, with their implied promise of relief from food shortages, have a powerful appeal in the world community. In fact, they are entrenched in most international fishery-management conventions. They are inapplicable to the management of fishery

resources on an ecosystem basis, however, and, the evidence indicates their pursuit is ruinous for the industries and people involved. A recent agreement among the membership of ICNAF to a 40 per cent reduction in fishing effort (measured by vessel-days expended) suggests a dawning of this truth in some quarters at least.

In industrial and social development also, policy has skirted some basic problems. The strategies implicit in existing federal programs may be stated as follows:

- 1) Provision of research services in support of industrial development in the primary and secondary sectors of the fisheries.
- 2) Provision of technical and financial assistance (loans and subsidies) for fleet modernization and expansion.
- 3) Provision of a quality-control service through plant and product inspection.
- 4) Provision of funds for expansion, modernization, and diversification of processing.
- 5) Provision of informational and certain other marketing service.
- 6) Provision of certain price stabilization, equipment insurance and (under Unemployment Insurance Commission administration) income support services.
- 7) More rarely, direct intervention (in collaboration with the provinces) in segments of the fishing industry and the fish trade: The Freshwater Fish Marketing Corporation in the Northwest Territories, the prairie provinces and northwestern Ontario, and the Canadian Saltfish Corporation in Newfoundland and parts of Quebec, exclusively control the marketing of certain products from those areas.

For the commercial fisheries generally, including the groundfisheries, these strategies have been deficient in several respects. Major problems have persisted, culminating in the present crisis. The current troubles of the industry, nevertheless, coincide with a clear opportunity for the future development of a highly productive fishery economy.

Basis of Policy Formation

The analysis of the fisheries carried out in 1974-75 by the Fisheries and Marine Service showed that, in some respects at least, fundamental restructuring of the fishing industry is inevitable. It will come about either in an orderly fashion under government auspices or through the operation of inexorable economic and social forces.

In the conviction that coordinated action at all levels of the fishing industry and fish trade can create a stable, prosperous sector of the economy, regionally and nationally, the federal government proposes to intervene to ensure that fisheries development is managed in the best interests of Canadian society. The strategies to be adopted incorporate two major shifts in policy:

- 1) The guiding principle in fishery management no longer would be maximization of the crop sustainable over time but the best use of society's resources. "Best use" is defined by the sum of net social benefits (personal income, occupational opportunity, consumer satisfaction and so on) derived from the fisheries and the industries linked to them.
- 2) While private enterprise, individual, cooperative and corporate, would continue to predominate in the commercial fisheries, funda-

mental decisions about resource management and about industry and trade development would be reached jointly by industry and government.

The fishery economy of the future would be a vigorous and stable one, in which the reward for a given amount of effort or investment would be in line with rewards in other industries. The fishing industry would be productive enough to share the financial burden of resource maintenance and other services provided by the state to the users of fishery resources. The fish trade would be fully competitive in international markets.

Some branches of the fisheries would become more capital-intensive than at present in order, for example, to take advantage of certain distant-water fishing opportunities. Operations would be centred at ports where the goods and services required by a progressive, innovative industry could be provided, as far as possible, from local resources. While there need not be a shipyard in every community and while, in most cases, engines, winches and electronic equipment might be brought from outside, a wide range of gear and equipment would be fabricated locally. Similarly, services such as technical training, equipment repair and servicing and the supply of chandlery and provisions should be largely localized. Coastal areas thus would be revitalized and industrial progress would be combined with the advancement of regional cultures and life-styles.

For this approach to succeed, many groups must work together. Success will require coordination of planning and programming not only among federal agencies but with other levels of government as well. It is essential that the people of the communities involved, understand their stake in and responsibility for rehabilitation of the fisheries.

There are several statutes administered by the Minister of State for Fisheries upon which fishery management and development measures can be based:

The Fisheries Act

The Coastal Fisheries Protection Act

The Territorial Sea and Fishing Zones Act

The Fisheries Research Board Act

The Fisheries Development Act

The Fish Inspection Act

The Fisheries Prices Support Act

The Canadian Salfish Act

The Freshwater Fish Marketing Act

Other federal agencies also administer pertinent legislation, in particular the Department of Regional Economic Expansion (providing incentives for economic development in general), the Department of Manpower and Immigration (providing for unemployment insurance as well as for retraining and relocation) and the Department of Industry, Trade and Commerce (providing for industrial development and export controls).

The Social Impact of Development

The long-term viability of the industry and trade depends on getting rid of certain structural defects - notably catching and processing over-capacity, dispersal of processing facilities, and fragmentation of business organization.

The well-being of fishing communities depends upon these changes being made in a gradual, systematic manner. The government of Canada has stated explicitly, as far back as 1970, its position that while it is desirable to restructure the industry, "rationalization" could only proceed as quickly as

acceptable alternative opportunities were opened up for people affected by these changes. The government is acutely aware that abrupt action to correct all defects across the board would be traumatic - that it could destroy the source of livelihood for large numbers of people and remove the economic base of one-industry communities and districts. Many such communities and districts are found in eastern and northern Newfoundland, around the Gulf of St. Lawrence, in the northern prairie region, and on the central coast of British Columbia.

This basic principle of minimizing disruptive impact of change has therefore been an unchanging tenet of government policy for some years. What has changed since 1970 is a perception of the urgency of the situation: seen in the light of the current crisis, extensive restructuring is not merely desirable but imperative. The prospect of Canada achieving extended offshore jurisdiction does nothing to lessen the urgency of the matter. The problems, as shown earlier, transcend jurisdiction. Even with extended jurisdiction, it will take years to restore fish stocks to a point where Canadian catches may be improved significantly.

In short, fisheries development is synonymous, in this context, with a restructuring of the industry itself for its very survival. Where adverse social side-effects such as reduced employment opportunities can be kept within acceptable limits, restructuring should proceed. Where damage to the community would outweigh advantages in the short run the changes must be postponed.

In the inshore fisheries generally, especially those of the Atlantic region, the labour force far exceeds the industry's capacity for employment at an adequate level of income. This disparity explains the low level of labour productivity in the Atlantic fisheries. A reduction in the number of people employed in the primary fisheries would have different effects in different communities. Three types of situation may be recognized.

- a) Communities with a well differentiated resource-base or which can draw on resources within commuting distance - this situation is found, for example, around major metropolitan centres and in more developed urban communities, especially in British Columbia, Ontario and Nova Scotia.
- b) Single-industry fishing communities where a real potential for resource diversification exists - there are several in British Columbia and in the southwest Maritimes.
- c) Fishing communities with a very limited potential for diversification and development, a number of those located along the shore of the Gulf of St. Lawrence and on the northeast coast of Newfoundland, for example.

The economic problems of the last type of community manifest themselves in such symptoms as underdevelopment of basic services like transportation facilities, housing, and public water and sewage-disposal systems. To be sure, many residents of these communities may have a satisfying life notwithstanding. But there is ample evidence, e.g. the frequent demands for government assistance in one form or another, to indicate that many others are sensitive to their disadvantages.

Even with an extension of coastal-state jurisdiction, problems will **remain** for these communities. Those located on the eastern coast of Newfoundland and on Labrador may be taken as an example. Landings of codfish, principally by small boats fishing close to shore, still account for about 60 per cent of the total value of fishery production in that area, although, as a result of intensive fishing of the stocks offshore and, more recently, because of delays in the annual operating season (due to an ice barrier), the tonnage of cod landed in the area has been reduced to one-fifth of what it was twenty years earlier. This is one of the most dramatic examples of losses to Canadian fishermen caused by expansion of the international fishery.

Allowing for some improvement in technology over this period, it is probable that the local groundfishing fleet is capable of taking up to 200,000 tons of codfish each year. At today's prices that would raise average gross earnings from fishing, for each of the approximately 9,000 fishermen in the area to about \$5,000. This would be a great deal better than the present average of \$1,500 or thereabouts but it hardly represents prosperity for many coastal communities.

It is true that an additional catch, of indeterminate size at present, might be taken on offshore grounds adjacent to this coast. That catch, however, would have to be taken with large, specially-equipped vessels; landings from a fleet of that type are unlikely to benefit more than half a dozen ports in the area.

One requirement for a viable and prosperous commercial fishery is that fewer people be employed in relation to output in primary production. This does not mean drastic dislocation of the people now dependent on the fishing industry. It does mean that where it is feasible to expand, this expansion should be accomplished without increasing employment in the fishery itself. With a viable fishing industry firmly based and growing, new job opportunities in a variety of associated industries and services would develop throughout the region.

Prospects for Development

The word "development" means different things in different contexts. As used here it means the expansion of commercial fisheries production with a resulting generation of monetary and other benefits to the Canadian fishing industry and the community.

There is plenty of room for increase of output in the fishing industry. If one excludes the 12-mile territorial sea, the Gulf of St. Lawrence, and the Bay of Fundy, the Canadian share of the catch in waters adjacent to the Atlantic coast (ICNAF Sub-Areas 2, 3, and 4) was only one-sixth of the total in 1973. Codfish makes up over 50 per cent of the total groundfish catch of all fleets fishing the area. Canada gets less than one-quarter of this catch. When extended jurisdiction comes, and when the stocks have been rebuilt, there is an excellent opportunity for development based on an expansion of the cod fishery.

There may be other opportunities: for instance, in processing catches of species now usually discarded by domestic and foreign fleets, and, if it were proved desirable, in processing landings from foreign fleets that the Canadian fleet is not equipped to take. One benefit of the latter activity would be product diversification for Canada. Since processing operations are more labour-intensive than modern fishing operations, this approach would also make sense in terms of augmenting general employment.

The most significant possibilities for development lie in an increase in the ratio of catch to fishing effort and in the greater age, thus size, of fish that would result from a diminished intensity of fishing effort. Achievement of these aims would depend particularly on reduction of effort by foreign fleets (Canada's fleet of intermediate and large vessels makes up only about seven per cent of total tonnage in the ICNAF area).

If the total fishing effort were cut in half, the initial result would be to reduce the total catch by about the same proportion. Within five to ten years, however, in the example of the cod fishery, the catch could thereby be restored to 75 per cent and possibly 85 per cent of its present level.

At the same time, the catch per unit of effort (CPUE) would have been raised by 50 to 90 per cent. To achieve these results, it is necessary to abandon maximum sustainable yield, as the ruling principle of resource management, and aim instead for an effort-to-catch ratio based on the optimization of benefits to society.

In the case of the Pacific salmon industry the key to development is a public awakening to the threat facing these species from environmental degradation of their freshwater and estuarine habitats and the potential for increasing their numbers. It is possible, using knowledge and technology readily available today, to double the size of the salmon stocks. Given the level of commercial and recreational demands (domestic and export) this would probably represent the best use of most of Canada's major salmon-bearing river systems. As in the case of Atlantic groundfish, however, a necessary first step is the setting up of an effective international management regime and a system that controls access to the resource.

In March, 1975, the Honourable Roméo LeBlanc, Minister of State for Fisheries, announced that the federal government was committed to development of a major program to expand Canada's Pacific salmon resources. In June, 1975, a memorandum of understanding was signed with the province of British Columbia, providing for federal-provincial cooperation in the preparation of coordinated program proposals. The federal government spent \$1.2 million in 1975-76, and plans to spend at least another \$4 million for feasibility studies and planning activities in 1976-77. Detailed plans for the first phase of development projects will be ready for submission to the federal Cabinet for approval by the fall of 1977.

The program is aimed at restoring the salmon species to their historic abundance (when landings were about double their current level), thereby increasing greatly the returns to the commercial fishery, and tripling the capacity of the sports fishery which already supports one million user-days of angling. The program also will ensure adequate resources for the traditional Indian food fishery. Achievement of these goals by applying proven enhancement techniques such as artificial spawning

channels, hatcheries and fishways, could be attained by about 1990. Costs of the program, to be financed mainly by the federal government, tentatively estimated at \$250-300 million, should eventually be recovered in terms of increased returns to the salmon fisheries.

Some of the techniques of resource enhancement (i.e. increase in fish stocks) border on those of aquaculture. Aquacultural development in Canada has been limited by problems of nutrition and disease control and by an inadequate legal and institutional environment for business enterprise in this field. The incentive for such development will come when the cost of fishing natural stocks begin to exceed the comparable costs of aquacultural production.

If Canadian society as a whole is to get the best combination of benefits from development of the fisheries, open access to resource use must be curtailed. If it were not curtailed, the lure of a quick profit and other short-term gains would continue to produce overcrowding in the fisheries; and a proliferation of fleets and processing facilities. This kind of congestion leads eventually to depletion of fish stocks and a waste of social resources. Effective entry control helps to stabilize the resource base and to smooth out the cyclical peaks and valleys on cost/price charts.

Productive fishing enterprises operating in an entry-controlled fishery earn more. There should be a surplus in relation to normal returns for the labour employed, the capital invested, and the business risk taken. The management authority would have three choices for distributing this surplus:

- a) It could let the surplus accrue to the participating enterprises.
- b) It could permit the entry of additional enterprises and thus dissipate the surplus.
- c) It could appropriate the surplus through collection of "royalties", on behalf of the resource owners, i.e. the people of Canada.

Under certain conditions alternative (a) would be justifiable. Entry to the Pacific groundfishery is currently being restricted in order to raise the level of enterprise earnings and so stimulate owners to invest in the equipment they need to compete with foreign fleets. In most cases though, since it could create a class of privileged fishermen, this is an inequitable alternative.

Alternative (b) might be desirable in situations where the need to create employment opportunities is important. However, on conservation and on economic grounds this approach would not usually be acceptable.

Alternative (c), which amounts to receiving rent from an asset owned by the public, is analagous to the recovery of royalties from industries like forestry and mining. It can be justified on the basis that the state provides services to maintain and enhance the fishery resources, and the fact that the resource is an asset owned by all citizens.

The engine of growth for the fisheries is market demand for fish. This demand tends to be "inelastic" as to price, i.e. changes upward or downward in price do not result in proportionate changes in consumption.

Growth of the Canadian groundfish industry has depended on the U.S. market. Per capita consumption of fish in that market has remained stationary for many years, and the consumption of other food products shows a similar constancy. The evidence does not suggest that any great change in these habits can be effected by promotion except for relatively brief periods. The fish trade may have to exert much greater efforts in this direction simply to hold its position relative to competing products. This does not mean that markets cannot be expanded. Expansion can be fueled from two sources:

- a) population growth in areas of traditional sale
- b) the development of more sales outlets elsewhere.

Apart from cured groundfish products, which appear to be in strong demand in world markets, the outlook for market diversification is uncertain. Throughout the northern hemisphere, and in some parts of the southern hemisphere, the yield from the major fishery resources has reached a peak or is declining. This does not necessarily increase Canada's opportunity to sell Canadian fish. Such an increase would depend on the presence of large numbers of people with the inclination and the ability to purchase Canadian fish. The significance of a "hungry world", like that of the "200-mile limit", as a simple answer for the problems of Canada's fisheries, has been greatly exaggerated.

STRATEGIES FOR FISHERY MANAGEMENT AND DEVELOPMENT

To achieve government policy objectives for fishery management and development* not one but many strategies are needed. The following list comprises some already adopted as the basis for design of long term (5 to 10 year) programs. The strategies in part complement, in part supplement, and in part replace those already in existence (see p.52). The list is subject to extension and the separate strategies to more precise statement.

A. Resource Management

1. Obtain national control of the exploitation of fishery resources throughout a zone extending at least 200 nautical miles (370 kilometres) from the Canadian coasts.
2. Secure international recognition of the state of origin's primary interest and responsibility for anadromous fish species.
3. Provide for redevelopment and enhancement of fish stocks whose natural habitat or environment is amenable to effective modification.
4. Institute a co-ordinated research and administrative capability to control fishery-resource use on an ecological basis and in accordance with the best interests (economic and social) of Canadian society.
5. Provide the research and the institutional innovation necessary to foster the development of viable aquacultural enterprise.

* These are elaborated in Appendix I

6. Allocate access to fishery resources in the short-run on the basis of a satisfactory trade-off between economic efficiency and dependency of the fleets involved.
7. Develop a fully effective capability for the monitoring of information on resource and oceanic conditions, for the surveillance of fleet activity and for the enforcement of management regulations.

B. Fishing

1. Apply systems of entry control in all commercial fisheries.
2. Co-ordinate the deployment of mobile fishing fleets, over the fishing grounds and the operating season.
3. Provide for the withdrawal of excessive catching capacity in congested fleet segments and in areas of low productivity, and for the best possible mix of fleet units.
4. Abolish the use of destructive and wasteful fishing gear and fish-handling practices.

C. Fish Processing

1. Facilitate price differentiation according to quality of fish landed.
2. Provide for the allocation of landings (raw-fish supply) in accordance with the most profitable end use.
3. Concentrate programs of technical and financial assistance for the processing sector on the up-grading, relocation and consolidation of existing facilities.

4. Promote the transfer of technology from research and development to practical application (in the interest of product innovation and enhancement of the value added in processing).
5. Determine the desirability and feasibility of a) securing unwanted by-catches from fleets operating within range of coastal ports and b) processing landings from foreign fishing fleets.

D. Product Marketing

1. Promote consolidation of the export-marketing of fishery products and forward integration of the trade, that is, acquisition by exporters of processing facilities and distribution outlets abroad.
2. Encourage inter-firm developmental and promotional programs in domestic and foreign markets.
3. Bring existing market-intelligence, forecasting and trade-development services to full effectiveness and provide such additional and related services as may be required.

E. Fishermen and Their Communities

1. Develop a program or programs to mitigate the effect of the instability inherent in the commercial fisheries on the net revenue of fishing enterprises.
2. Provide, through the adaptation of existing programs and/or the design of alternative programs, for the relief of chronically income-deficient fishermen.

3. Foster the acquisition of professional status by commercial fishermen, for example, by means of suitable programs of training and certification.
4. Institute mechanisms, appropriate to the groups and areas involved, to facilitate individual and community adjustment to economic and social change.
5. Integrate programs for fishery development with those designed for regional economic development in general.
6. Ensure the fullest possible involvement of all the people concerned, that is, fishermen, plant workers, businessmen and members of the interested public, in the decision-making process associated with fishery management and development.

These 25 strategies have been chosen by the federal government as policy guidelines for program design in federal departments, particularly within the Fisheries and Marine Service of DOE. Clearly, many strategies anticipate co-ordination of programming with provincial governments and with private agencies (fishermen's unions and associations, fishing and trading companies, community organizations and so on) as well.

BUDGETARY CONSIDERATIONS

Until precise plans of action have been drawn up, realistic estimates of what it will cost to put them into practice are not possible. It should be kept in mind that many of these strategies involve a redirection rather than an expansion of government activities.

However, it should also be remembered that while it may be possible to cover some increased costs by reallocating funds, this will not be feasible across the board. When Canada acquires extended jurisdiction, the nation will need to be able to manage that greatly increased area of fisheries jurisdiction. This will mean expansion of patrol, surveillance and research activities, an increase involving large capital and operational expenditures. It may be possible to reduce the cost to the public of management programs (and eventually to cover them completely) by collecting substantial entry fees from foreign and domestic fleets.

The need for some government spending should diminish as the programs take hold. In the present depressed state of the industry, publicly-funded programs of income maintenance are likely to continue for some time. However, as the various enterprises in the industry become able to pay their way, a program to stabilize net revenue, for example, could become self-sustaining with payments into a central fund when times were good and withdrawals from this fund when earnings fell below the norm.

Similarly, as entry control and growth in the real value of fishery output mitigate the problem of inadequate earnings for fishermen, the need for special income supplementation would diminish or disappear.

IMPLEMENTATION

In developing the policy described in this paper the Government is responding to a long-standing need to rationalize the management and use of our fishery resources. Fishermen and other representatives of the industry have had a voice in developing this approach. Through service on advisory bodies, attendance at regional and national meetings and informal consultation, they will continue to be involved in the unfolding of policy over the coming years.

The setting of policy guidelines is chiefly the responsibility of a steering committee of senior members of the Fisheries and Marine Service reporting to the Minister of State for Fisheries at Ottawa. Other groups and individual officials in the five regional Fisheries Management divisions of the Service* are responsible for the translation of such guidelines into programs of action. The Service is committed to a detailed review of every program with the people affected.

The problems of the industry and the programs designed to solve them are complex, and they touch the lives of everyone involved in the commercial fisheries. These fisheries contain many frequently contending elements. When it is necessary for government to make decisions involving irreconcilable interests, it will do so on the basis of the principles set forth in the preceding pages.

* Listed on inside back cover

Some programs are already in the process of being designed. The following is a brief, necessarily incomplete list of program areas which are under intensive development at the time of writing:

- Resource Management and Enhancement
- Allocation of Access
- Fleet Development
- Quality Improvement
- Fuller Utilization of Fish Resources
- Improved Use of Pelagic Resources
- Industrial Restructuring
- Export Marketing Consolidation
- Net Revenue Stabilization for Fishing Enterprises
- Income Supplementation
- Canada-Foreign Arrangements

Separately and alone, the programs can do little to solve the problems of the ailing industry. Together - and reinforced by others yet to be designed - they can result in a prosperous and stable industry, capable of rewarding the investment of labour, talent, and capital of the people involved in it.

APPENDIX I

POLICY OBJECTIVES
FOR FISHERY MANAGEMENT AND DEVELOPMENT

In formulating strategies for fishery management and development, the goals of Canadian society identified by such agencies as the Economic Council and the Science Council of Canada provide a starting point.

In operational terms for the fisheries these goals may be restated thus:

1. Maximization of food production from fishery resources to the extent that this is consistent with efficient use of society's other resources.
2. Compatibility of fishery-resource use with enhancement of the harvestable productivity, and preservation of the ecological balance, of the aquatic environment.
3. Allocation of access to fishery resources in accordance with optimal (best) use, and assurance of equity of access and security of tenure for resource users.
4. Growth in the fishery economy in terms of real output per capita.
5. Optimization and optimal distribution of returns to social resources (labour, capital and the natural resource) from the fisheries.
6. Minimization of instability in net returns to resources.
7. Economic viability of (fishing and fish processing and distributing) enterprises in the commercial fisheries.
8. Prior recognition of and adequate provision for the economic and social impact of industrial change.
9. Minimization of individual and community dependence on paternalistic industry and government.
10. Protection of national security and sovereignty.

No priority ordering should be read into this list. The goals interact in some instances. One may further or limit the realization of another. If we are to realize goals embracing environmental harmony, material well-being and cultural opportunity, tradeoffs and compromises are inevitable. If we look back at the fifth goal in this list, for instance, we see that it will involve a trade-off between higher returns to a few and lower returns to the many. The need to retain a minimum employment level in areas chronically afflicted by unemployment or underemployment sets one of the boundaries within which the trade-off must be made.

From the preceding rather general statement of goals, a set of precise objectives has been drawn up, as follows:

Resource Use and Allocation

1. Establishment of an effective management regime for the natural resources.

This is the prerequisite to everything else. To the extent that existing institutions and mechanisms cannot achieve this end, they must be restructured or, if necessary, replaced.

2. Safeguarding of the base for productive fisheries, within the complex of demands on the aquatic system, e.g. through resource-use management on a total-ecosystem basis and through resource enhancement or redevelopment.

This requirement is particularly relevant for anadromous species like the salmons, whose natural habitat can be readily manipulated.

However, enhancement and redevelopment can be considered in relation to demersal and pelagic resources because of the impact (for good as well as ill) of human activity on the marine environment.

3. Incorporation in resource-management models, not only of biological and environmental, but also of major social and economic components of the system.
4. Basing total allowable catches (TAC's) and annual catch quotas on economic and social requirements (including the requirement for stability), rather than on the biological-yield capability of a fish stock or stocks.

Where a resource is exploited internationally, it may be necessary to choose between:

- a) optimizing returns in the domestic fishery, e.g. by an appropriate reduction in foreign-fleet operations;
- b) optimizing economic and social benefits for the region affected or the nation as a whole, e.g. through leasing to other countries the right to exploit certain stocks, if this were proved desirable.

5. An equitable distribution of access to resource use among geographic areas and groups, e.g. vessel and gear types.

The distribution of benefits from the several stages of the fisheries and related industries is involved here and the objective is constrained by the existence of a minimum level of employment acceptable regionally or sub-regionally.

Economic Development

6. Optimal production capacity, application of technology, craft mix and length of operating season in the fishing fleets.

7. Optimal efficiency in port markets.

The issue here is that of the sensitivity of dockside (ex vessel) prices to price movements in product markets. To the extent that port markets perform imperfectly in this respect, reorganization may be desirable. Some options would be a) separating the profit centre in catching from that in the other divisions of integrated catching/processing/marketing enterprises or b) establishing vertical integration forward from the primary-industry base, e.g. through a producers' cooperative organization.

8. Full realization of economies of location and scale in the fish-processing sector.

This implies spatial reorganization, with due regard for resource availability, the role of feeder plants in raw-material assembly and the presence of transportation nodes.

9. Elimination or minimization of wastage at all stages of production, e.g. discards at sea and spoilage in handling.

10. An optimal mix of the products derived from fish landings, in terms of returns to the industry and the regional economy.

Elimination of the structural and other rigidities that prevent

disposition of landings in accordance with most profitable end use is implied here, e.g. as between freezing and curing in the case of cod, and as between animal meal and human food use in the case of herring.

11. Optimization of product quality, product diversification and value added in fish processing.

This implies maximum efficiency in responding to demand in domestic and export markets.

12. Maximization of the competitive position of the fish trade in international product markets.

Issues relating to the desirability and feasibility of vertical integration forward into export markets, as well as to national vs. foreign ownership and/or control are raised here. Among other things, a choice is involved between a) extending Canadian ownership in selected sectors of the fisheries and b) developing the primary and/or secondary sectors, at least in part, through joint-ownership arrangements with interests abroad.

13. An optimal combination of public and private investment for development of the fisheries.

14. Maximum practicable efficiency in intelligence services for the fishing industry and the fish trade.

Predictive or forecasting capability, with reference to resource and environmental conditions, and mechanisms for the "early warning" of market fluctuations require fundamental re-assessment and improvement.

Social/Cultural Development

15. Minimization of the socially and culturally disruptive impact of industrial and trade reconstruction.

Providing that achievement of other developmental objectives is not thereby stultified, the implementation of programs of industrial restructuring or rationalization must be phased in accordance with this objective.

16. Assurance of a cadre of skilled labour for the fisheries and of the attractiveness of fishing as a full-time occupation.

17. Assurance of acceptable employment opportunity for those displaced as a result of industrial restructuring.

18. An adequate level of compensation for losses accruing from industrial restructuring.

Such compensation must also meet the criteria a) that it not be a disincentive to recruitment into other employment and b) that it be capable of being eventually phased out.

19. Maximum efficiency in the design and implementation of developmental programs.

Planning for development must take account, for example, of the impact of alternative structures on relative wage rates as between fisheries and other industries and ensure that, after restructuring has been completed, the equity of income distribution in the communities affected and in society generally is better than it was before.

20. The development in fishing communities of an internal momentum for economic and social growth and toward the fullest possible degree of self-determination.

Industrial restructuring or rationalization must be planned and implemented so as to encourage this.

APPENDIX II

TRENDS IN THE COMMERCIAL FISHERIES OF CANADA

1955-1974

TABLE 1

Annual Per Capita Consumption of Fish^{1/} as Food in Canada, 1955-74
(Edible Weight)

<u>Year</u>	<u>Fresh & Frozen</u>		<u>Cured^{2/}</u>		<u>Canned</u>		<u>Total</u>	
	<u>Products</u>		<u>Products</u>		<u>Products</u>		<u>All Products</u>	
	lb.	kg.	lb.	kg.	lb.	kg.	lb.	kg.
1955	7.3	3.3	1.8	0.8	4.5	2.1	13.6	6.2
1956	7.2	3.3	1.7	0.8	4.5	2.0	13.4	6.1
1957	6.9	3.1	1.9	0.9	4.7	2.1	13.5	6.1
1958	7.5	3.4	1.9	0.9	4.1	1.8	13.5	6.1
1959	7.6	3.4	1.8	0.8	3.9	1.8	13.3	6.0
1960	7.7	3.5	1.8	0.8	3.2	1.5	12.7	5.8
1961	7.2	3.3	1.7	0.8	4.1	1.8	13.0	5.9
1962	7.1	3.2	1.6	0.7	4.3	2.0	13.0	5.9
1963	7.7	3.5	1.4	0.6	4.1	1.9	13.2	6.0
1964	7.2	3.3	1.4	0.6	4.2	1.9	12.8	5.8
1965	7.5	3.4	1.4	0.6	3.9	1.8	12.8	5.8
1966	7.2	3.3	1.3	0.6	4.0	1.8	12.5	5.7
1967	7.2	3.3	1.2	0.5	3.9	1.8	12.3	5.6
1968	7.3	3.3	1.2	0.5	3.9	1.8	12.4	5.6
1969	7.6	3.4	1.0	0.5	3.5	1.6	12.1	5.5
1970	7.0	3.2	0.8	0.4	3.8	1.7	11.6	5.3
1971	7.1	3.2	0.9	0.4	3.9	1.8	11.9	5.4
1972	7.0	3.2	0.8	0.3	4.6	2.1	12.4	5.6
1973	7.1	3.2	0.8	0.4	4.2	1.9	12.1	5.5
1974	7.5	3.4	0.7	0.3	4.4	2.0	12.6	5.7

^{1/} Including shellfish, i.e. crustaceans and mollusks.

^{2/} That is, smoked, salted, pickled, etc.

Source: Annual Statistical Review of Canadian Fisheries, Vol. 7, 1974.

TABLE 2

Employment in the Commercial Fisheries of Canada, 1955-74

<u>Year</u>	<u>Primary Sector</u> ^{1/}			<u>Secondary Sector</u> ^{2/}		
	<u>Pacific</u>	<u>Central</u>	<u>Atlantic</u>	<u>Pacific</u>	<u>Central</u>	<u>Atlantic</u>
	<u>Coast</u> no.	<u>Area</u> no.	<u>Coast</u> no.	<u>Coast</u> no.	<u>Area</u> no.	<u>Coast</u> no.
1955	12,800	17,800	47,900	3,400	n.a.	11,200
1956	11,800	15,800	47,000	3,400	n.a.	11,800
1957	13,000	17,900	48,100	3,300	n.a.	10,900
1958	15,300	20,100	47,600	3,100	n.a.	11,200
1959	15,500	18,300	46,300	3,000	n.a.	11,100
1960	15,200	17,700	45,300	2,600	n.a.	10,800
1961	16,800	16,900	44,600	3,600	600	10,500
1962	16,400	16,700	45,700	3,700	800	10,700
1963	16,600	17,300	47,800	3,400	900	11,300
1964	13,300	16,200	48,600	3,400	900	11,600
1965	13,000	15,800	49,300	3,300	900	13,000
1966	12,000	15,300	45,900	3,400	900	14,000
1967	12,100	13,900	45,200	3,200	900	13,900
1968	12,100	11,400	45,700	3,400	900	15,100
1969	10,900	11,100	42,900	2,700	900	15,500
1970	11,600	9,700	41,800	2,800	900	15,500
1971	11,000	8,100	39,700	2,600	900	15,000
1972	9,900	7,700	39,700	3,600	1,000	15,500
1973	11,700	8,000	39,000	3,700	1,100	16,600
1974	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

1/ The fishing fleets.

2/ Processing plants.

Source: Annual Statistical Review of Canadian Fisheries, Vol. 7, 1974.

TABLE 3

Value of Fishing Craft in the Commercial Fisheries of Canada, 1955-74

(\$ million, current)

<u>Year</u>	<u>Pacific Coast</u>	<u>Central Area</u>	<u>Atlantic Coast</u>	<u>Total</u>
1955	42.6	5.3	32.8	80.7
1956	43.1	5.1	33.9	82.1
1957	45.7	5.6	37.6	88.8
1958	45.2	5.4	33.3	84.0
1959	46.8	6.2	36.9	90.0
1960	49.6	6.1	40.6	96.3
1961	53.8	6.0	42.0	101.8
1962	57.9	6.2	48.3	112.4
1963	71.1	6.8	65.7	143.6
1964	76.6	6.7	76.3	159.6
1965	77.0	6.7	91.1	174.8
1966	75.8	7.2	111.5	194.4
1967	88.4	6.1	152.6	247.1
1968	93.0	6.2	168.1	267.3
1969	101.6	6.0	161.6	269.3
1970	106.0	5.7	161.6	273.3
1971	107.8	5.4	160.0	273.2
1972	114.0	5.5	165.0	284.4
1973	142.5	5.8	189.2	337.5
1974	n.a.	n.a.	n.a.	n.a.

Source: Annual Statistical Review of Canadian Fisheries, Vol. 7, 1974.

TABLE 4

Indices of Production and Price in the Commercial Fisheries of Canada, 1955-74

(1960-62 = 100)

<u>Year</u>	<u>Physical Volume of Production</u>	<u>Port-Market Prices^{1/}</u>
1955	97	84
1956	101	91
1957	100	84
1958	106	97
1959	98	96
1960	92	98
1961	99	99
1962	109	107
1963	109	106
1964	109	121
1965	105	138
1966	122	134
1967	111	139
1968	124	142
1969	109	174
1970	116	173
1971	108	185
1972	107	218
1973	113	288
1974	95	317

^{1/} That is, prices at dockside or ex vessel.

Source: Annual Statistical Review of Canadian Fisheries, Vol. 7, 1974.

TABLE 5

Value^{1/} of Fishery Production in Canada, by Region, 1955-74
 (\$ million, current)

<u>Year</u>	<u>Pacific Coast</u>	<u>Central Area^{2/}</u>	<u>Atlantic Coast</u>	<u>Total All Regions</u>
1955	61.5	18.6	104.7	184.8
1956	68.2	20.6	108.0	196.8
1957	64.1	19.2	105.1	188.4
1958	98.2	20.6	113.9	232.7
1959	68.1	18.2	117.8	204.1
1960	55.2	19.3	124.8	199.3
1961	79.7	19.3	124.8	223.8
1962	100.1	20.3	140.1	260.5
1963	80.1	19.6	158.9	258.6
1964	97.9	19.0	178.3	295.2
1965	89.9	21.2	201.6	312.7
1966	123.7	20.6	212.2	356.5
1967	104.5	16.3	209.2	330.0
1968	123.9	19.8	240.4	384.1
1969	87.9	23.0	271.0	381.9
1970	123.3	24.9	277.8	426.0
1971	120.2	25.2	316.4	461.8
1972	159.1	31.6	354.7	545.4
1973	285.0	38.5	462.7	786.2
1974	220.5	37.0	424.7	682.2

1/ F.O.B. processing plant.

2/ Includes all freshwater production.

Source: Annual Statistical Review of Canadian Fisheries, Vol. 7, 1974.

TABLE 6

Value of Fishery Production in Canada, by Major Product Groups, 1955-74
(\$ million, current)

Year	Pacific		Atlantic			All Other ^{5/}	Grand Total	
	Fresh & Frozen ^{1/}	Canned ^{2/}	Fresh & Frozen Finfish ^{3/}	Shellfish	Cured			Canned ^{4/}
1955	16.1	34.7	39.0	23.4	26.7	6.9	38.0	184.8
1956	21.5	34.0	39.9	23.3	23.4	11.6	43.1	196.8
1957	17.3	38.4	42.6	20.2	23.7	11.3	34.9	188.4
1958	24.8	60.3	50.2	20.6	23.3	11.4	42.1	232.7
1959	18.6	37.6	51.9	23.4	21.0	12.9	38.7	204.1
1960	22.7	25.9	50.3	27.9	24.1	15.9	32.5	199.3
1961	21.2	48.2	51.5	27.8	23.9	11.9	39.3	223.8
1962	28.7	59.0	59.5	27.5	24.7	16.4	44.7	260.5
1963	27.7	37.0	68.4	34.6	27.1	15.4	48.4	258.6
1964	32.5	48.5	76.0	42.2	28.8	14.7	52.5	295.2
1965	33.3	38.8	87.4	51.9	24.9	16.9	59.5	312.7
1966	39.6	68.5	94.0	42.2	27.0	19.3	65.9	356.5
1967	33.3	62.1	84.9	43.2	30.3	18.4	57.8	330.0
1968	43.6	72.6	94.2	58.7	27.1	22.1	65.8	384.1
1969	46.9	33.9	107.4	70.2	26.5	21.6	75.4	381.9
1970	54.1	61.0	113.6	67.2	25.7	26.8	77.6	426.0
1971	44.1	67.1	141.3	76.6	32.7	26.0	74.6	461.4
1972	74.9	56.5	157.7	91.8	33.0	32.6	98.9	545.4
1973	97.8	129.1	217.7	110.2	42.0	40.4	149.0	786.2
1974	57.0	115.3	168.6	105.4	49.8	49.6	136.5	682.2

1/ Predominantly salmon and halibut.

2/ Principally salmon species.

3/ Chiefly filleted groundfish products, including blocks.

4/ Mainly herring and certain shellfish species.

5/ Including industrial, i.e. non-food products, and products of the freshwater fisheries.

Source: Annual Statistical Review of Canadian Fisheries, Vol. 7, 1974.

TABLE 7

Imports of Fishery Products into Canada, by Area of Origin, 1955-74
(\$ million, current)

<u>Year</u>	<u>United States</u>	<u>Europe</u>	<u>Other</u>	<u>Total</u>
1955	*	*	*	12.5
1956	*	*	*	17.4
1957	*	*	*	16.5
1958	*	*	*	17.4
1959	*	*	*	16.3
1960	*	*	*	17.2
1961	*	*	*	20.6
1962	*	*	*	21.9
1963	*	*	*	22.8
1964	*	*	*	23.2
1965	14.5	4.9	8.5	27.9
1966	17.5	4.9	8.9	31.3
1967	18.1	6.1	12.6	36.8
1968	16.9	5.8	12.3	35.0
1969	24.1	6.1	12.1	42.3
1970	31.0	7.5	16.0	54.5
1971	33.7	8.3	18.9	60.9
1972	40.4	10.8	30.4	81.6
1973	54.2	15.1	42.0	111.3
1974	58.1	17.9	44.2	120.2

* Not readily available at time of compilation.

Source: Marketing Branch, Fisheries & Marine Service, DOE.

TABLE 8

Annual Value of Exports of Fishery Products from Canada, by Destination, 1955-74
(\$ million, current)

<u>Year</u>	<u>United States</u>	<u>European Countries</u>	<u>Other Countries</u>	<u>All Countries</u>
1955	92.0	14.8	22.0	128.8
1956	96.8	15.3	21.6	133.7
1957	97.0	13.3	22.2	132.5
1958	103.3	31.6	20.1	155.0
1959	98.6	28.8	20.4	147.8
1960	98.8	18.0	21.3	138.1
1961	103.8	20.1	19.4	143.3
1962	114.3	22.7	19.6	156.6
1963	115.9	32.8	23.4	172.1
1964	130.9	46.5	25.2	202.6
1965	150.0	39.4	23.9	213.3
1966	151.0	41.6	27.2	219.8
1967	145.0	60.9	29.5	235.4
1968	174.0	55.0	29.0	258.0
1969	188.3	61.8	29.0	279.1
1970	202.3	49.0	28.7	280.0
1971	201.4	63.6	30.0	295.0
1972	229.7	73.7	47.0	350.4
1973	294.1	117.1	87.5	498.7
1974	264.0	98.5	74.2	436.7

Source: Marketing Branch, Fisheries & Marine Service, DOE.

TABLE 9

Price Relatives^{1/} for Selected Species as Landed in Canada, 1955-74
(1955 = 100)

<u>Year</u>	<u>Pacific</u> <u>Salmon</u> ^{2/}	<u>Atlantic</u> <u>Lobster</u>	<u>Atlantic</u> <u>Cod</u>
1955	100	100	100
1956	133	102	101
1957	101	96	95
1958	145	106	100
1959	137	112	107
1960	173	106	110
1961	152	112	122
1962	132	126	130
1963	135	141	139
1964	173	171	156
1965	204	194	166
1966	168	174	180
1967	192	196	183
1968	180	193	165
1969	249	217	161
1970	207	239	183
1971	238	257	226
1972	217	329	262
1973	383	336	368
1974	357	356	450

1/ Based on average annual prices.

2/ Includes all species, which range in price levels and the mix of which varies from year to year.

Source: Marketing Branch, Fisheries & Marine Service, DOE.

TABLE 10

Price Relatives^{1/} for Selected Groundfish Products in the U.S. Market, 1955-74
(1955 = 100)

<u>Year</u>	<u>Frozen Fillets</u>		<u>Frozen Blocks</u>
	<u>Cod</u>	<u>Flounders^{2/}</u>	<u>All Species</u>
1955	100	100	100
1956	100	95	95
1957	102	97	97
1958	111	98	98
1959	113	99	102
1960	116	97	105
1961	125	98	106
1962	125	103	101
1963	127	99	104
1964	130	106	114
1965	142	105	125
1966	154	108	127
1967	156	111	117
1968	155	111	111
1969	161	137	115
1970	177	154	132
1971	241	151	181
1972	290	172	202
1973	367	205	253
1974	n.a.	n.a.	n.a.

^{1/} Calculated from U.S. import statistics.

^{2/} The term "flounder" represents a mix of species, including plaice, sole, turbot, etc.

Source: Marketing Branch, Fisheries & Marine Service, DOE.

TABLE 11

Quantity of Groundfish Landings in Canada, by Region and Major Species, 1955-74
(thousand metric tons)

<u>Year</u>	<u>Pacific</u>		<u>Atlantic</u>			<u>Sub-Total</u>	<u>Grand Total</u>
	<u>All Species</u>	<u>Cod</u>	<u>Redfish</u>	<u>Flounders^{1/}</u>	<u>Other</u>		
1955	16.2	262.9	20.0	37.6	94.4	414.9	431.1
1956	19.8	296.7	27.0	33.7	108.9	466.3	486.1
1957	21.2	291.1	21.0	39.2	96.0	447.3	468.5
1958	22.6	240.8	27.9	38.4	89.6	396.7	419.3
1959	22.2	289.9	18.4	41.4	91.1	440.8	463.0
1960	24.1	274.2	21.3	55.1	86.6	437.2	461.3
1961	20.5	234.5	25.5	48.7	92.8	401.5	422.0
1962	23.5	265.5	27.7	46.4	97.3	436.9	460.4
1963	24.8	276.6	37.8	57.0	83.5	454.9	570.7
1964	26.0	259.2	36.4	73.4	94.3	463.3	489.3
1965	30.9	261.0	59.1	92.0	90.3	502.4	433.3
1966	34.4	255.4	83.1	105.6	101.5	545.6	580.0
1967	24.5	236.3	85.9	107.4	97.3	526.9	551.4
1968	27.7	269.2	97.4	106.6	87.1	560.3	588.0
1969	28.2	245.1	96.7	123.7	80.1	545.6	573.8
1970	26.5	219.0	108.5	135.6	62.4	525.5	552.0
1971	24.9	203.8	112.8	128.1	71.5	516.2	541.1
1972	26.8	182.6	109.9	117.0	64.8	474.3	501.1
1973	20.6	147.2	158.4	122.2	70.4	498.2	518.8
1974	17.0	130.2	86.3	98.7	62.4	377.6	394.6

^{1/} Includes all small flatfishes, i.e. all flatfish species except halibut.

Source: Marketing Branch, Fisheries & Marine Service, D0E.

TABLE 12

Value^{1/} of Groundfish Landings in Canada, by Region and Major Species, 1955-74
 (\$ million, current)

<u>Year</u>	<u>Pacific</u> <u>All Species</u>	<u>Cod</u>	<u>Redfish</u>	<u>Atlantic</u> <u>Flounders^{2/}</u>	<u>Other</u>	<u>Sub-Total</u>	<u>Grand Total</u>
1955	3.5	14.4	1.0	2.6	6.5	24.5	28.0
1956	6.6	16.4	1.3	2.3	7.6	27.6	34.2
1957	5.5	15.1	1.0	2.6	7.4	26.1	31.6
1958	7.4	13.2	1.5	2.6	7.6	24.9	32.3
1959	7.0	17.0	1.0	2.8	8.4	29.2	36.2
1960	6.7	16.5	1.2	3.8	7.3	28.8	35.5
1961	7.3	15.6	1.5	3.3	8.1	28.5	35.8
1962	12.2	18.9	1.6	3.2	9.2	32.9	45.1
1963	9.6	21.0	2.2	4.0	9.2	36.4	46.0
1964	10.1	22.1	2.2	5.2	10.7	40.2	50.3
1965	13.5	23.6	3.4	6.5	10.9	44.4	57.9
1966	14.8	25.1	5.1	7.8	13.4	51.4	66.2
1967	8.7	23.7	5.0	8.4	12.0	49.1	57.8
1968	9.7	24.4	5.5	8.1	11.4	49.4	59.1
1969	16.5	21.6	5.8	11.0	11.2	49.6	66.1
1970	12.8	21.9	7.8	14.7	10.1	54.5	67.3
1971	10.7	25.1	8.7	13.9	11.9	59.6	70.3
1972	17.1	26.2	9.5	14.0	11.5	61.2	78.3
1973	14.3	29.7	17.3	18.2	15.5	80.7	95.0
1974	9.5	32.1	9.3	16.8	15.2	73.4	82.9

1/ Ex vessel

2/ Includes all small flatfishes, i.e. all flatfish species except halibut.

Source: Marketing Branch, Fisheries & Marine Service, DOE.

TABLE 13

Nominal Catches^{1/} of Groundfish in the Northeast Pacific^{2/} (INPFC Area), 1955-74
(thousand metric tons)

Year	Total	Total	Canadian
	All Countries ^{3/}	Canada ^{4/}	Share
	T	T	%
1955	n.a.	n.a.	n.a.
1956	n.a.	n.a.	n.a.
1957	n.a.	n.a.	n.a.
1958	n.a.	n.a.	n.a.
1959	n.a.	n.a.	n.a.
1960	n.a.	n.a.	n.a.
1961	100	32	32.0
1962	104	33	31.7
1963	112	32	28.6
1964	116	32	27.6
1965	167	41	24.6
1966	213	46	21.6
1967	532	34	6.4
1968	382	38	10.0
1969	411	39	9.5
1970	431	32	7.4
1971	383	31	8.1
1972	410	34	8.3
1973	n.a.	25	n.a.
1974	n.a.	22	n.a.

1/ Landings converted to "round" (live) weight.

2/ Excluding southeastern Bering Sea, where the catch in 1973 approximated 2.1 million metric tons, the Canadian share of which was minuscule.

3/ Catches by the fleet of the U.S.S.R. are included from 1967 onward.

4/ The catch of halibut, which, until 1970, constituted 60 per cent of the Canadian catch, has declined in relative importance: it is now about 20 per cent of the total annual catch of groundfish.

Source: Annual Statistical Review of Canadian Fisheries, Vol. 7, 1974, and supplementary reports.

TABLE 14

Nominal Catches^{1/} of Salmon in the Northeast Pacific (INPAC Area), 1955-74

(thousand metric tons)

<u>Year</u>	<u>Total</u> <u>All Countries</u> t	<u>Total</u> <u>Canada</u> t	<u>Canadian</u> <u>Share</u> %
1955	365	61	16.7
1956	348	53	15.2
1957	366	62	16.9
1958	406	84	20.7
1959	321	50	15.6
1960	291	35	12.0
1961	356	57	16.0
1962	331	76	22.9
1963	330	56	17.0
1964	344	58	17.0
1965	341	43	12.7
1966	381	76	20.0
1967	312	63	20.2
1968	347	83	23.8
1969	300	38	12.6
1970	375	72	19.3
1971	349	63	18.1
1972	294	77	26.1
1973	n.a.	87	n.a.
1974	n.a.	64	n.a.

^{1/} Landings converted to "round" (live) weight.

Source: Annual Statistical Review of Canadian Fisheries, Vol. 7, 1974

TABLE 15

Interception of Migrating Salmon, Pacific Coast, 1967-72

<u>Year</u>	<u>Salmon of Canadian Origin Intercepted by U.S. Fleets</u>	<u>Salmon of U.S. Origin Intercepted by Canadian Fleets</u>	<u>Net Balance</u>
	no.	no.	no.
1967	7,629,000	2,375,000	-5,254,000
1968	2,709,000	2,637,000	- 72,000
1969	3,994,000	1,659,000	-2,335,000
1970	2,876,000	2,476,000	- 400,000
1971	6,986,000	3,157,000	-3,829,000
1972	3,255,000	2,342,000	- 913,000

Source: Estimate by Fisheries and Marine Service, DOE.

TABLE 16

Tonnage of Fishing Fleets ^{1/} in the Northwest Atlantic, 1959-1974

<u>Year</u>	<u>All Countries</u>		<u>Canada</u>	
	<u>Number</u>	<u>Total</u>	<u>Number</u>	<u>Total</u>
	<u>of Vessels</u>	<u>Tonnage</u>	<u>of Vessels</u>	<u>Tonnage</u>
	no.	tons	no.	tons
1959	1,146	507,970	211	26,742
1962	1,416	599,354	272	34,525
1965	1,779	1,019,432	410	64,729
1968	2,005	1,374,262	558	112,184
1971	2,040	1,505,852	534	115,752
1974	2,057	1,691,409	524	120,044

^{1/}Includes only craft of 50 gross tons and over.

Source: International Commission for the Northwest Atlantic Fisheries, List of Fishing Vessels, 1959, 1962, 1965, 1968, 1971, 1974.

TABLE 17

Nominal Catches^{1/} of Groundfish in the Northwest Atlantic (ICNAF Area), 1955-74
(thousand metric tons)

	<u>Total</u> <u>All Countries</u> t	<u>Total</u> <u>Canada</u> t	<u>Canadian</u> <u>Share</u> %
1955	1,499	482	32.2
1956	1,544	532	34.5
1957	1,579	528	33.4
1958	1,631	562	34.5
1959	1,762	527	29.6
1960	1,844	539	29.2
1961	1,962	452	23.0
1962	1,958	519	26.5
1963	2,275	544	23.9
1964	2,462	527	21.4
1965	2,829	571	20.2
1966	2,690	616	22.9
1967	2,607	589	22.6
1968	2,769	621	22.4
1969	2,444	606	24.8
1970	2,090	578	27.6
1971	2,155	568	26.3
1972	2,099	520	24.8
1973	2,096	541	25.8
1974	1,743	418	24.0

^{1/} Landings converted to "round" (live) weight.

Source: International Commission for the Northwest Atlantic Fisheries, Statistical Bulletin, Vols. 5 - 24, 1957-1976.

TABLE 18

Nominal Catches^{1/} of Herring in the Northwest Atlantic (ICNAF Area), 1955-74
(thousand metric tons)

<u>Year</u>	<u>Total</u> <u>All Countries</u>	<u>Total</u> <u>Canada^{2/}</u>	<u>Canadian</u> <u>Share</u>
	t	t	%
1955	149	91	-
1956	152	89	-
1957	172	101	-
1958	184	106	-
1959	154	109	-
1960	180	112	-
1961	179	85	47.5
1962	344	112	32.6
1963	285	114	40.0
1964	303	141	46.5
1965	265	183	69.1
1966	431	256	59.4
1967	594	345	58.1
1968	952	528	55.5
1969	967	482	49.8
1970	852	478	56.1
1971	747	426	57.0
1972	549	297	54.1
1973	485	225	46.4
1974	433	225	52.0

^{1/}Landings converted to "round" (live) weight.

^{2/}Nominal catch in territorial waters not reported until 1961.

Source: International Commission for the Northwest Atlantic Fisheries, Statistical Bulletin, Vols, 5 - 24, 1957-1976

TABLE 19

The Nominal-Catch Trend in the World's Fisheries, 1955-74

<u>Year</u>	<u>Nominal Catch</u> ^{1/} Metric Tons
1955	28,900,000
1956	30,800,000
1957	31,700,000
1958	33,300,000
1959	36,900,000
1960	40,200,000
1961	43,600,000
1962	44,800,000
1963	46,600,000
1964	51,900,000
1965	53,200,000
1966	57,300,000
1967	60,400,000
1968	63,900,000
1969	62,700,000
1970	70,000,000
1971	70,200,000
1972	65,600,000
1973	65,700,000
1974 (preliminary)	69,300,000

^{1/}Landings converted to "round" (live) weight.

Source: Food and Agriculture Organization of the United Nations.
Yearbook of Fishery Statistics, Vols. 7 - 36, 1957-1973

TABLE 20

International Trade^{1/} in Fishery Products, 1955-74

<u>Year</u>	<u>Exports</u> \$U.S.	<u>Imports</u> \$U.S.
1955	796,000,000	863,000,000
1956	931,000,000	979,000,000
1957	1,007,000,000	1,116,000,000
1958	1,101,000,000	1,170,000,000
1959	1,181,000,000	1,250,000,000
1960	1,195,000,000	1,300,000,000
1961	1,280,000,000	1,404,000,000
1962	1,506,000,000	1,622,000,000
1963	1,531,000,000	1,714,000,000
1964	1,744,000,000	1,973,000,000
1965	1,943,000,000	2,181,000,000
1966	2,124,000,000	2,406,000,000
1967	2,114,000,000	2,414,000,000
1968	2,226,000,000	2,582,000,000
1969	2,441,000,000	2,787,000,000
1970	2,894,000,000	3,274,000,000
1971	3,343,000,000	3,735,000,000
1972	4,020,000,000	4,526,000,000
1973	5,233,000,000	5,943,000,000
1974	n.a.	n.a.

^{1/}The trade of 151 countries, which represent 85-90 per cent of the world's fishery production.

Source: Food and Agriculture Organization of the United Nations, Yearbook of Fishery Statistics, Vols. 8 - 37, 1957-1973.

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Minister
Fisheries and Environment Canada

Ministre
Pêches et Environnement Canada

NOTES FOR A SPEECH
BY THE HONOURABLE ROMEO LEBLANC
MINISTER OF FISHERIES AND THE ENVIRONMENT
TO THE
ROTARY CLUB OF ST. JOHN'S
ST. JOHN'S, NEWFOUNDLAND
MAY 19, 1977



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File

This information was released to the wire services on the date indicated. Despite the delay, some releases and speeches are mailed to out-of-town media because the content is not time-dependent or because it will be useful for background files.

Cette information a été transmise aux agences de presse à la date indiquée. Malgré le retard, certains communiqués et discours sont expédiés aux médias de l'extérieur, parce que leur contenu n'a rien à voir avec les délais ou parce qu'ils peuvent servir comme documentation.

I find myself in a position somewhat unfamiliar to Canadian Fisheries Ministers - coming to Newfoundland to talk about happy things. The big difference, of course, is the 200-mile limit. Extended jurisdiction at last lets me speak to you in terms of opportunity. Opportunity, not only for Atlantic fishermen - though lord knows they are overdue for some of that - but for the whole Atlantic economy.

While bringing a message of good cheer, I also want to do my bit to offset complacency. In the fall of 1975, to quote my favorite author, myself, I told an audience of fishermen in Lunenburg, Nova Scotia, that by gaining a zone we might lose an excuse. In June, 1976, when here in St. John's I announced the forthcoming 200-mile limit, I warned again that it would produce no immediate bonanza. The limit means nothing unless we use it right. Reaping its full advantages will take time and care.

But even when we take this cautious perspective, the new zone still looks good. The future of Newfoundland fisheries is at last bright, because of the nation's new powers. For 200 miles out, there will be fisheries management by Canadians, for Canadians.

I mean "management" in the sense of replacing chance with control, blind sailing with good navigation, uncertainty about the future with a reasonable degree of predictability.

The new zone offers only potential, we cannot take its promise for granted. The promise is nevertheless real. Even when we take into account all the biological limitations on fish stocks, the thousands of square miles now under our control represent a vast new wealth. Of Atlantic groundfish alone, the new zone holds about 800,000 tons available for catching, which our management should increase half again, to 1,200,000 tons, by the early 1980's. We can use the wealth of the new zone well, misuse it, or pretend we never even wanted it. For the federal government's part, however, we didn't go through the pains of getting this limit to let it be wasted.

The fishery resources are a common property, held in trust for the citizens of Newfoundland and of all Canada. It is our duty to manage them in the country's best interests. We can allocate fish, control their use, make this resource serve Canadian society, particularly Canadian fishermen, to the fullest possible extent.

Chaos, collision of interest, action taken at cross-purposes - these forces have robbed Canadian fishermen in the past, for instance in the paralysis that sometimes afflicted ICNAF's valiant attempts at management. The federal government has the responsibility to make sure that such forces do not operate within the 200-mile zone. The fish are not Nova Scotia fish, or the fish of New Brunswick, or Quebec or Newfoundland fish. They cannot be managed that way. They are a national asset and there will be a national management. There will be a Canadian approach,

Canadian management, Canadian policies. Arrived at, to be sure, in consultation with provincial governments, with fishermen, and with the industry. But arrived at, too, with an eye on goals that are bigger than individual corporate gain, interests that transcend local or provincial boundaries.

The federal presence in the Atlantic fisheries is real and strong. There are some 770 people in the Newfoundland region alone. That very competent team will soon occupy the new Newfoundland Fisheries and Environment Center here in St. John's, one of the finest buildings of its kind in the world in which the federal government is investing \$38.5 million. It goes without saying that effort of this scale must be protected on its flanks by unity of purpose.

I have spoken of management and its aspects: conservation, allocation, all the rest. Let me discuss how this applies to an area of primary concern: the northeast Newfoundland - Labrador fishery, based on the northern cod stock. Once these fish were the foundation of fisheries income in northern Newfoundland. Overfishing by foreign fleets badly eroded that foundation.

Step one in rebuilding northern cod is to assemble information. We need to know how to utilize this stock, how much fish we can safely take. We know a fair amount about northern cod already. I might add that we are also increasing our research effort. Our scientists and supporting staff who work on Atlantic stock assessment will increase from 200 to 275 this year; their budget, including money for a new research vessel, will go up 167 per cent next year.

With research information, we set what the scientific jargon calls a TAC: a Total Allowable Catch. Three years ago, ICNAF set the catch level for northern cod at 660,000 tons. This year, the figure is 160,000 tons. For 1978, you can expect to see the level again drop substantially. This is what needs to happen if we want to rebuild the stocks at a rate that is both good for the resource and good for the Canadian fishermen.

Who gets the first crack at these fish? Here I must say, as I have said publicly before, that I have a clear bias for the inshore fisherman. Not because of some romantic regard, not because of his picture on the calendars, but because he cannot travel far after fish, because he depends on fishing for his income, because his community in turn depends on his fishery being protected.

For the inshore fishermen of northern cod, from the newly lowered level, we will set aside a generous estimate of what they can catch. Last year they caught 60,000 tons; we are expecting that they will catch more this year, and that we will be setting aside higher amounts each year for them.

That still leaves some cod to be shared. Next on the scale of priorities are the Canadian offshore boats. We calculate how much this fleet can actually take, and we assign it to them. But right now, the Canadian mobile fleet cannot take all the remaining cod.

This remainder, as you probably know, we allocate to foreign fishing nations. Their share of northern cod has of course dropped dramatically - from about 540,000 tons in 1974 to about 90,000 tons this year. It will be much less again in 1978, and will, if our Canadian fishery develops as it should, diminish in a few years to zero.

I know that the very idea of letting the foreigners have any cod upsets and worries many Newfoundland fishermen. This in spite of their knowledge that the sharing of stocks unfished by the coastal state, allocated according to the judgment of the coastal state, is a well-established principle in the international consensus on the Law of the Sea, the consensus that helped us extend jurisdiction without opposition. The fishermen generally accept the principle of sharing, for other fish stocks. They realize there are thousands of tons of argentine, thousands of tons of roundnose grenadier, for which we have no market and no fishery. They accept our allocation of these species to foreigners, rather than letting them go to waste. For northern cod, however, many fishermen oppose any sharing.

I sympathize with their emotions. I know what cod has meant to the history of Newfoundland. I know how the cod have declined on the northeast coast. I know that even the cod from far-away Hamilton Inlet Bank, off Labrador, help supply the northeast Newfoundland fishery.

On the day that Canadian fishermen can harvest the full production from that or any stock, there will no longer be foreign fishing for that stock. Under those circumstances, there will be no surplus. No one, least of all the foreign fishing nations, disputes this fact. There are no secret clauses to our agreements.

But today, there are fish that we do not take. It is in our best interest to assign this portion to carefully-controlled foreign fishing, and for more reasons than Law of the Sea principles.

At this point I can almost hear someone ask "Why should we? Why not let the stock rebuild that much faster?"

It looks tempting but there are hooks in that bait.

Although Canada's fisheries jurisdiction ends at 200 miles, Canada's fishing hopes and opportunities do not. There are valuable stocks straddling the 200-mile line and beyond it. We have a stake in the well-being of that resource. We still need cooperation from foreign fleets to protect these stocks for our future use. Not to mention our interest in protecting our present fishery, every major stock of fish on the Grand Bank crosses the 200-mile line. Our Newfoundland trawler fleet has a major fishery outside 200 miles. If we refuse to share available fish within the zone, a sharing under our control, we could suffer worse from an uncontrolled fishery outside the zone. I realize that sharing fish from within the zone is less than popular; to create chaos outside the zone by a dog-in-the-manger attitude would be even more unpopular.

At no time in our progress toward the 200-mile limit have we considered using our jurisdiction as a guillotine - to end all foreign fishing at a stroke. Such a policy would put no more fish in our nets and it would have provided no incentive for foreign cooperation.

Even if there were no fish out beyond 200 miles, it would still be unwise to refuse access to fish we cannot take. The prospects for the future are unlimited - and they include export prospects - we are not going to eat all that fish ourselves. We can become the world's number one exporter of fish. But slamming the door in the face of the world is simply not a sensible course of action.

I think that is enough in one speech about foreign fishing. It's 1977 now, not 1967, and foreign fishing is no longer the determinant of our destiny. What matters most is what we ourselves do.

The greatest single dividend of the 200-mile zone is an ability to look ahead. We can count on the fish. With this certainty, we can also lay plans to use the fish better, and we can plan to help those who suffered most from the years of over-fishing: the small man, the inshore man, with his own boat, with his self-reliance, with his entire heritage as a hard-working Newfoundland fishermen, a heritage that the former lack of fisheries control off our coast was well on the way to destroying. We are going to build up the northern cod stocks, and we are going to build up the inshore fishery.

Our 1977 plan for the Atlantic groundfish fishery was the first attempt to conduct the Canadian fisheries according to plan - our first opportunity to escape from those famous "circumstances beyond our control".

As the 1977 plan shows, we resist, as a matter of bedrock policy, any proposal that would create a disadvantage for the Canadian inshore fishermen. Part of our plan calls for taking pressure off inshore fishermen.

- First, by allocating resources between offshore and inshore fleets so as to prevent conflict.
- Second, by encouraging, with dollars, the offshore vessels to become more mobile - more far-ranging.

But there is more to fisheries prosperity than full nets. The intelligent way to pursue prosperity is to increase not just the catch, but the return per pound of that catch.

Part of our plan is to upgrade fish quality. Simply by doing better on quality, we know we can raise the value of Newfoundland's inshore catch - without catching one extra cod - by some \$20 million.

In 200 Newfoundland ports, which handle 85 or 90 per cent of inshore groundfish landings, we are building a modern integrated system for getting the catch rapidly and efficiently from the sea to the supermarket. This program, to cost \$13 million over four years, is a direct result of recommendations made to us by inshore fishermen at a series of meetings last year.

The bottom line is that fishermen will have more top-quality fish to sell, and plants will have more of it to process. I hope that we can move soon to a premium price for premium quality fish on the part of buyers as we have tried to do with our subsidies.

The new fish-handling system, and other initiatives, affect the inshore fisheries of all Newfoundland. We have in addition a special program, with several aspects, to help the northeast Newfoundland and Labrador inshore fishery in particular. Beginning this year, we will build up the catching capability of inshore fishermen in Notre Dame Bay and further north, including the Labrador coast. Here, more than 300 longliners use the traditional fishing methods for groundfish, cod traps, gill nets, longlines, and so on. Since the 1960's, their landings and earnings have been declining, mainly because of lack of fish, compounded by outmoded fishing methods.

We'll spend about a half million dollars this year to test and demonstrate new fishing techniques for these vessels, to help them diversify into using Danish seine and European pair bottom trawl methods for fishing groundfish, and purse seines for capelin and herring. A main objective is to increase the cod catching capability of the inshore fishermen.

We will expand our commercial scallop survey in Labrador. This project, begun in 1975, has had promising results.

There will be a special effort in the processing of saltfish on the Labrador coast.

We will also set up an extension program. Advisors with practical knowledge in the new gear and boat technologies and the processing of pickled and salt fish will travel the northeast coast and Labrador to work directly with fishermen.

All these projects - and this is just the beginning - will proceed in consultation with fishermen. Advisory committees of fishermen and processors will help us bring in new developments in the northern fishery. Here as elsewhere, I should tell you, we are not coming down from the mountain with new commandments or grandiose graphs and charts and blueprints for the entire fishery. I find around me today an embarrassment of consultants and officials who want to plan ten years ahead. The people of the northeast coast can't wait ten years. I'm increasingly in favor of giving the planners some competition, with a bit of intelligent ad hockery. We tried this with the Bay of Fundy herring fishery in my own province and Nova Scotia, and we're on the way to doubling the value of the purse seine fishery in two short years. Planning far into the future is fine, but I'm reminded of the fellow who was said to be so preoccupied with heaven, he was no earthly good.

Fishing should continue to be a free enterprise industry. But like any industry, its survival depends on its ability to change with the times.

We need, for instance, to coordinate the pattern of fish landings. The kind of arrangement we have now, by which trucks loaded with fish drive by three idle plants to deliver the catch to a plant sixty miles away, already working overtime - is not rational.

We need a system that works more evenly. One for instance in which trawlers take their catches to ports selected on the basis of the need at processing plants ashore. If I should approve more than the one Canada-foreign fishing arrangement so far authorized - and my attitude remains one of caution - such a plan for coordinated landings might well be a condition of the venture.

A goal in which I have long had a personal interest is stretching the fisheries calendar. We should not accept it as an unalterable fact that we are totally at the mercy of climate. I have asked our Department and the Ministry of Transport to examine the feasibility of using icebreakers to keep some northern Newfoundland ports open longer. This is still in the exploratory stage, but the possibilities are exciting. The ultimate objective, if it did prove feasible, would be to keep idle plants working - not to add new wings to busy ones - and the ports and roads kept open would be chosen with that aim in mind.

The fishing industry will, I hope, make the necessary changes to live up to the new opportunities. Probably we all need to reexamine some attitudes. I detect a more open approach in my recent contacts with industry representatives. As they and the fishermen know by now, I am firmly convinced that the fishery is a triple partnership: fish processors and their representatives, fishermen and their organizations, and government. The exact mix is an open question. For my government's part, I do not look for occasions of territorial expansion - I find 200-mile zones quite enough - but I will not shy away from intervention when intervention is necessary.

To those who twitch at the mention of state enterprises, I have to say that in the crises that have been upon us since early 1974, our two Crown Corporations - the Canadian Saltfish Corporation and the Freshwater Fish Marketing Corporation - were relatively free of trouble and my files are not bulging with letters from Newfoundland asking for the dismantling of the Saltfish Corporation.

Those who think that federal action to help the industry stay efficient is unprecedented or damaging should look at the competition - the free enterprise competition at that. In Norway, fishermen are organized to sell to buyers, buyers negotiate with fishermen - processors are organized into export groups. Norway regulates and controls marketing and export of all fish products. This has made Norway tougher, not easier, to compete with. Free enterprise has not gone down the drain as a result. On the contrary it has been mobilized and focussed so as to give Norway and other Scandinavian countries a competitive clout out of all proportion to their size.

As for government, we are trying to take our own advice. To coordinate efforts in a sensible way. For instance, I have resisted empire building ashore or afloat - as in the construction of unnecessary surveillance armadas. And we have had excellent cooperation from other departments. Armed forces ships and aircraft, for instance, now have not only one mission, but two - defense is primary, but fisheries patrol is a secondary and official mission. The Fisheries Department fleet in turn has, as its secondary mission, assisting on coast guard work. The coast guard helps

patrol the 200-mile zone. This kind of sensible deployment of effort has already given us a coordinated search and rescue system.

I might add that I have been urged to expand not just the patrol fleet but the fishing fleet, for example with huge new freezer-trawlers. Perhaps this would help the shipbuilders, but I see no need yet of a huge new catching capacity, to re-rape the fishery just now when our existing fleet is only beginning to get out of trouble. New vessels to take all the resources in our zone will come, but at a sensible pace.

I have mentioned some of the possibilities opening up in Newfoundland's fisheries. There are others - indeed, given reasonable management, the possibilities are limitless. Economically, geographically, socially, we are in new territory now. It is possible at last to think about a regional economy based on fishing without thinking of depression, unemployment, boats tied up and young people leaving the land of their heritage to follow other callings in distant places. It is possible to think about those who stay pursuing a career in fisheries without a sense of foreboding for them.

Fishing can become a rewarding way of life for Newfoundlanders. For many, it has not been that way for a long time - so long perhaps that one of our first tasks must be the rebuilding of morale - the creation of a confidence that it can be so



Newfoundland and its fishermen I want to say that this government is committed to building a solid foundation for the fisheries way of life. We are committed to an advance not only toward full nets, but social justice. We are committed also to a measured and intelligent advance. This means we reject all quick fixes - solutions which buy their pace at the price of tomorrow. The industry that we build on the stocks of the 200-mile zone will be built to last.

The new zone is less a pot of gold than a garden needing work and care. We are going to need great self-discipline to avoid repeating errors of the past: overcapacity, over-licensing, overfishing. We can't ask the fish to immediately solve all our social and economic problems. We can, however, be optimistic, especially here, on this fishermen's island, anchored in the middle of some of the world's best fishing grounds. Before, those with their lives invested in the Newfoundland fishery and in other Atlantic fisheries have always had someone to blame for their troubles: the absentee owners, the merchants, the foreign fleets. Now, we have no one to blame but ourselves, if we fail to make the best use of the fish. We can, if we will, bring Newfoundland and Canadian fisheries into their own. We can reap the harvest of the new zone in hard cash, in pride, in a rebuilt fishery that both leads and serves the world.

With an exercise of the patience and common sense that go with the calling, Newfoundland's fishermen can discover, many of them for the first time, that fishing can be a preferred occupation - one of the better ways to earn and to live. Thank you.

TOWARD A POLICY FOR THE UTILIZATION OF NORTHERN COD

A DISCUSSION PAPER

DEPARTMENT OF FISHERIES AND OCEANS

GOVERNMENT OF CANADA

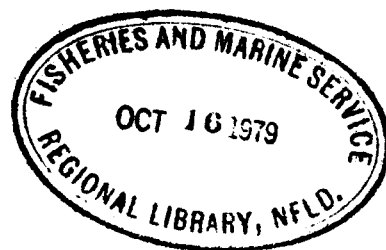
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TOWARD A POLICY FOR THE UTILIZATION OF NORTHERN COD

A DISCUSSION PAPER



DEPARTMENT OF FISHERIES AND OCEANS

GOVERNMENT OF CANADA

SEPTEMBER 28, 1979

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FORWARD

The extension of Canadian jurisdiction to 200 miles from the coast has provided opportunities but has also created its own problems. The most significant opportunity is the authority to manage the fish resources within the extended zone for the benefit of Canadians. The problem is that unless that is done properly the benefits could be dissipated by trying to resolve all the economic and social problems of the Atlantic coast with the limited fishery resources.

The establishment of a total allowable catch limit (TAC) at a conservative level will enable the northern stock to rebuild. Under present cost and returns conditions, a level of catch of 350-400 thousand M.T. would appear to offer the best opportunity to optimize social and economic benefits for Canada. Whether these results are achieved depends upon the management system selected for this resource. More particularly, it depends upon the technology chosen to harvest the resource.

It must not be forgotten, that although it was the foreign fleet that depleted this particular stock, our own fleets, inshore and offshore, have depleted other stocks, and still have the ability to do so unless they are controlled.

To ensure that the errors of the past would not continue into the future, the Department of Fisheries and Oceans, Canada undertook a series of studies, and held an industry-government seminar at Corner Brook, Nfld. on August 28-30, 1979 to get the best technical information and obtain the

views of individuals representative of the various sectors of the industry and provincial governments. Background papers prepared for the Seminar are listed in Annexe 1 and can be obtained from the Department of Fisheries and Oceans, Ottawa. A short report on the conclusions of the Seminar is reproduced in Annexe 2.

This paper puts forward a suggested policy for the utilization of northern cod for discussion by all interested groups.

CHAPTER 1

Introduction

The Northern Cod Stock as it is commonly called is that stock of codfish contained in the areas designated 2J3KL by the International Commission for the Northwest Atlantic Fisheries and the Northwest Atlantic Fisheries Organization (NAFO). This stock occupies an area from just north of Hamilton Inlet Bank to the Northern Grand Bank, including all the inshore areas of southern Labrador and east Newfoundland as far as Cape St. Mary's and all of the offshore area of southern Labrador and the east coast of Newfoundland as far south as the northern half of Grand Bank.

This is not a new stock recently discovered but the stock that has provided the basis for a large inshore cod fishery along southern Labrador and the east coast of Newfoundland. It has been fished for over three centuries and has been the main determinant of settlement patterns along the coast. It has been and continues to be the principal economic base for all the communities along the coast.

At its historical peak, the stock yielded about 300,000 metric tons (MT) of cod most of which was caught by fixed shore gear, the cod trap, and by handlines and baited trawls. The catch was generally salted and dried on shore.

On the Labrador coast, most of the fish was taken by fishermen from the island of Newfoundland who migrated to Labrador each summer to fish from

shore stations, or from larger vessels, where the end product in each case was wet salted fish. From time to time, the dory vessel fleet from Nova Scotia also participated.

The decline of the inshore fishery was not brought about by the lack of effort on the part of inshore fishermen, or the economics of their operations, but by the scarcity of fish, caused by overfishing by the foreign fleet which caught 800,000 M.T. of cod in 1968. Although the foreign effort increased, the catch began to decline in 1969 and continued to do so until 1978 when it reached the level of 140,000 M.T. (under quota).

The inshore component was the first to suffer. As more fish was caught offshore in winter, less fish migrated inshore in the spring and summer. The mobile foreign fleet could go elsewhere to seek fish but the inshore fisherman did not have that alternative. Direct subsidies by the Government of Canada in 1974 helped, but as the subsidy was based on cents per pound of catch, and catches were low, the inshore fisherman was left in considerable difficulty.

By 1974, the total inshore catch of cod from the norther stock had dropped to 35,000 M.T. Since then it has been increasing and for 1979 is expected to reach between 80 and 90 thousand M.T. Although this is a long way from its historical peak, better prices (even when related to costs) and a better market for other species caught by inshore fishermen (i.e. squid, herring, capelin and turbot), have resulted in increased earnings of inshore fishermen.

As a result of these difficulties, the number of inshore fishermen fishing northern cod declined rapidly. At the moment, the number is increasing, particularly in the fixed gear fishery. It has been estimated that at its historical peak, fishermen employed about 4,000 cod traps. Recent surveys by the Government of Newfoundland suggest that this number has already been exceeded. In some areas the number of long liners (somewhat of a misnomer as these vessels now fish with gillnets), has also been increasing.

Traditionally, the Canadian wetfish trawler fleet did not fish the northern cod during the winter off Labrador although the 3L portion (northern Grand Bank) has regularly been fished, mainly because there were other grounds more economic to fish. However, when fish became scarce in all areas, the trawler owners, with financial incentives from the federal Government, began to fish the northern cod and this year are expected to catch about 50,000 M.T. or about one third of the total Canadian quota.

The balance of this paper will deal with the following points:

- (a) the philosophy of resource management as it relates to northern cod;
- (b) The projected size of the stock and its annual yield;
- (c) The fleet required to catch the annual yield;

(d) The capacity of the processing sector to handle the fish;

(e) Policy options open to the Government; and

(f) Future policy direction.

CHAPTER 2

Management Philosophy

Two points should be made at the outset: one, the management of the fishery is constitutionally the responsibility of the Government of Canada, and two, the fishery resource is a common property resource which means that its ownership is vested in the state. Right of access to the resource is granted by licence.

Before discussion of policy options on the utilization of northern cod, the objective of the policy should be set out. In general terms, this objective can be stated as "the optimization of the social and economic benefits for the nation". Although one can measure roughly what most of these benefits are, there is considerable judgement involved. Hence, it becomes necessary to outline a philosophy as the basis for making such judgements. Some aspects of this philosophy are as follows:

- (a) Although the resource is a national one, contiguous areas are considered to have a priority in exploiting this resource;
- (b) As it is common property resource, access to this resource must be by licence;
- (c) Access to a common property resource must be controlled. Experience in Canada and elsewhere tells us that unless access is controlled, new units will continue to seek access to the resource until returns begin

to diminish. This has often been described as "The Tragedy of the Commons" because it was in the use of common land that the phenomenon was first observed.

- (d) In allocating access, the choice of technology is an important factor; different technologies may require different methods of control, and produce different results.
- (e) The northern cod stock cannot be managed in complete isolation from other Atlantic coast fish stocks.

Although not part of the "philosophy", two historical facts should be restated:

- (a) The northern cod stock is not a new stock recently discovered but was the basis for settlement patterns on the coast of southern Labrador and eastern Newfoundland and remains their principal economic base;
- (b) Until 1977 the northern cod stock has never been exploited to any degree by the Canadian offshore fleet off Labrador. Traditionally, the offshore fleet fished the stock in Division 3L (northern Grand Bank).

CHAPTER 3

The Northern Cod Resource to 1985

Projected Size of the Stock

Until extension of jurisdiction gave Canada control over that stock, ICNAF was responsible for its management. It was not until 1973 that a limit was placed on the catch (TAC) and this was at the level of 650,000 M.T. It was reduced to 550,000 M.T. in 1975 and 300,000 M.T. in 1976 when it had become obvious that the TAC had been set too high. It has since been further reduced to promote rapid stock re-building.

In 1978 and 1979 the TAC was set at a level that would provide for a more rapid re-building of the stock to allow the recovery of the inshore fishery. On this basis, the stock is expected to reach its "restored" level by 1985 when the stock should support a TAC of at least 350,000 M.T. In discussing the options on its utilization, it is assumed that in 1985 and beyond, the northern cod stock can support an average annual catch of at least 350,000 M.T., though this will be influenced by the management strategy adopted at that time. Better than average year classes could support a larger fishery in some years and vice versa. For details and for the scientific explanation of how the TAC's are established, see background paper number one listed in Annexe 1.

The Fleet

As mentioned earlier, the inshore fleet with unsophisticated technology caught about 300,000 M.T. in the 1930's when the stock biomass was probably not much larger than it is projected to be in 1985. In recent years, the maximum caught by the inshore fleet was 200,000 M.T. in the 1950's.

The Canadian offshore wetfish trawler did not fish the northern cod stock off Labrador in winter until a shortage of fish elsewhere, restrictions on where they could fish, and financial incentives forced them to do so. The fleet is expected to catch 50,000 M.T. of northern cod in 1979.

The question that has to be answered is the capacity of the current fleet to catch the projected TAC of 350,000 M.T. Three background papers considered this question using somewhat different methods but, within narrow limits, concluded that the inshore fleet at its present level and the offshore wetfish trawler fleet (if reinforced to fish through the ice) can catch the 1985 TAC. Details of the calculations and technical explanations can be found in background papers 1, 2 and 4 listed in Annexe 1.

It is also interesting to note that the participants at the Seminar came to the same conclusion. Some participants cautioned about the wisdom of catching the TAC with present gear. The report on the Seminar is reproduced in Annexe 2.

Processing Capacity

When the northern cod stock was heavily fished inshore processing consisted of splitting, salting and drying and this was usually done by the fisherman and his family. It was the capacity to process that placed a limit on his catch.

The introduction of freezing, the extension of roads to coastal settlements which facilitated the distribution of fish, and the introduction of mechanical drying of saltfish led to the practical disappearance of the fishermen's production. With the drop in the availability of fish from 1970 on, the fisherman has had no difficulty selling his catch in the fresh form. As more fish has become available inshore the "glut" problem has reappeared, though not yet seriously. Three steps have been taken recently that should considerably reduce this problem. These are:

- (a) Expansion of processing capacity by the private sector;
- (b) The development of an inshore fish handling system by Fisheries and Oceans, Canada and its planned installation at 200 landing points; and
- (c) The establishment of fish information desks by the Newfoundland Department of Fisheries, now in operation at six centres.

Some areas will experience "glut" problems from time to time, but these may become isolated and can be dealt with. The Labrador Coast has insufficient capacity to process inshore fish caught off the coast and

fish is transported to plants on the island of Newfoundland. This, however, is more a concern of social and economic development at the local level than a "glut" problem.

The Seminar also concluded that generally speaking, there is enough existing and currently planned capacity to process the expected volume of northern cod. The participants were more concerned with the quality of "glut" fish than with the quantity. They felt that less fish should be caught in cod traps and more with long liners and other vessels capable of fishing until late fall to reduce the "glut" problem and lengthen the fishing season. Three aspects of the quality problem were discussed: size, quality of flesh, and the effect of delays in processing during the warm summer weather. It was recognized that most of the quality problems can be resolved and many suggestions were made on how this might be accomplished.

Markets

By 1985, Canada is expected to land a maximum of 680,000 M.T. of cod compared with 248,000 M.T. in 1977. At the same time, other nations that were fishing will be landing less cod partly because their catch in the Canadian zone has been reduced but also because other cod stocks, particularly in the North Sea, have been depleted.

The Departments of Industry, Trade and Commerce and Fisheries and Oceans in cooperation with industry are undertaking a world-wide marketing study of fish and fish products. The first part of the study dealing with cod

has concluded that by 1985, the demand and supply of cod will be in balance. Numerically, at least, it would appear that Canada could sell its entire production.

However, there are many problems to be resolved. Traditionally, Canadian cod has been sold in the frozen and fresh form in the domestic and U.S. markets, and in the salted form in the Mediterranean and Caribbean countries. While these markets will continue to be important, they will not absorb the total volume. Hence, the balance will be sold in new markets, principally Europe and Japan for frozen fish. More saltfish can probably also be sold in markets that were previously supplied by European fishermen with cod from the Grand Bank and the North Sea.

The Seminar came to the same general conclusion but some participants expressed serious doubts about the industry's ability to provide the quality required by the European market in particular, but also by the rapidly-growing fast food service in the United States. These doubts are based on the fact that too much of the new cod production would be taken by cod traps and gillnets, two types of gear that in their view produce a poor quality product.

CHAPTER 4

Policy Options

Inshore Option

From the previous discussion on the historical utilization of northern cod and the stated philosophy of management, it follows that priority of access must be given to the fishermen of Labrador and eastern Newfoundland. This was also accepted in principle by the Seminar participants who went further and concluded that about two thirds of the TAC should be set aside as an "allowance" for the inshore and near shore fleet. The question of a middle distance fleet was not resolved but it was generally considered a part of the inshore sector. The "allowance" could be managed as an average rather than as a set annual allocation.

In terms of economics and social benefits the inshore fleet (including all nearshore and middle distance vessels under 100 ft.) provide the best mix of benefits. Some of these benefits can be lost if entry is not controlled. Because the trap fishery requires the least capital of the major catching methods, it is the one that requires control most urgently. It is also a fishery that attracts casual fishermen who participate only for a few weeks and then disappear. Their presence tends to create problems for full-time fishermen.

Offshore Option

For the total fishery the benefits could be increased by allocating one-third of the TAC to the offshore sector. This would not only provide a continuing supply of cod for smooth marketing operations, and reduce seasonal plant overheads, but also reduce payments of unemployment insurance benefits to plant workers during the winter months. It would also lessen the pressure by the offshore fleet on other stocks that can be fished by smaller, less mobile vessels.

Again, there was general agreement at the Seminar on these points. The controversy arose over the question of which kind of technology should be used offshore. Although it was agreed that the current wetfish trawler fleet (as replaced) can catch the northern cod, it was stated that wetfish trawlers operating from Nova Scotia ports will not be economic in the mid-80's as fuel costs continue to increase. On the other hand, by then, it is argued, there should be other stocks available to that fleet that are nearer the Nova Scotia ports than the northern cod winter fishing grounds. The question becomes one of replacement. Should wetfish trawlers based in mainland ports be replaced by wetfish trawlers from Newfoundland ports or with freezer or factory trawlers fishing from Nova Scotia ports?

Factory/Freezer Trawler Option

No convincing evidence has been advanced for the argument that large freezer or factory trawlers are required to catch northern cod and there

appears to be rather wide agreement on that point. There is a separate but valid argument being made that Canada requires vessels capable of freezing at sea to harvest species that are now harvested almost entirely by foreign vessels whether by allocation of fish to them or by chartering their vessels to fish for Canadians. The argument goes on further to say, that the only freezing-at-sea technology that makes any economic sense is the large (225-250 ft.) factory/freezer trawler. However, such vessels, capable of catching in excess of 10,000 M.T. of fish per year, would require an allocation of northern cod to be economic.

At the Seminar strong views both for and against were expressed on this point but no agreement was reached. On one side is the fear that such a large technology will not only create problems for the smaller inshore and nearshore fisheries, but tend to concentrate excessive power in the hands of those who control it. On the other side, the argument is that unless we have such technology we will continue to have foreigners fishing in the Canadian zone and not optimize the benefits from extended jurisdiction.

Another argument that can be made is that, for example, while freezing squid at sea is necessary, it might be preferable to catch the squid with jiggers rather than trawl. Hence, the larger freezer trawler may not be the best catching technology. There is also danger that once the larger freezer/factor trawlers have been permitted to enter the fishery, it will tend to exclude other technologies. Examples of this problem can be found in the herring, scallop and haddock fisheries in the past decade or so.

On present evidence there will probably be sufficient capacity to catch all the traditional species without adding to the existing fleet, by simply replacing and allowing increases in vessel size up to 125% in overall length. If one starts to "borrow" traditional species to ensure the viability of the new technology, some units of the existing fleet may find themselves in difficulty. On the other hand, some of those who have applied for licences for freezer/factory trawlers have licences that are "banked" following a freeze on licencing of large vessels instituted in 1973 (a problem that has not be resolved), and feel an entitlement to some consideration when new licences are issued. The issue, therefore, is not just one of technology but access to more resource and is really a question of licence.

Although freezing at sea is discussed as a new technology, the tuna fleet freezes at sea and so do salmon boats on the Pacific coast. Moreover, part of the Newfoundland trawler fleet is equipped with freezing technology. More recently, northern shrimp licences have been issued for vessels that will have freezing at sea. Similarly, wetfish trawlers can be replaced with vessels with freezing capacity on board; their owners are not prevented from doing so under present regulations.

So far as freezer trawlers are concerned, the only objections to their introduction are their possible size and the fact that some of those who wish to acquire them want a licence that will permit them to fish northern cod. Their size is a concern because of their catching capability and the large volume of resource committed to the owner. Another problem

associated with the operation of freezer trawlers is their wasteful utilization of the resource. In recent Canada/Foreign arrangements involving freezer trawlers, observers noted that in heading fish by machine, a large amount of flesh was wasted partly because of the nature of the operation of the machine, but also because the fish was cut to fit the freezer trays. The problem of the machine is partly one of speed, the faster it goes the more fish can be caught in a day because the capacity of the vessel to catch is greater than its capacity to process. These problems, like those of the trapfish, can be resolved. As the fish is frozen almost as soon as it is caught, its quality is very good. Even with reprocessing on shore, it can still produce an excellent product. Because it is landed in frozen form, it can be kept in storage and processed as plant capacity permits.

In respect to northern cod the same objections can be raised with respect to the licensing of factory trawlers. They have a further disadvantage that catching capacity is even greater than the freezer trawler because the fish is processed into a finished product. It is very capital intensive and raises questions about the effect on employment on shore. The only point in their favour is the quality of the product, which is excellent.

The International Option

Extended jurisdiction gave Canada control over a zone extending to 200 miles from the coast. Unfortunately, some of the stocks straddle the boundaries of the zone and can be harvested on either side. These stocks

are not managed by Canada alone but in concert with an international organization, the North Atlantic Fisheries Organization (NAFO), the successor to the International Convention for Northwest Atlantic Fisheries (ICNAF).

Allocation of access for stocks in Flemish Cap (3M) is the responsibility of NAFO. In allocating access, NAFO recognizes Canada's preferred position as a coastal state. The principal species of interest to Canada are redfish and cod. For 1979 Canada received reasonable allocations of these stocks. The beneficiaries of these allocations have been the operators of wetfish trawlers.

In discussing the stocks beyond the zone, particularly the transboundary stocks, some participants at the Seminar expressed their concern about the lack of cooperation by some foreign fleets. They suggested that Canada should be prepared to trade access to fish within the zone to obtain such cooperation. There was not consensus on that point but there was general acceptance that such trade-offs should not be ruled out as a means of increasing Canada's benefits from extended jurisdiction.

An area where such trade-offs might be most rewarding is the trading of access to fish in the zone, say northern cod, for an allocation of outside the zone, say redfish on Flemish Cap and/or the various species on the Grand Banks.

As the principal beneficiaries from such trade-offs would be the trawler owners, the allocation of northern cod to the foreign fleet should come from the offshore allocation. This would not only be beneficial to Canada in terms of cooperation but could improve the economics of the wetfish trawler operations.

Canada, should be prepared therefore, to set aside, say 10% of the 2J3KL cod TAC in exchange for larger allocations beyond the zone.

CHAPTER 5

Future Policy Direction

The following summarizes the policy being suggested for the utilization of northern cod, on the basis of the preceding discussion.

- (a) The first and over-riding priority in allocations is to the inshore fishery. The consensus from the seminar participants was that two-thirds of the TAC of northern cod should be set aside as an allowance for the inshore fishery. The allowance would be an average and not a fixed quota. It would vary from year-to-year depending on the size of the inshore cod migration and fishing conditions. The question of whether the middle distance fleet (e.g. vessels between 65 and 100 ft.) should be included in the inshore or offshore sector cannot be answered until the size, nature and scope of such a fleet is known. Meanwhile, there is no evidence that an allowance of 2/3 of the TAC will constrain the existing inshore fleet in 1980.
- (b) There must be some control on the number of units in the inshore sector. Although there may not be any resource constraint on the inshore sector for some time, the present fleet (including replacement) has the capacity to catch the entire inshore allowance by 1985. Based on the anticipated catch rates, this should provide good average earnings. Any large increase in the number of units will obviously reduce average earnings and could produce serious gear conflict. Because of wide variations in the availability of the cod

resources along the coast, effort control must be selective. There must therefore, be close consultation with the Newfoundland Provincial Government and among all participants before the scope of control can be determined.

- (c) An amount not to exceed 10 per cent of the TAC of northern cod or alternatively an amount of 20 to 30 thousand tons should be set aside for negotiating, through NAFO, a larger allocation to Canada of fish beyond the 200 mile zone. As the offshore fleet will be the principal beneficiary, this amount should come from the offshore allocation. The domestic offshore allocation would thus approximate 25% of the TAC.
- (d) Replacements of existing wetfish trawlers by similar vessels would be allowed to fish on the same basis as the vessels they replaced. These replacements could be of greater length overall, to a maximum of +25%.
- (e) Replacements of existing wetfish trawlers by vessels capable of freezing at sea (providing that they come within the 125 per cent guideline) would receive a separate quota within the offshore location. The separate quota would take into account the catching capacity of the wetfish trawlers being replaced by freezer trawlers.
- (f) With respect to the possibility of access to northern cod for additional offshore vessels, this matter remains under review pending further Provincial and Industry consultations.

(g) Consideration should be given to placing an upper size limit on offshore vessels, irrespective of technology used, e.g. 175-200 feet, on the assumption that vessels of this size can be equipped to freeze and/or process at sea, and to prevent excessive concentration of offshore catching capacity.

(h) The 1980 TAC of northern cod should be the same as in 1979, i.e. 180,000 M.T., allocated as follows:

	1980	1979
Inshore:	110 - 115,000 M.T.	100,000 M.T.
Offshore:	45,000 M.T.	43,000 M.T.
Foreign:	<u>20 - 25,000 M.T.</u>	<u>37,000 M.T.</u> (includes 12,000
*TOTAL:	180,000 M.T.	180,000 M.T. landed in Canada)

* For 1978, the overall TAC was, for the first time, set at a level below the $F_{0.1}$ level to promote more rapid rebuilding. The level was chosen arbitrarily as 135,000 M.T., corresponding to a fishing mortality of 0.16 which is below $F_{0.1}$. The TAC for 1979 was originally set at 170,000 M.T. which corresponds to a fishing mortality of 0.17, and later adjusted to 180,000 M.T. which corresponds to a fishing mortality of 0.18; both below $F_{0.1}$. The proposed TAC for 1980 of 180,000 corresponds to a fishing mortality of 0.17. The TAC at the $F_{0.1}$ level in 1980 would be 212,000.

* The $F_{0.1}$ level for this stock is approximately 0.20.

- Number 5 A Discussion Paper
 prepared by The Fisheries Council of Canada for the
 Northern Cod Seminar presented by Mr. K. Campbell,
 General Manager
- Number 6 Freezing at Sea - A Canadian Opportunity
 prepared by
 The Nova Scotia Fish Packers Association, and presented
 to the Seminar by Mr. Ken Campbell
- Number 7 2J3KL Cod - An Old, not a New Resource
 presented by Mr. R. Cashin, President, Newfoundland Fish,
 Food & Allied Workers Union
- Number 8 Northern Cod - Market Factors and International
 Considerations
 a paper presented by
 Mr. G.C. Vernon
 Assistant Deputy Minister
 Fisheries Economic Development & Marketing Dept. of
 Fisheries & Oceans

ANNEXE 2

Summary

Of the Main Conclusions of the Participants

at the Northern Cod Seminar

1. From the reports of the workshops I have come to the following conclusions:

- (a) While there was no unanimity, there was strong agreement that the TAC on the northern cod should be established at a conservative level; not only to enable the stock to rebuild rapidly but because there was uncertainty expressed by the scientists about their knowledge of the stock because of the usual uncertainties associated with stock forecasts.
- (b) There was general agreement that in granting access to the northern cod stock, the inshore fishery should be given priority and that there should be some measure of control on the size of the inshore fleet. The proportion of the stock to be allocated to that sector of the fishery should be about two-thirds of the total.
- (c) Although there was no agreement on the proportion of the TAC that should be allocated to a new middle distance fleet partly because it is an integral part of the inshore fleet, a strong feeling was expressed that this fleet should replace part of the fixed gear to lengthen the inshore fishing season. Because there is insufficient

information on the economics of operating such a fleet, the need to prepare a fishing plan for this fleet to fish during the winter in other areas was highlighted as an important item.

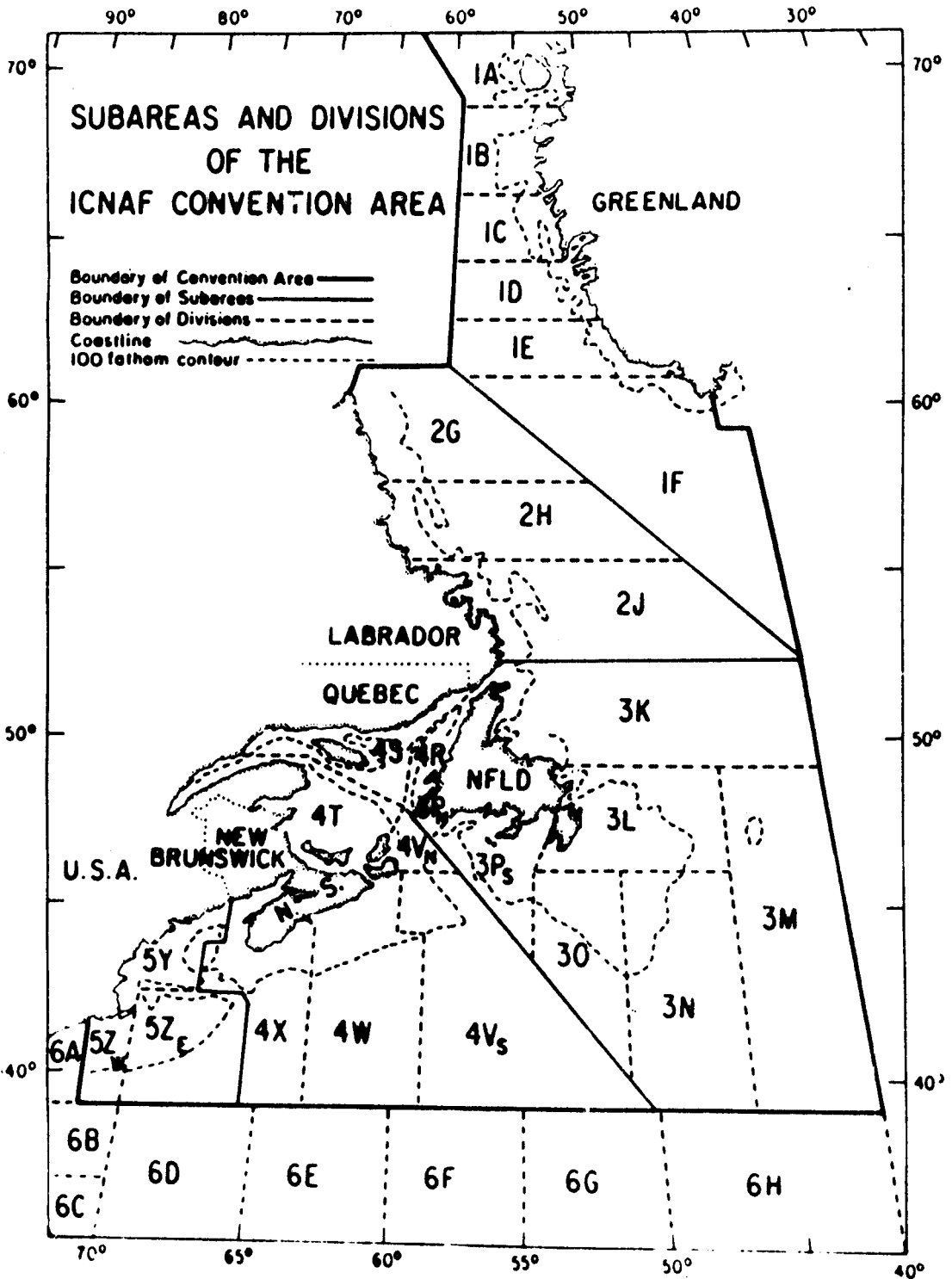
- (d) There was also general agreement that the existing wetfish trawler fleet and the inshore fleet could take the entire 1985 TAC of 350,000 M.T. of northern cod. Some doubts were expressed about the wisdom of catching the whole TAC with existing fishing methods, because of quality and related problems. Another doubt relates to the expectations that other stocks would rebuild that would be more economic for some segments of the wetfish trawlers to exploit, although there was some feeling that these stocks would be required for the smaller, less mobile vessels.
- (e) Although there was general agreement that neither factory nor freezer trawlers were required to catch the northern cod, there was a strong feeling expressed by some participants that it was unwise to consider the harvesting of northern cod except in the context of the total Atlantic fishery. Because some species such as squid, offshore mackerel, silver hake, etc., have to be frozen at sea, some participants expressed the view that if northern cod is required to ensure the viability of such vessels then an allocation should be made for this purpose. A supporting argument for developing this Canadian capability is the continuing presence of foreign participation in those fisheries.

- (f) Although there was general agreement that priority in allocating northern cod should be given to the inshore sector, it was recognized that this decision makes it essential to consider the problem of seasonal gluts. Consequently, the participants made many suggestions to deal with this problem and there was considerable similarity in the suggestions that were made. These suggestions are listed in the detailed report but they are essentially concerned with improvement in the harvesting methods including fleet restructuring, gear restrictions, improvement in quality through better handling and the establishment of standards, as well as the improvement of distribution of fish including the continuation of the present information desk system.
- (g) Foreign freezing vessels should not be chartered on a continuing basis to handle cod glut. Should Canadian freezer vessels be added to the fleet, these might be used for that purpose. Except for the Labrador Coast, there was a feeling that present and planned plant capacity was adequate.
- (h) There was also general agreement that offshore northern cod caught in the winter should be distributed to underutilized seasonal plants although there was no general agreement on how this might be done or what plants should be supplied. However, it was suggested that selective expansion should be considered where the need can be demonstrated.

- (i) The participants concluded that the anticipated volume of cod in 1985 could be marketed at a reasonable return to the industry provided that a product of acceptable quality can be placed in the market at a competitive price. It was strongly emphasized that because the markets of the 1980's would require a high quality product both processors and fishermen will have to improve their methods of handling fish. At the same time, government will have to cooperate with industry in achieving this objective. Cooperation between government and the industry will also be required to develop a strategy that will enable the industry to penetrate these markets. More emphasis will have to be placed on obtaining good market intelligence, and to achieve this will require that industry and government fish experts be located in the principal markets.
- (j) There was fairly general agreement that, in the absence of a surplus, northern cod should not be used to obtain market access or tariff reductions.
- (k) Although strong views were expressed for and against the use of northern cod to obtain cooperation beyond the 200 mile zone, no consensus was achieved. Those who felt strongly in favour of granting access, related their concern to the transborder stocks where they felt the Canadian industry could be seriously hurt. To demonstrate the seriousness of this problem, it was suggested that it might be possible for the foreigners to take the total TAC of

the southern capelin stock outside the zone. Those who opposed granting access for this purpose felt that once you started to do this, you could expect all countries fishing outside the zone to demand the same treatment. Moreover, it could appear that we would be rewarding the guilty and punishing the innocent.

Annexe 3

Subareas and Divisions of
ICNAF Convention Area

ANNEXE 4

Annual Offshore Quotas, Inshore Allowances and Catches in 2J3KL, 1973 - 1979:

<u>1973</u> ¹	<u>Allotment</u> <u>(M.T.)</u>	<u>Catch</u> <u>(M.T.)</u>
Offshore Quota	60,000	1,000
Inshore Allowance	50,000	43,000
<u>1974</u> ¹		
Offshore Quota	60,000	1,000
Inshore Allowance	50,000	35,000
<u>1975</u> ¹		
Offshore Quota	38,000	1,000
Inshore Allowance	50,000	41,000
<u>1976</u> ¹		
Offshore Quota	24,000	3,000
Inshore Allowance	50,000	60,000
<u>1977</u> ¹		
Offshore Quota	17,750	7,000
Inshore Allowance	50,000	73,000
<u>1978</u> ¹		
Offshore Quota	20,000	21,000
Inshore Allowance	80,000	82,000
<u>1979</u> ¹		
Offshore Quota	43,000	N/A
Inshore Allowance	100,000	

¹ Arrangements for these years were under the ICNAF structure. In 1977, Canadian control was asserted with extension of jurisdiction.

The Managed Commercial Annihilation of Northern Cod

D.H. STEELE, R. ANDERSEN, and J.M. GREEN

INTRODUCTION

IN THE FALL of 1986, we were asked by NIFA (the Newfoundland Inshore Fisheries Association) to review the paper entitled "An examination of factors affecting catch in the inshore cod fishery of Labrador and eastern Newfoundland" (Lear et al. 1986), which attempted to assess the importance of various environmental factors that had led to the poor inshore fishery in 1985. We concluded that the basic assumption of a fishable stock of 1,250,000 metric tons was not justified and that there was a strong inverse correlation between recent offshore landings and the inshore catches. As a result a study was made of the recent (in 1986) assessments of the northern cod stock. This study concluded that the assessments had overestimated the size of the stock with the result that fishing mortality had been underestimated (Keats, Steele and Green 1986). These findings were communicated to the federal Minister of Fisheries in December and representations were subsequently made to the Task Group on the Inshore Fishery (Alverson 1987) and the Northern Cod Review Panel (Harris 1990).

These representations were completely ignored and the commercial fishery for northern cod has now been shut down and a moratorium declared. One of the world's greatest sustainable protein resources that should be able to sustain annual landings of more than 400,000 metric tons has been allowed to decline to virtual oblivion.

The present paper reviews how this ecological and economic catastrophe has occurred, with the hope that *if* the stock is allowed to recover again, past mistakes will not be repeated.

THE MORATORIUM

A moratorium, one dictionary tells us, is a period of obligatory delay. Why is it necessary and what happens during it? And what happens when it is over?

On July 2, 1992, John C. Crosbie, Minister of Canada's Department of Fisheries and Oceans (DFO), appeared at a press conference in St. John's, where he announced the government's decision to impose a moratorium on the Canadian — chiefly Newfoundland — exploitation of the northern cod stock. Federal fisheries managers took a radical step, one ostensibly designed to restore a fishery long in decline despite their management efforts.

Provincial government officials publicly predicted that the moratorium would have a severe impact on employment, the provincial economy and the well-being of outport fishing communities. It was suggested that 19,000 fishers and plant workers would be directly affected, and perhaps 20,000 others — a total of 39,000 jobs, mainly in Newfoundland but also in Quebec — would be either lost or harmed in an economy already desperate for employment. Cabot Martin, President of NIFA, described the situation as one of "total failure of one of Canada's great natural resources." Various observers spoke of the moratorium as a cultural catastrophe; Newfoundland, it was said, would lose its small outport way of life and its distinctive culture. Comparisons were drawn between the moratorium and the community resettlement program of the 1960s, another purported cultural catastrophe recalled as having been forced upon Newfoundland's people.

Crosbie, perhaps forgetting for the moment that the fishery, Newfoundland, and its distinctiveness are symbolically *one* in the thinking of many if not most Newfoundlanders, may initially have attempted to diminish the magnitude of the moratorium's human impacts. He observed that Newfoundland's fishery "generates 6% of the value of all goods and services produced in the province." He went on to note that "hundreds of communities ... are dependent on the fishery." But his remarks were taken to imply that the actual loss and consequences would be trivial.

This quantification sparked a minor but rancorous debate. Some took the minister's side, while others, like Tom Best, President of the Petty Harbour Fishing Cooperative, and MHA John Efford, Head of United Fisherpersons of Newfoundland and Labrador, argued that in fact the fishery contributed directly and indirectly to 70% or more of the provincial gross domestic product.

When the moratorium was announced it was linked with a fisheries "adjustment" package, which Crosbie held to be "a necessary response to an ecological crisis of unprecedented scope." The announcement sketched measures for an initial or emergency ten week plan. The complete package would assist fishers and other directly affected industry workers to, among other things, either keep some economic footing until the fishery was reopened,

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voluntarily retire, or retrain for work in other industries — with the expectation that many so retrained would leave fishing permanently. Licenses would be retired, and the government would assist vessel owners and fish processing plants.

Many workers displaced by changing conditions in other sectors, e.g. forestry, agriculture, and mining, watched what the federal government was doing in the Atlantic fishing industry. They naturally wondered why the federal government had not offered them similar special aid packages beyond the established “safety net” of Unemployment Insurance (UI). The federal and provincial government answer is that Ottawa has retained the exclusive right to manage marine fishery resources off Newfoundland. It does not have similar jurisdiction in other resource industries. Some find this action discriminatory despite this rationale.

In Newfoundland the perilous condition of the northern cod stock was widely appreciated. Yet news of the moratorium fell like a thunderclap. Fishers and fish plant processing workers, together with their union leaders, immediately expressed strong negative reaction to the terms of the announcement. In seven days their government would bar them from their livelihoods and well-being. Careers, families, homes and mortgages, businesses and entire communities were suddenly in grave danger.

The immediate special focus of their wrath was the weekly wage proposed to sustain fishers and plant workers during the short initial transitional period until a more firm plan would be in place. To many, the preliminary scheme seemed inadequate and insulting. Speculating that it was keyed to the lowest income level under UI guidelines, Richard Cashin, President of the Fishermen, Food and Allied Workers union (FFAW) held it to be simply unacceptable. Further, declaring the moratorium decision arbitrary, he proposed that fishers respond with civil disobedience: “The only way to funnel our energies [in opposition] is to go [on] fishing!”

Heeding the criticism, the federal minister agreed to reexamine the adjustment program and to discuss the situation with the federal cabinet.

His comments about his future action seemed a measured statement of determination to press for an increase in the sums even at risk of personally resigning should he fail. Taken as a display of loyalty to Newfoundland and its fishery, perhaps this somewhat defused the heated atmosphere. In the event, the adjustment payment figures were increased, most fishers affected ceased fishing, and Crosbie remained Minister of Fisheries and Oceans. Like oil on troubled waters, the injection of federal funds may have calmed many tempers and silenced many voices.

On the Canadian mainland, however, the plight of Newfoundland’s labor force — fishers and fish plant workers in particular — became a major media topic for a time. There was a flurry of letters to editors in support of

Newfoundland workers, and criticism of federal government handling of the situation. The federal leadership, already wounded politically by a weak national economy in recession, high unemployment, and an unending constitutional crisis and debate, now faced another problem of major regional importance.

The long-standing clamor for an explanation for the northern cod decline was renewed. A litany of familiar scapegoats was repeated: growing harp seal herds, ice and cold water, disappearance of caplin, foreign overfishing, domestic overfishing and, of course, federal mismanagement. The moratorium, a conservation action intended to solve a major resource problem, itself became a further political crisis. Highly paid DFO personnel were seen to be scrambling, struggling to establish what seemed like jury-rigged arrangements necessitated by the moratorium and the human crisis it exacerbated. As a result, DFO's leadership was further discredited for its inept handling of another management decision — the moratorium.

On the sidelines, observers, like the authors of this paper, wonder how the proposed plan was arrived at, although reasons for imposing the moratorium were clear enough. There was grudging acceptance at the inshore fisheries level that the moratorium was necessary and that strong protective action was long overdue on the federal government's part. But some fishers, especially those with heavy financial investments in new boats and gear, wondered why their government had not warned them that such a drastic action was being considered and how they would be able to survive their personal financial crises.

DFO's moratorium shocked many inshore fishermen, especially after they had lobbied for several years for greater total allowable catch (TAC) reductions in the face of contrary government management decisions. Other fishermen felt that they had been misled; had they been given some indication that the moratorium was in the offing, they would not have continued to invest in boats and gear. Some suspected that federal authorities were deliberately managing the inshore fishery in such a way as to push their way of life into oblivion.

By 1992, however, the northern cod stock had been overfished to commercial extinction and other stocks were in danger, the fishing industry was over-capitalized in vessels and processing plants, its labor force had suddenly lost its economic base, and the future was highly uncertain for thousands of Newfoundlanders. Hundreds of communities and enterprises, and perhaps a way of life that many believe is crucial to Newfoundland's social and cultural distinctiveness, seemed in jeopardy.

The Newfoundland fishery and Newfoundland society are at a precipice. How did this happen in an era of modern fisheries management? Much of the answer lies in the history of DFO procedures and management decisions. The following discussion deals with key elements of this scientific and management

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history, provides an outline of how DFO's management and decision-making process is organized for the creation of its annual Atlantic Groundfish Management Plans, and presents our conclusions, together with compelling questions raised by this crisis and the moratorium.

LANDINGS OF NORTHERN COD (2J3KL) AND THEIR VARIATIONS

Estimated historical landings of northern cod, compiled from various sources are shown in Figure 1. Until the 1950s catches were not apportioned to division, so the early figures have been estimated as the portion of the total Newfoundland landings that are considered to have been of northern cod. Although the International Commission for the Northwest Atlantic Fisheries (ICNAF) was established in 1950, the collection of separate statistics for catches of inshore and offshore northern cod landings began only in 1958.

Between 1804 and 1947 Newfoundland catches of northern cod increased linearly from about 75,000 to 200,000 metric tons (Figure 1). This gradual increase was probably related to an increase in effort related to the increase in population during this period. Changing technology such as the introduction of the cod trap in the 1860s and the long-trawl in the 1880s seems to have had little effect on the landings.

Yearly fluctuations in landings in this period amounted to 35,000 metric tons above and below the regression line and seem to have been related mainly to economic conditions such as the price collapse in the 1890s, the Depression of the 1930s, and variations in demand associated with the two world wars. The effect, if any, of environmental conditions such as water temperatures during the fishing seasons or during the spawning seasons was obscured by economic or other unknown factors.

From 1948 onwards, Newfoundland catches of northern cod declined. A combination of factors may explain the decline in the early 1950s: decreased effort because of demand for other species such as haddock, the availability to fishermen of alternate sources of employment, or a natural fluctuation in the stock size. With the increase in offshore catches of cod by foreign vessels to a maximum of 709,000 metric tons in 1968, inshore catches continued to drop. They fell to 35,000 metric tons in 1974, the smallest catch since 1804.

The fact that such large offshore catches were possible in the 1960s indicates that the earlier Newfoundland catches of northern cod of up to 200,000 metric tons were well below the sustainable yield. However, the massive offshore catches between 1959 and 1973 depressed the stock size, with the result that inshore catches fell to their minimum in 1974.

Offshore catches plummeted after 1968. Catch restrictions (TACS) were imposed in 1973, but not until 1977 and the adoption of extended jurisdiction to 200 miles were the TACS reduced to the level of the actual catch.

There was an initial period of euphoria and optimism about the future of

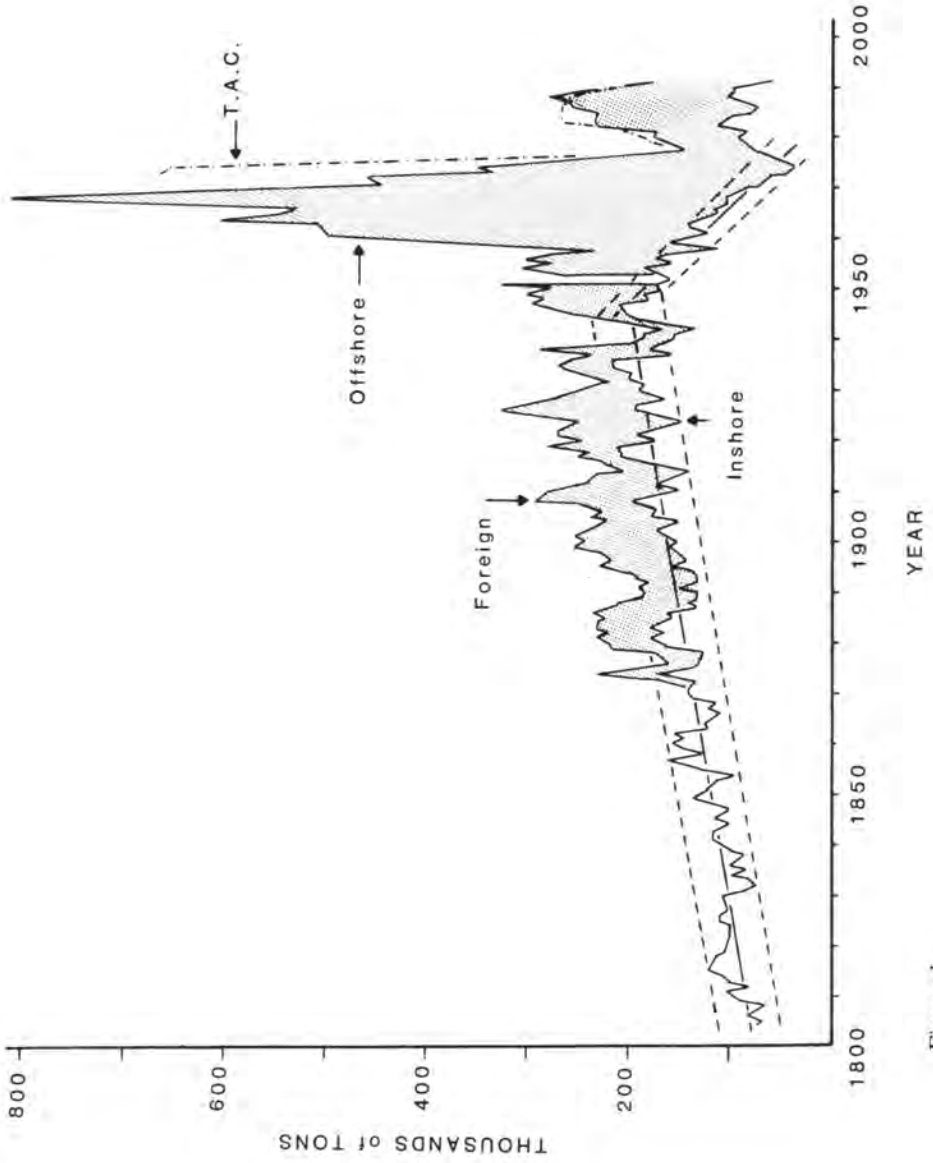


Figure 1

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Canadian fisheries following the establishment of the 200 mile fisheries management zone in 1977. The industry moved anxiously, with government encouragement, to expand its catching and processing capacity to take advantage of the preferential fishing privileges granted the coastal state, and to prevent expansion of foreign fishing in the new zone to take fish judged to be surplus to Canadian needs and capacity to harvest. If anything, the fear was that stocks would recover after about ten years and there would be so much fish that the real problem might be in marketing it.

Inshore catches increased to 115,000 metric tons in 1982, but declined subsequently. Offshore catches, now by Canadian vessels, increased from 57,000 metric tons in 1978 to 180,000 metric tons in 1987, but were subsequently reduced in stages to the current zero.

The relation between the size of the stock and the size of catches has been consistently downplayed over the years. Until catches from the North Sea were observed to increase following the cessation of fishing during World War I, overfishing in the sea was generally thought to be impossible. Even today, after many cases of overfishing have been documented, the myth persists that fishing does not affect the abundance of fish. Instead, declining catches are most often blamed on the environment (water temperature, pollution, etc.) or predation by whales, seals or birds. It must be recognized, however, that fishing will reduce the number of fish and that fish can only be caught once. Moreover, as far as management is concerned, fishing effort is the only factor that can be effectively controlled and regulated.

HISTORY OF FISHERIES MANAGEMENT IN THE NORTHWEST ATLANTIC SINCE 1949, WITH PARTICULAR REFERENCE TO NORTHERN COD

The historical facts are presented and are followed by our comments in parentheses. Figures 1 and 2, which document historical trends in fishing mortality and the biomass of the spawning stock (seven years old or older; i.e., 7+) northern cod, should also be referred to.

1949

Signing of International Convention for the Atlantic Fisheries "to make possible the maintenance of maximum sustained catch."

(The application of the ecological theory of the growth of populations to fisheries by Michael Graham [1939] led to the idea that populations could be exploited to obtain the maximum sustained yield [MSY]. Although possible in theory according to the Graham-Schaefer Model, in which the population [stock] is maintained at the size at which it grows fastest and catches [yield] are the excess [surplus production], the practical difficulties in achieving such a target led to its later abandonment.)

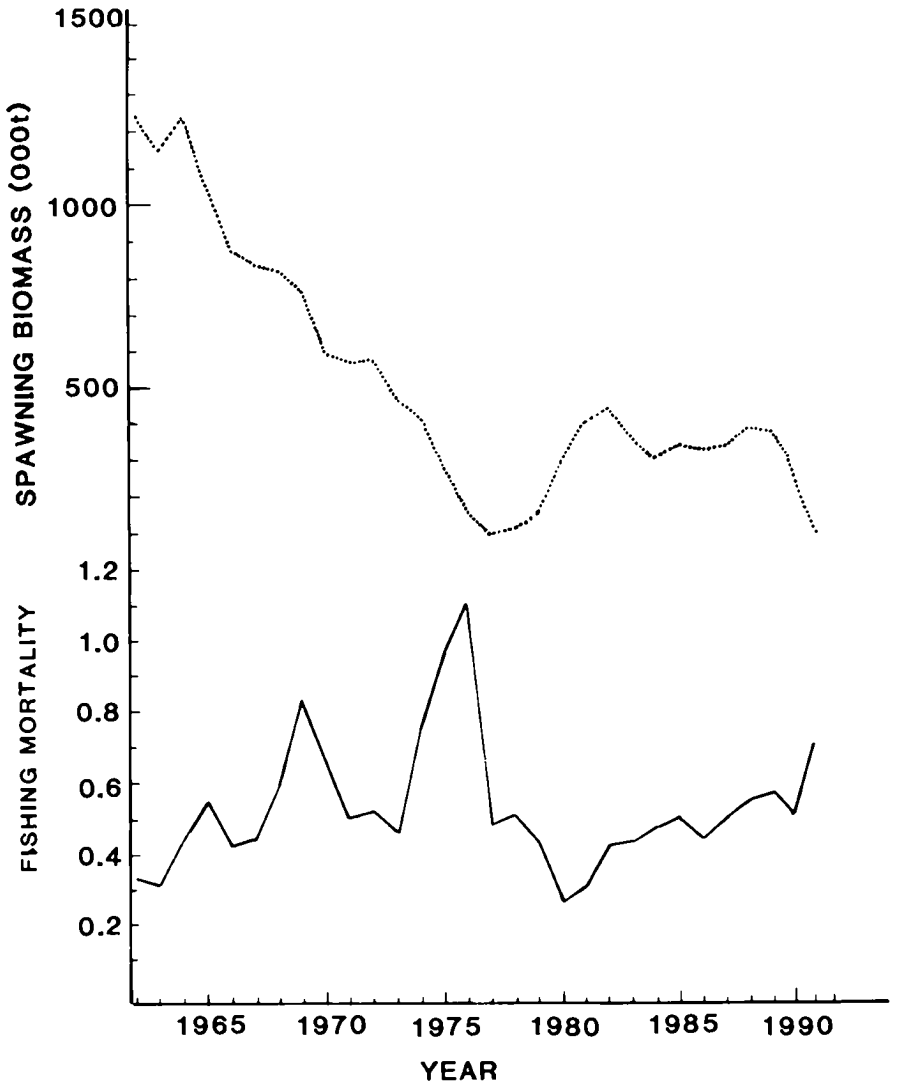


Figure 2

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1950

International Commission for Northwest Atlantic Fisheries (ICNAF) is established to coordinate the collection of catch statistics, to conduct research, and to manage multi-nation fisheries.

(The expansion of otter trawling in the northwest Atlantic by various countries following World War II made it necessary to have compilations of the total landings by all countries. Research was devoted to coordinating basic biological studies. Fish stocks were to be managed for maximum sustained catch, although only the New England stocks were perceived to be at risk through overfishing.)

1957

The Beverton-Holt (Dynamic Pool, Yield per Recruit, Analytic) Model was developed for fisheries research. This model provided an estimate of yields from a stock at various fishing mortalities (F).

(This equilibrium model uses estimates of factors such as growth, recruitment and mortality to calculate how the stock will respond. Since only catches can be directly measured, yields are related to rates of change or coefficients of growth, natural mortality [M] and fishing mortality [F] rather than the actual number of deaths, etc. If the coefficients are multiplied by the size of the stock in numbers or weight [biomass] the actual values can be determined. The model is simplified by assuming that natural mortality, which is very difficult to measure, is constant and is given a "reasonable value," usually 0.2. The model is further simplified by assuming constant recruitment. If this is done, the catch or yield from a single year class throughout the period from when it is recruited to the fishery until it finally disappears is equal to the average catch from the whole stock each year. Thus yields can be estimated from a single year class as it ages and passes through the fishery. Since the individual is a recruit entering the fishery, the latter is commonly known as yield per recruit. The total yield can be calculated if the total recruitment is known. Given these assumptions and appropriate estimates of weight at age, it is possible to calculate yields for various fishing mortality rates [F] for a year class as it moves through the fishery.

As fishing rates increase from zero, yield increases rapidly to a maximum and then decreases slowly, since yield depends on the interaction between numbers caught and their average weight. Thus this model provides estimates of yields for various values of F . The fishing mortality providing the largest yield is known as F_{max} or maximum yield per recruit. If recruitment does not vary with stock size $F_{max} = F_{msy}$, but if there is a correlation between stock size and recruitment F_{max} will be greater than F_{msy} .

This model demonstrates that, as fishing increases, more and more fish are caught, but an increasing proportion are new recruits and the average size of

the catch decreases. This is known as “growth overfishing.” A marked decrease in the average size of the fish caught with time will indicate overfishing even if nothing else is known about the state of the stock. The model will also readily demonstrate the effects of varying the age at recruitment. For example, increasing the age at recruitment by using larger meshed gear will result in fewer fish being caught but a larger total weight [biomass].

This model was quickly adopted by fisheries management and remains in use today. The only significant changes have been in the choice of a target fishing mortality [F]. Initially this was usually F_{max} on the assumption that $F_{max} = F_{msy}$. However, it was soon realized that because of the low curvature of the yield curve the health of the stock could be adversely affected if the estimated F_{max} was too high, but the yield would not differ very much. Moreover, it does not make economic sense to fish this intensively, since better economic returns can be obtained at a lower fishing rate [F_{mey} or F_{opt}].

Increased concerns about the conservation of fish stocks led to the development of the concept of $F_{0.1}$. This was described by Gulland and Boerema in 1973. $F_{0.1}$ was adopted as a target for fisheries management by Canada in 1977. Although developed for conservation, $F_{0.1}$ is defined in economic terms as “the level of fishing mortality at which the increase in yield obtained by adding one more unit of fishing effort is 10% of the increase in yield to be obtained by adding one unit of effort to a lightly exploited stock.” As such, it is quite arbitrary and could just as easily have been $F_{0.09}$ or $F_{0.11}$. $F_{0.1}$ is more conservative than F_{max} , F_{msy} or F_{mey} and could be expected to result in more older and larger fish in the catches and a more stable fishery, less dependent on newly recruited small fish. In practice, however, as will be documented below, actual values of F for northern cod have invariably exceeded the target $F_{0.1}$ with predictable catastrophic consequences. It should be noted that $F_{0.1}$ was not accepted as a suitable target F in Europe and thus has not been applied to the stocks outside the 200 mile limit that, since 1977, have been managed by the Northwest Atlantic Fisheries Organization [NAFO].)

1954

ICNAF introduced increased mesh sizes for otter trawls to allow the escape of small fish and to increase yields.

1961

Winter-spring foreign fishery for spawning cod in the offshore waters of divisions 2J3KL (northern cod) begins to increase. Offshore catches rise to a peak of 709,000 metric tons in 1968. Inshore catches of northern cod decline to a minimum in 1974.

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1969

ICNAF establishes its first catch quotas (TAC) based on estimated maximum sustainable yields (MSY).

(Actual catches were much less than the TAC in this and subsequent years. Beginning a pattern that persists to the present, the failure to obtain the TAC was ascribed by ICNAF to environmental conditions rather than a reduced abundance of cod.)

1971

Based on scientific investigations and economic and technical considerations, the goal of management is stated by ICNAF to be to achieve optimum utilization of fish stocks.

(Although not defined explicitly, this is the first instance in which economic considerations were included in management planning.)

1972

Different values of F that might be adopted are discussed by ICNAF. These include $F_{0.1}$ which is described and defined in economic terms. The TAC for northern cod is set at 650,000 metric tons, using a fishing mortality (F_{max}) equal to 0.35.

1973

TACs are allocated to particular countries.

1974

Atlantic Offshore Groundfish Advisory Committee (OGAC) is formed by the federal government to receive industry reactions to fishery management proposals.

1976

An economic crisis in the fishery, in part due to overfishing, leads to a new approach to fisheries management and development by the Canadian government. This approach was to provide a guide for rebuilding Canada's commercial fisheries over the next ten years. "The guiding principle in fishery management no longer would be the maximization of the crop sustainable over time but the best use of society's resources. 'Best use' is defined by the sum of net social benefits (personal income, occupational opportunity, consumer satisfaction and so on) derived from the fisheries and the industries linked to them" (Federal Fisheries Minister Romeo LeBlanc 1976).

(This policy statement marks the end of MSY as a management strategy

and the adoption of a policy based on the achievement of long term socio-economic goals. Unfortunately, as documented below, these goals were completely lost sight of by the managers in subsequent years, and management became preoccupied with the catches [TACs] set for the following year and how they were to be divided up.)

1977

Canada extends jurisdiction to 200 miles.

(There have been persistent rumors to the effect that the boundary at least as it applied to the Grand Banks was a mistake, in that 200m was interpreted as 200 miles rather than as a depth of 200 meters. If so, it was a costly error, since the latter designation would have placed the boundary at the edge of the continental shelf and incorporated both the "Nose" and "Tail" of the banks. These areas, however, remained outside Canadian jurisdiction, with the fish to be managed by ICNAF and later by NAFO.)

"Since January 1, 1977 a primary objective of Canadian fisheries policy has been improvement in the viability of the fishing enterprise" (May et al. 1981).

(This statement by key federal fisheries bureaucrats reiterates the policy adopted in 1976.)

Advice on the management of Canadian stocks is now to be provided by the Canadian Atlantic Fisheries Scientific Advisory Committee (CAFSAC). Beyond 200 miles and for transboundary stocks, such as those extending to the Nose and Tail of the Grand Banks, management advice was still provided by ICNAF.

The first management plan for northern cod (1977) was prepared in 1976 by ICNAF rather than CAFSAC.

(This set the pattern for all subsequent management plans.)

Because of depletion due to overfishing, the stock of northern cod was to be rebuilt. The target was to be a spawning biomass of 1.5 million metric tons (range 1.2-1.8 million metric tons). This spawning biomass was the amount estimated by ICNAF to be necessary to achieve a level of egg production such that the number of eggs spawned would not limit subsequent recruitment to the fishery. In other words, recruitment overfishing would be prevented. To reach this target, the TAC was set below the maximum sustainable yield as determined by F_{max} . The new reference point was $F_{0.1}$. This target fishing mortality rate was estimated to be equal to 0.2, well below the F_{max} of 0.35. Using $F_{0.1}$ the TAC for 1977 was set at 160,000 metric tons.

(Considering its importance as a management target for northern cod, the target size of the spawning stock biomass [1.5 million tons] has received very little study. However, DFO has expressed conflicting views as to the utility of spawning stock biomass as a management target and it has gradually diminished

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in importance in management considerations.)

Based on its projections of the rate of rebuilding of the northern cod stock, DFO forecast a TAC of 402,000 tons by 1985.

(These and other overly optimistic projections, which were never realized, led to the rapid expansion of the Canadian fishing industry. In 1977, Canadian offshore landings of northern cod were small. In the expectation of landings comparable to those of the 1960s, expansion of the Canadian industry [inshore, offshore, and processing plants] was mandated to utilize the expected bonanza of fish.)

1979

January 1 — NAFO is created to supersede ICNAF.

A Northern Cod Seminar in Corner Brook discusses catch projections of 350-400,000 metric tons expected to be made by 1985, and how these catches might be made and processed.

“To provide for more rapid rebuilding of the stock and to allow recovery of the inshore fishery” (Pinhorn 1979), the target fishing mortality rate was reduced to 0.165. This is less than the $F_{0.1}$ level. The TAC was set at 135,000 metric tons.

Atlantic Groundfish Advisory Committee (AGAC) supersedes OGAC.

Doucet (1979) uses a projected catch of 350,000 metric tons for 1985 in preparing a strategy for the management of northern cod and evaluating alternatives for its harvesting.

DFO reduces its projected TAC for 1985 to 365,000 metric tons. The reduction is blamed on poor recruitment.

December 31 — ICNAF is disbanded.

1980

The development plan proposed by the government of Newfoundland and Labrador accepts the predicted doubling of the catch of northern cod by 1985 and recommends that the inshore fishery should catch 85% of the total (Government of Newfoundland and Labrador 1980).

Atlantic Coast Groundfish Trawler Study uses a projected 35% increase in groundfish resources, primarily cod, as a basis for projecting replacements of offshore trawlers.

1981

Projected landings for 1985 were estimated to be 250,000 metric tons for the inshore and 150,000 metric tons for the offshore.

Newfoundland Oceans Research and Development Corporation (NORDCO 1981) produces an extensive and detailed review of the history and potential for

harvesting northern cod entitled *It were well to live off fish*.

(While this study provides a valuable account of the fishery for northern cod, in retrospect its uncritical acceptance of fisheries management procedures was unfortunate.)

In *Policy for Canada's Atlantic fisheries in the 1980's: A discussion paper* (LeBlanc 1981), the government of Canada reaffirms the "best use" policy and the use of $F_{0.1}$ as a reference point. It rejects management for a minimum spawning biomass since "for no fish stock has it thus far been possible to define this critical spawning biomass." It also recommends more long term research, sector management and a greater involvement of fishermen in management decisions.

(Despite the assertion about the difficulties in determining the size of the critical spawning biomass, it continued to remain an important consideration in fisheries management for some time [see below]. Few of the latter recommendations were followed.)

May et al. (1981) project a biomass of 2,900,000 metric tons and a TAC of 350,000 metric tons for 1985.

DFO forecasts a TAC of 310,000 metric tons for 1985. The reduction from previous predictions is again based on poor recruitment.

(Since the spawning biomass had not yet recovered, below average recruitment and a failure to achieve projected TACS should have been expected.)

1982

Enterprise allocations based on past catches were introduced to the offshore fishery for northern cod.

An economic crisis in the fishery led to the formation of a Task Force on Atlantic Fisheries, chaired by Michael Kirby. The task force accepted catch projections of 380-400,000 metric tons of northern cod to be made by 1987. The suggested inshore allowance would be as follows:

July 13 — A press release suggests 200,000 metric tons would be available for inshore vessels.

Oct. 12 — Memorandum reduces the allowance to 150,000 metric tons.

December — Final report (Kirby 1982) recommends an inshore allowance of 145,000 metric tons.

(The Kirby Report apparently originates the concept of an allowance rather than a TAC for the inshore fishery. An allowance of 200,000 metric tons would be comparable to historical landings by the inshore fishery, so the decrease of 55,000 metric tons [22%] in the allowance in five months is difficult to understand. Later it was reduced to 115,000 metric tons, but even this low amount was never landed.)

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1984

The target fishing mortality rate for northern cod was increased to $F_{0.1}$. The reason as stated in the "Resource Prospects for Canada's Atlantic Fisheries" (1985) is as follows: "Since the spawning biomass in the 1983 assessment was projected to reach the range of the target spawning biomass established by ICNAF in 1978 (1.2-1.8 million metric tons) at the beginning of 1985 even by fishing at $F_{0.1}$, the TAC for 1984 was set at the $F_{0.1}$ level (266,000 metric tons)."

(Note that 1.2 million metric tons was not the original reference point. Even this lower target had not yet been reached in 1992. Subsequent events have shown that this was the key decision affecting the recovery of northern cod [see Figure 2]. It was shortly to be followed by declining stocks and reduced landings, first in the inshore and subsequently offshore. The underlying reason for the decision is highly suspect, since a spawning stock biomass of 1.2 million metric tons was not the original target but only its lower range. Even this had not yet been reached but was expected in the subsequent year. In the event, even 1.2 million metric tons was never reached and is now farther away than ever. Nevertheless, the fishing rate was not reduced again. It is worth emphasizing that since 1984 the northern cod stock has been deliberately managed at a level below that originally considered necessary to ensure that recruitment was not limited by stock size. The underlying problem has been that the stock size of northern cod was consistently overestimated, with the result that the actual fishing mortalities resulting from the TACs have been much higher than the projected fishing mortalities.

Unfortunately, it appears that the Minister of Fisheries and Oceans believed that the stock was being managed at the conservative $F_{0.1}$ level when the actual F was two or three times that level. The effect on the stock has been catastrophic.)

1985

DFO reduced its 1985 catch forecast to 266,000 metric tons. The reduction is again blamed on poor year classes.

(Thus the forecast made in 1977 for 1985 landings erred by 136,000 metric tons [34%]. This was to be expected, given the small size of the spawning stock biomass.)

1986

June — A reexamination of the target spawning biomass of northern cod by Rice and Evans (1986) concluded that the original 1977 ICNAF spawning biomass target was too high and should have been only 0.85-1.3 million metric tons. However, they also concluded that the stock had reached only 0.5 million

metric tons by 1984 for the reason that "there is a stock recruit relation in this stock" and that with $F = .35$ the stock does not grow. They recommended that "the stock be allowed to rebuild to a spawning biomass of at least 1.3 mmt."

(This seems to be the only DFO study of the target spawning biomass for rebuilding northern cod. Although it provides a clear analysis of why the stock had failed to rebuild at projected rates, its conclusions have been largely ignored. Since actual fishing mortality rates have averaged 0.5 when the target was 0.2 or less and it was concluded the stock would not grow with $F = 0.35$ the failure of the stock to rebuild should have been expected. The stock recruit relation and the importance of the size of the spawning stock biomass for rebuilding were subsequently repudiated by one of the authors [see below].)

NAFO accepted the reduced target range of spawning stock biomass for northern cod suggested by Rice and Evans.

(The justification for this decrease of almost 500,000 metric tons in the target is debatable. Estimates of the critical spawning biomass are usually based on unfished stocks, which in the case of northern cod would certainly have included old, large fish that would have produced a large number of eggs. The numbers of such large cod are difficult to estimate accurately but prudence suggests caution. Note also that only a range of spawning stocks is given, of which the lower limit of 850,000 metric tons seems likely to become the target, if previous experience is a guide. Even these lower levels are much higher than the actual spawning stock biomass of 0.5 million metric tons estimated by Rice and Evans for 1984.)

August — Concern by fishermen over low inshore catches of northern cod resulted in a study by DFO of the factors affecting the inshore cod fishery. On the assumption that the estimated fishable biomass should be sufficient to sustain a successful inshore fishery, it was suggested that the failure of the inshore fishery was due to environmental causes such as water temperature, abundance of food offshore, etc. (Lear et al. 1986).

(The implicit assumption of an adequate biomass was unjustified according to some of DFO's own estimations and should have been validated before such a study as this was undertaken.)

November — Owing to the failure of the inshore fishery, CAFSAC reviewed the status and the management of northern cod. Despite concluding that "catch levels advised have been higher than they should have been," they found no basis upon which to disagree with the assessment of the status of the stock.

(This is an amazing statement, since if catch levels were too high, the size of the stock must have been overestimated.)

December — The 1987 Atlantic Groundfish Management Plan includes as the rule for setting the TAC: "If the stock assessment provides evidence of levels of spawning stock biomass likely to endanger recruitment, fishing effort

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(and thus fishing mortality) in the coming year [should] be reduced to allow immediate growth in the spawning stock biomass.”

(Despite this clear statement of procedure, which appears in all subsequent management plans, and despite the fact that the spawning stock of northern cod was known not to have reached any of the targets used for stock rebuilding, projected fishing mortality remained at $F_{0.1}$. It was also known that actual fishing mortalities exceeded $F_{0.1}$ by a significant amount.)

NIFA commissioned a review of the status of the northern cod stock (Keats, Steele and Green 1986). This concluded that actual catch rates (F) were much higher than those which had been projected and that the stock size had been overestimated. It was also argued that the commercial catch rates used to calibrate the assessments could remain high in the face of declining abundance if fishing efficiency increased, and that research vessel surveys provided a superior measure of abundance.

(These assertions were disputed by DFO, but have subsequently been supported by others.)

Representations made to the Minister of Fisheries and Oceans by NIFA resulted in offshore fishing effort being dispersed more evenly throughout 2J3KL and observers being placed on offshore vessels to estimate the amount of discarded small fish, but the offshore allocation was reduced only by 10,000 metric tons to 256,000 metric tons for 1987.

(The relatively small changes that took place did not address the serious nature of the overfishing problem. Unfortunately, it was not realized that the Minister believed that the stock was being managed at the $F_{0.1}$ reference level when the actual F was so much higher.)

1987

July — Continued concern over low inshore catches of northern cod resulted in the formation of a Task Group on the Newfoundland Inshore Fishery (Chairman D.L. Alverson).

CAFSAC concluded the northern cod stock was growing steadily.

The task group (Alverson 1987) concluded that the northern cod stock was rebuilding, but at a slower rate than projected by CAFSAC. It recommended that the 1988 TAC not be higher than that of 1987 (256,000 metric tons).

CAFSAC's advice on the management of northern cod was that the 1988 catch at $F_{0.1}$ would be 293,000 metric tons. The TAC was set at 266,000 metric tons (the 1986 level) in the management plan in what was described by the federal government as a “judgement call.”

(It is astonishing that at this late date DFO was still advising TACs based on projected $F_{0.1}$ s when it had been repeatedly documented that actual fishing mortalities had greatly exceeded the projected fishing mortality. Great emphasis was placed in all these deliberations on the fact that the stock was rebuilding

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and not in imminent danger of collapse. However, the failures to achieve projected rates of increase or the target critical spawning stock biomass were not discussed.)

DFO forecasts a TAC of 266,000 metric tons in 1988. This is predicted to rise to 358,000 metric tons in 1993 (range 260-492,000 metric tons). The low inshore catches of recent years were blamed on water temperatures, caplin distribution and the amount of fishing effort.

(Again, the failures to rebuild the stock so as to achieve the TACS previously forecast are not addressed.)

1988

January — The Natural Sciences and Engineering Research Council (NSERC), Fishery Products International (FPI), and National Sea Products jointly sponsor a chair in fisheries oceanography at Memorial University.

DFO concluded that the northern cod stock continued to grow, that the fishable (4+) biomass was 1.5 million metric tons in 1986, and that projected catches would be 245-477,000 metric tons in 1991, 254-471,000 metric tons in 1992 and 260-492,000 metric tons in 1993. Difficulties in the inshore fishery were ascribed to environmental factors.

(Failure to achieve the previously projected landings, the target spawning biomass, and the fact that fishing mortalities have exceeded the projected $F_{0.1}$ reference level are not discussed.)

December — The Atlantic Groundfish Management Plan gives a TAC of 266,000 metric tons for 1989. However, the stock assessment for 1989 was delayed until January, 1989.

1989

The advice on management of northern cod when offered was in the form of four options — 125,000, 133,000, 200,000 and 233,000 metric tons. Reassessment of the data by CAFSAC indicated that the actual F value in 1988 was .44 and that catches since 1981 had resulted in fishing mortalities more than double the $F_{0.1}$ target. Since the catch of 258,000 metric tons in 1988 produced a fishing mortality "over double the $F_{0.1}$ level, fishing at $F_{0.1}$ in 1989, and hence reducing the effort by over half, would generate a catch of 125,000 tons."

(It should be emphasized that if the TAC was to be 125,000 metric tons this would be the first time that the target fishing mortality would agree with the actual mortality. It would also be the first time that the fishing mortality would be set at the actual $F_{0.1}$ level, even though this reference level had been DFO's stated policy since 1977. While much was subsequently made of the fact that a TAC of 125,000 metric tons was not the advice given to the managers, but rather

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one of the four separate scenarios, the fact is that 125,000 metric tons would be the TAC in accordance with $F_{0.1}$ which has been the stated policy since 1977.)

February — The TAC for 1989, however, was set by the Minister at 235,000 metric tons in order not to disrupt the industry.

(This was at least twice the $F_{0.1}$ reference level and in contradiction to stated policy.)

To explain the reasons for the differences between current and earlier scientific advice, a Northern Cod Review Panel (Chairman L. Harris) was established. The panel held public hearings and conducted a review of the stock assessment methods employed since 1977.

May — The Northern Cod Review Panel released an interim report. This concluded that fishing mortalities had been too high and should be reduced in stages to the $F_{0.1}$ level, and that the current TAC should be 190,000 metric tons.

July — A Senior Task Force of DFO officials (Ken Stein Chairman) is established to provide analysis and proposals to deal with the reduced landings in the Atlantic fishery in 1990.

October 15 — John Crosbie, federal Minister of International Trade, is quoted in the St. John's *Evening Telegram* as stating that "from 1982 to 1989 the actual TACS were in line with or lower than the TAC advice given by scientists using the management tool $F_{0.1}$ while the actual catch was below the actual TACS and the TAC advice. Why the problem?"

(As documented repeatedly, while the scientific advice was provided for a proposed $F_{0.1}$ level of fishing mortality, the actual catches have resulted in fish mortalities that have been two to three times the $F_{0.1}$. This information was documented by DFO and presented to the Minister, Tom Siddon, by NIFA in December, 1986. The "problem" has been that DFO has not followed its own policy.)

November — NIFA filed an action in court to require an environmental impact assessment of the northern cod stock and an interim injunction to stop offshore trawlers from fishing between January and May on the spawning stock. They argued that the "quota policies resulted in overfishing of the northern cod resource by Canadian offshore trawler fleets, and the use of otter trawls on the spawning grounds has potentially harmful effects on the spawning process and therefore on the long term viability of the Northern cod resource leading to the commercial extinction of the resource."

1990

January — CAFSAC advised that the TAC for fishing at $F_{0.1}$ would be 125,000 metric tons. The TAC was set at 197,000 metric tons.

(DFO continued to ignore its own policy of fishing at $F_{0.1}$.)

February — Final Report of the Northern Cod Review Panel (Harris 1990) is released. It recommends that a TAC be set at 190,000 metric tons and

that the F should be reduced from its present value to the $F_{0.1}$ level in stages to allow the stock to recover. The Minister of Fisheries and Oceans accepted in principle most of the recommendations contained in the report but rejected the suggested TAC and the reduction in F .

(This report provides a very detailed analysis of the recent history of the northern cod fishery and its management. However, the explanation offered for the sharp change in advice between 1988 and 1989 is incorrect. A more precise analysis based on a longer time series of data and using better statistical methods was not necessary since the basic information that clearly showed the problem was available as early as 1986. In 1989 advice was provided for the actual $F_{0.1}$ level (TAC = 125,000 metric tons) whereas previously it had been based on a projected $F_{0.1}$ level which had no basis in reality.)

Spring — CAFSAC advises that the TAC for $F_{0.1}$ should be reduced to 100,000 metric tons.

April — The application by NIFA is denied since the evidence does not lead to a conclusion of irreparable harm.

In his brief to the court, Rice effectively refuted his earlier conclusion that spawning stock and recruitment were correlated, stating "that the apparently strong relationship between level of recruitment and level of spawning biomass is highly dependent on the recruitment estimates from the year-classes produced in the early 1960's. Without these earlier (less reliable and less accurate) values referred to (above), recruitment appears to vary substantially, with spawning biomass influencing recruitment weakly."

(It is not proper procedure to pick and choose data in any analysis, and in this case removal of all the early values when both stock size and recruitment were high substantially reduced the correlation between the two. In recent years both stock size and recruitment have been low so there is little correlation between the relatively small variations of each.)

May — AGAC concluded that the size of the northern cod had been overestimated. The 3+ biomass of fishable stock was estimated to 900,000 metric tons rather than 1.2 million metric tons and the 1983 and 1984 year classes were much weaker than previously thought.

(It is worth noting that the fishable biomass now includes three year old cod, whereas it previously included only fish four years old and older [4+]).

Northern Cod Program is announced; \$40 million will be spent over five years on twenty-five projects to learn more about the basic biology and environment of northern cod as a response to recommendations of the Harris Panel.

(The necessity of such a crash program on cod biology underscores the decline in biological studies on cod and other groundfish that had occurred in recent years.)

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October — The Dunne task force report (Dunne 1990) on the implementation of the recommendations in the Harris report is released. This report frankly acknowledged that policy positions developed for the management of northern cod in the early 1980s “gradually eroded, so that by the latter half of the 1980’s the policy basis for management of this stock was very unclear.” To a large extent this report perpetuates the short term management procedure since it provides only “minimum starting points for a renewed management policy for 213KL cod in terms of biological, ecological and socio-economic goals.” It recommends multiyear TACS to reduce fishing to the $F_{0.1}$ level over a period of time and to rebuild the spawning stock biomass to 450,000 metric tons in 1994 and 650,000 metric tons in 2000.

(It is disappointing that this report provides only minimum starting points for a renewed management policy. There is no discussion whatsoever of what the long term goals for the stock and the fishery might be. Has a target spawning biomass been abandoned even if it continues to appear in the Groundfish Management Plans? Will the stock be allowed to recover so that the TAC can reach 400,000 metric tons, or will it be maintained at only 100,000 or 200,000 metric tons?)

December — The management plan sets TACS for three years. These will be 190,000 metric tons in 1991, 185,000 metric tons in 1992 and 180,000 metric tons in 1993. The inshore allocation will be 115,000 metric tons.

(These catches would still exceed those at the $F_{0.1}$ level by a considerable amount.)

1991

July — CAFSAC advised that the fishable biomass of northern cod is one million tons and that this “implies that the $F_{0.1}$ (degree of mortality that will sustain a population) target may almost be reached in 1993.”

(In view of the fact that the policy since 1977 has been to fish at $F_{0.1}$ and that the Minister of Fisheries and Oceans believed that $F_{0.1}$ was being followed, this is an astonishing admission. Moreover, $F_{0.1}$ is not the degree of mortality that will “sustain a population,” but a more conservative mortality.)

December — CAFSAC advised that the multi-year management should be maintained and the TAC for 1992 should be 185,000 metric tons.

1992

February — CAFSAC advised that the spawning stock biomass was only 130,000 metric tons compared to the previous estimate of 300,000 metric tons. It further advised that “the 1992 catches for the first half of the year should be restricted to the lowest level possible, in the order of 25,000 metric tons, that is about 50% of the catches during the first half of 1991.”

(These estimates were so perplexing to CAFSAC that they apparently believed the missing fish might come back — “the preliminary assessment assigns to the fishery the disappearance of older cod when the reason could be either a decrease in availability or an increase in non-fishing mortality; if older cod do re-appear, it would indicate that there was an availability problem in 1991, but if they do not re-appear it would confirm a real decrease in abundance.”)

As a result of this advice the Minister of Fisheries and Oceans reduced the TAC to 120,000 metric tons and ended the harvest of cod offshore by Canadian otter trawlers.

June — Upon the request of Canada NAFO reviewed the status of northern cod as presented by CAFSAC. NAFO concurred with the conclusion that the stock was currently at or near the lowest level observed and recommended that it would be wise to consider the $F_{0.1}$ catch to be 50,000 metric tons, the lowest range of $F_{0.1}$ values. It was noted that the 1992 catch (to the end of May) was estimated to be about 25,000 metric tons.

July 3 — CAFSAC advised that “because of reduced catch rates, the presence of small fish and reduced allocations, there has been no Canadian directed offshore cod fishery after February.” Both CAFSAC and NAFO concluded that the commercial series could not be used as an index of stock size because of various changes in efficiency. “The number of cod aged six and older caught in 1991 was amongst the lowest in the time series, suggesting very low abundance. Age seven and older biomass, taken as an approximation to spawning stock biomass is between 48 and 108 thousand tonne, amongst the lowest values observed.”

CAFSAC further advised that “prudence dictates that the lowest estimate of stock size be used to provide advice, resulting in 1992 $F_{0.1}$ catches of about 50,000 metric tons. However, quantitative projections are not necessary to advise that the 1992 catches be kept the lowest possible. Prospects for stock building are not optimistic. The entire stock is now essentially composed of the 1986 and 1987 year-classes which may be followed by four weak year-classes. Fisheries in the next four years would depend heavily on the 1986 and 1987 year-classes and would exploit them before they have made their full contribution to the spawning stock.” The decline in abundance of the older fish was ascribed to an apparent increase in natural mortality due to environmental factors.

(As before, the increase in fishing mortality since 1980 is not considered as a cause of stock decline. To explain the recent decline, it is argued that the exploitation rate is normally correlated with fishing effort and therefore the reduced effort in 1991 could not have resulted in increased fishing mortality. However, if the stock size is very low, an increase in fishing mortality could be consistent with a decrease in effort. There is less incentive to fish, but the

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fishing that does take place could remove a disproportionately large amount of the stock if it was efficient. Having rationalized the effects of fishing, the uncertain effects of environmental factors are discussed extensively as probable causes of stock decline.)

As a result of the advice, the Minister of Fisheries and Oceans, John Crosbie, announced a two year moratorium on the commercial fishery for northern cod. This was based on: 1) the current size of the spawning stock, and the fact that the 1986 and 1987 year classes which make up almost the entire spawning stock needed for stock re-building would likely be harvested in large numbers in 1992 or 1993 and diminish the breeding stock; 2) the advised TAC at $F_{0.1}$ — only 50,000 metric tons. Since about 25,000 had already been taken, only 25,000 would be left for the inshore fishery. This would not be commercially viable.

The decline in the stock is blamed on three main factors: 1) overestimation of the stock, leading to the setting of TACS that were too high; 2) foreign overfishing; 3) devastating ecological factors.

(There is evident confusion about when the recent decline in abundance of northern cod took place. CAFSAC stated that there was already a very low abundance in 1991, whereas its subsequent studies and the Minister of Fisheries and Oceans seem to believe the decline took place during 1991.)

The reasons offered for the recent decline are of varying merit. The effects of ecological factors are unmeasurable, dubious at best, and have now reached the status of myth. Foreign fishing since 1977 has been confined to the small area outside the 200 mile limit, so that overfishing there cannot be held responsible for the catastrophe that has overtaken northern cod. It is recognized, however, that when the stock is low, overfishing outside the 200 mile limit becomes much more significant. However, foreign overfishing cannot be considered the primary cause of the decline and now serves only as one among several scapegoats.

The primary cause of the decline has been the overestimation of the stock, leading to the setting of TACS that were too high. The federal government, through the Minister of Fisheries and Oceans, has exercised exclusive management of northern cod since 1977, and must therefore take responsibility for the catastrophe that has taken place.)

THE DECISION-MAKING PROCESS

From the outside, fisheries management decision-making resembles a "black box"; i.e., it is difficult to see what is going on inside it, how things work, and how decisions come out.

As indicated above, the northern cod stock decline that triggered the moratorium has been a matter of increasing concern, particularly among inshore fishers and related interests. Their protests figured in DFO's establishment of the

Alverson Task Group on Inshore Fisheries and the Harris Review Panel.

Opposition to DFO management's thinking also included the unsuccessful legal action to establish that DFO Fishery Management Plans should be subject to impact assessment reviews. This concern from the inshore fisheries level, which has been reinforced by the provincial fisheries authorities, merits more explanation.

In 1986 Newfoundland inshore fishing interests — the fishermen, plant workers, and small plant operators — banded together and organized NIFA. They took issue with the direction of federal fisheries northern cod stock management decisions and policy as expressed in DFO Management Plans, particularly for Atlantic groundfish. They found that the Plans contradicted their view of expressed federal policy and endangered their well-being, and they concluded that the views and concerns of the inshore fishery sector were not taken seriously in the consultative process that leads to Atlantic Groundfish Management Plans.

These findings led NIFA to commission an independent scientific study of the status of the northern cod stock by a team of Memorial University biologists (Keats, Steele and Green 1986). Their report raised doubts about aspects of the scientific methods and the wisdom of the advised size of the TAC. Other questions were aired, in public meetings and media reports, about the federal fisheries stock assessments and scientific advice. In 1987 these circumstances led federal Fisheries Minister Tom Siddon to establish the already mentioned Task Group on Newfoundland Inshore Fisheries. The Task Group was composed of international experts with wide knowledge of contemporary fisheries stock assessment. It submitted its findings in November, 1987 (Alverson 1987). The Alverson Report, as it is called, simultaneously complimented DFO's scientists for their research accomplishments and urged more caution in their predictions. The latter finding reinforced DFO's critics. But the tenor of the report seems to have encouraged DFO scientists and managers to believe that problems were not as serious as they seemed to their critics. The report was not widely distributed.

However, in February, 1988, DFO's Newfoundland regional office published "The Science of Cod," in *Fo'c'sle*, a booklet series targetted at fishermen and the general public. The booklet is based upon information supplied by Fisheries and Oceans (Newfoundland), although it was written by a freelance writer. It includes an introductory statement from the Newfoundland Region's Director General, in which he interprets the importance of the Task Group's findings, and justifies and explains the Department's scientific research effort in the interests of the industry. He says:

It is reassuring that the conclusions of the Task Group and CAFSAC about northern cod are quite similar with respect to the present stock size and the causes for the decline in the inshore fishery since 1982. The credibility of DFO scientific advice

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was not questioned. The northern cod stock continues to increase, but perhaps not as fast as projected several years ago. The Task Group therefore recommended a cautious approach to managing the stock to protect the inshore fishery. The Minister has accepted this recommendation and set the 1988 TAC 27,000 tons below the calculated F_{0.1} level.

Provincial government fisheries department officials, however, argued that this 1988 TAC was unacceptable, because retrospective assessment indicated that the TAC had been too high for the past ten years. It was also contrary to the advice of the Task Group.

Why did DFO authorities feel it necessary to commission the Task Group on Newfoundland's Inshore Fisheries and, later, "The Science of Cod" booklet? These events suggest 1) how non-governmental pressure groups like NIFA increasingly intervene in and affect the fisheries management planning process at both the domestic and international level since Canada extended its jurisdiction to 200 miles in 1977, and 2) that the information written by federal fisheries authorities is prepared primarily for scientists and administrators. It is not written for use by the fishing industry. DFO resource and industry studies have not aimed at those whose livelihoods depend directly upon sound stock management and fisheries industrial development and who may wish to intervene effectively in discussions leading up to decisions.

NIFA felt that the biological and social kinds of information and factors used to shape management decisions, and the stages through which they are taken, should be described for their non-scientist membership. The following discussion attempts to sketch how the fisheries management system is organized to make decisions over the calendar year and, briefly, some of the social considerations, viewpoints and concerns about the management of the northern cod stock (2J3KL) at work in this process, especially concerning allocation.

Canada's fisheries management and administration occur within a distinct legal framework. The British North America Act (1867) gives Parliament exclusive legislative authority over seacoast and inland fisheries. Section 34 of the Fisheries Act grants broad authority to federal fishery administration for "the proper management and control of the seacoast and inland fisheries." The federal minister of fisheries, at his absolute discretion, may issue or cancel fishery licenses, and thereby limit entry into fisheries and prescribe levels of effort. Further, the Coastal Protection Act effectively gives the federal minister the power "to regulate foreign fishing vessels within any Canadian fishing zone in accordance with pertinent laws and treaties. Licenses may be issued, suspended, or cancelled." Other acts grant the minister additional authority. In sum, the federal fisheries minister and his subordinates have wide discretionary powers, which are frequently exercised outside existing regulations through policy directives and the interpretation of regulations (Hennessey and LeBlanc

1987).

Provincial governments have authority over the licensing, number, and location of processing plants. The two governments and various agencies participate in jointly-funded fishery development programs, such as construction of shore facilities, vessel upgrading, gear replacement, and loan funds.

The division of authority over fishery-related matters between the federal and provincial governments makes consultation between them essential. Since 1977, when Canada extended its fisheries jurisdiction, consultation has become increasingly structured and formal. Its effectiveness depends greatly upon the state of the industry's own organization and preparation to participate. When the industry lacks agreement about particular issues, the federal government also frequently resorts to informal consultation.

Fishery management decisions are also influenced by policy guidelines, that is, by government's general goals. Policy relates to what we hope to accomplish for our society by managing the fisheries. The sum of fisheries management decisions for the northern cod in NAFO area 2J3KL, and to some extent government policy itself, is expressed in annual Fishery Management Plans, and particularly the Atlantic Groundfish Management Plan. The latter Plan also lists "Basic Principles" that are to guide stock allocation and quota decisions.

The Atlantic Groundfish Management Plan results from an annual process of consultation and decision-making. During March federal fisheries scientific units are normally busy analyzing stock assessment information in preparation for the May meeting of CAFSAC, which provides advice to federal authorities on stocks totally within Canada's 200 mile exclusive fishery management zone. (CAFSAC's original terms of reference require that its management advice take into account "economic objectives," but until recently its scientists appear to have limited their assessments and advice to biological considerations. It seems there has been no suitable forum for interaction between biologists and experts in socio-economic fields. Their training and other considerations did not encourage biologists to broaden their expertise or to include socio-economic factors in their assessments.)

In March as well, DFO normally conducts bilateral discussions with foreign fishing nations on allocations within the 200 mile zone.

CAFSAC provides scientific advice to DFO's Atlantic Directors General on the management of groundfish and other stocks in Canada's exclusive fisheries zone, and for "transboundary stocks" on the Nose and Tail of the Grand Banks. CAFSAC is also the forum for setting the requirements for all fisheries biological data to be gathered for scientific assessment and monitoring both domestic and foreign fisheries. Its membership includes DFO scientists from the three Atlantic regional DFO units. And its activities are organized around the activities of six

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sub-committees. These include the Groundfish sub-committee, which is responsible for the northern cod.

CAFSAC also provides scientific information and participates in the Scientific Council discussions of NAFO, and Canada is represented on NAFO's Fisheries Commission, which is responsible for management and conservation of the fishery resources of the NAFO regulatory area (whether or not individual NAFO members abide by its Commission's recommended quotas).

Canada's federal fisheries authorities have also established advisory committees for consultation about fishery matters with the industry and provincial governments. This consultation involves all Atlantic area species. From the Newfoundland provincial government standpoint, however, groundfish are the most important of those species.

Some 300 local fishing committees are only nominally involved in the advisory process, although they set local fishing season limits, regulate annual draws for fishing berths, resolve gear conflicts, and arrange applications to government programs in aid of the fishery. These committees vary greatly in their effectiveness. Some rarely meet or keep records; others meet regularly, keep minutes, and vigilantly pursue their management interests. Government representation occurs at committee meetings as required.

Federal fisheries management consults more regularly by way of several formal advisory committees. At the lowest level are Working Group Committees (or Advisory Committees), like the Groundfish Advisory Committee. In 1988 the Newfoundland Region had six such committees, each chaired by a senior DFO official. Other members include fishermen (from various community committees), together with union, provincial government, and industry participants (though not from the offshore sector). Although at times primarily advisory-informational on DFO's part, these committees do permit dialogue about fishery issues among all parties.

AGAC meetings are the next formal advisory level. The federal Assistant Deputy Minister for Atlantic fisheries chairs AGAC meetings, which occur about four times annually. All matters concerning groundfish management within the 200 mile zone (e.g. the TAC, quotas, licensing, policy, etc.) are open for discussion at these meetings. But the meetings are large and include participants from both federal and provincial governments in the Atlantic region, and from NIFA, the unions, industry, and other bodies. The topics discussed cover stocks and other important topics from harvesting to markets.

DFO's Draft Fishery Management Plan is usually presented for discussion at the Fall AGAC meeting. Discussions frequently become heated, and not all issues (e.g., the application of Basic Principles and the appropriateness of proposed quotas) are resolved.

AGAC proceedings, recommendations, and unresolved issues are carried to the next formal advisory level, the Federal-Provincial Atlantic Fisheries

Committee. These meetings are chaired by DFO's Deputy Minister of Fisheries and include Atlantic Provincial Deputy and Assistant Deputy Ministers of Fisheries.

Issues still unresolved go to the last and highest advisory level, the Atlantic Committee of Fisheries Ministers, where the federal Minister participates directly. Meetings occur about five times annually, and are confidential. Once again, DFO is the primary initiator and manager of these discussions. It sets the agenda, although provincial input is invited.

DFO officials thought its approach to managing its fisheries quite sensible, perhaps even sensitive, on the surface. Canadian fisheries managers have gradually developed this approach in preference to other possibilities, especially the Regional Management Council system, established in 1976 in the U.S. That system occurs in a highly litigious society, and is often dismissed as "too political." It is certainly carried on in a rather public way; public reviews and impact assessments of proposed management plans are standard operating procedure. We are unable to say that it is better or worse.

In general, the Canadian process permits and requires frequent give and take among all parties over Fishery Management Plans. Effective participation in this process requires having the facts and figures straight and being well organized to form and express arguments and positions with strength and clarity. But the scientific and informational arsenal available to the participants in these consultative discussions always favors DFO. For example, until 1992 Newfoundland's provincial fisheries department had but one fisheries biologist on its regular staff to advise on all stock matters. More recently, the provincial government has created a Resource Division responsible for stock assessment advice. It is hoped that its present staff of two biologists will expand in the future.

Effective participation also requires a balance of authority among stakeholders when decisions are made. That balance does not exist under the present Fisheries Act. Moreover, the organizational structure designed to enable a productive exchange of views and information between fishers and well-intentioned scientists has failed in important ways. Only DFO scientists and managers have ultimate authority, and they control the information requisite to management planning. Fishers can only talk. To compound their weakness, other key stakeholders, in particular the industry, unions and the Newfoundland Department of Fisheries, have failed to develop the scientific wherewithal that would enable them to evaluate the scientific advice of DFO. Had they done so, they might have better used their opportunities to participate in consultative exchanges and to lobby for changes. The basis for this failure invites a separate inquiry.

These are among the factors behind the Newfoundland government's persistent call for the establishment of a new, joint fisheries management

scheme (Government of Newfoundland and Labrador 1991). In 1992 some Newfoundland authorities were optimistic that such a new regime is not far away. Our perception is that joint management is unlikely. However, DFO has indicated that plans for a new organizational structure may be tabled in the near future.

SCIENTISTS IN THE “BLACK BOX”

The history and structure of fisheries management that have led to the northern cod stock crisis and moratorium as outlined above leave us with many questions. We know things went awry with DFO's science. When they did, those most affected were unwilling or unable to challenge or check the course of management, in part because of the way authority and decision-making are organized to create fisheries management plans. Until recently, however, DFO's science and its scientific community were somewhat of a sacrosanct “black box,” about which the general public knew very little. However, that community is a human, social and cultural enterprise, with its processes and interactions engaged in science for fisheries management. As such, it is material worthy of study by social scientists. We feel compelled to ask: what might there be about this community of scientists, its organization and culture, that may have influenced its operations?

We are fortunate to have some independent answers to this question. DFO managers in Newfoundland permitted Alan C. Finlayson, a social scientist studying at Memorial University, to interview its personnel about their experience and thinking concerning northern cod stock assessments from 1977 to 1990 (Finlayson 1991). His findings are reported in a detailed and thoughtful M.A. thesis, soon to be published. At risk of oversimplification, it may suffice to note and comment on several of Finlayson's key findings:

- 1) Managers were strongly committed “to the idea of a rebuilt, rationally managed northern cod stock.”
- 2) Because of errors and uncertainties inherent in stock assessments, which permitted a high degree of “interpretative flexibility,” annual stock assessments and resource projections resulted in “assessments that are better understood as expressions of pre-existing commitments and expectations rather than useful descriptions of natural reality.”
- 3) The inshore fishery's challenge to DFO's stock assessments and projections, and DFO's resistance to it, were really “a crisis in epistemological legitimacy and institutional authority.”

(In other words, there was a crisis in the legitimacy of contending ways of knowing, and it was based in part upon notions of less vs. more scientifically “correct” stature.)

- 4) DFO's scientists were somewhat divided among themselves, by the contradiction inherent in their formal mandate — to serve fisheries management

— as opposed to the long-established professional reward/promotion system. In consequence, the Science Branch persistently failed “to produce knowledge of practical utility to its mandated clients; the State and the commercial fishery.”

(DFO fisheries scientists’ career advancement is based heavily upon their meeting long-established professional standards: i.e., the publication of primary fisheries science articles. This standard applied in the days of the old Fisheries Research Board of Canada, until federal fisheries scientists were brought under more direct administrative control shortly before and following establishment of the 200 mile management zone in 1977.

In their annual Program Reviews, it is postulated that federal fisheries scientists will publish their findings in the primary journals. These now have a wide international readership. This to some extent compels writing for a general audience, since papers on parochial subjects such as northern cod may be of little interest to an “international” journal. As a result, the basic biological studies have not been done or published. For example, the average number of papers on cod in the *Journal of the Fisheries Research Board of Canada* and its successor the *Canadian Journal of Fisheries and Aquatic Sciences* decreased from 10.3 per year in the 1960s to 2.0 in the early 1980s. Yet such studies are generally of greater relevance to Newfoundland and Canadian regional fishing interests. The information gaps were noted by the Harris Review Panel and as a result the Northern Cod Program was established.

In this situation, DFO fisheries scientists face a basic conflict that concerns what they should do. Should publication be the basis of their success in the system? Or should it be how well they manage the fisheries they are responsible for?)

5) Fisheries science is imbedded in, dependent upon and subservient to the state.

(When DFO science fails, or is perceived to fail, it impugns both the dignity and, perhaps worse in view of the division of powers mandated by the Fisheries Act, the authority of the state itself. Hence it may be to the advantage of the state to maintain “black box” government science. But it would always be suspect. Likewise, to be convincing its virtue must be seen and not merely declared.)

At the same time that DFO’s managers were speaking of the the “Northern Cod: [as] A Fisheries Success Story” (Department of Fisheries and Oceans 1980), the eminent fisheries scholar James A. Crutchfield painted a rather dark picture of fisheries management prowess in an address before an audience of Australian fisheries managers in Canberra:

Given all the time and all the splendid research that has gone into expanding our knowledge of the sea, its living resources, and the technical problems of harvesting them, the results are remarkably disappointing. The number of programmes that have actually succeeded in checking depletion of ocean fish

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stocks can be counted on the fingers of one hand. And those that have protected stocks while providing some real improvement in earning, stability of employment, and ability to withstand the usual economic jolts to which fisheries are subject, can be counted by someone with no hands at all (1982: 9).

A decade later fisheries management remains experimental, with techniques that manage relationships between people and the living marine resources they build their lives around. Like any experimental science with serious implications for human lives, what fisheries scientists do and what managers and politicians decide should be matters open to close public scrutiny, if not more direct public involvement and direction. The management system outlined in this discussion is still a black box into which light enters with difficulty, but there are some signs that it is becoming more open in response to external pressure. Perhaps the wisdom of increased openness will become deeply imbedded in the thinking and institutions of DFO managers. It remains to be seen if this will happen.

MORATORIUM: ITS PUBLIC CONSEQUENCES AND UNCERTAIN AFTERMATH — THE DARK HOLE OF POLICY MAKING

The northern cod moratorium means different things to many people. For the optimistic, it is an opportunity, nay, necessity. The hope is that those most concerned will seriously examine what kind of a social and economic world we might construct for our fishing communities and industry in the future. A number of recommendations, some already tabled in various task force reports, that bear upon the northern cod crisis and Newfoundland and Atlantic fisheries generally, are already available. Others will follow shortly. Evaluation and application of these recommendations constitute formidable challenges to Newfoundland society and DFO managers alike. Unless an aggressive effort is made to face these challenges, and soon, we risk another cycle of resource, community, and social destruction.

Various observers have suggested that, in consequence of the stock crisis and moratorium, things cannot be as they were, ever again. But this catastrophist rhetoric is not wholly true. There are choices to be made. Newfoundland's way of life and culture have been changing for some time in response to a wide range of forces. For example, the Kirby Commission did result in the reorganization of the Canadian Atlantic fisheries industry. Change is evident in population demographics (smaller families, increasing proportion of aged in our communities, increasing urbanization, etc.) and in changing values and lifestyles. Likewise, important changes have occurred in the technical expertise of the inshore and offshore fishing industries.

Despite these changes, a strong sense of community, separate identity, and historical and cultural continuity and distinctiveness endures. In the inshore

fishing community especially, a heritage of environmental and marine life lore continues to be transmitted. Newfoundland will not be Ontario, and the fishery may continue to form the backbone of the economy and society since it involves such a large proportion of the population.

But we cannot escape the responsibility to ensure that Newfoundlanders have the opportunity for work that earns them the self-respect that is essential to a sense of well-being and confidence. One need only talk with young people to appreciate the demoralizing burden of uncertainty they presently carry about their future.

There is also an important cautionary lesson in these facts. We have an opportunity to restore, rebuild and preserve a renewable resource that has sustained many of Newfoundland's communities and resulted in a unique lifestyle. It is necessary to discuss and plan for the level to which the stock will be rebuilt, and at the same time determine how the stock will be harvested, and by whom. Otherwise, projections about how many fishers and communities might be supported in a sustainable fishing industry are unwarranted.

It is already apparent that government, unionists and other interested parties see the moratorium as an opportunity to trim and shape the fishing labor force and capital investment so as to produce a smaller, specialized fishing industry. That jobs, firms and communities will be lost is understood.

But neither the end of the moratorium nor the shape of the fishery afterward is preordained; they are subject to choice. What is needed therefore is an open discussion in the province to determine the directions that will be taken in the future.

CONCLUSIONS

1) The history of the scientific advice provided for northern cod offers an example of poor science. Science proceeds by generating hypotheses and then doing experiments to test them. If the experimental results do not confirm an hypothesis, then it has to be abandoned and new ones generated that can be tested in their turn. In the case of northern cod, projections (hypotheses) were made of the rate of rebuilding the cod stock when certain fishing mortalities were applied to the stock. However, when the stock failed to rebuild at the expected rate the hypothesis was not examined to determine why, or abandoned; instead a variety of other factors such as low water temperatures or caplin availability ("devastating ecological factors") were invoked to rationalize the failure. The projected numbers were taken to be real and therefore the fish must exist somewhere. At the same time, the projected fishing mortality was also accepted as real even when landings showed that the actual fishing mortality was two to three times higher.

2) CAFSAC's responsibility to provide scientific advice is so heavy that it has been made a collective rather than an individual responsibility. Peer review

of the science, however, evidently consists of in-house discussions. The problem is that if everyone is responsible then no one is responsible. As a result there has been little or no open, independent, critical discussion of the merits of the science. Provision should be made to allow independent (i.e., non DFO) reviews of the assessments and the scientific advice by all stakeholders who have an interest in the management of the resource.

3) It is apparent that the policies enunciated by DFO and expressed in the Groundfish Management Plans have been only words on paper to be ignored or disregarded at will. Although fishing at $F_{0.1}$ or less has been the declared policy since 1977, this policy was never actually followed. Yet even before the moratorium, the hope was expressed that fishing might get down to the $F_{0.1}$ level in 1993. Although the Atlantic Groundfish Management Plans state that fishing should be reduced to prevent recruitment overfishing, the spawning stock of northern cod was never allowed to rebuild to any of the targets that were deemed necessary. Moreover, a target spawning biomass has no longer been specified in recent management decisions, and it is unclear if one exists at the present time.

4) There appears to have been confusion within DFO between the scientific advisors and the managers. Although it had been documented in 1986 that actual fishing mortalities were two to three times the $F_{0.1}$ level, the Minister has apparently believed until recently that the fishery was being managed at the $F_{0.1}$ level.

5) Long term socio-economic goals for the management of the fishery have to be proposed, discussed and decided on. Will the stock be allowed to recover so that the TAC will be 100,000, 200,000, 300,000 or 400,000 metric tons? How rapidly should the stock be rebuilt? How large a spawning stock biomass is required so that recruitment is not limited? New long term management plans which are recognized as experiments must be developed, tested by fishing and continually reexamined. If they are found wanting, new plans should be developed and then tested in turn. Such long term management goals should never be ignored or forgotten.

6) When the goals for rebuilding the stock have been decided, then there should be a similar open discussion of how the stock is to be harvested. Will the inshore allowance of 115,000 metric tons be maintained? Should the offshore trawling of spawning concentrations continue? These and many other questions have to be posed and given adequate discussion before decisions are made.

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The following is the text of a letter to Eileen Rossiter, chair of the Standing Senate Committee on Fisheries, following the release of a report on the Atlantic groundfish industry earlier this year:

By **W. A. ROWAT**

Department of Fisheries

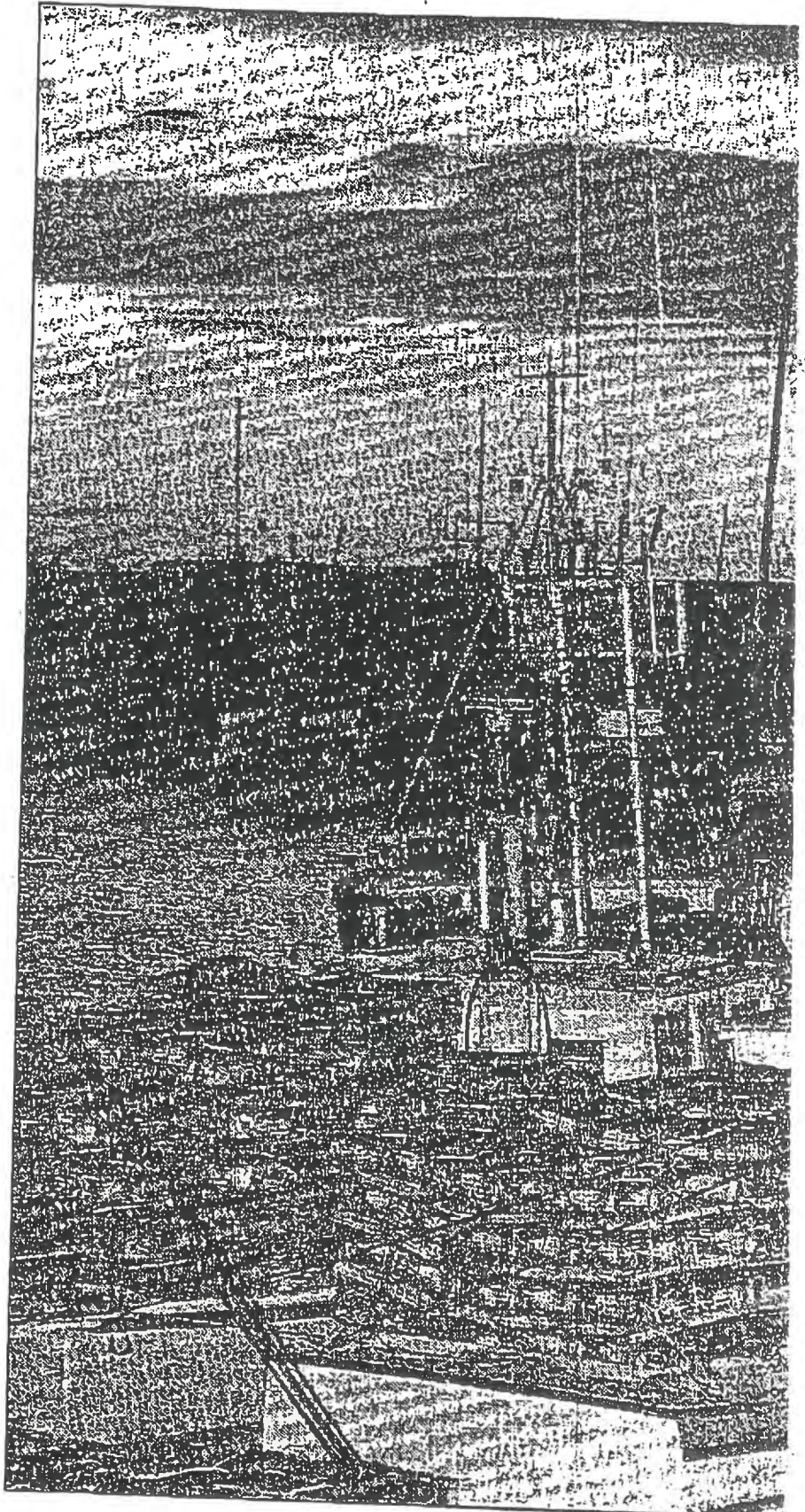
I WOULD LIKE to offer some further views on the nine recommendations of the Atlantic Groundfish Fishery: Its Future.

1. The committee recommends that conservation of the marine environment and its resources always have priority over all other considerations. Policies concerning allocation and licencing, enforcement, harvesting practices, etc. should, without exception, always be proven to be environmentally sustainable. This principle should apply at all times, even when fish stocks are abundant. In the future, fishing gear and fishing techniques should be thoroughly evaluated before being introduced on a commercial scale.

In a speech to the St. John's Board of Trade on Oct. 11, 1995, [then-fisheries minister Brian] Tobin made it very clear that in the fishery of the future conservation must come first. That priority has guided our resource management decisions on both coasts. It has also been the thrust of all major initiatives recently announced by this department. In the press package announcing the tabling of the Fisheries Act amendments on Dec. 11, 1995, Mr. Tobin emphasized that conservation must come first. He also stated that amendments to the Fisheries Act are an important step forward in the move toward a fishery that must be based on an ecologically viable fisheries sector.

In recent years, the department has been more mindful in the development of any new policies of the need to ensure that they are environmentally sustainable. Conservation and sustainability of the ocean's resources are of paramount concern to the department and will continue to be. However, the department is moving away from being the sole manager of the resources and, through partnerships with industry, we expect that fishermen themselves will need to ensure that their priority concerns must also be conservation and sustainability.

I agree with the report that any new gear or fishing techniques should be evaluated before being introduced on a commercial scale.



22(a) [Signature]

2. The committee recommends that the department issue a clear vision statement and an explicit statement of fundamental and guiding principles for managing the Atlantic fisheries, including clearly expressed objectives with respect to employment in coastal communities.

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One of the major thrusts of the department is to define its core activity. This is an ongoing process, but it is clear that conservation of the resource is our fundamental responsibility. Employment for fishermen and plant workers in coastal communities is an important goal. However, successive studies have recognized that we have too many fishermen and that there are, in general, too many fish plants in Atlantic Canada to function economically in a more viable fishery of the future.

On Dec. 20, 1995, Mr. Tobin announced a new licencing policy for Atlantic Canada and a program of licence retirements. In order for the fishery to be environmentally sustainable and economically viable in the future the government, together with industry, must address three fundamental problems that have characterized the Atlantic fishery: excessive capacity, over-dependence on the fishery and over-regulation.

This new policy will be an essential building block of the foundation for a renewed Atlantic fishery. It will enable us, working with the provinces and fishing associations, to build a fishery that is sustainable, prosperous, and will meet the needs of our fishermen and coastal communities for generations.

3. The committee recommends that inshore fisheries have priority access to the resources upon which they have traditionally relied. The rules for reopening fishing grounds should clearly stipulate that in the case of groundfish usually harvested by both the inshore and offshore sectors, no offshore harvesting take place until the inshore has fully recovered. Offshore fisheries for groundfish should be permitted to resume only after a thorough consultation with inshore fishermen.

There has long been a debate between the offshore and inshore groundfish sectors over access to the resource. Canadian inshore, midshore and offshore fishermen all have traditional access to groundfish stocks in Atlantic Canada. In its November 1995 report, the Fisheries Resource Conservation Council made a number of recommendations regarding the preparations for reopening those fisheries currently under moratoria. The department will be working with industry during 1996 to further develop the necessary criteria for re-opening fisheries.

Your recommendation that the inshore sector have priority access to reopened groundfish stocks is contrary to our existing policy and one that we are not prepared to accept other than for the 2J3KL cod stock. Since the Corner Brook Northern Cod Seminar in August of 1979 it has been the department's position, and in general terms the industry's as well, that the inshore sector should have priority of access to this cod stock. Aside from that one anomaly, the new policy will not affect the historic allocation of the fish resources

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The fishery and the future

A co-operative approach

between fleet sectors and will continue to respect principles such as adjacency and historical dependency. As well, the fleet separation policy, which prohibits fish processing companies from holding inshore licences, is being maintained.

While conservation must be the cornerstone for the future, equitable access to the resource must also be recognized. In groundfish we have a number of different gear sectors using both mobile and fixed gears. We see no reason to give one sector priority over another. Under the new partnership concept, not only will fishermen have to accept more responsibility for the management of the resource but they will also have to develop better co-ordination between groups. It is our hope that by working together the different interests can gain better understandings of the positions of others and develop the necessary working relationships that will lead to more effective utilization of the resource.

4. The committee recommends that the fishery of the future be premised on participants' diversification of their fishing activities. The licensing system (e.g. licence transfer policies) should promote multi-species, rather than single-species, operations.

The primary focus of the new licensing policy, as announced on Dec. 20, 1995, is that the inshore fishery will be made up of a professional core group of a limited number of enterprises. Each enterprise will be headed by a professional fisherman and will be encouraged to hold multiple licences.

5. The committee recommends that the department review and assess the effectiveness

of its regulations for restricting the ownership or control of individual Transferable Quotas to certain maximum limits.

Most quota programs in Canada include anti-concentration rules of various sorts. The most direct control is a limit on the maximum amount of quota that can be owned. More general policies such as owner-operated (to ensure licence holders cannot hire someone to fish for them) and fleet separation (to keep processors from securing supply through acquisition of fishing licences) also serve this end. Other policies restrict the permanent transfers between provinces and fleet sectors. These policies have been reviewed.

The long-term experience with many of these restrictions is that they become increasingly ineffective as industry adjusts (either legally and/or by bending the rules) to financial realities. In reality, these rules and policies have come from fishermen themselves and are supported by coastal communities to protect local employment. These types of rules are rarely applied in other industries and hinder the evolution of an efficient self-supporting industry.

6. The committee recommends that federal and provincial governments move to develop a joint and co-ordinated strategy to address the issue of excess processing capacity: the number of fish processing plants in the region should be reduced and the number of processing weeks for plants remaining in operation should be increased. The strategy could be based on the principle that reduced capacity in fish processing would not reduce historic provincial catch shares. In future, fish plants will need to become better equipped in producing value-added products.

The federal government, when it

introduced the five-year \$1.9-billion Atlantic Groundfish Strategy (TAGS) in April 1993, started a process of consultation with the Atlantic provinces and Quebec with the objective of establishing a joint federal-provincial strategy to deal with capacity reduction in both the harvesting and the processing sector of the Atlantic groundfish industry. This was consistent with the recommendations of the Task Force on Income and Adjustment in the Atlantic Fishery (the Cashin Task Force) which had recommended the establishment of Industry Renewal Boards (IRBs) for the implementation of a co-ordinated federal-provincial strategy for capacity reduction in harvesting and processing capacity.

After consultations with the provinces no agreement was reached on the establishment of a co-ordinated approach to address the problem of overcapacity in both harvesting and processing capacity. The federal government therefore proceeded with the establishment of regional Harvesting Adjustment Boards (HABs) to implement a program of capacity reduction in the harvesting sector which falls under federal jurisdiction. The main elements of the federal harvesting capacity reduction strategy are the Groundfish Licence Retirement Program administered by the HABs, the Atlantic Fishers Early Retirement Program, and the recently announced reforms of Atlantic Fisheries Licensing Policy and Fishers UL.

In the case of Newfoundland the federal and provincial governments have recently agreed to expand the mandate of the Newfoundland Harvesting Adjustment Board to include advice on the rationalization of the Newfoundland fish processing sector. The board, whose

22 (U) [Signature]

membership has been increased by the addition of a representative of the processing sector designated by the Newfoundland government, is currently developing approaches to a capacity adjustment and is consulting closely with the fish processing sector on their implementation.

7. *The committee recommends that the department further promote the participation of fishermen in fish stock assessment and in carrying out various fisheries research activities. In future, the department should recognize the value of the anecdotal knowledge of coastal fishermen.*

In recent years departmental scientists have increasingly involved fishermen in their work to a much greater extent than in the past. Scientists recognize that fishermen have a role to play in stock assessments and that their knowledge, although at times not strictly quantifiable, is nevertheless valuable. Two recent programs, index fishermen and sentinel fisheries, are a direct result of our desire to get fishermen more involved in the scientific aspects of stock management. Both these programs are proving useful and the fishermen have been very receptive to these types of programs.

Departmental scientists also share research and practical experience with fishermen in meetings prior to the completion of stock assessments. In many instances, if space permits, fishermen are invited to participate in research cruises to assist in carrying out some aspects of data collections.

It is, of course, not possible to involve every individual fisherman in every scientific issue. However, the department has come a long way in improving interactions between fishermen and scientists and we will continue to improve upon this relationship at every opportunity.

8. *The committee recommends that fishermen play a greater role in decision-making through a genuine and effective system of co-management and partnership with government. Access to the fishing profession should be limited to bona fide participants. The fishery should be delegated more power to regulate itself (e.g. in regard to professionalization, the admission of fishermen to the profession).*

The department, in consultation with industry, is exploring a new approach for the management of Canada's fisheries based on a partnership with industry. New powers in the Fisheries Act are proposed to allow the Minister of Fisheries and Oceans to share the decision-making with groups within the fishery through long-term partnership agreements. For fishermen the partnership will mean a more formalized role in the decision-making process for the

management of their fishery. Partnership will also provide the basis for sharing of the financial responsibility for the management of the resource and will provide greater security of tenure for licence holders.

Under this approach the responsibilities and legal authorities for conservation and protection of the resource will remain with the Minister of Fisheries and Oceans.

When organizations representing fishermen assume responsibility for activities, such as data gathering, the Department will establish standards and monitor industry activities to ensure standards are met.

Departmental staff in all regions will be actively involved in communicating the department's partnering initiative and its linkages to other departmental initiatives. Our goal in 1996 will be to explore co-management agreements which will be the precursor to more formalized long-term agreements.

9. *The Committee recommends that the Department of Fisheries and Oceans develop ways to communicate policy and new policy initiatives more effectively to fishermen and their organizations. Coastal communities affected by federal government decisions should be thoroughly consulted. The federal government should also move to counter the perception, widely held by the Canadian public, that the Atlantic fishery is a burden on the national economy.*

The Department is always looking for new and better ways of communicating with industry and the Canadian public at large. However, as you can appreciate it is impossible to contact every individual fisherman on every issue.

Over the years we have developed a very extensive consultative process with industry at all levels. There are few, if any, decisions taken that have not been subject to some consultation with industry. Representatives of various fishermen's groups are not only consulted regularly, but are also advised of new policies, regulations, etc. on an ongoing basis. But, as you can appreciate, it is not possible to satisfy the wishes of everyone all the time. With so many competing interests for fish resources it is inevitable that there will be some negative reactions to almost all policy decisions. However, Department officials have always been willing to meet with fishermen's groups to seek their input and to fully explain policies.

The Committee recommends that the Department consult thoroughly with coastal communities before government decisions are made. As Canadians, we are all concerned with the well-being and economic viability of all communities in Canada.

The fishing industry will continue to be consulted extensively throughout each year and while it is just not possible to consult with individual communities on every issue, regional officials will continue to meet with elected officials from the local and provincial level whenever necessary to explain policies and programs and to listen to any concerns that they may have. ●

22(d) 27

Court confirms Ottawa's control of native fishery

By JIM BRONSKILL

Southern News

OTTAWA - The Supreme Court of Canada says the government can require natives to have food-fishing licences, but must be careful about attaching conditions to them.

The court, in a pair of decisions yesterday involving British Columbia bands, also made it clear that natives do not necessarily control the fisheries in waters running through their reserves.

The judgments confirm the broad federal power to regulate fisheries and help stake out the limits to that authority.

In a 7-2 decision, the high court allowed the appeal of Jerry Nikal, a Wet'suwet'en Indian convicted of catching salmon without a licence in 1986 from the part of the Bulkley River slicing through Northern B.C.'s Moricetown reserve.

The simple federal requirement of a licence did not infringe Mr. Nikal's constitutional right to fish for food or ceremonial purposes, Justice Peter Cory wrote for the court.

"If the salmon fishery is to survive, there must be some control exercised by a central authority," Judge Cory said.

"The licence is the essential first step in the preservation and management of this fragile resource."

Judge Cory said, however, the government had not justified attaching numerous conditions to the required licence. They would have prevented Mr. Nikal from fishing during the summer months and limited his catch to salmon for the sole purpose of feeding his family.

"The conditions are unconstitutional," said Judge Cory. "As a result of the conditions, the licence is invalid."

Reform party fisheries critic Mike Scott said he was worried the judgment could tie federal hands in the effort to manage stocks. "There is some concern there."

Crown lawyer David Frankel noted, however, that a landmark

See FISH, A2

FISH

Continued from A1

1990 Supreme Court ruling has already established that the government must justify any violation of the aboriginal right to fish.

The high court's latest decision is merely an extension of that ruling, Mr. Frankel said.

The court, though quashing Mr. Nikal's conviction, rejected his argument the Moricetown band had the right, under the Indian Act, to regulate the Bulkley River fishery.

The court said the Act delegates such control to bands when they are granted an exclusive right to fish a waterway. But historical documents show the Crown never intended to give the band that

right, Judge Cory concluded.

The court cited the same principle in rejecting the appeal of three Squamish Indians convicted of fishing in waters near the Cheakamus reserve on different occasions in the mid-1980s.

Justice Frank Jacobucci found there was no evidence the band was granted an exclusive fishery at the Squamish River site.

Harry Slade, who represented the Squamish members, said the point is significant, but noted there are instances where the Crown has endowed bands with fishery rights.

"That circumstance may vary from province to province, particularly where reserves are established pursuant to treaties, which is generally not the case in British Columbia." ■

TOP STORY

23

PAST AND FUTURE GOALS AND OBJECTIVES IN THE
ALLOCATION OF THE NORTHERN COD RESOURCE

CENTRE FOR NEWFOUNDLAND STUDIES

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GLENN BLACKWOOD

**Past and Future Goals and Objectives in the
Allocation of the Northern Cod Resource**

by

Glenn Blackwood

A thesis submitted to the
School of Graduate Studies
in partial fulfilment of the
requirements for the Degree of
Master of Arts

Department of Geography
Memorial University of Newfoundland

July 1996



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ABSTRACT

The collapse of the Northern cod stock and subsequent closure of the fishery in NAFO divisions 2J+3KL, is reflective of the worldwide crisis in fisheries management. The uncertainty surrounding the future of this resource and the thousands of people dependent upon it has led to changes in the management process; however, the resource allocation issue has not been resolved and as in the past remains a major source of controversy.

This study examines the allocations and catches of Northern cod during the 1977 to 1991 period. This information is presented in the context of the stated goals and objectives for the allocation of the resource. The study reveals that despite public statements and published documents of a priority access to the inshore sector, the greater part of the resource was allocated to other users such as the Canadian offshore fleet and foreign countries as part of Canada's bilateral agreements. This failure to adhere to stated goals and objectives was largely owing to the overly optimistic resource projections of the late 1970s which projected a 350,000-400,000 mt. total allowable catch (TAC) by 1985 and estimated the inshore requirement to be approximately 230,000 mt.. These projections opened the door for new users and allowed for foreign allocations which led to a redistribution of the economic benefits of the Northern cod resource away from the traditional inshore sector which was to have been the principal beneficiary of the 200 mile limit. This euphoric phase of the late 1970s was followed by a period of uncertainty

during the 1980s, fuelled by the repeated failure of the inshore fishery to harvest its allocation of 115,000 mt. The crisis phase began in 1989 when scientists recommended dramatic reductions in the total allowable catch. Unfortunately this advice was not taken by the Department of Fisheries and Oceans and the TACs were set at more than twice the advised level until the stock collapsed in 1992.

The stated goals and objectives of priority for the inshore sector were never achieved and by 1986 the inshore fishery accounted for only 26% of the total catch. Now that the fishery is closed there are a number of reports that restate the priority allocation to the inshore sector and recommend that when the fishery reopens the first 100,000 mt. of catch be allocated exclusively to the inshore fishery. It remains to be seen if these goals and objectives will be the cornerstone of future allocation and management or like those of the late 1970s and early 1980s will be neither adhered to nor attained.

ACKNOWLEDGEMENTS

Deciding to return to University after an extended period requires a major commitment on behalf of the student but also on behalf of everyone else involved at the academic, professional and especially the personal level.

Since meeting Dr. Alistair Bath in 1992 I have acquired a totally different perspective on fisheries management issues, and I have gained an immense respect for "Saskatchewan Farmers". I give Alistair full credit for encouraging me to start the program and especially for keeping me enthused after I discovered early on that there was no magic formula by which to manage fisheries. I will always respect and admire his ability to change opinions and attitudes (especially mine) in a non-confrontational way. I would also like to thank Dr. Keith Storey for numerous votes of confidence, mixed with healthy doses of constructive criticism, Dr. Roger White for deep thoughts and hospitality; Ms. Carole Ann Coffey for always having a smile and the answers to my questions; and everyone else in the Geography Department who made me feel welcomed from the start.

I would like to acknowledge the Department of Fisheries and Aquaculture for providing financial support for the program and I would also like to express my appreciation for the moral support I received from many of the staff, especially Mr. David Vardy and Mr. Les Dean both of whom encouraged me to undertake the part-time program. More direct and immediate support came from my co-workers and friends, namely Ms. Sharon Murphy, Ms. Sonja Lane and Mr. Rob Coombs who more than

compensated for my limited computer skills and more importantly offered endless encouragement. Also, a special thanks to Ms. Eileen Riche who convinced me that the English language can be as difficult and as much fun as fisheries management.

Finally I have to thank my wife and our two young sons for their great contribution to this thesis. I owe its completion to my wife, Christine (a true geographer) who, for the past three years, has mastered the use of the "carrot and the stick", has been both mom and dad on occasion, and has sacrificed a great deal to ensure that I could devote endless nights and weekends to this work. Ben and Christopher have not known life without the thesis and will no doubt wonder why I'm home on Sunday mornings. Unfortunately, I no longer have an excuse for three years of procrastination around the house.

A part-time masters program is easy to start but impossible to finish without an incredible amount of support. To all the people acknowledged here and the many others who offered encouragement and assistance during the past 3 1/2 years I offer my sincere appreciation and thanks.

DEDICATION

To my parents, Cherry and Eric A. (Gus) Blackwood, who provided a loving home, placed a great deal of emphasis on education, and who still take great pride in all their children's accomplishments. If "Education is a journey not a destination," then you both have travelled with me from the start.

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Chapter 1: Introduction

A clear research priority for geographers, if we are to contribute to fisheries management, is to conduct hindsight evaluations of specific resource allocations, and to relate these to the needs of future organization for fisheries management. (Draper 1981)

The Newfoundland and Labrador groundfish fishery is in a state of crisis with nearly all of the traditional fisheries closed and the groundfish stocks at, or near, the lowest level of abundance ever recorded. The social and economic impact has been severe, with between 30,000 to 40,000 people negatively affected and now dependent upon Federal assistance programs for a portion or all of their livelihood (Cashin 1993).

Both Federal and Provincial governments and the entire fishing industry are grappling with low resource prospects and the looming problem of capacity reduction in the harvesting and processing sectors and, in this context, fisheries management and allocation are subjects of considerable debate throughout Atlantic Canada. In Newfoundland and Labrador it is often stated that in the inshore sector there are "too many fishermen chasing too few fish" and that this fundamental problem must be addressed. Despite the current low level of the Northern cod stock upon which many of these fishermen have historically depended, the size of the future inshore fishery will depend upon more than the recovery of the stock. The allocation or sharing of the Northern cod stock will be critical in deciding the future of the inshore sector since it will determine the amount of fish available. Only after the allocation issue is settled can the harvesting and processing components of the inshore and offshore sectors be rationalized, based on resource availability.

Despite the principle of allocation, that reflects adjacency and history, and despite the stated objectives giving inshore fishermen priority access to the Northern cod made in the late 1970s, the inshore fishermen's share of Northern cod has been steadily eroded. Despite the objections of traditional users, the Government of Canada ignored warnings of inshore fishermen and set total allowable catches (TACs) which in retrospect were too high and then allocated the lions' share of Northern cod to foreign countries, the Canadian offshore sector and new entrants from other regions. The inshore fixed-gear sector's share of the Northern cod stock, which had historically been 85-90% of the total catch, and nearly 100% of the Canadian share, was thus eroded to less than 50% of the Canadian allocation by 1986. Preliminary analysis of catch statistics indicates that the inshore fishery accounted for only approximately 25% of the total catch because of the low level of the resource and the high level of catches by foreign vessels outside of 200 miles.

The failure to adhere to stated objectives, to follow the principles of allocation, to acknowledge the warnings and concerns of the traditional users, to deal with the overfishing outside of 200 miles and to set total allowable catches (TACs) based on the scientific advice have all contributed to the overexploitation and subsequent collapse of the Northern cod stock. In the wake of the catastrophe, the inshore fishery is again stated to have priority of access to the first 100,000 to 115,000 metric tonnes (Government of Newfoundland and Labrador 1993; Cashin 1993; DFO 1995); however, these stated objectives echo those of the late 1970s when the Northern cod stock was projected to be growing beyond the needs or harvesting capabilities of the inshore sector (DFO 1979) and

was allocated to other sectors to address overcapacity problems in the harvesting sector elsewhere in Atlantic Canada and to satisfy the demands of foreign nations under bilateral agreements.

This thesis will conduct a hindsight evaluation of the allocation of the Northern cod stock in the 1977 to 1991 period by documenting stated allocation objectives and actual decisions; by examining the allocation process; by analyzing past allocations and actual catches and by identifying the spatial impacts of the allocations. In addition, the importance of goals and objectives in future allocation and resource management processes will be discussed.

1.1 Global Crisis in Fisheries Management

The stewardship of marine fisheries is one of the most difficult resource management problems facing mankind. In recent years the concepts of sustainable development and resource conservation have received considerable attention; however, marine resources are still characterized by "boom and bust" fisheries, resource over-exploitation and increasing conflict between users, be they individual fishermen, gear sectors, regions or nations. The extraction of fish from the ocean is often termed "the last wild harvest", for mankind has not been able to manage fisheries resources on a sustainable basis with over-exploitation, destruction of habitat, lost growth potential and commercial extinction being the norm (Leopold 1948; Cole-King 1993; Acheson 1981; Ludwig *et al.* 1993; Walters 1986).

Currently, marine fisheries are in a state of crisis worldwide, with the majority of fish stocks over-exploited or in a state of collapse (Ludwig *et al.* 1993; Hinds 1992; FAO 1994). Canada is no exception; groundfish populations in Atlantic Canada are at or near the lowest level of abundance ever recorded, and most fisheries have been closed. Northern cod was the largest groundfish stock in Atlantic Canada but a number of studies have documented its over-exploitation and the management decisions that led to its collapse (Steele *et al.* 1992; Hutchings and Myers 1994; Haedrich 1994; Martin 1995). The biological collapse and subsequent fisheries closures have also resulted in negative social and economic impacts throughout Atlantic Canada and especially in Newfoundland and Labrador which was heavily dependent upon groundfish and particularly upon the Northern cod stock (Storey 1993; Cashin 1993; Hamilton and Seyfrit 1994).

1.2 Fisheries Allocations

The collapse of the groundfish fishery in Atlantic Canada has also resulted in a review of fisheries management and has led to dramatic changes in the Canadian decision-making process with respect to the level at which fish populations should be harvested. The Fisheries Resource Conservation Council (FRCC) was created as a "council for the fish" to replace the industry advisory process which focused on allocations, often to the detriment of the resource.

Unfortunately, to date there has been no replacement mechanism to allow input of the user groups into the resource allocation process. Because most stocks are closed, the

absence of such a process has not received much attention. However, as fish stocks rebuild, it is recognized that considerable industry downsizing must occur. The harvesting and processing of groundfish in coming years will likely provide approximately 50% of the jobs and economic benefits seen in the 1980s (Cashin 1993: 56), and the fight for the fish will be subject to incredible conflict between regions, provinces, fleet sectors, towns and individual fishermen. In this respect, the allocation process is equally as important as the rebuilding of fish stocks because a rebuilt resource will not generate economic activity unless it can be accessed through the allocation process.

The need to address the resource allocation issue is best summarized in the report of the recent Task Force on Incomes and Adjustments in the Atlantic Fishery:

The current resource crisis will not be solved, nor will the chronic over-capacity in the harvesting sector, by taking one fleet sector's allocation and giving it to another fleet sector. Beyond the issues of allocation among fleet sectors, there is the linkage between coastal areas and the resources upon which they have traditionally relied. Sometimes, what is presented as fleet sector or gear technology issues are really demands from one coastal area to have resources reallocated to them from another. This is no way to decide the future of coastal areas and the resources upon which they have traditionally relied (Cashin 1993, p.65).

Despite this looming conflict, the Government of Canada has not addressed the issue of resource allocation and has, in fact, moved away from its stated allocation principles and set up "special" programs which undermine the past principles and stated objectives of fisheries allocation. The "Principles of Allocation" which were the

cornerstone of the groundfish management plan during the 1980s were renamed "Essential Elements" in 1993 and are now called "Guidelines" (DFO Annual Atlantic Groundfish Management Plans 1982-95). This weakening of the rules has allowed regional reallocation of resources and is exactly the problem the Cashin Task Force (1993) described.

The challenge for the coming years is to develop an equitable and consistent allocation policy for Canada which will treat all regions and user groups fairly. An important and vital component of this policy must be clearly-stated goals and objectives (Barber and Taylor 1990) which should be developed through full public consultation. Once these goals and objectives are established, the annual "fight for the fish" will be greatly diminished, and the rationalization of an industry can proceed on a regional and fleet sector basis. The fishing industry and both levels of government may then be able to focus on resource conservation instead of the age old conflict over dividing the pie.

1.3 Geography and Resource Allocation

Resource management is defined by O'Riordan as "a process of decision-making whereby resources are allocated over space and time according to the needs, aspirations and desires of man within the framework of his technological inventiveness, his political and social institutions and his legal and administrative arrangements" (Mitchell 1979). The process of resource management is often seen as a process of "muddling through" (Krueger and Mitchell 1977) owing to the vast array of biological, social, economic, legal,

institutional, technological and political perspectives which must be incorporated at differing spatial and temporal scales (Figure 1.1). In attempting to improve resource management, it is necessary to evaluate past management decisions; one of the best mechanisms to judge the success or failure of the past process is to examine the allocation of resources.

Geography is unique in its ability to be integrative (Spooner 1990) and a review of resource geography by Ferguson and Alley (1984) suggests that some larger view is necessary to understand how geography fits within the complex resource-management framework. "Allocation processes offer one means of forming such a framework" (Ferguson and Alley 1984). The examination of the spatial scale has also been central to geography. In examining resource management, the ultimate goal for geographers "should be to understand spatial allocations of resources..." (Krueger and Mitchell 1977).

Resource allocation is a central theme of resource geography and offers a means to evaluate the management process. The role of geographers in resource analysis was reviewed by Mitchell (1979) who identified four areas of research: 1) Studies of natural resources themselves...2) Studies of alternative allocations (spatial, temporal and functional)...3) Studies of variables which condition resource allocation...and 4) Studies of the impact of specific resource allocation" (Mitchell 1979).

In reviewing the future and potential contribution of the role of geographers to fisheries management, Draper (1981) recommended hindsight evaluation of resource allocations:

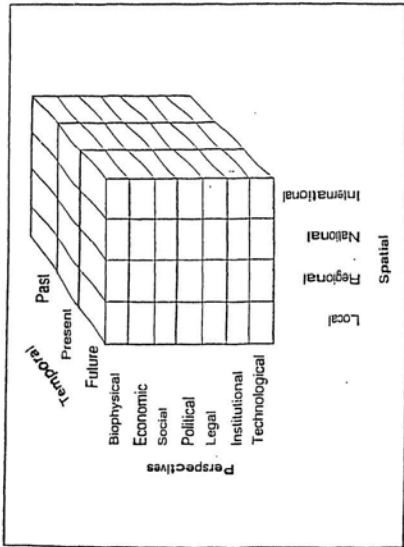


Figure 1.1: The Dimensions of Resource Management (Krueger and Mitchell 1977)

A clear research priority for geographers if we are to understand and contribute to fisheries management, is to conduct hindsight evaluations of specific resource allocations, and to relate these to the needs of future organizations for fisheries management.

In the context of Newfoundland and Labrador, Draper suggested that

Geographers can and should explore such areas including the issues of inshore/offshore tradeoffs...(which) combined with the domestic-foreign allocation problem on the east coast, will need to be analysed in a broad way in recognition of regional economic differences.

Unfortunately, since 1981 very little research has been done with respect to the fisheries allocation issues identified by Draper.

1.4 Purpose of Study

The purpose of this study is to document fisheries resource allocation decisions and their impacts with respect to the Northern cod (2J+3KL) stock in the 1977 to 1991 period. This will be accomplished through hindsight evaluation (as suggested by Draper) of inshore/offshore splits and foreign allocations and catches in the context of the stated allocation objectives. The implications for future resource allocation and management will also be discussed.

This study will focus on the past management and allocation of the Northern cod stock to achieve the following objectives: (Hypothesis shown in Brackets)

- 1) to document the allocation of the Northern cod stock from 1977 to 1991;

- 2) **to illustrate the shifts in resources which took place between the inshore, offshore and foreign sectors which affected the regional distribution of the resource;**

(Given the emphasis on adjacency, historic dependency and priority of access to the resource by inshore sector it is hypothesized that the inshore would see its share of the resource increase.)

- 3) **to identify and evaluate the priorities for the allocation of the Northern cod resource in terms of stated objectives and actual decisions;**

(It is hypothesized that there is no difference between the stated objectives of allocation and the actual allocation decision. Stated goals from reports will be compared to actual allocation decisions in groundfish management plans and quota reports.)

- 4) **to discuss the importance of goals and objectives in the resource allocation process and draw implications for future fisheries allocation and management.**

1.5 Justification for Research

Research can make a contribution to the literature from a methodological, theoretical and applied perspective. Resource geography research often has a strong applied dimension; however, the other aspects are equally important. The contribution of this thesis to the theoretical aspect of resource-management is its development of a mechanism to conduct hindsight evaluations of resource management decisions by documenting resource-allocation decisions, describing how they differ from stated objectives and illustrating how such decisions affect the spatial distribution of the resource. Because of the vast array of interacting factors to be taken into consideration when

managing natural resources, the failures greatly outnumber the successes; however, improving resource management in the future depends upon the evaluation of resource-allocation decisions and processes since these are the only means to document and analyze past decisions (Mitchell 1979).

Very little work has been done on the evaluation of resource allocation decisions in terms of the allocation process. Elster in his 1992 review of allocation processes stated that "there have been virtually no attempts to study the whole range of questions of this kind, and to develop a conceptual and theoretical framework to describe and explain how institutions allocate goods and burdens" (Elster 1992). The inclusion of goals, objectives and values in the resource-allocation process is also seen as a critical component of effective fisheries management (Barber and Taylor 1990).

From an applied perspective the allocation of fisheries resources is the most conflict-producing type of management decision (Hanna and Smith 1993). Since the declaration of the Canadian 200 mile limit in 1977, the sharing of Atlantic Canada's groundfish resources has been subject to great debate and conflict, usually to the detriment of the resource. The current low biological level of the resource has resulted in a new process for resource conservation which has placed the biological health of the resource above all other concerns (FRCC 1993). No such process or mechanism has been put in place to deal with the allocation of fisheries resources despite the fact that resource allocation is the most controversial aspect of fisheries management. The battle lines have

been drawn and once stocks begin to recover the conflict will again intensify (Martin 1995).

From a spatial perspective the economic future of many communities and entire regions depends upon access to resources which are controlled and allocated by national or international organizations. These communities are not able to influence the allocation policy and are often not privy to the decision-making process, yet they are vulnerable to national and international allocation decisions which result in negative social and economic impacts at the local and/or regional level. Since Draper (1981) identified fisheries allocation as an area for geographers to examine, the groundfish fishery in Newfoundland and Labrador has gone from a period of high catches and optimism to a time of closed fisheries and deep pessimism.

This thesis will illustrate how the allocation process is a critical component of fisheries management and will emphasize the importance of goals and objectives upon spatial and sectoral inconsistencies in the resource allocation process. Since the Amulree Commission in 1933 it has been repeatedly stated that there are; "too many fishermen chasing too few fish" in Newfoundland and Labrador (Blake 1994); the allocation decisions of the past 18 years have not addressed this perceived problem. In fact, the national allocation policy for Northern cod, despite its stated objectives, has increased the access of new users and diverted significant amounts of fish to other regions and countries at the expense of traditional users and dependent regions, thereby, exacerbating the problem.

In Parsons' (1993) review of fisheries management in Canada the process of resource allocation is described as "sharing a limited pie" (Parsons 1993:156)). The most recent review of Atlantic Canada's fishery states that 50% of the harvesting and processing capacity must be removed from the industry and that downsizing must be done on a regional basis by industry renewal boards. Such boards should "define the geographic areas within which harvesting capacity reduction take place" (Cashin 1993:39). Obviously, balancing the numbers of fishermen with the resource base is affected by resource allocation. The Cashin Task Force goes on to state that "Capacity reduction should be based on the principle that coastal areas would maintain priority access to resources upon which they have traditionally relied" (page 40), and that the inshore fishery would have priority access to the Northern cod stock for the first 115,000 mt. These words echo those of the reports of the late 1970s and more recent documents such as the Harris Panel (1990), the Dunne Report (1990) and the Government of Newfoundland and Labrador's "Changing Tides" document (1993). In theory, such statements should give direction and provide goals and objectives to the allocation process, yet, unless the process changes, the future allocation of Northern cod will likely continue to be a misguided process of "muddling through" driven by crisis management.

The following chapter will identify the data sources and methodology used to conduct an evaluation of past allocations of the Northern cod resource and to identify past goals and objectives. Chapter 3 will review the evolution of the allocation process and the principles of groundfish allocation in Canada. Chapter 4 details the past allocation and

catches of Northern cod in the 1977-91 period and shows how those allocations and catches compare to the stated objectives. The impact of allocation decisions are given in Chapter 5 which examines the stated versus actual decisions, the economic impact of the decisions and the spatial shift of the resource which occurred as the result of allocation decisions. Chapter 6 reviews the statements of goals and objectives in the 1977-91 period and focuses on the allocation goals and objectives in recent documents relating to the "fishery of the future". The findings and conclusions are given in Chapter 7 along with suggestions for future research with respect to resource allocation and the spatial implications of allocation decisions. The need for clearly stated allocation goals and objectives is also discussed in terms of clarification of the fisheries allocation decisions and in the future evaluation of the management process.

Chapter 2: Approach and Methodology

2.1 Study Area

This study will examine the allocation of the stock of cod (*Gadus morhua*) commonly referred to as Northern cod in the waters off the Northeast coast of Newfoundland and Labrador, in the Northwest Atlantic Fisheries Organization's (NAFO) divisions 2J, 3K and 3L (Figure 2.1). Within these divisions it is recognized that a number of sub-components of the stock may exist; however, the stock is managed as one discrete unit (Lear and Parsons 1993) and it is treated here as such.

The management of the cod stock is done by Canada on the basis of the entire stock area; however, landings are often reported on a smaller geographical scale eg. community or NAFO Division 2J or 3K. Likewise, landings of cod from stock area 2J + 3KL in non-adjacent areas of the Province or Atlantic Canada can be documented from the Canadian Atlantic Quota Report. The unregulated foreign fishery which occurs outside Canada's two hundred mile limit takes place in NAFO division 3L in an area known as the Nose of the Bank. In documenting past management and allocation decisions, and the resultant spatial shifts in the distribution of the Northern cod resource, references will be made to the Gulf Region (4RST and 3Pa), the Scotian Fundy region (4VWX) and to the south coast of Newfoundland (3Ps)

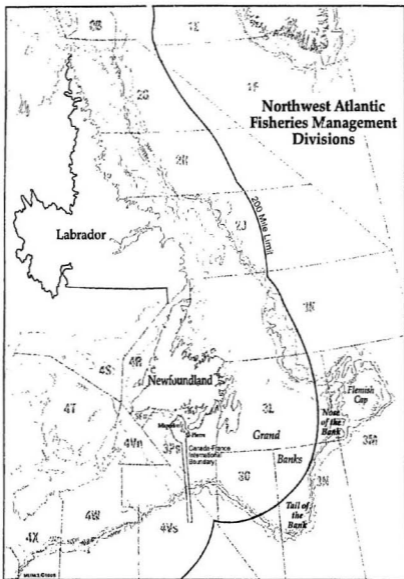


Figure 2.1: Map Illustrating the Physical Boundaries of the Study Area

2.2 Background

The allocation of the Northern cod stock is documented in annual publications such as the Atlantic Groundfish Management Plan and the Canadian Atlantic Quota Report. While there are no academic publications dealing specifically with the allocation of the Northern cod stock, a number of papers (Harris 1990, Storey 1993, Steele *et al* 1992, Parsons 1993, Lear and Parsons 1993) deal with the overall management of the resource. The study of the allocation process is a research area in resource geography which is receiving increasing attention; Mitchell (1979), reviewed the role of the geographer; Hann and Smith (1992) reviewed the role of allocation conflict in resource management, and Pinkerton (1989) reviewed the scale at which allocation decisions are made.

While no academic studies have focused specifically on the allocation of Northern cod, there is a significant amount of literature on the stock which makes specific recommendations with respect to how it should be allocated. In the context of Canada's management of the Northern cod resource, the first detailed study to focus on allocation was the published account of the Northern cod seminar entitled "Towards a Policy for the Utilization of Northern Cod" (DFO 1979) which was held in Corner Brook in 1979. This study projected that the future growth of the Northern cod stock would allow a harvest of 350,000 to 400,000 mt. The inshore share based on its historic catch was defined as 230,000 mt. and the remainder was to be allocated to the Canadian offshore sector and foreign nations under bilateral trade agreements (DFO 1979). During the early 1980s the

Kirby Task Force (1983) also made allocation recommendations for Northern cod based on the fact that the stock was growing beyond the needs of the inshore sector. During 1986, the Government of Newfoundland and Labrador published "Strength from the Sea" expressing concern over the allocation of Northern cod to new users from other provinces while the traditional inshore fishery was failing. In 1987, the Alverson Task Force attempted to explain the continuing failure of the inshore fishery and also noted the priority of access to the inshore sector. In this same year the Government of Newfoundland and Labrador produced "Northern Cod Under Attack" in response to a proposal from Nova Nord, a Quebec/New Brunswick consortium, for an allocation of 10,000 mt. of Northern cod.

The Harris Panel in 1990 provides one of the best overviews of the allocation issue and stresses the need for clearly stated goals and objectives for the management and allocation of Northern cod. The Dunne Report on the "Implementation of the Harris Panel's Recommendations" stated that priority access be given to the inshore sector based on its dependency, history and adjacency (DFO 1990). Following the closure of the fishery for Northern cod in 1992, the focus of most publications shifted from the allocation of the resource to dealing with the social and economic consequences of the collapse. The social and economic issues have now been largely addressed through The Atlantic Groundfish Strategy (TAGS) and attention has returned to the allocation issue. The Cashin Task Force report is very clear in its statements with respect to the future allocation of Northern cod in terms of giving priority access to the inshore fishery for the first 115,000

mt. Likewise, the Government of Newfoundland and Labrador policy paper entitled "Changing Tides" (1993) recommends that the first 100,000 mt. of Northern cod be allocated to the inshore fishery with the allocation of any future increases to be decided by public hearings. It is important to note that the new reference level of 100,000 to 115,000 mt. reflects the inshore catch in the past 15 to 20 years and is approximately 50% of the 230,000 mt. long-term average catch which was the reference point during the late 1970s. The aforementioned reports outline past and future goals and objectives with respect to allocation of the Northern cod resource and provide a benchmark to evaluate the past management. A review of those various reports, comparing goals and objectives and integrating those sources is an integral part of this study. A detailed assessment of the management and allocation process is provided in Chapter 3.

2.3 Data Sources and Methodology

Northern cod in 2J+3KL has been reported as a unit since 1951, with the data presented on an annual basis. A major problem in conducting analysis of fisheries information is the lack of a data base which is complete from both a chronological and spatial perspective. Foreign catches are reported in the NAFO Statistical Bulletin, whereas, Canada's quotas and catches are reported in the Canadian Atlantic Quota Report. In addition, the information is presented in a format which makes the analysis of spatial distribution of the resource difficult with landings being reported in different publications by country, region, fleet sector and community. This thesis will examine different

statistical data bases across both the spatial and temporal time period in question to provide a basis on which to evaluate the changes which occurred over the 1977 to 1992 period.

2.3.1 Data Sources

The focus of this thesis is the allocation of the Northern cod resource. Unlike catches, allocations are clearly identified and not subject to the same disputes and debates with respect to accuracy. Catches are used to supplement the allocation data and to illustrate how catches often differ from allocations, as in the case of foreign catches which exceeded its allocation and the inshore sector which did not catch its allocation. Catch data are also used to illustrate shifts in the spatial distribution of landings on a regional basis since allocations, although not assigned to communities or regions, indirectly determine where fish is landed.

The annual year end Canadian Atlantic Quota Report and the annual Atlantic Groundfish Management Plan are the primary sources of data on the allocation to and catch by Canadian fleets. The foreign catch is taken from NAFO statistical bulletins and other sources such as Lear and Parsons (1993). The NAFO landings data base is problematic for the late 1980s and 1990s when the conflict between Canada and the European Union intensified. It is suspected that landings may not be as low as stated in the NAFO Statistical Bulletin. Indeed, Canada's aerial surveys of the 3L area called the Nose of the Bank reveal effort and catches in excess of those reported to NAFO. Thus, for the purpose of this analysis, the foreign catch of Northern cod as reported should be treated as the minimum amount harvested.

The Canadian fisheries landing data are less of a problem since the offshore fleets were under quota management and were subject to closure during the 1977-82 period. While discarding was a problem during the early years of the enterprise allocation program, by 1986 the offshore harvest was subject to full coverage by observers. The inshore catch is estimated by purchase slips which are issued for all sales. In addition, DFO estimates the amount caught but not sold during each month (Chen 1994). Given the fact that the inshore was on an allowance system, there was no reason to mis-report catch.

The allocation between nations and between sectors within Canada is found in the Atlantic Groundfish Management Plan. The allocation is established at the beginning of each year and is not likely to change during the year because of the intense conflict between the different users.

The stated goals and objectives of allocation are found in special studies, task force reports, and annual management plans. Northern cod was the major stock in Atlantic Canada during the study period and there are a large number of published reports dealing with the allocation of that resource.

2.3.2 Methodology

Draper (1981) stated that geographers should conduct hindsight evaluations of the inshore and offshore tradeoffs, but did not offer a method to conduct such evaluations. Obviously, since the landing ports of the inshore and offshore Canadian fleets and the foreign fleets are geographically separate, the allocation to and catch by each sector affects the geographic distribution of the landings and hence the distribution of economic benefits.

The method chosen to conduct the hindsight evaluation as suggested by Draper (1981) is to identify the stated allocation goals and objectives from published reports and then examine the subsequent allocations to determine whether the allocation objective was achieved. This will test the hypothesis with respect to the expected increase in the inshore's share of the Northern cod resource. Catches are also used in the evaluation since the inshore sector was not able to catch its allocation.

The annual allocation and catch data presented in the Atlantic Groundfish Management Plans and the Canadian Atlantic Quota Reports are combined with the foreign allocation and catch data from the NAFO data base to provide data from 1977 to 1991 that illustrate a time series of the shifts in the allocations and resultant catches of the resource among different users. This complete data base for the stock does not currently exist in the literature and will provide the basis for a quantitative analysis of the changes in allocation which occurred in comparison to the qualitative objectives.

To illustrate the shift in the spatial distribution of the resource over time, the portion of the 2J+3KL stock landed in each NAFO division is shown, as well as the top 15 landing sites from the community landings data base. Both sources of information are available from DFO statistics and can be used to illustrate large scale spatial shifts. In both cases, the shift from North to South is the result of allocation decisions which increased allocations to the offshore sector and thus lowered the share available to the inshore sector.

Chapter 3: Fisheries Resource Allocation

Historically, allocation of fisheries resources reveals a decided lack of sophistication. From man's earliest existence...fish and game resources allocation was a function of brute force. In recent times political strength has been substituted for physical strength. (Stroud *et al.* 1980)

The management of marine fisheries has evolved from Huxley's concept of inexhaustible seas (Smith 1995) to the realization that resources are finite and that excessive fishing pressure can reduce fish populations to the point of commercial and biological extinction. In order to "control" or manage the impact of mankind upon fish resources, various management measures have evolved which restrict spatial access, limit the amount to be harvested, and restrict gear types and fishing seasons. A key component of these management measures is the allocation of fisheries resources which determines the spatial, temporal and technological restrictions placed upon fishermen and also determines the distribution of economic benefit from the common property resources. The purpose of this section is to review the history of fisheries management with emphasis on the resource allocation process in the context of the groundfish fishery in the Northwest Atlantic and, in particular, the Northern cod fishery. This will provide a background to the allocation process and provide a data base to evaluate the changes in allocation in the 1977 to 1992 period.

3.1 History of Management up to 1977

The settlement of Newfoundland and Labrador is historically linked to the harvest of marine resources that occurred in abundance in the coastal and offshore areas. Northern cod was the *"raison d'être"* of the vast majority of settlements along the coast of northeastern Newfoundland and Labrador (Harris *et al* 1990; Copes 1980) with the Island viewed as "the great ship moored near the fishing banks" (Harris *et al* 1990). This geographic advantage held for hundreds of years as the inshore fixed-gear fishery centred around the annual migration of cod to the coast. During the period from the 1500s to the 1900s there was virtually no management in the form of licences, TACs, mesh sizes, etc. There was, however, spatial separation of fishing areas between different nations with the French and English occupying different geographic regions (eg. the French Shore). However, the major constraint was the forces of nature in terms of geographic, physical and seasonal limitations. When fish did not show up or ice conditions prevented a harvest, it was generally seen as "one for the fish" (N. Bates 1995 Pers. Comm.). The absence of a management regime did not jeopardize the health of the groundfish stocks and indeed the Northern cod fishery from 1850 to 1950 could be viewed as a model of stability and sustainable resource usage (Harris *et al* 1990: 23. Fig 3.1).

The development of otter trawl and freezing technology vastly changed the harvest

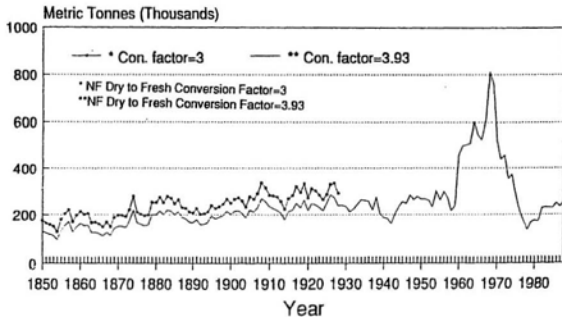
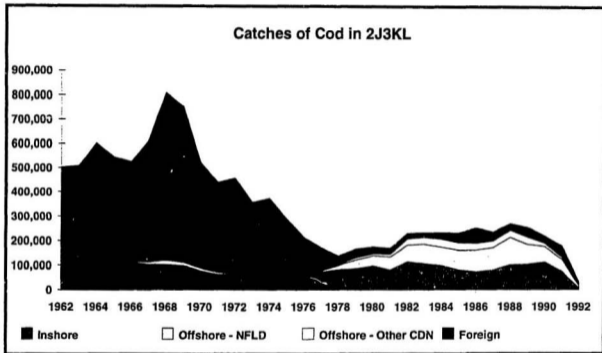


Figure 3.1: Historic Landings of Northern Cod
From: Harris et al. 1990; page 23

of many fisheries resources worldwide. This was especially true for the Northern cod stock as the development of the factory freezer trawler during the 1950s led to a dramatic increase in total harvest and a change in the spatial and temporal limitations on the resource. The allocation of the resource during the 1950s and 1960s was not an issue since the fishery essentially operated as a free-for-all with very limited controls on the overall harvest; however, as offshore effort increased the inshore fishery by 1974 had plummeted to less than 20% of its long term average (Harris *et al* 1990). As the exploitation of the high seas intensified in the post-war era, international organizations were formed to monitor and eventually manage fish stocks found in international waters. The International Convention on Northwest Atlantic Fisheries (ICNAF) was formed in 1949 to provide scientific and statistical information to those participating in the fishery. It made early attempts to regulate mesh size and, in 1972, established TACs. However, "as an agency for conservation ICNAF was a total failure" (Harris *et al* 1990) since the total allowable catches were established at levels which were not restrictive to the fishing fleets. The foreign effort increased dramatically during the 1960s and as a result the unregulated harvest of Northern cod peaked at 810,000 mt. in 1968 (Harris *et al* 1990; Lear and Parsons 1993). The Northern cod stock subsequently collapsed, and in 1977 Canada declared a 200 mile limit (Figure 3.2) in a belated attempt to control the situation.

In retrospect, it is easy to blame ICNAF for its failure in the management of the Northern cod stock during the 1950s, 1960s and 1970s. It must be remembered, however, that the over-exploitation of marine resources was occurring on a world-wide basis during



Source: NAFO Statistical Bulletins 1962 - 1978; Canadian Atlantic Quota Report 1979 - 1992

Figure 3.2: Landings of Northern Cod by Sector and Region 1962 - 1992.

the 1960s and 1970s (Hinds 1992, Ludwig *et al* 1993, WCED 1987). Indeed, the inability of mankind to control or manage technology was a factor behind the United Nations Law of the Sea Convention which extended the rights of coastal states to 200 nautical miles, with the intention of ending two decades of over-exploitation. During these two decades the traditional inshore catch of Northern cod had continuously declined from average landings of between 200,000 to 250,000 mt. during the early 1900s to 172,000 mt. by 1956 and a low of 35,000 mt. in 1974 (Harris *et al* 1990; NORDCO 1981; Lear and Parsons 1993). The social and economic impact of this decline was enormous as tens of thousands of people abandoned the fishery as a means of livelihood and many communities were deserted (Harris *et al* 1990; Parsons 1993; Blake 1994). Canada was involved in extensive negotiations in the 1958 to 1977 period with the other nations of the world regarding the management of marine resources. The plight of coastal communities which were adjacent to and historically dependent upon the Northern cod resource was central to Canada's arguments at the United Nations Law of the Sea Conference for extended jurisdiction of its exclusive economic zone.

The massive overfishing of marine resources which had occurred on a world wide basis during the 1960s and 1970s lead to increasing pressures for change in the management of the oceans. The "freedom of the high seas" ended in 1977 because "the technological revolution created a legal and political vacuum which was filled by this international law concept in a surprisingly brief period" (Evensen 1985 as quoted in Parsons 1993: 243). Thus, in 1977 Canada gained control of a vast fishery zone and the

spatial allocation of access became a major component of fisheries management for both foreign nations wanting to fish inside the zone and for Canadian fishermen within the zone.

3.2. Canadian Management after 1977

3.2.1 The Spatial Allocation of Access

The United Nations Law of the Sea effectively brought about an end to decades of massive over-exploitation by vast fleets of factory freezer trawlers from Europe and East Block countries. As a result of the Law of the Sea Agreement, the resource management process and the allocation process shifted from the international scale to the national scale (Figure 1.1). Canada subsequently implemented regional restrictions on licenses and vessel movements, an example of which was Sector Management which allowed for regional management of resources (DFO 1985).

3.2.1.1 The Two Hundred Mile Limit

On January 1, 1977 Canada declared a 200 nautical mile fishing zone on the Atlantic coast encompassing 503,000 square miles (Parsons 1993). The worldwide acceptance of exclusive economic zones allowed most countries to extend their area of control over fisheries through customary international law, since the Law of the Sea Convention has still not been ratified.

The access to the Canadian zone by foreign vessels remains a very contentious issue. Under the terms of the Law of the Sea, resources which are surplus to Canada's

needs must be allocated to other nations. Following the extension of jurisdiction, Canadian fishermen expanded their harvesting capacity and gradually harvested all "surplus" fisheries resources for which these fleets had markets or could fish profitably. However, during the 1980s Canada allocated non-surplus amounts of Northern cod to countries in exchange for market access and cooperation in the management of Northern cod and other stocks which straddle the 200 mile limit.

3.2.1.2 Sector Management

Managing 503,000 square miles of ocean as a unit proved to be impossible and following the extension of jurisdiction restrictions on access were implemented on a regional basis. In order to allow for regional planning and to develop fisheries in line with the local resource base, the Government of Canada implemented a sector management policy on January 1, 1982 (Figure 3.3). The policy applies to all inshore vessels less than 65 ft. (19.8 metres) which fish groundfish. It allows for decentralization of the management of the inshore fishery to the regional headquarters level, and allows each region to respond quickly to local fisheries problems and align fishing effort to the resource availability (DFO 1985).

While it is perceived that fishermen in Newfoundland and Labrador were the major beneficiaries of this policy, it was actually implemented to prevent vessels based in Southwest Nova Scotia from fishing in the Gulf of St. Lawrence (Parsons 1993:137). The sector management policy also affected the scale of decision-making by allowing for more regional input. During the 1980s the sector management plan, which limited access of the

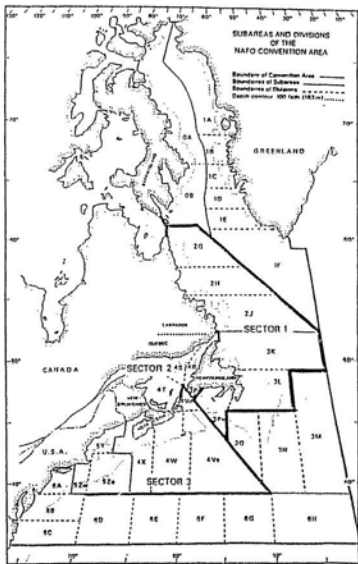


Figure 3.3: The Three Sector Management Areas on the Atlantic Coast
 From: Parsons 1993; page 138

inshore fishery to resources on a regional basis, came under continuous attack and there was a continued erosion of the policy which negatively impacted upon the fishermen of Newfoundland and Labrador (Maloney 1990).

3.2.2 Allocation of Resources - Sharing the Pie

By the time Canada gained control of the 200 mile limit the management of fisheries by Total Allowable Catch (TAC) was an internationally accepted means of managing groundfish resources. Canada adopted the national allocation approach of ICNAF and adapted it to its domestic fleet (Parsons 1993: 114).

3.2.2.1 Total Allowable Catches

Following the extension of jurisdiction Canada was also faced with a major problem with respect to stock assessment because in order to set a TAC it was necessary to know the size of the biomass of various stocks. Canada opted for a conservative level of fishing mortality approximating 20% of the fishable biomass known as $F_{0.1}$ for its groundfish resources. For Northern cod, the TACs were set below the $F_{0.1}$ level to accelerate stock rebuilding. In retrospect these attempts were in vain as an over-estimation of biomass led to TACs and catches which were nearly double the desired level of fishing mortality (CAFSAC 1987).

In effect, the assessment process defines how much resource is available and the level of exploitation (eg. $F_{0.1}$) determines the total allowable catch (size of the pie). Despite the difficulties in setting appropriate TACs and managing within established limits, the assessment of groundfish stocks and the setting of TACs in annual management plans

became the cornerstone of groundfish management during the late 1970s and 1980s. Despite the problematic past and lack of success in terms of biological management, the TAC system of management is still widely accepted today. However, once it is determined how much can be harvested, the conflict between user groups over how the resource should be allocated or shared intensifies (Hanna and Smith 1992).

3.2.2.2 Sharing the Pie

The sharing of TACs into national allocations by ICNAF in 1971 was a departure from the common property nature of fisheries. Canada again adopted this method of pie sharing in its fisheries management process in the post-1977 period. A major management crisis occurred at the time of extension of jurisdiction with the collapse of the Gulf redfish resource and resulted in the removal of Nova Scotian and Newfoundland vessels from the redfish fishery in the Gulf of St. Lawrence. The excess harvesting capacity that was removed from the Gulf in 1977 was subsidized by the federal government to fish for Northern cod off Labrador (this will be discussed in detail in section 4.4). This "shifting the burden" approach was to become commonplace during the 1980s and continues today.

Following the extension of jurisdiction in 1977 the removal of foreign fleets provided access to enough fish to solve most domestic allocation problems. However, as the Canadian capacity to harvest expanded, the conflict between competing users intensified. The total allowable catch for most stocks was divided between the inshore and offshore sector with each sector getting its own quota. The "race for the fish" in the offshore sector eventually led to an enterprise allocation system in 1982 whereby each

company received an individual share of the overall offshore quota and could plan its harvesting in terms of its fleet and its markets.

The inshore sector in most of Atlantic Canada continued to operate on a quota system while the inshore fishery for Northern cod in 2J+3KL operated on an allowance which, because of seasonal and geographic fluctuations in fish migration and abundance, was necessary to allow the fishery to continue after the share was harvested. The inshore allowance was one of the few quotas in Atlantic Canada which was not fully harvested or exceeded on an annual basis. In retrospect, the inability of the inshore sector to harvest its allowance should have been a warning to resource managers since it was reflective of the low level of the resource.

3.3 The Fisheries Resource Allocation Process

The process or mechanism for allocating fisheries resources varies considerably depending upon the resource, the users and the institutional arrangements in place. In 1977, when Canada assumed responsibility for managing the resources within the two hundred miles, there were no formal mechanisms to allow for consultation with the user groups or stakeholders in the Atlantic fishery. However, "with the introduction of resource allocation....the clash of conflicting interests became apparent, so did the need for structured consultation." (Parsons 1993: 463)

The Atlantic Groundfish Advisory Committee (AGAC) became the flagship of a process based upon local consultations feeding into regional advisory committees which

then fed into the Atlantic-wide advisory committees. This process grew during the 1980s and by the end of that decade there were 11 committees in the Newfoundland region, 34 committees in the Scotia-Fundy region and 46 advisory committees in the Gulf (Parsons 1993). In addition, the Federal-Provincial Atlantic Fisheries Committee and the Atlantic Council of Fisheries Ministers dealt with resource management and policy issues.

The purpose of the consultation/advisory process was identified in 1986 by the Department of Fisheries and Oceans in a paper on reforming the consultative process as:

1. To advise the principal user groups and the provincial governments on the basic direction and content of the proposed management plans; and
2. To arrive at a broadly-based consensus on the major elements of these plans, particularly with respect to the sharing of the fish quotas among the different user groups. (Parsons 1993: 466)

It is noteworthy that the essential purpose of the process designed to manage fisheries resources was to deal with "sharing of the fish quotas among different user groups." The fight over allocation overshadowed all other aspects of resource management such as conservation. Those experienced with the AGAC consultative process believe this conflict eventually led to its derailment (L. Dean 1995 Pers. Comm.).

The process of consultation was in retrospect much more than a mechanism for input into management decisions. It revealed major differences in regional input as indicated by the difference in the number of committees on a regional basis and in the strength of the different user groups in terms of their ability to use the process to their

advantage. The latter has implications for issues such as inshore/offshore shares especially during the critical period of the late 1970s (Parsons 1993:463).

3.4 Principles of Allocation

The debate over resource allocation is often intense and has historically been the cause of conflict between users and regions (Hanna 1994; Hanna and Smith 1992; Smith 1994; Stevenson *et al.* 1994). The allocation debate over Northern cod intensified as the amount of fish available was reduced, and the conflict occurred in many geographic areas and at many geographic scales, ranging from the international conflict (Sullivan 1989; Day 1995; Rowe 1993) to the intense domestic struggle between regions and communities (Martin 1994; Steele *et al.* 1992; Vardy 1994; Maloney 1990; Government of Newfoundland and Labrador 1987). Domestically, the allocation of the groundfish resource increasingly became the major source of conflict throughout Atlantic Canada in the years following the declaration of the 200 mile limit. Bitter and intense debates between inshore/offshore interests, gear types, regional groups and provinces were part of the process of developing a groundfish management plan. Specifically, the allocation debate in the late 1970s and early 1980s centred on; "1) the general inshore/offshore splits; 2) access to the Gulf of St. Lawrence by large trawlers based outside the Gulf and 3) inter-provincial rivalry between Newfoundland and Nova Scotia about the share of Northern cod and where Northern cod catches should be landed" (Parsons 1993: 122).

To reduce the annual conflict and *ad hoc* decision making, the Government of Canada developed a set of allocation principles which were designed to protect the interests of the user groups. The allocation principle was one of several overall principles in the annual groundfish management plan and stated:

Allocation of fishery resources will be on the basis of equity taking into account adjacency to the resource, the relative dependency of coastal communities and the various fleet sectors upon a given resource, and economic efficiency and fleet mobility (Atlantic Groundfish Management Plan 1984).

These principles were designed to provide a basis for resource allocation decisions during the 1980s; however, as this thesis will show, they were not always adhered to or applied consistently on a regional basis. The lack of agreement between user groups on major allocation issues resulted in such issues ending up "on the Minister's desk for decision" (Parsons 1993: 157).

It is also interesting to note that since the crisis of the early 1990s the "basic principles" of the Atlantic Groundfish Management Plan changed to "guidelines" in 1993 and two special clauses have been added.

XII. Adjustments in the inshore/offshore ratios for particular stocks may be considered by the minister.

XIII. Allocations may be made for special programs in specific stock areas included within the Canadian quota (Atlantic Groundfish Management Plan 1995).

Both of these measures have increased the power of the Minister of Fisheries and Oceans and have led to a great deal of uncertainty with respect to future allocations.

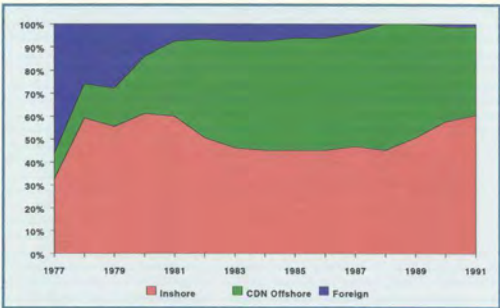
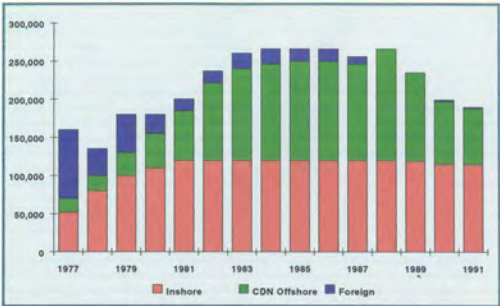
Chapter 4: Past Allocations of Northern Cod

It is apparent that the policies enunciated by the Department of Fisheries and Oceans and expressed in the Groundfish Management Plan's have been only words on paper to be ignored or disregarded at will. (Steele *et al* 1992)

The purpose of this section is to document the allocation and catches of Northern cod since Canada took management control following the declaration of the 200 mile limit on January 1, 1977, up to collapse of the stock in the early 1990s, and the subsequent declaration of a moratorium on commercial harvesting on July 2, 1992. During this fifteen year period Northern cod was consistently at the centre of the controversy surrounding Canada's management of Atlantic fisheries and was therefore subject to a number of task forces, special studies, and publications with respect to its management. In almost all cases the allocation of the resource between regions, fleet sectors, gear types and the splits between the inshore and offshore sectors were the focal points of these reports. The allocations to various user groups and their resultant catch is given in Appendix one and shown graphically in Figure 4.1 and Figure 4.2.

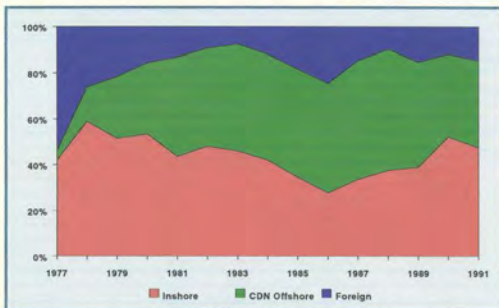
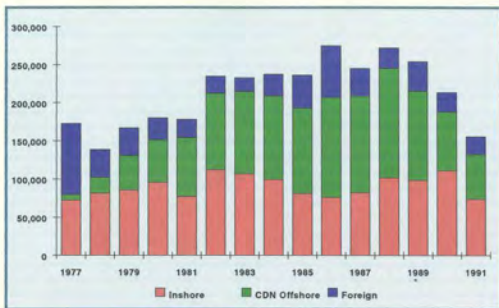
These figures are a result of combining and manipulating the various data bases that exist and presenting these data in a form that addresses the stated objective concerning resource allocation decisions.

Since the setting of the TAC impacts directly upon the allocation process, the first section will review the scientific advice and TACs with respect to Northern cod. The



Sources: 1977 - 1979 - CAFSAC - 92/75, and NORDCO 1981; 1980 - 1991 - Canadian Groundfish Management Plans and Quota Reports.

Figure 4.1: Inshore, Canadian Offshore and Foreign Allocations of Northern Cod 1977 - 1991.



Sources: 1977 - 1979 - CAFSAC - 92/75, and NORDCO 1981; 1980-1991 - Canadian Groundfish Management Plans and Quota Reports.

Figure 4.2: Inshore, Canadian Offshore and Foreign Catches of Northern Cod 1977-1991.

second section examines the stated objectives and principles of allocation and is followed by an overview of how the TAC was allocated by Canada to foreign nations and to the domestic inshore and offshore sectors.

4.1 Setting the Total Allowable Catch

Following Canada's extension of jurisdiction, the adoption of the TAC as a means for fisheries management posed a very difficult problem; TACs are set based on harvesting a certain percentage of the total fishable biomass, thus it is essential that the size of the biomass be known. This requirement led to a rapid increase in fisheries stock assessment by the Department of Fisheries and Oceans in the post-1977 period. Since Canada did not have a time series of research vessel surveys prior to 1977 and the Canadian offshore fleet had little or no presence in the Northern cod fishery before this date, the assessment of the Northern cod stock in the 1977 to 1986 period was conducted by the Northwest Atlantic Fisheries Organization (NAFO). Canadian scientists participated in the NAFO scientific process and gradually acquired a time-series of Canadian research vessel surveys and Canadian offshore catch rate data that enabled them to carry out their own assessments in 1987 (DFO 1988).

Unfortunately, during this transition period very optimistic resource projections lead to intense pressure with respect to the future allocation of the Northern cod stock. These projections resulted in non-surplus allocations to foreign countries, allocations to the Canadian offshore sector and to new users from other regions. During the early 1980s it

also became obvious that the inshore sector was not seeing an increase in the resource. In fact the inshore fixed gear fisheries, a sector which had traditionally harvested 200,000 to 250,000 mt. of Northern cod in the 1860-1960 period was unable to catch its 115,000 mt. allocation during the 1980s. Initially, the failure of the Northern cod stock to migrate inshore was blamed on cold water (CAFSAC 1986) but the inshore failure worsened and led to the appointment of the Alverson Task Force on Newfoundland Inshore Fisheries in August 1987. Also, in December 1986, the Newfoundland Inshore Fisheries Association (NIFA) released a report it had commissioned by fisheries scientists at Memorial University of Newfoundland. The Keats Report raised very serious concerns over the use of offshore catch rates in the estimation of biomass size and that the stock biomass had been consistently over-estimated (Keats *et al.* 1986). The retrospective analysis conducted by CAFSAC in 1988 illustrates the magnitude of the problem (Table 4.1). If Canada had known that in 1981 the TAC should have been 120,000 mt. instead of the 250,000 mt. advised by the NAFO Scientific Council the TAC would not have been set at 200,000 mt. The over-estimation of TACs in the early 1980s resulted in high levels of exploitation through the allocation of non-surplus fish to foreign countries and the allocation in excess of 100,000 mt. of Northern cod to the Canadian offshore sector. Both of these decisions had a very detrimental effect on the traditional inshore sector.

In allocating the Northern cod TAC, the inshore sector was accorded first priority; "the inshore allocation is taken off the top (ie. the inshore sector gets the first slice of the pie)" (DFO 1989). However, in reality, the inshore sector never received its share. For

Table 4.1: Retrospective Analysis of Northern Cod TAC's

2J3KL Cod					
Year	Advised Fo.1	Tac	Retrospective Fo.1	Difference (Advised - Retro)	Catch
1975	-	554,000	-	-	288,000
1976	-	300,000	-	-	214,000
1977	160,000	160,000	45,000	115,000	173,000
1978	160,000	135,000	60,000	100,000	139,000
1979	200,000	180,000	90,000	110,000	167,000
1980	210,000	180,000	110,000	100,000	176,000
1981	250,000	200,000	120,000	130,000	171,000
1982	270,000	230,000	130,000	140,000	230,000
1983	300,000	260,000	140,000	160,000	232,000
1984	270,000	266,000	165,000	105,000	230,000
1985	270,000	266,000	180,000	90,000	232,000
1986	240,000	266,000	215,000	25,000	252,000
1987	240,000	256,000	120,000	120,000	235,000
1988	293,000	266,000	-	-	269,000
1989	125,000	235,000	-	-	253,000
1990	N/A	199,000	-	-	219,000
1991	N/A	190,000	-	-	171,000
1992	MORATORIUM IMPOSED JULY 2, 1992				

Source: CAFSAC 1987 - 1989; CAFSAC 1992

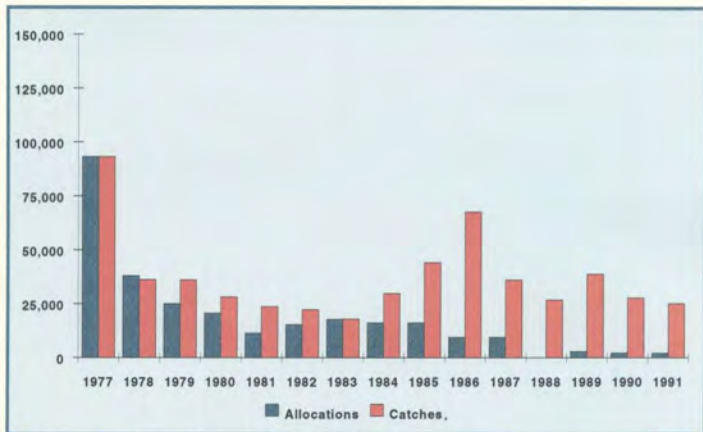
example, in 1989 when scientists discontinued using offshore catch rates and recommended a TAC of 125,000 mt. the Minister of Fisheries and Oceans set the TAC at 235,000 tonnes. This resulted in a catch of 254,000 mt. with Canadian and foreign offshore mobile gear vessels catching 150,555 mt.. Not surprisingly, the inshore fishery failed to harvest its allowance, but through increased effort, smaller mesh sizes and moving further from shore it managed to catch 102,869 mt. of fish, much of very small size (CAFSAC 1992: 19). The small size was also evident in offshore catches.

While the setting of appropriate TACs and the interaction between science and fishermen is critical to future management (Finlayson 1994), it is not the subject of this thesis. Yet, the fact cannot be ignored that the level of the TAC indirectly affects the allocation process especially when stocks are over-exploited and at low levels of abundance. Under such circumstances mobile gear vessels are able to maintain catch rates by hunting for fish while passive fixed gear catches invariably decline. The role of scientists in setting TACs and the implications for allocation issues were highlighted in an address by Mr. Cabot Martin at the 1994 annual meeting of the American Fisheries Society:

If the cod comes back every inshore fisherman knows that FPI and National Sea will be back, too. But this time we know the fatal consequences of a half-fought battle; this time we will be ready; and this time, if God gives us a "this time", I hope to see more fisheries scientists on our side of the barricades (Martin 1994).

4.2 Foreign Allocations and Overfishing

The declaration of the 200 mile Exclusive Economic Zone (EEZ) on January 1, 1977 was expected to bring about an end to the over-exploitation of the Northern cod stock by foreign fleets. However, foreign harvests of Northern cod have continued and even increased during the 1980s. Foreign catches are of two types; those occurring within the Canadian EEZ through bilateral agreements with Canada, and those occurring outside of 200 miles in the area known as the "Nose of the Bank". Canada's management of the Northern cod fishery since 1977 has always been a fine balancing act of allocating resources inside the zone in return for market access and/or cooperation in not fishing outside the zone. The allocations to foreign countries inside the 200 mile limit, the subsequent catch and the "illegal" catch outside the zone in the 1977 to 1991 period are shown in Figure 4.3. The allocation and catches by country are given in Table 4.2. The foreign allocations inside the Canadian zone was a very controversial issue with respect to Northern cod in the late 1970s and early 1980s as Canada took responsibility for the management of the Northern cod stock (Parsons 1993; Harris 1990). In 1977, Canada extended jurisdiction but "treated 1977 as a transitional year. Accordingly, it adopted the TAC and national allocations agreed to in ICNAF during 1976" (Parsons 1993: 244) therefore, foreign countries were allocated 90,000 mt. of the 160,000 mt. TAC. In retrospect, the TAC for 1977 at the $F_{0.1}$ level of fishing mortality should have been only



Source: Lear and Parsons 1993

Figure 4.3: Foreign Allocations and Catches of 2J+3KL Cod (mt) as reported to NAFO

Table 4.2: Northern Cod Allocations and Catches by Country 1977 to 1991
(From: Lear and Parsons 1993, Page 77)

COUNTRY	1977		1978		1979		1980		1981		1982		1983		1984	
	A	C	A	C	A	C	A	C	A	C	A	C	A	C	A	C
BULGARIA	600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CUBA	1,816	18	700	15	1,845	1,031	700	12	0	0	0	0	0	0	0	0
E.E.C.	1,676	11	1,676	0	3,500	0	0	0	0	0	8,000	0	9,210	0	9,210	0
FRANCE	1,816	1,111	1,816	36	1,816	1,816	1,816	36	1,816	1,816	1,816	1,816	1,816	1,816	1,816	1,816
G.R.C.	8,850	4,641	3,190	3,190	3,190	4,649	4,649	0	0	0	4,600	5,477	7,113	1,793	1,125	2,501
ITALY	1,800	31	300	0	0	0	0	0	0	0	0	0	0	0	0	0
JAPAN	1,800	31	300	0	0	0	0	0	0	0	0	0	0	0	0	0
U.S.S.R.	4,970	4,200	4,920	4,900	1,520	12,022	700	500	0	23	30	81	0	0	0	77
U.K.	1,810	184	410	700	1,094	700	983	760	799	1,600	1,970	860	1,077	0	998	0
POLAND	7,430	7,430	2,890	2,874	3,000	3,235	700	733	3,000	1,884	0	11	0	292	0	712
ROMANIA	2,700	18,974	210	0	0	0	0	0	0	0	3,700	8,140	8,520	0	0	9,170
HONGARY	700	700	700	0	0	0	0	0	0	0	0	0	0	0	0	0
SPAIN	18,760	20,725	3,310	3,609	3,660	3,060	7,014	3,060	8,616	0	1,431	0	1,431	0	3,062	0
U.S.R.	18,800	18,800	3,310	3,349	3,000	1,009	700	257	0	114	0	0	0	0	0	0
YUGOSLAVIA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OTIERS	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	93,140	93,139	38,000	40,182	23,040	38,120	28,700	28,230	11,460	23,677	15,440	22,238	17,840	17,893	18,200	29,814

COUNTRY	1985		1986		1987		1988		1989		1990		1991	
	A	C	A	C	A	C	A	C	A	C	A	C	A	C
BULGARIA	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CUBA	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E.E.C.	9,500	0	9,500	0	9,500	0	0	0	0	0	0	0	0	0
FRANCE	1,345	880	1,345	1,370	1,345	1,781	0	0	2,890	3,099	2,382	2,315	2,140	2,187
G.R.C.	1,135	23,488	1,135	3,113	1,143	0	0	515	0	484	0	1,133	0	6,438
ITALY	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JAPAN	130	0	130	0	130	0	0	0	0	0	0	0	0	0
U.S.S.R.	41	0	41	0	41	0	29	0	313	0	0	0	0	0
U.K.	915	0	1,274	0	0	0	0	0	0	0	0	0	0	0
NORWAY	0	13	0	2	0	1	0	0	23,040	0	0	0	0	0
POLAND	0	0	0	0	13,630	0	8,812	0	0	0	0	12,443	0	8,429
ROMANIA	1,700	8,813	0	30,483	0	0	0	0	0	0	0	0	0	0
HONGARY	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SPAIN	0	10,618	0	21,840	0	11,702	0	17,430	0	11,979	0	9,742	0	8,893
U.S.R.	0	123	0	146	0	134	0	48	0	93	0	133	0	3
YUGOSLAVIA	0	94	0	0	111	0	13	0	13	0	13	0	0	0
TOTAL	18,200	44,199	9,500	7,318	0	28,827	2,890	38,862	2,262	27,824	2,262	27,824	2,140	23,127

E.E.C. Allocation was distributed to France, Federal Republic of Germany and United Kingdom among 1980 and 1982-1987.
U.S.S.R. & YUGOSLAVIA are parties to 1980-1991 see from CAPSAC files, Dates 1/2/3 and 5/2/3.
Catches for France ending 1987, 1990 and 1991 are from CAPSAC files, Dates 1/2/3 and 5/2/3.

45,000 mt. (CAFSAC, 1987). Thus in retrospect the foreign allocation represented fishing at twice the desired level of fishing mortality.

During the 1977 to 1980 period the "surplus" allocations of Northern cod decreased from 90,000 mt. to 25,000 mt. and by 1981 increasing Canadian effort meant there was no longer any "surplus". In the 1981 to 1987 period Canada allocated non-surplus amounts of Northern cod to foreign countries in return for market access and cooperation in conservation of straddling stocks and highly migratory species such as salmon (Sullivan 1989, Parsons 1993, Day 1995). During the early 1980s the euphoria of the projected growth of Northern cod stock began to dissipate as the inshore sector consistently failed to harvest its allowance of 115,000 mt. The TACs, which were projected to grow to 400,000 mt. at $F_{0.1}$, peaked at 266,000 mt. and, in light of the consistent overestimation of the biomass, should have been much lower.

The pressure to reduce non-surplus allocations to foreign nations increased as Canada's offshore fleet began to harvest all of its allocation (Kirby 1983). Consequently, during the 1982 to 1986 period, fishing outside of the 200 mile limit began to increase as Canada no longer had the surplus resources to "buy" the cooperation of other nations.

The European Community (E.C.) was the main beneficiary of the non-surplus allocations of Northern cod as the result of a long-term agreement (LTA) signed with Canada on December 30, 1981 to extend to December 31, 1987.

This Agreement exchanged, *inter alia*, quotas in Canadian waters for E.C. vessels for tariff quotas at reduced rates for fish products of interest to Canadian exporters. An integral part of the LTA was

that Canada gave the E.C. catch quotas of non-surplus Northern cod from within the Canadian zone on the understanding that E.C. member nations would not fish for this species or NAFO managed stocks outside the 200 mile limit beyond the quotas set by NAFO for the EC (Sullivan 1989: 127).

This attempt to buy cooperation failed and the problem of overfishing the Northern cod stock outside of 200 miles escalated during the 1982 to 1986 period (Parsons 1993, Lear and Parsons 1993, Sullivan 1989). 1985 proved to be a critical year for Canada's foreign allocation policy when oceanographic conditions caused an unusual abundance of fish to occur outside the 200 mile limit on the Nose of the Bank. Having harvested its share of the LTA inside the zone, the Federal Republic of Germany began fishing outside the zone and harvested 15,000 mt. of Northern cod in excess of its quota. The following year Spain and Portugal, which had consistently overfished their allocations, joined the European Community (Lear and Parsons 1993). Unfortunately, the harvesting capacity of the Spanish and Portuguese fleets could not be accommodated within European waters and the exclusion of the Spanish from other areas such as Namibia meant that the Spanish and Portuguese targeted the unprotected area outside of Canada's 200 mile limit (Day 1995). This led the E.U. to consistently use the "objection procedure" at NAFO. In essence, this allows any member not agreeing with its quota to "object" and set its own unilateral quota. In the case of Northern cod, the E.C. used the objection procedure continuously from 1986 to 1992. Despite the fact that NAFO agreed to a moratorium on fishing cod outside of 200 miles in 3L, the E.C. set unilateral quotas for the 1986 to 1991 period for a total of 346,360 mt. while reporting to NAFO a catch of 206,123 mt. for the

same period. Canadian estimates place the catch at higher levels, for example, in 1991 the E.C. reported a catch of 22,835 mt. of Northern cod whereas the Canadian estimate was 41,900 mt (CAFSAC 1992).

In summary, Canada initially began a phase-out of foreign vessels through surplus allocations (though retrospectively these allocations were not truly surplus) in the late 1970s and during the early 1980s Canada tried to use non-surplus allocations of Northern cod to get other nations to limit their catches outside of 200 miles. The 1986 to 1992 period resulted in increased conflict with the European Community, and the overfishing outside of 200 miles intensified. Following Canada's declaration of a moratorium on Northern cod on July 2, 1992 an agreement to respect the moratorium was reached with the European Community.

The only allocation of Northern cod to foreign countries since the expiry of the LTA in 1987 has been to France. In order to get France to agree to a boundary settlement in area 3Ps the Government of Canada granted France an allocation of Northern cod notwithstanding the strong opposition of the fishing industry and the Government of Newfoundland and Labrador. In the words of then Premier, Brian Peckford, "They sold the shop!"

4.3 Inshore Allocation

The history of the inshore sector was essentially the history of the Northern cod fishery up until the development of foreign factory freezer trawlers in the 1950s. The

inshore sector operated on a seasonal basis using passive fixed gear which exploited the cod stock during its spring and summer migrations to coastal waters. The catch was subject to annual variations but in the 1850 to 1950 period usually ranged between 200,000 to 300,000 mt. (Lear and Parsons 1993, Harris 1990). With the expansion of the foreign offshore effort in the 1950s and 1960s total catches soared to 810,000 mt. in 1968. By 1974, the inshore catch plummeted to 34,000 mt. as the result of the stock collapse. The declaration of a 200 mile limit meant that the historically dependent inshore sector, and the communities which were nearly totally dependent upon the Northern cod stock, finally had hopes of renewed control of the resource, and expansions were made in both the harvesting and processing sector to reap the economic benefit of a rebuilt Northern cod stock.

The concept of first priority in allocation of the TAC to the inshore sector was repeatedly stated in the 1977 to 1980 period with, then Minister, Romeo LeBlanc stating the following with respect to Northern cod allocations:

I have a clear bias for the inshore fisherman, not because of some romantic regard, not because of his picture on the calendars, but because he cannot travel far after fish, because he depends on fishing for his income, because his community in turn depends on his fishery being protected (Parsons 1993: 123).

Subsequently, the Department of Fisheries and Oceans released resource projections for the Northern cod stock which forecast 1985 landings of 400,000 mt. at $F_{0.1}$ or 350,000 mt. if an exploitation rate below $F_{0.1}$ were adopted (DFO 1978). This stock was projected to be the major growth area for all Atlantic Canada and offshore vessels, displaced from

the Gulf, were subsidized to fish for Northern cod in 2J+3KL. Meanwhile, at the special Government - Industry seminar on the management and allocation of Northern cod in August 1979 the then Minister of Fisheries and Oceans, the Honourable James McGrath, stated that:

the Northern cod were the staff of life to the people of Northeast Newfoundland and Labrador...that the policy of the government was that the inshore fisherman had first call on this resource (Lear and Parsons 1993: 66).

The paper on the utilization of Northern cod presented at the seminar estimated that the inshore sector would be able to harvest only 230,000 mt. and therefore based on the 350,000 mt. which would be available in 1985, 120,000 mt. would be available to the Canadian offshore sector and foreign nations through bilateral agreements (DFO 1979). With respect to allocation the seminar concluded that

The first and overriding priority in allocations is to the inshore sector. The consensus from the seminar participants was that two thirds of the TAC of Northern cod should be set aside as an allowance for the inshore fishery (DFO, 1979).

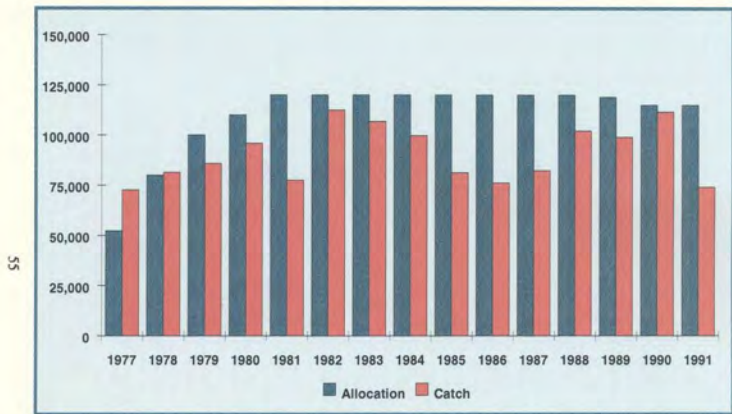
The Province of Newfoundland disagreed with the decision to introduce new users and argued that

The inshore could and should take up to 85% of the Northern cod catch and that any residual should be taken by Newfoundland based offshore effort to supply resource short plants in Newfoundland (DFO 1979).

Both positions assumed a stock capable of supporting a 350,000 to 400,000 mt. TAC by 1985. Given the euphoria associated with gaining control of this vast resource,

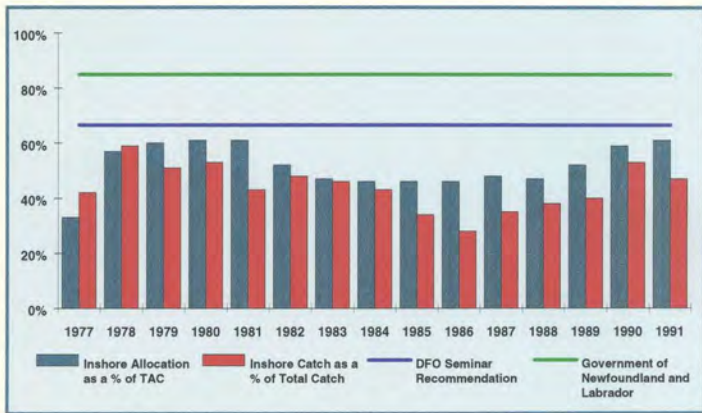
the allocations of 25,000 mt. per year to foreign countries and 120,000 mt. per year to new entrants in the form of Canadian offshore wetfish trawlers were not initially seen as a problem. However, the stock projections were subsequently revised downwards and the fact that the inshore sector was unable to catch its allowance of 115,000 mt. during the early 1980s meant that increases in the TAC went to the Canadian offshore sector. The result was that the inshore sector, which was promised first priority in allocation and were supposed to get two thirds of the TAC was, by 1986, receiving only 43% of the TAC as an allocation and, due to the low level of the stock and foreign harvest outside 200 miles, was accounting for only 26% of the total catch (Appendix One). During the 1982 to 1988 period the inshore sector faced repeated catch failures and hired their own scientist to argue that the TAC was not realistic. The dramatic shift in the scientific advice which resulted in a recommended TAC of 125,000 mt. at $F_{0.1}$ for 1989 (CAPSAC 1989) would have permitted only an inshore fishery if the scientific advice and the allocation policies had been followed; however, the TAC issue became very political and the final 1989 TAC was announced by the Minister of Fisheries and Oceans at 235,000 mt. down from 266,000 the previous year and with all the cuts borne by the offshore sector. The inshore fishery caught 95,000 mt. in 1989 or 37% of the total catch of 254,000 mt. The TAC for 1990 was set at 199,282 mt. with the cuts again borne by the offshore sector, however, the TAC far exceeded the advice of the DFO scientists, the Harris Panel or the level that the stock could sustain (Steele *et al.* 1992; Hutchings and Myers 1994; Martin 1995).

The 1991 to 1993 TACs were set on a three year plan which would see the TACs gradually reduced symbolically from 190,000 mt. in 1991 to 185,000 mt. in 1992 and to 180,000 mt. in 1993. Again these TACs were of political origin and did not reflect the scientific advice or the long standing commitment of priority allocation to the inshore sector (Steele *et al.* 1992; Martin 1995). The allocation and catches of the inshore fixed gear sector are given in Appendix one and shown graphically in Figure 4.4. Given the retrospective error in setting TACs in the early 1980s and the political TACs of the 1989 to 1992 period, it is clear that despite the promises and priorities, the inshore sector never became the beneficiary of the "recovery" of the Northern cod stock associated with the 200 mile limit. From 1977 to 1992 the inshore sectors allocation accounted for 50% of the total accumulative TACs and the inshore fixed gear catch was only 42.5 % of the total catch of Northern cod. In hindsight, the consistent failure of the inshore sector and the fact that its catch in the 1977 to 1991 period averaged only 89,000 mt. should have been sufficient evidence to seriously question the health of the Northern cod stock. Despite new technology, better vessels, better gear and new modern processing facilities, the inshore sector which traditionally caught 200,000 to 300,000 mt. could not catch its new reference point of 115,000 mt! The percentage allocation to the inshore in the 1977 to 1991 period never reached the two thirds recommended by the Northern cod seminar in 1979 or the 85% recommended by the provincial government (Figure 4.5). It is also worth noting that the 2/3 allocation was based on catching 230,000 mt. of the projected landings of 350,000 mt. by 1985.



Sources: 1977 - 1979 - CAFSAC - 92/75, and NORDCO 1981; 1980 - 1991 - Canadian Groundfish Management Plans and Quota Reports

Figure 4.4: Inshore Allocations and Catches of 2J+3KL Cod for 1977 - 1991



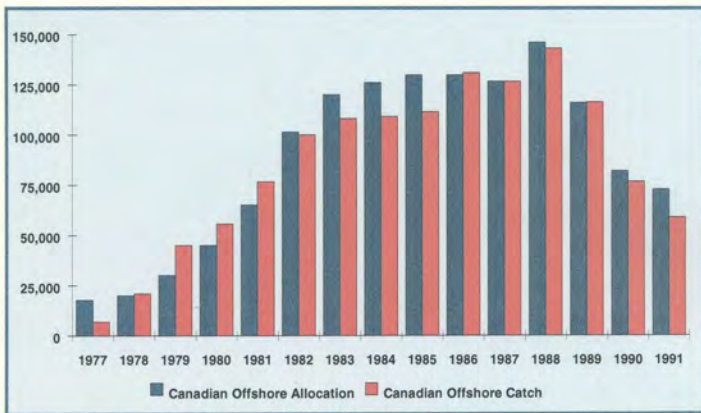
Sources: 1977 - 1979 - CAFSAC - 92/75, and NORDCO 1981; 1980 - 1991 - Canadian Groundfish Management Plans and Quota Reports

Figure 4.5: Inshore % share of the Northern Cod TAC Catch 1977 - 1991 in relation to National and Provincial stated objectives.

In summary, the Northern cod stock never recovered to the point where the needs of other users should have superseded the inshore's "priority allocation". By the time the biological reality became apparent, however, most of Atlantic Canada's offshore fishery had become dependent upon Northern cod and the inshore sectors concerns and demands were either ignored or treated the same as those of the growing number of other users competing for their share of the Northern cod stock.

4.4 Offshore Allocation

Since the sector management plan applies to all inshore vessels < 65 ft. and vessels over 65 ft. operate on Atlantic-wide licences, all vessels greater than 65 ft. are considered offshore for the purpose of this analysis. The allocation and catches for the various offshore sectors is given in Appendix One and shown graphically in Figure 4.6. The Canadian offshore sector consists of predominately mobile gear vessels (98% of total offshore catch) using otter trawl technology to harvest fish in the offshore area, primarily during the winter and early spring. This is the time when Northern cod form dense pre-spawning and spawning concentrations. Prior to 1977 the Canadian offshore fleet had no significant presence in the Northern cod fishery with catches in the 1960s and early 1970s being in the range of 2000 mt. per year as a by-catch in the flounder fishery in 3L (Parsons 1993).



Sources: 1977 - 1979 - CAFSAC - 92/75, and NORDCO 1981; 1980 - 1991 - Canadian Groundfish Management Plans and Quota Reports

Figure 4.6: Canadian Offshore (>65 ft.) Allocation and Catches of Northern Cod, 1977 - 1991.

At the time of the declaration of the 200 mile limit, the offshore sector, consisting of mainly side trawlers from the south coast of Newfoundland and Nova Scotia, were in the midst of a resource crisis due to declines in their traditional fishing areas in the Gulf of St. Lawrence. The Gulf redfish and cod stocks upon which this fleet and their plants depended had collapsed and the resultant low TACs were not capable of accommodating both Gulf-based and non-Gulf-based users. The inshore sector in the Gulf of St. Lawrence argued that they were capable of catching all the TACs in the Gulf despite the fact that the offshore vessels from the South coast of Newfoundland and the Scotian shelf for the previous decade harvested 60% of their catch in the Gulf. The "solution" to the overcapacity problem in the Gulf was the Northern cod stock off the Northeast coast of Newfoundland and Labrador which was projected to grow rapidly (DFO 1978). The 1977 Atlantic Groundfish Management Plan was the first by Canada and "attempted to address the problem of resource shortage in the Gulf by pushing the more mobile Nova Scotia and Newfoundland-based trawler fleets out of the Gulf and encouraging the Gulf based offshore trawler fleet to fish outside the Gulf" (Parsons 1993: 120).

In announcing the 1977 plan, the Hon. Romeo LeBlanc stated that the Gulf-based "intermediate and small boats, more than 10,000 of them, had only limited range. Hence, the large trawler fleet had the duty and opportunity of going further afield". In fact, the Government of Canada subsidized the offshore sector to fish for Northern cod in the late 1970s because of the uncertainty with respect to the viability of Canadian vessels fishing cod during the winter off the coast of Labrador; thus, the overcapacity problem in the Gulf

was solved by shifting the offshore sector out of the Gulf. In 1979 the non-Gulf-based vessels' cod allocations in the Gulf were again reduced "in order to provide for adequate fishing opportunities for existing vessels in the Gulf" (Parsons 1993: 125). Consequently, the overcapacity problem was not solved, it was merely shifted from the Gulf of St. Lawrence to the Northeast coast of Newfoundland and Labrador where the resource prospects were supposed to be better. This process of "shifting the burden" continued throughout the 1980s as Northern cod became the solution to resource problems elsewhere in Atlantic Canada.

The Canadian offshore sectors share of the Northern cod stock increased rapidly from 11% in 1977 to 35% in 1981 and by 1986 accounted for 55% of the allocation (See Appendix One and Figure 4.6). Because of the success of the offshore sector, a number of new users and fleet sectors became a part of the Northern cod fishery in the 1980s with new allocations to vessels in the 65 to 100 ft. class which were resource short on the Scotian Shelf. The Kirby Task Force report recommendations resulted in allocations to a new class of "Scandinavian" longliners as named in the Kirby Report and also allocations to the Resource Short Plant Program (RSPP); both programs were designed to catch fish offshore and deliver it to inshore "resource short" plants on the Northeast coast of Newfoundland which were seriously impacted by the "failure" of the inshore fishery. Again resource-short plants elsewhere in Atlantic Canada were included in this program which was expanded to ensure 25% of the total RSPP allocation went to plants outside of Newfoundland and Labrador (Parsons 1993).

The offshore sector's entry into the Northern cod fishery was the focus of the Northern Cod Seminar in Corner Brook in August 1979, and the success of the offshore sector in catching its allocations in record time resulted in increased quotas and the introduction of an enterprise allocation program for mobile gear vessels greater than 100 ft. During the early 1980s it was difficult not to admire the success of the offshore sector which was landing in excess of 120,000 mt. (250 million lbs.) annually and which only a few years earlier had required subsidies and incentives to fish the Northern cod stock. However, in retrospect, the offshore sector's success was like admiring the pump without knowing what was in the well (Leopold 1948).

The offshore catch rates on spawning concentrations were used by NAFO and DFO scientists to calculate the Northern cod biomass and thus the TAC, however, this was discontinued in 1987 when it became clear that the catch rate was a function of technology rather than an indicator of abundance (Keats *et al.* 1986; CAFSAC 1987). Thus, between 1980 and 1987 the offshore catch rate led to TACs which were too high and, therefore, increased the offshore share. The refusal of the Government of Canada to set TACs at the stated management objective of $F_{0.1}$ in the 1989 to 1992 period also increased the share of the offshore sector. During the 1980s it was apparent that the offshore sector received special consideration due to its ability to catch its quota and employ a large number of people while the inshore fixed gear sector fell into a cycle of inshore failures, make work programs and a high dependence on Unemployment Insurance.

Chapter 5: Impacts of Allocation Decisions

May concluded by stating he was unsure such a bifurcated system (inshore/offshore) could work and that the government must decide on whether or not there shall be a population on the northern part of the east coast of Canada (Dr. A. May, April 1982 memorandum to Kirby Task Force as quoted in Shrank 1995).

The allocation of fisheries resources creates an atmosphere of winners and losers since the allocation of a ton of fish translates into economic value and subsequently social benefit. In 1988 1,000 mt. of cod was estimated to create 17 person years of employment in the inshore sector and to have a landed value of \$460 per ton (DFO 1988). These numbers will be used to conduct a preliminary assessment of the economic value and employment associated with the allocation process. The spatial shift in the allocation of Northern cod had impacts on the international, national, regional and local levels and these impacts will be examined in terms of the shift in allocations and landings in the 1977 to 1991 period. A further evaluation of the stated goals and objectives in the allocation of Northern cod will also be examined with respect to actual decisions since many of the goals and objectives were based on socio-economic policy.

5.1 Stated Objectives vs. Actual Decisions

The stated objectives of allocation of the Northern cod stock are very clearly captured in the management plans, ministerial speeches, press releases and reports of special seminars during the late 1970s. The social and economic objective was to rebuild the Northern cod stock for the benefit of inshore fishermen who were adjacent to the

resource and historically dependent upon it. The inshore fixed gear sector was to be given "first priority in allocation" or "first call on the fish". Based on the allocations and catches for the 1977 to 1991 period, it is obvious that this objective was never realized. In fact, just the opposite occurred.

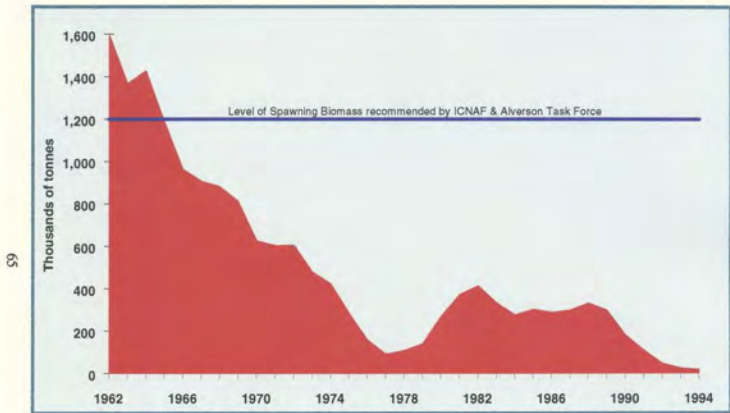
In 1977 an abrupt shift occurred in the spatial scale of management of the Northern cod resource as a 200 mile limit enclosed the bulk of the resource for Canada and shifted management responsibility from the international to the national scale. Unfortunately, this occurred simultaneously with severe resource shortages in the Gulf of St. Lawrence and also at a time of overly optimistic resource projections forecasting a major increase in the Northern cod stock to a TAC of 400,000 mt. at $F_{0.1}$ (DFO 1978) which was the basis for allocations to the Canadian offshore sector and foreign countries. These error-laden projections were also the basis of the subsequent mismanagement and over-exploitation between 1977 and 1988. Since the Northern cod stock was going to grow to allow a TAC of 400,000 mt. by $F_{0.1}$ 1985 (350,000 mt. at a lower exploitation level), it was seen as a developmental opportunity. It was estimated that the inshore sector would only be able to harvest 230,000 mt. or roughly two thirds of the TAC and, therefore, a minimum of 120,000 mt. would be available to new Canadian users and foreign fleets (DFO 1979). The allocations were made to the Canadian offshore sector and foreign fleets on the basis of these projections. When the fish failed to materialize in the inshore sector, the first reaction was to explain it as a seasonal fluctuation brought about by cold water or abundance of capelin offshore (CAFSAC 1986). This was generally accepted because the

Canadian offshore sector and foreign vessels had no problem catching their allocations. In retrospect, based on the revised TACs provided by CAFSAC (Table 4.1), the TAC at $F_{0.1}$ in the 1977 to 1992 period would never have been high enough to have allowed allocations to the Canadian offshore sector or foreign fleets.

The biological impact of the allocations was significant since the rebuilding objective was to achieve a spawning biomass of 1.2 million metric tons to ensure the long-term viability of the resource (DFO 1989). Initially, following the extension of jurisdiction considerable rebuilding occurred. However, over-exploitation from the early 1980s to 1992 resulted in very little if any rebuilding and eventually lead to collapse of the stock (Figure 5.1). If there had been adherence to the stated goals and objectives of the late 1970s, this over-exploitation would not have occurred since the inshore sector would not likely have been able to exert enough fishing pressure to cause the stock to decline.

5.2 Economic Impacts on Fleet Sectors and Regions

The social and economic impact of Canada's allocation decisions on the inshore sector was also severe. Between 1977 and 1991, 317,202 mt. of Northern cod was allocated to foreign nations. The subsequent total foreign catch of 546,997 mt. translates into 9,299 person years of employment and \$251,700,670 of landed value in 1988 dollars (Table 5.1). Likewise, the Canadian offshore sector was allocated 1,327,835 mt. and harvested 1,286,187 mt. which equates to 21,865 person years of employment and \$591,838,948 landed value in 1988 dollars.



Source: CAFSAC 1995

Figure 5.1: Northern Cod Spawning Biomass 1962 - 1994.

Table 5.1: Cumulative Allocations and Catches of Northern Cod between 1977 - 1992 and the Social and Economic Impacts

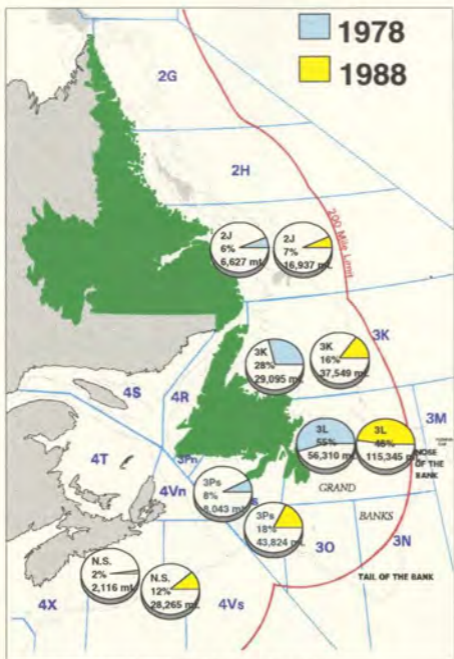
Sector	Allocation(mt)	Person years*	Value (\$)**	Catch (mt)	Person years*	Value (\$)**
Inshore	1,651,925	23,071	\$759,811,184	1,358,854	22,101	\$625,276,668
Canadian Offshore	1,327,835	22,573	\$611,003,275	1,286,187	21,865	\$591,838,948
Foreign	317,302	5,392	\$145,960,500	548,997	9,299	\$231,700,870
Total	3,296,062	56,036	\$1,516,774,959	3,192,038	54,265	\$1,448,816,286

*Based on Groundfish & Jobs; DFO 1988; ** Based on value per metric tonne in 1988; Landings & Landed Values; DFO

Obviously, the inshore sector would not have received the entire amount of the value or employment associated with the allocations to other nations or the Canadian offshore sector. But notwithstanding the potential availability of fish, the allocations to other sectors contributed to a poor inshore fishery in the 1980s, one characterized by catch failures, make work programs and abuses of the Unemployment Insurance Program. Despite the stated goals and objectives, other regions of Atlantic Canada with more diverse economies and countries on the other side of the Atlantic received a greater combined benefit from Canada's management and allocation of the Northern cod stock than did the inshore fishermen in the coastal communities adjacent to and historically dependent upon the resource.

5.3 Spatial Shift in the Distribution of the Landings

In addition to sharing the economic and employment benefits between sectors, the allocation process also directly affected the geographic distribution of the Northern cod landings. The concepts of adjacency and historic dependence of fleets and coastal communities, while written into the groundfish allocation principles, were ignored (Steele *et al.* 1992). From 1977 to 1991 a significant geographic redistribution of Northern cod landings was evident. Figure 5.2 illustrates the changes in redistribution of Canadian landings of Northern cod between 1978 and 1988. The increased levels of landings in Nova Scotia and the South coast of Newfoundland were the result of the allocations to the Canadian offshore sector. Between 1977 and 1991 Nova Scotia received 273,358 mt.

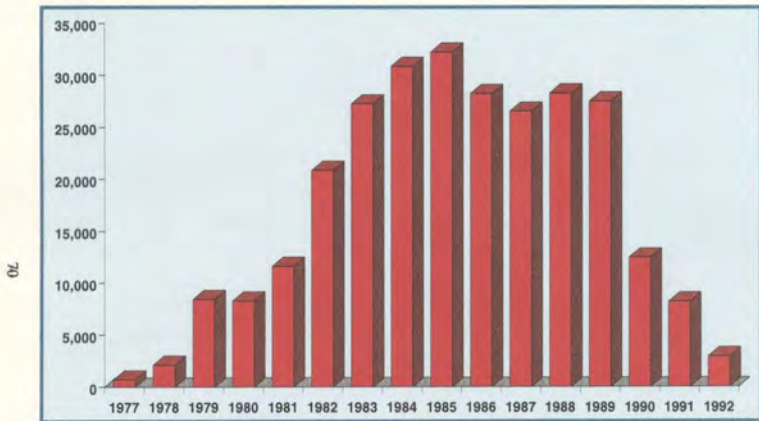


Source: DFO Statistics 1978 - 1988, St. John's, NF.

Figure 5.2: Regional Distribution of Northern Cod Landings 1978 & 1988

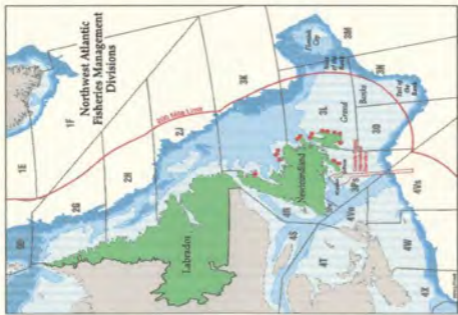
of Northern cod which equated to 4,647 person years of employment and a landed value of approximately \$126 million dollars (Figure 5.3) despite the fact Nova Scotia was neither adjacent to nor historically dependent upon the Northern cod resource. Meanwhile, communities on the Labrador coast and the Northeast coast of Newfoundland, which had been built on the basis of hundreds of years of harvesting Northern cod, were no longer major players in the Northern cod fishery (Figure 5.4). The fact that by 1988 there were no communities in 2J or 3K in the top 15 landing ports was the result of increased allocations to the offshore sector.

The allocation of cod to the Newfoundland offshore sector resulted in nearly year-round employment to communities with offshore plants such as Ramea, Burgeo, Gaultois, Grand Bank, Fortune, Harbour Breton, Marystown and Arnold's Cove. Likewise, on the Northeast coast, communities with offshore plants such as Catalina, St. John's, Trepassey, Harbour Grace prospered, with total landings of up to 80,000 mt. per year. While the economic value of Northern cod to these communities cannot be ignored, it must be remembered that most of these communities and their fish plants were not built on the basis of the Northern cod resource and had been historically dependent upon the cod and redfish stocks in the Gulf (4RST) and on St. Pierre Bank (3Ps) and the cod, haddock and flounder stocks on the Southern Grand Banks (3NO). The expulsion of the offshore fleet from the Gulf in 1977 led to the first offshore allocations of Northern cod, with the Federal Government subsidizing the fleets to fish in the North. Subsequently, the failure

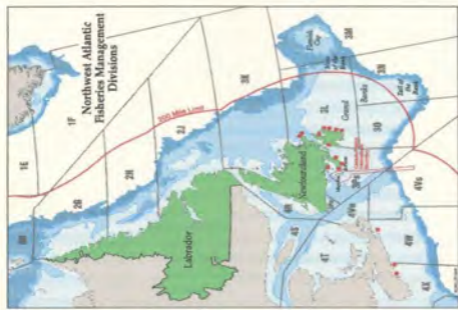


Source: NORDCO 1977 - 1979; Canadian Groundfish Management Plans 1980 - 1992

Figure 5.3: Nova Scotian landings of Northern Cod 1977 - 1992.



1978



1988

Source: DFO Statistics

Figure 5.4: Top 15 landing sites for Northern Cod in 1978 and 1988.

of NAFO to manage the straddling stocks on the Grand Banks (Rowe 1993; Day 1995) resulted in the further decline of the traditional resource base of the offshore fleet during the mid-1980s to the extent that the Newfoundland offshore sector became almost totally dependent upon Northern cod by the late 1980s. Thus, when faced with a recommended TAC of 125,000 mt. in 1989, the then Minister of Fisheries and Oceans stated "I can't close down entire communities or regions of Atlantic Canada". In essence, the allocation decisions of the late 1980s were not about sharing a growing resource, they were instead focused on securing access to and maintaining shares of a declining resource. In effect, the Government of Canada's politically-motivated setting of the TAC through the 1989 to 1992 period was in effect "robbing Peter to pay Paul". Since there were no new fish to allocate, there was no alternative but to keep the offshore allocations in place by artificially inflating the TAC while at the same time doing nothing about the unregulated foreign harvest outside of 200 miles.

In summary, the benefits of the limited growth in the Northern cod stock in the post 1977 period were not allocated to the inshore sector which had traditionally depended upon this resource for survival. In the 1977 to 1991 period inshore communities throughout Labrador and the Northeast coast of Newfoundland survived on make work projects and special assistance programs while the allocations decisions of the Government of Canada resulted in 4,647 person years of employment in Nova Scotia and even greater benefits to offshore communities, primarily on the south coast of Newfoundland, which received in excess of 17,000 person years of employment. Furthermore, the allocations

to foreign countries and the uncontrolled harvest outside of 200 miles combined to a total catch of Northern cod by foreign nations which equates to 9,299 person years of employment.

A review of past actions taken and the consequences of those actions, however unintended, are critical factors in the formulation of future goals for fishery management. The failure to adhere to stated goals and objectives with respect to the priority of the inshore has resulted, at least in the near term, in the commercial extinction of the major fish resource in the North West Atlantic and the economic failure of hundreds of rural communities in North eastern Newfoundland and Coastal Labrador. Ironically this was predicted by Dr. A. May in 1983 when he stated that "the government must decide on whether or not there shall be a population on the northern part of the east Coast of Canada (Shank 1995).

Chapter 6: Factors in the Future Allocation of Northern Cod

6.1 Statements of Goals and Objectives 1977 to 1992

The statement of goals and objectives is an essential part of natural resource management. Clearly defined goals and objectives are uncommon in fisheries management (Barber and Taylor 1990). When goals have been stated, they have been very general and refer to objectives such as best use, rationalization or conservation. These goals are "good for public relations and political gamesmanship but are difficult as use in effective rational management" (Barber and Taylor 1990: 366).

Unlike many fisheries resources the Northern cod stock was to be managed on the basis of a number of stated goals and objectives which included the biological goal of rebuilding the spawning biomass to 1.2 million metric tonnes (DFO 1989) (see Figure 5.1), and social and economic goals such as allocating the inshore fishery two thirds of the total catch, an estimated 230,000 of the projected 350,000 mt. TAC (400,000 mt. at $F_{0.1}$) (DFO 1979). Unfortunately, these biological and socio-economic goals and objectives were never realized or adhered to. In fact, there is considerable evidence of goal displacement as other objectives superseded allocation priority to the inshore and stock rebuilding. In order to examine the time period in detail, an evaluation of the TACs and major reports such as the DFO Northern Cod Seminar, the Kirby Task Force, the Alverson Task Force and the Harris Panel was conducted. It is proposed that the fisheries

allocation/management process for Northern cod in the 1977 to 1992 period can be viewed in three distinct phases;

1) Euphoria Phase: 1977 to 1981

- Very optimistic resource projections.
- Phase out of foreign fleets.
- Statements of priority allocation to the inshore.
- Workshops on how to share the future catch of 350,000 to 400,000 mt.
- Resource problems in Gulf were addressed by the growing Northern cod stock.

2) Uncertainty Phase: 1982 to 1988

- Offshore crisis and restructuring with in excess of 100,000 mt. of Northern cod allocated to get enterprise allocations in place.
- Sector management implemented to restrict movement of vessels < 65 ft.
- Inshore fishery consistently failing to catch its 115,000 mt. allocation.
- Scientific advice less optimistic but still projecting growth.
- DFO Science used to explain the failure of the inshore fishery.
- Alverson Task Force on failure of inshore fishery.
- Offshore continues to land its quota and report incredible abundance of fish on the offshore banks.
- Larger inshore vessels begin to move offshore to areas such as the Virgin Rocks.
- Traditional inshore adapts gear and effort to harvest 70,000 to 80,000 mt. per year, however, much of the catch is small fish.

3) Crisis Phase: 1989 to 1992

- January 1989 - Scientific advice for a TAC of 125,000 mt. in 1989 down from a TAC of 266,000 mt. in 1988.
- Stock at low level with low levels of recruitment.
- Offshore contends stock is okay.
- Inshore agrees with scientists.
- DFO sets TAC for 1989 at 235,000 mt. the total catch is 253,000 mt.
- Inshore sector (NIFA) takes DFO to court to stop offshore harvest and losses.
- Harris Panel reviews science and the stock and confirms the low level of biomass.

- 1990 TAC set at 200,000 mt.
- There is a 3 year plan of TACs for 1991-93 of 190,000, 185,000, and 180,000 mt..
- Stock collapses with small fish taken by all sectors.
- Offshore fails to catch its quota.
- Fishery closed on July 2, 1992.

The statements of goals and objectives for Northern cod were all made during the Euphoria Phase (1977 to 1981). However, the actual allocation decisions significantly departed from the intended objectives as a result of the resource crisis in the Gulf, bilateral arrangements with foreign countries and restructuring of the offshore sector. During the uncertainty phase (1982 to 1988) the TAC remained stable and therefore the allocation process was relatively problem-free with the major issue of contention being the determination of the size of the stock, the failure of the inshore fishery and access by other regions (Keats *et al.* 1986; CAFSAC 1986; Alverson 1987; Government of Newfoundland and Labrador 1987). The goals and objectives and, indeed, the principles of allocation were also ignored as was evident in the quota increases to the Canadian offshore sector, the middle distant fleet and the Resource Short Plant Program. At the same time, new users such as Nova Nord were demanding allocations of Northern cod and permission was granted to National Sea Products to use a factory freezer trawler to harvest Northern cod (Parsons 1993; Government of Newfoundland and Labrador 1985).

The crisis phase (1989-1992) is where the lack of adherence to goals and objectives became blatantly obvious and ultimately manifest in the collapse of the resource and the management process. In 1989, when faced with a recommended TAC of 125,000 mt.

which was far below that required to satisfy the many demands, then Minister Tom Siddon refused to accept the advice because of the allocation implications (and set an interim TAC while the Harris Panel reviewed the situation). The 1990 report of the Harris Panel confirmed the scientific advice and recommended a reduced TAC; this key recommendation, which was the basis of the report, was not accepted by DFO. In the 3½ years following the advice for a 125,000 mt. TAC, the total cumulative harvest exceeded 700,000 mt. much of it being very small fish. Finally, the resource collapsed in June 1992 and the stock was closed to commercial fishing for a period of 2 years. The moratorium has now been extended indefinitely. The primary cause of the problem has been that in a time of crisis the Department of Fisheries and Oceans abandoned its own policies (Steele *et al.* 1992).

6.2 Future Allocations, Goals and Objectives

Prior to and since the moratorium there have been numerous statements of goals and objectives for the management and allocation of Northern cod. The following provides an overview of the stated allocation policies put forward in recent studies and statements;

6.2.1 Harris Panel's Independent Review of the State of the Northern Cod Stock

Released in February 1990, the Harris Panel Report extended well beyond its original terms of reference and examined the stock as a whole. In the area of resource allocation the Panel recommended the following:

that the principles of adjacency and of essential needs be adopted as a fundamental premise underlying quota allocations (page 6, Executive Summary),

the Panel also identified the need for goals in the fisheries management process and recommended:

19. That the Government of Canada should carefully re-examine its biological, ecological and socio-economic goals in respect of the fisheries to ensure that they are clearly defined, internally consistent, and attainable.

While the recommendations were general, the text of the report was much more specific with respect to allocation:

It is still apparent that we should draw a distinction between conditions of stock abundance which all reasonable expectations for access can be met and conditions of stock depletion when no need can be wholly satisfied. In the Newfoundland context, it would seem altogether appropriate that first preference for access should in all cases go the communities contiguous to the resource and whose survival is historically dependent upon it. In such circumstances it might well be appropriate to consider the adoption of a doctrine analogous to the Hague Preferences... to take into account the vital needs of local communities particularly dependent on fishing...(Page 40-41).

6.2.2 Dunne Report on the Implementation of the Harris Panels Recommendations

The Dunne Task Force was established in June 1990 to ensure the implementation of the Harris Panel's recommendations. The Task Force recommendations with respect to resource allocation were as follows:

Allocation priority to the inshore sector.
Historical dependency and adjacency to be priorities in future allocations.
Allocation of future quota increases to more selective gears.
We recommend that the list of goals proposed here be taken as a minimum starting point for further discussion with industry.

6.2.3 Government of Newfoundland and Labrador - Changing Tides

The Government of Newfoundland and Labrador detailed its position on the allocation of Northern cod in 1993 in its Changing Tides document:

Clearly defined fisheries allocation principles must guide fisheries management, and adjacency to the resource and historical dependence must be the underlying principles in resource allocation.

In the case of the 2J,3KL cod fishery, the Province holds firmly that the traditional inshore fleet sector should receive, on an allowance basis, priority in the management of this stock; and at a TAC level below 100,000 tonnes the Province will support a by-catch provision for the offshore fishery. The resource allocation policy for this stock, should it exceed 100,000 tonnes, should be guided by the federal/provincial public hearings process conducted in those regions of the province which have had a presence in the Northern cod fishery.

6.2.4 Cashin Task Force on Income and Adjustments

The Task Force on income and adjustments in the Atlantic fishery (Cashin 1993) has made the following statement with respect to resource allocation:

Capacity reduction should be based on the principle that coastal areas would maintain priority access to resources upon which they have traditionally relied. For example, for northern cod there was a traditional inshore allowance (for vessels less than 65 feet) of 115,000 tonnes. Principally, the harvesters for this were from along northeast coast of Newfoundland and the coast of Labrador. It is unlikely that there will be a directed offshore fishery for northern cod in the future until the total allowable catch approaches or exceeds the traditional inshore allowance (Cashin 1993: 40).

6.2.5 Minister of Fisheries and Oceans

In a speech to the St. John's Board of Trade on October 11, 1995 the Honourable

Brian Tobin stated:

Now, I believe and I remain committed to the notion of a mixed fishery with inshore, with mid-shore and with offshore sectors, but I want to repeat an assurance I've already given, and that is that, as fishery resources rebuild, inshore fleets will be given first access to those resources.

6.2.6 Summary of Current Allocation Goals

Based upon the preceding quotes the inshore sector should receive priority allocation in the future. These stated goals and objectives reflect the same philosophical views as those expressed in the late 1970s, however, the specific goals and objectives have not been clearly identified except for those involving the first 100,000 mt. The questions that remain unanswered include whether the Government of Canada will allocate Northern cod to foreign nations in the future to control the fishery outside of 200 miles or whether the offshore sector will be allocated Northern cod once the TAC exceeds 100,000 mt.; or will exemptions to sector management allow inshore fishermen from elsewhere in Atlantic Canada to access the inshore allocation once the fishery reopens.

6.3 Allocation and Capacity Reduction

6.3.1 "Too many fishermen, chasing too few fish".

This is the often stated cliché to describe the Newfoundland inshore fishery and it is estimated that upwards of 50% of fishermen must leave the industry (Cashin 1993). However, in seeking a balance between the number of harvesters and the availability of

the resource there are two sides to the equation (eg. number of fishermen and the amount of fish). The Department of Fisheries and Oceans controls both sides of the equation through its licencing policy and its allocation policy and, therefore, will decide the balance. The rebuilding of Northern cod stock offers a series of choices as summarized by Steele *et al* 1992:

It is necessary to discuss and plan for the level to which the stock will be rebuilt, and at the same time determine how the stock will be harvested and by whom. Otherwise, projections about how many fishers.....are unwarranted (Steele *et al.* 1992: 65).

Thus the rationalization or capacity reduction process can only take place after the goals and objectives of resource allocation are agreed. For example, the inshore fishermen in the 2J area of coastal Labrador have never exceeded the amount of fish available in and harvested from area 2J; however, allocations to the offshore sector, foreign countries and inshore vessels from other areas resulted in a reduced resource which could not meet their economic needs. Therefore, the resource allocation issue is paramount to the rationalization exercise, especially on a regional basis.

6.3.2 Regional Balance

The proposed rationalization of the offshore and inshore sectors of the Atlantic fishery must take place on a regional basis in line with the resource potential of each region, otherwise the overcapacity problems will be addressed by allocation from one region to another. This "shifting the burden" is a major impediment to capacity reduction since there is no commitment that making difficult decisions now will result in improved

resource availability later. In fact, experience over the past 15 years has clearly demonstrated that allocations will go to areas with the greatest demand or political clout. The erosion of the sector management policy (Maloney 1990), lack of adherence to stated allocation policies (Steele *et al.* 1992), and the move away from allocation "principles" to the more flexible "guidelines" (Atlantic Groundfish Management Plan 1995) are all preventing local and regional rationalization and creating great uncertainty in the industry since there are no firm commitments with respect to future allocation.

6.4 National vs. Regional Allocation Priorities

The management of Northern cod over the past 18 years as a Canadian or national resource continues to cause numerous conflicts between federal and provincial governments. The allocation issue has invariably been at the centre of these conflicts. The Government of Canada has allocated Northern cod to foreign countries as part of bilateral trade agreements in return for market access. It has allocated Northern cod to other Provinces on the basis of projected growth in the resource and it has allocated Northern cod to other sectors, regions and harvesting technologies to the strong opposition of the Government of Newfoundland and Labrador (Parsons 1993).

These conflicts will not go away and the solution appears to lie in clearly identifying allocation objectives and goals so that each sectoral and regional share is protected. The increasing demands for more local (Pinkerton 1989) or regional (Vardy

1994) input are the result of the past *ad hoc* approach to management which resulted in spatial shifts in resources between communities, fleet sectors, regions, provinces and nations. In the words of the Cashin Task Force, "(t)his is no way to decide the future of coastal areas and the resources upon which they have traditionally relied" (Cashin 1992: 65).

Chapter 7: Summary and Conclusions

The Government of Canada should carefully re-examine its biological, ecological and socio-economic goals in respect of the fisheries to ensure they are clearly defined, internally consistent and attainable. (Recommendation 19. Harris *et al*, 1990:153)

7.1 The Future Management of Northern Cod

The most comprehensive overview of the Northern cod stock undertaken was the "Independent Review of the State of the Northern Cod Stock" by Harris *et al* (1990). This report recommended that goals and objectives be established for the future management of the northern cod stock and stressed that with respect to allocation, "the principles of adjacency and of essential needs be adopted as a fundamental premise underlying quota allocation" (Harris *et al*, 1990:6). The "Report of the Implementation Task Force on Northern Cod" (DFO, 1990) completed later the same year stated that "the priority of allocation access to inshore fishermen should continue" and that "the principle of historical dependency and adjacency should be continued and guide future allocation decisions" (DFO, 1990:14) and recommended that "allocation priority to the inshore sector" be a socio-economic goal (page 15). Two points are worth noting: firstly, the priority of allocation to the inshore should continue and principles of historical dependency and adjacency should continue. The report uses the word continue as if the inshore was receiving priority and the principles were being adhered to, yet the inshore share of the catch in 1986 had fallen to 26% of the total. Secondly, the recommendation of priority allocation to the inshore sector was made in October of 1990. Within months of receiving

this report, the Minister of Fisheries and Oceans announced a three year management plan for the Northern cod stock for the 1991-93 period of 190,000 mt, 185,000 mt. and 180,000 mt. which were approximately double the scientific advice. This resulted in the inshore share of the allocation and catch being 61% and 47% respectively in 1991.

The vast difference between the statements of theory and the quantitative reality was the major problem in the allocation of Northern cod.

Throughout history, even when goals were articulated, they tended to be very general with little specificity. Lackey (1974) acknowledged that fisheries are managed on "soft objectives" (goals) such as "best" or "wise" use. These types of goals are good for public relations and political gamesmanship, but are difficult to use in effective, rational management (Barber and Taylor, 1990:366).

The past management of the Northern cod stock was, with the exception of the 1979 report, devoid of any specific quantitative goals and objectives with words like "priority" being used without any reference to amounts or percentages. Likewise, while historic dependency and adjacency have been principles of allocation they were never clearly defined. For example, adjacency means being in close proximity and it could be argued that while Nova Scotia is not contiguous to the Northern cod stock it may be considered more adjacent than New Brunswick. Given the importance of these words in the allocation debates, it is essential that they be defined and articulated clearly and concisely. In future it is also essential that goals be stated clearly and concisely and also in a quantitative manner which will enable an evaluation of the success in attaining the goals and objectives.

The Northern cod stock is but one of nearly 50 groundfish stocks managed in Atlantic Canada, and the problems in its past and future management are inherent throughout the Atlantic groundfish fishery. The December 1995 report of the Senate Standing Committee on Fisheries entitled "The Atlantic Groundfish Fishery: Its Future" states that

"What has been sorely lacking over the years is a larger, clear and consistent conception of what federal fisheries management policy should be accomplishing, and a strategy on how to achieve those objectives....Too many in the industry believe that issues...especially those concerning licencing and fish allocation...have been, over many years, resolved by political means in favour of the more well organized and powerful industry groups.

The Senate committee goes on to recommend

The Committee recommends that the Department of Fisheries and Oceans issue a clear vision statement and an explicit statement of fundamental and guiding principles for managing the Atlantic fisheries, including clearly expressed objectives with respect to employment in coastal communities.

The Committee recommends that inshore fisheries have priority access to the resources upon which they have traditionally relied. The rules for re-opening fishing grounds should clearly stipulate that in the case of groundfish usually harvested by both the inshore and offshore sectors, no offshore harvesting take place until the inshore has fully recovered. Offshore fisheries for groundfish should be permitted to resume only after a thorough consultation with inshore fishermen (Govt of Canada, 1995, page 38).

The Senate Committee's report highlights the need for clearly stated goals and objectives and makes strong recommendations with respect to future allocation issues.

7.2 Areas for Future Research

The study of fisheries resource management poses many potential research questions especially in the area of resource allocation. This thesis has examined allocation decisions from a qualitative and quantitative perspective for the Northern cod stock and evaluated the management by comparing stated goals with the actual decisions. This research begins to fill the research gaps identified in 1981 by Draper and, since Northern cod is but one of the nearly 50 commercial groundfish stocks in Atlantic Canada, there are significant opportunities for additional research, especially for stocks such as turbot which is currently subject to intense conflict over allocations between nations and sectors and has parallels with the Northern cod crisis of the 1980s.

From a spatial perspective, the impact of allocation decisions upon regions or communities is a major area of applied geographic research. For example, by examining the resource available to a region or community, geographers can assess the impact of allocation decisions and identify issues which need to be addressed to ensure community stability. The development of a methodological approach to regional or community allocation and stability would have major significance from an applied perspective in terms of the rationalization of the current overcapacity problems facing the fishing industry.

7.3 Summary and Recommendation

The past management of the Northern cod stock can be described as a process of "muddling through". The biological and socio-economic goals were never clearly stated and those that were, were neither adhered to nor attained. In Chapters 1-6 the problems of fisheries management and allocation have been examined in the context of the Northern cod stock. The stated goals and objectives were identified from Task Force Reports, policy documents and other sources such as ministerial speeches and consistently reflect a bias or preference towards the traditional inshore fishery sector. The analysis of allocations and catches over the 1977 to 1991 period reveals, however, a completely different bias. The inshore sector never experienced the expected benefits from the recovery of the Northern cod stock following the 200 mile limit because the stock did not recover to a level which would have ensured a consistent inshore harvest at its historic level of 200,000-250,000 mt. During the 1980s the consistent failure of the inshore fishery resulted in numerous studies to explain why the codfish did not migrate to inshore waters. Yet, retrospective analysis of past biomass estimates and TAC's and the low level of spawning biomass reveals the true reason for the failures as being the absence of sufficient biomass. The entrance of the Canadian offshore fleet and the continued over-exploitation by foreign nations also affected the inshore in terms of both allocation and catches. Yet, the Department of Fisheries and Oceans consistently allocated the northern cod resource in a manner which disregarded their own stated objectives of allocation and

ignored the complaints of inshore fishermen who stressed the fact that "you can't catch it twice".

The recent statements of the inshore sector's priority access to the first 100,000-115,000 mt. with any surplus being made available to the offshore sector and foreign nations also reflects a degree of goal displacement since the reference point for the inshore harvest has shifted away from the 1979 level of 230,000 mt.. This thesis has documented the past allocations and catches in terms of the stated goals and objectives for the Northern cod stock and provides a method of conducting hindsight evaluations of resource allocation issues. The shift in allocations and hence catches between sectors and also between geographic regions is the source of turmoil, conflict and unrest in the management of Atlantic Canada's fishery. The future resolution of such conflicts depends upon the development and implementation of clear and concise goals and objectives in the biological and socio-economic management of the resource. The Fisheries Resource Conservation Council has begun to establish the criteria for future biological management of the fish stocks, which will include goals and objectives in terms of biomass size, protection of spawners and minimum fish sizes. Unfortunately, the identification of future goals and objectives by the Government of Canada in the allocation of fish resources has not happened to date.

This analysis illustrates that, despite stated goals and objectives, the allocation of Northern cod from 1977 to 1991 resulted in a shift in access to resources from the traditional inshore sector to the Canadian offshore sector and to foreign nations. Despite

the inshore's "priority" it did not receive the projected benefit due to the lack of adherence by the Government of Canada to its own allocation policy. In order to ensure that the stated goals and objectives of allocation are adhered to in future, it is essential that they be clearly stated and reviewed annually in terms of the actual catches.

Based upon its adjacency and historic dependence, the inshore sector must have sole access to the Northern cod resource as it rebuilds. The ability of the inshore sector to employ large numbers of people will also accomplish government's employment objectives from a social and economic perspective. While there is considerable debate with respect to the recovery time for Northern cod, it is essential that the priority of the inshore be "cast in stone" and quantified before the fishery reopens, otherwise, the lobby from non-traditional users will again result in the erosion of the inshore's share. Given that hundreds of small isolated communities throughout Labrador and the northeast coast of Newfoundland are dependent upon the Northern cod stock for their economic and social survival it is imperative that future management and allocation not be a process of "muddling through".

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Appendix One

	1977	%	1978	%	1979	%	1980	%	1981	%	1982	%	1983	%	1984	%
Allocations - TAC	150,000		135,000		178,000		170,000		200,000		232,000		240,000		245,000	
Commercial Quota	30,000	50%	38,000	24%	75,000	15%	75,000	14%	10,000	5%	18,700	7%	20,000	5%	20,000	8%
Canadian Catch:																
<u>ma 455</u>									100,000	60%	115,000	60%	115,000	51%	115,000	47%
<u>ma 455'</u>									5,000	2%	5,000	2%	5,000	2%	5,000	2%
<u>ma 65-100'</u>									2,500	1%	4,000	0%	3,000	1%	3,000	1%
<u>ma 65-100'</u>									1,500	1%	1,500	1%	1,000	0%	1,000	0%
<u>ma 80-110'</u>									67,500	31%	81,800	42%	105,000	11%	112,000	32%
<u>BSPP</u>													10,000	1%	10,000	4%
<u>ma >100 (MD)</u>																
<u>ma 3/0E</u>	32,250	33%	77,000	57%	102,000	60%	110,000	64%								
<u>Others</u>	17,750	11%	29,000	19%	49,000	28%	45,000	26%								
Total Canadian Quota	70,000	44%	87,000	77%	145,000	85%	155,000	86%	190,000	94%	221,300	93%	240,000	93%	245,000	92%
Commercial Catch:																
<u>ma 455</u>									77,277	43%	112,164	43%	100,210	41%	81,920	40%
<u>ma 455'</u>									183	0%	352	0%	1,453	1%	3,211	1%
<u>ma 65-100'</u>									765	0%	745	0%	1,169	0%	2,018	1%
<u>ma 65-100'</u>									35	0%	35	0%	4	0%	128	0%
<u>ma 80-110'</u>									50,873	25%	70,861	27%	89,241	37%	104,310	45%
<u>BSPP</u>									5,180	1%					6,855	3%
<u>ma >100 (MD)</u>																
<u>ma 3/0E</u>	22,622	12%	81,452	50%	83,322	51%	85,861	53%								
<u>Others</u>	4,918	4%	20,672	10%	44,678	23%	40,139	20%								
Total Canadian Catch	79,555	46%	102,377	76%	130,778	78%	135,664	78%	152,462	73%	212,532	91%	214,783	92%	218,743	92%
Commercial Quota	83,100	54%	36,482	26%	36,200	27%	28,230	16%	23,877	11%	22,722	5%	17,483	5%	28,500	9%
Total Catch	172,720		138,859		166,978		173,894		177,933		235,254		232,266		247,243	

Appendix 1a: Allocations and Catches of Northern Cod 1977 - 1984

Allocations - TAC	1985	N	1986	N	1987	N	1988	N	1989	N	1990	N	1991	
256 000	256 000		256 000		256 000		235 000		199 252		199 252		190 000	
Greenhalgh Quota	15 300	8%	16 300	8%	9 050	4%					2 287	1%	2 100	1%
Special Quota														
In 45T	115 000	47%	115 000	47%	115 000	47%	115 000	47%	115 000	46%	115 000	56%	115 000	41%
In 45E	5 000	2%	5 000	2%	5 000	2%	5 000	2%	5 000	2%	5 000	2%	5 000	2%
In 45-100	3 000	1%	3 000	1%	3 000	1%	4 150	2%	3 300	1%	2 545	1%	783	0%
In 45-100	1 000	0%	1 000	0%	1 000	0%	1 000	0%	730	0%	410	0%	232	0%
In 45-100	115 200	47%	115 200	47%	117 150	48%	121 200	49%	105 300	45%	73 845	37%	71 845	36%
In 45-100	10 000	4%	10 000	4%	9 300	4%	13 250	5%	12 200	5%	4 000	2%		
In 2100(I)MD			1 050	0%	4 270	2%	3 320	1%						
In 2100														
In 2100														
Offshore														
Total Canadian Quota	249 700	97%	249 700	97%	248 500	97%	266 000	100%	235 000	93%	187 000	80%	187 800	80%
Special Catch														
In 45T	74 845	27%	77 351	28%	78 175	27%	78 032	28%	95 000	37%	131 532	54%	74 052	31%
In 45E	2 500	1%	2 500	1%	2 500	1%	2 500	1%	2 500	1%	2 500	1%	2 500	1%
In 45-100	779	0%	1 050	0%	3 576	1%	3 435	1%	3 231	1%	2 321	1%	771	0%
In 45-100	374	0%	366	0%	370	0%	469	0%	296	0%	281	0%	227	0%
In 45-100	501 651	18%	520 651	18%	512 646	18%	520 246	18%	477 304	18%	469 144	18%	451 200	17%
In 45-100	8 600	3%	8 600	3%	8 225	3%	14 247	5%	12 180	5%	6 433	2%		
In 2100(I)MD			511	0%	3 237	1%	4 071	1%	3 284	1%				
In 2100														
In 2100														
Offshore														
Total Canadian Catch	192 808	80%	207 152	77%	208 657	80%	245 081	92%	215 318	89%	180 238	80%	132 850	87%
Greenhalgh Catch	43 318	18%	47 586	19%	26 073	10%	26 867	10%	38 729	15%	26 489	11%	22 830	15%
Total Catch	236 127		254 738		234 730		271 948		254 147		206 727		155 680	

Appendix 1b: Allocations and Catches of Northern Cod 1985 - 1991



CANADA

115,000 mt. N. cod
→ Inshore

Standing Committee on Fisheries and Oceans

NUMBER 020

1

2nd SESSION

1

39th PARLIAMENT

Thursday, March 13, 2008

[Recorded by Electronic Apparatus]

(0905)

Mr. Bill Matthews:

How do we find out, then?

Mr. David Bevan:

That's a matter between the various companies.

Mr. Bill Matthews:

So the department would have no concern whatsoever about the dollar value that changes hands on a common property resource such as this.

Mr. David Bevan:

The practice on enterprise allocations, as we have had for the last 30 years, is that we would evaluate the request to transfer the quota from one company to another based on the policies that are administered by the department and approved by the minister. Those policies are that the company receiving the quota has to be qualified to do so and to fish it. Anything that happens between the companies is between the companies.

That policy was put in place as we made significant decisions, for example, on 2J3KL cod. The first 115,000 tonnes go to the inshore and the remainder would be shared between the inshore and the offshore. And those kinds of quota shifts that we made in the past to give portions of the quota to the offshore occurred because they didn't have as much as they had in the past and they needed the opportunity to be able to fish it economically, and that's what we've allowed them to do.

Mr. Bill Matthews:

I saw a recent letter to your minister from the Newfoundland and Labrador fisheries minister, Minister Rideout, expressing concern about this transfer. He talked about adjacency, dependency, and I believe at one point in one part of the letter he mentioned some concern about Bill C-32. I think they felt some comfort in Bill C-32, that this type of thing wouldn't happen.

I know the minister has to respond to the other minister. But what do you think off the top about Minister Rideout's concerns?



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September 19 2015

Keith Sullivan
President
FFAW-Unifor
PO Box 10, Stn. C
368 Hamilton Avenue, 2nd Floor
St. John's, NL, A1C 5H5

19 septembre 2015

Keith Sullivan
Président
FFAW-Unifor
C.P. 10, succ. C
368, avenue Hamilton, 2^{ème} étage
St. John's (NL) A1C 5H5

Dear Mr. Sullivan,

Enclosed, please find the Liberal Party of Canada's formal response to your questionnaire.

For more information on the Liberal Party of Canada's vision for Canada, please take a moment to review our policies online at RealChange.ca. This site provides details on a Liberal government's policies, goals, and priorities.

On behalf of our Leader, Justin Trudeau, and the entire Liberal team, thank you for writing to identify the major concerns of your membership.

We appreciate your interest in the Liberal Party of Canada's policies as they relate to the issues which affect you.

Sincerely,

Anna Gainey, President
Liberal Party of Canada

Cher M. Sullivan,

Veillez trouver ci-joint la réponse formelle du Parti libéral du Canada à votre questionnaire.

Pour en apprendre davantage au sujet de la vision que le Parti libéral a pour le Canada, prenez un moment pour consulter nos politiques en ligne à ChangeRassemble.ca. Ce site présente des détails sur les politiques, les objectifs et les priorités d'un gouvernement libéral.

Au nom de notre chef, Justin Trudeau, et de son équipe toute entière, je tiens à vous remercier de nous avoir fait part des inquiétudes de vos membres.

Nous sommes reconnaissants de l'intérêt que vous portez aux politiques du Parti libéral du Canada, parce qu'elles concernent les questions qui vous touchent.

Bien cordialement,

Anna Gainey, Présidente
Parti libéral du Canada

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Fish, Food and Allied Workers

Will a Justin Trudeau led Liberal Government commit to:

- *Applying adjacency as the preeminent fisheries management principle for resource allocation?*

The Liberal Party of Canada knows that effective management of our fisheries is essential for ensuring the long-term, sustainable success of our marine food supply and the seafood industry, and the health of coastal communities where fishing operations are based.

We will use scientific evidence and the precautionary principle—and take into account climate change—when making decisions effecting fish stocks and ecosystem management. We will also reverse the \$40 million that Stephen Harper cut from the federal government's ocean science and monitoring programs.

We will ensure all management decisions are made in full consultation with the industry, Indigenous groups, and all stakeholders such as the FFAW, while respecting environmental sustainability, economic viability, adjacency and historical attachment.

While ensuring strengthened consultation with all stakeholders and resource users, we are also committed to making access, allocation and sharing arrangement decisions more open, transparent, stable and predictable.

The principle of adjacency will be given a high priority under a Trudeau-led government because it ensures that benefits flow to the fishers and coastal communities closest to the resource, thus promoting local economic development. We will ensure a stable and predictable access and allocation process with priority given to those who are closest to the resource.

These critical decisions will also be made in a fair and consistent manner that does not increase inequality, inter-personal or inter-regional disparities, while carefully considering conservation, adjacency, historic dependence, economic viability, and the future of the resource.

- *Removing LIFO as a shrimp allocation policy and establishing fair sharing regime for northern shrimp?*

The inflexibility and lack of consultation by the Conservative government regarding northern shrimp has had negative consequences on the inshore sector and coastal communities of Newfoundland and Labrador.

We are committed to reviewing the last in, first out (LIFO) policy for northern shrimp. We believe difficult allocation decisions must be made with broad discussion and consultation with the industry in order to ensure the best possible decisions are reached for the future of the resource, and the maximum benefit for the people and coastal communities who rely on the resource.

- *Re-establishing the 2007 stable sharing arrangement for Gulf halibut?*

A Trudeau-led government will commit to reviewing the sharing arrangement for Gulf halibut and ensure management decisions are not based on political expediency but on scientific evidence. Conservation, adjacency, historic dependence, economic viability and industry considerations will be central to our decision making process.

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- *Returning the 3Ps halibut quota back to active harvesters based on its historic share?*

The Conservative government recently implemented new rules that have cut the share of the resource for the 3Ps fleet to 2.5% when landings previously averaged over 6%.

Liberals will ensure all management decisions are made in full consultation with the industry, Indigenous groups, and all stakeholders such as the FFAW, while respecting environmental sustainability, economic viability, adjacency and historical attachment.

We are also committed to making access, allocation and sharing arrangement decisions more open, transparent, stable and predictable.

- *Allocating the first 115,000mt of the northern cod quota to the inshore and enshrine this allocation in all future Groundfish Management Plans?*

A Trudeau-led Liberal government will re-affirm the federal commitment to allocate the first 115,000 MT of northern cod quota to the inshore harvesters so that, as the resource rebounds, the benefits of a future cod fishery flow to the inshore harvesters and coastal communities.

The Liberal Party of Canada knows that we must be diligent and ensure that a resource rebound is real and sustainable, but when the stock achieves the proper threshold, we are committed to the policy that the first 115,000 MT will go to the inshore fleet.

We understand the fundamental importance of the cod fishery to Newfoundland and Labrador, and the importance of this commitment after the devastating effects of the cod collapse, which saw the largest layoffs in Canadian history. We must ensure that the future benefits of the cod fishery flow to the inshore harvesters and coastal communities, with spinoff benefits throughout the province.

- *Maintaining the PIIFCAF policy, including an enhanced investigation procedure into controlling agreements that brings to account those at the root of the problem?*

A Liberal government will support the independence of our Atlantic inshore fisheries by committing to the fleet separation and owner-operator policies under the Policy for Preserving the Independence of the Inshore Fleet in Canada's Atlantic Fisheries (PIIFCAF) and ensure that any remaining controlling agreements are investigated thoroughly to bring to account anyone who may be undermining the principles of PIIFCAF.

We will ensure that small boat independent owner-operators remain the backbone of the fisheries and coastal communities on Canada's east coast, and that the benefits of fishing licenses flow to fish harvesters and coastal communities.

- *Working with the Government of NL and fishing industry, establish a new income improvement program for the inshore fishery?*


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We commit to smarter co-management of our fisheries and oceans by working with the provinces, Indigenous Peoples and other important stakeholders such as the FFAW. We will develop plans that not only make the best use of our marine resources, but give coastal communities and the industry more say in managing the resources around them.

A Trudeau-led government will support the commercial success of the fishing sector and protect the resource for the future. This will include partnering with the industry and provinces to review income support programs that are needed to ensure the success of the inshore fishery.

We will also invest \$200 million annually to create sector-specific strategies that support innovation and clean technologies in the forestry, fisheries, mining, energy and agricultural sectors.

- *Re-establishing the five weeks of extended employment insurance coverage for workers that experience industry-related delays in returning to work?*

Under the Harper Conservatives, unemployed workers have been forced to move away from their families and communities and take lower-paying jobs. We will repeal these ill-conceived changes and introduce reliable Employment Insurance (EI) that is there for Canadians and helps boost our country's economic growth—now and in the future.

As part of this commitment we will:

- Repeal the 2012 Harper changes to Employment Insurance;
 - Reduce the waiting period for Employment Insurance benefits to one week from the current two weeks, and ensure higher service standards for Employment Insurance processing so that benefits are delivered more quickly and reliably;
 - End the 910-hour eligibility penalty for workers entering or re-entering the workforce, thereby stopping the discrimination that makes it harder for our most precarious workers – such as parents returning to the workforce, younger workers, people who have left the workforce due to illness, and new Canadians – from accessing the benefits that help them get back to work;
 - Increase investment in skills training, through a \$500 million annual increase in funding to the Labour Market Development Agreements with provinces. We will work with provinces and territories to ensure that these new funds support their training priorities, support initiatives that demonstrate real pathways to good quality jobs, and develop the skills that employers need to grow our economy;
 - Introduce more flexible parental leave and compassionate care benefits that allow people to use their benefits in a way that works best for their families; and
 - Work with the provinces and territories to assess how successfully Employment Insurance is delivering its core mandate to provide income security to workers, and how it can be improved.
- *Reversing the decision to close the maritime rescue sub-centre and the communication and traffic centre and preventing further cuts to Coast Guard services?*

One of the most important responsibilities of any government is the security of its citizens. Closing down the marine rescue centre, and making overall cuts to search and rescue, was one of the many short-sighted mistakes of the Harper government.

A Trudeau-led government will re-open the maritime rescue sub-centre and re-invest in marine safety and search and rescue resources.


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- *Establishing a \$280 million Fisheries Revitalization and Modernization Fund as part of the CETA agreement?*

The federal government must fulfill agreements formed with the provinces, including the federal government's \$280 million commitment to a Fisheries Revitalization and Modernization Fund as part of the Comprehensive Economic and Trade Agreement with the EU.

The Liberal Party of Canada supports CETA and believes it has the potential to bring significant benefits to Canada's fish and seafood industries. However, the Conservative government negotiated this deal in secret without proper public debate. Newfoundland and Labrador's support of CETA was contingent on the transitional fund of \$280 million from the federal government to assist the province in adjusting to the loss of minimum processing requirements, which has been a great concern to the people of the province.

This promise must be honoured. Effective federal-provincial relationships must stem from open and continuous dialogue, and effective engagement focused on the interests and priorities of the people of Newfoundland and Labrador and all provinces.

We will also work to increase exports of Canadian seafood by supporting innovative products and promoting seafood sales internationally to increase demand for more world-class Canadian fish and seafood products in markets such as the EU and Asia.


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Fish, Food and Allied Workers

Un gouvernement libéral mené par Justin Trudeau s'engagera-t-il envers les politiques ci-dessous :

- *Lors de l'allocation des ressources, appliquer la contiguïté comme principe primordial en matière de gestion des pêches?*

Le Parti libéral du Canada sait que la gestion efficace des pêches est essentielle à la pérennité de nos ressources alimentaires provenant de la mer et de l'industrie des fruits de mer, tout autant qu'à la santé des communautés côtières où se déroulent les pratiques de pêche.

Nos décisions ayant une incidence sur les stocks de poissons et la gestion de notre écosystème reposeront sur des données scientifiques et sur le principe de précaution – et tiendront compte des changements climatiques. De plus, nous rétablirons le financement de 40 millions de dollars que M. Harper a retranché des programmes de recherche et de surveillance océaniques menés par le gouvernement fédéral.

Nous veillerons à ce que toutes les décisions en matière de gestion soient prises en consultation avec l'industrie, les groupes autochtones et tous les intervenants, comme le FFAW, tout en respectant la durabilité environnementale, la viabilité économique, la contiguïté et l'attachement historique.

Si nous comptons renforcer la consultation avec tous les intervenants et les utilisateurs des ressources, nous sommes également attachés à rendre les décisions au sujet de l'accès, de l'allocation et des ententes de partage plus ouvertes, transparentes, stables et prévisibles.

Un gouvernement dirigé par M. Trudeau accordera la priorité au principe de contiguïté, car il permet aux pêcheurs et aux communautés côtières les plus proches des ressources de bénéficier des retombées de leur exploitation, ce qui favorise la croissance économique des localités. Nous assurerons un accès stable et prévisible, ainsi qu'un processus d'allocation qui accordera la priorité aux personnes les plus proches des ressources.

En outre, ces décisions importantes seront prises d'une manière juste et cohérente qui n'aggraverait pas les inégalités ni les disparités interpersonnelles ou interrégionales et elles accorderont une attention particulière à la conservation, la contiguïté, la dépendance historique, la viabilité économique et l'avenir de la ressource.

- *Éliminer la politique d'allocation pour la crevette nordique fondée sur le principe du dernier entré, premier sorti (DEPS) et établir un régime de partage équitable pour la crevette nordique?*

L'inflexibilité et l'absence de consultation qui caractérisent le gouvernement conservateur à l'égard de la crevette nordique ont eu des conséquences négatives sur l'industrie de la pêche côtière et les communautés côtières de Terre-Neuve-et-Labrador.

Nous comptons examiner la politique du dernier entré, premier sorti (DEPS) pour la crevette nordique. Nous sommes convaincus que les décisions ardues en matière d'allocation doivent être prises suite à de vastes discussions et consultations avec l'industrie, de façon à prendre les meilleures décisions possibles pour l'avenir de la ressource, tout en assurant les retombées maximales aux personnes et aux communautés côtières qui en dépendent.


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- *Rétablir l'entente de partage stable pour le flétan du golfe conclue en 2007?*

Un gouvernement dirigé par M. Trudeau s'engagera à examiner l'entente de partage pour le flétan du golfe et à ce que les décisions de gestion ne soient pas fondées sur l'opportunisme politique mais sur des preuves scientifiques. Notre processus de prise de décisions sera fonction de la conservation, de la contiguïté, de la dépendance historique, de la viabilité économique et des considérations de l'industrie.

- *Réattribuer le quota de flétans de la division 3Ps aux pêcheurs actifs en fonction de sa part historique?*

Dernièrement, le gouvernement conservateur a appliqué de nouvelles règles qui ont retranché 2,5 % de la part de la ressource de la flottille de la division 3Ps, alors que les débarquements avoisinaient auparavant 6 %, voire davantage.

Les libéraux veilleront à ce que toutes les décisions en matière de gestion soient prises en consultation avec l'industrie, les groupes autochtones et tous les intervenants, comme le FFAW, tout en respectant la durabilité environnementale, la viabilité économique, la contiguïté et l'attachement historique.

Nous sommes également attachés à rendre les décisions au sujet de l'accès, de l'allocation et des ententes de partage plus ouvertes, transparentes, stables et prévisibles.

- *Allouer les premières 115 000 tm du quota pour la morue du Nord à la flottille de pêche côtière et consacrer cette allocation dans tous les plans ultérieurs de gestion des pêches de poissons de fond?*

Un gouvernement dirigé par M. Trudeau réaffirmera l'engagement fédéral envers l'allocation des premières 115 000 tm du quota pour la morue du Nord aux pêcheurs côtiers afin que, dès que la ressource s'accroît, ces derniers, ainsi que les communautés côtières, profitent des retombées des futures prises de morue.

Le Parti libéral du Canada sait que nous devons agir avec diligence et nous assurer de l'authenticité et de la pérennité de l'accroissement de la ressource. Cependant, quand le stock de poissons atteindra le seuil adéquat, nous nous engageons à appliquer la politique visant à allouer les premières 115 000 tm à la flottille de pêche côtière.

Nous comprenons l'importance fondamentale des prises de morue à Terre-Neuve-et-Labrador, tout comme l'importance de cet engagement, étant donné les effets dévastateurs qu'a eu l'effondrement des stocks de morue, qui a donné lieu à certaines des plus grandes vagues de licenciements de l'histoire du Canada. Nous devons faire en sorte que les pêcheurs côtiers et les communautés côtières bénéficient des retombées futures des prises de morue, ce qui aura des retombées indirectes dans toute la province.

- *Conserver la PIFPCAC, et notamment une méthode d'enquête améliorée visant les accords de contrôle qui imposera à ceux qui sont à l'origine du problème de devoir rendre des comptes?*

Un gouvernement libéral appuiera l'indépendance de notre industrie de la pêche côtière de l'Atlantique en s'engageant envers la séparation des flottilles et les politiques sur le propriétaire exploitant en vertu de la Politique sur la préservation de l'indépendance de la flottille de pêche côtière dans l'Atlantique canadien (PIFPCAC) et à veiller à ce tout accord de contrôle restant fasse l'objet d'une enquête approfondie pour que ceux qui pourraient nuire aux principes de la PIFPCAC doivent rendre des comptes.



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Nous veillerons à ce que les propriétaires exploitants de petits bateaux demeurent l'épine dorsale des pêches et des communautés côtières de la côte Est du Canada et à ce que les privilèges découlant des permis de pêche profitent aux pêcheurs et aux communautés côtières.

- *Collaborer avec le gouvernement de T.-N.-L. et l'industrie de la pêche pour mettre en œuvre un nouveau programme d'amélioration des revenus pour le secteur de la pêche côtière?*

Nous nous engageons à cogérer nos lieux de pêche et nos océans de façon plus intelligente en collaborant avec les provinces, les peuples autochtones et d'autres parties prenantes, comme le FFAW. Nous élaborerons des plans visant non seulement à mieux exploiter nos ressources marines, mais également à faire participer plus largement les communautés côtières et l'industrie à la gestion des ressources qui les entourent.

Un gouvernement dirigé par M. Trudeau appuiera la réussite commerciale du secteur des pêches et protégera la ressource pour l'avenir. Cela passe par un partenariat avec l'industrie et les provinces pour examiner les programmes de soutien du revenu qui sont nécessaires pour garantir la prospérité de la pêche côtière.

De plus, nous investirons 200 millions de dollars par an pour créer des stratégies sectorielles favorisant l'innovation et les technologies vertes dans des domaines comme la foresterie, les pêches, l'exploitation minière, la production énergétique et l'agriculture.

- *Rétablir les cinq semaines de couverture prolongée d'assurance-emploi pour les travailleurs qui font face à des ralentissements liés à leur industrie lors de leur retour au travail?*

Sous le gouvernement conservateur de M. Harper, les travailleurs sans emploi ont dû s'éloigner de leur famille et de leur communauté et accepter des emplois moins bien rémunérés. Nous annulerons ces changements insensés et instaurerons une assurance-emploi fiable, au service des Canadiens et qui fera croître l'économie du pays – aujourd'hui et à long terme.

Conformément à cet engagement, nous :

- annulerons les changements apportés à l'assurance-emploi par M. Harper en 2012;
- réduirons de deux à une semaine le délai de carence pour l'obtention des prestations d'assurance-emploi et assurerons des normes de service plus élevées pour le traitement des demandes à l'assurance-emploi et l'envoi plus rapide et plus fiable des prestations;
- mettrons fin à la pénalité plus élevée de 910 heures pour les nouveaux travailleurs ou celles et ceux retournant sur le marché du travail, éliminant ainsi la discrimination qui a rendu l'accès aux prestations plus difficile pour certains des travailleurs canadiens les plus précaires, notamment les parents retournant sur le marché du travail, les plus jeunes travailleurs et les nouveaux Canadiens;
- augmenterons l'investissement dans la formation professionnelle par le biais d'une augmentation annuelle de 500 millions de dollars du financement des ententes sur le développement du marché du travail conclues avec les provinces; nous collaborerons avec les provinces et les territoires pour assurer que ces nouveaux fonds soutiennent leurs priorités de formation et les initiatives qui ouvrent la voie à des emplois de qualité et développent les compétences recherchées par les employeurs pour faire croître notre économie;
- créerons des prestations pour congé parental et de compassion plus flexibles pour permettre aux gens de les utiliser de la manière la plus appropriée pour leur famille;
- collaborerons avec les provinces et les territoires pour évaluer la manière dont l'assurance-emploi fournit les services qui sont au cœur de son mandat d'offrir une sécurité du revenu aux travailleuses et travailleurs, et la manière dont le programme pourrait être perfectionné.



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- *Renverser la décision de fermer le centre secondaire de sauvetage maritime et le Centre des Services de communication et de trafic maritimes et empêcher d'imposer d'autres compressions budgétaires aux services de la Garde côtière?*

L'une des tâches les plus importantes de tout gouvernement est d'assurer la sécurité de ses citoyens. La fermeture du centre secondaire de sauvetage maritime et les compressions générales imposées aux services de recherche et de sauvetage ont été l'une des nombreuses erreurs à courte vue du gouvernement de M. Harper.

Un gouvernement dirigé par M. Trudeau rouvrira le centre secondaire de sauvetage maritime et réinvestira dans la sécurité maritime et les ressources de recherche et de sauvetage.

- *Instaurer un fonds de revitalisation et de modernisation des pêches de 280 millions de dollars dans le cadre de l'AECG?*

Le gouvernement fédéral doit honorer les accords signés avec les provinces, et notamment l'engagement du gouvernement fédéral envers un fonds de 280 millions de dollars pour la revitalisation et la modernisation des pêches dans le cadre de l'Accord économique et commercial global conclu avec l'Union européenne.

Le Parti libéral du Canada appuie l'AECG et est convaincu qu'il est susceptible de fournir des retombées considérables aux industries des pêches et des fruits de mer du Canada. Néanmoins, le gouvernement conservateur a négocié cet accord en secret, sans débat public adéquat. L'appui de Terre-Neuve-et-Labrador à l'AECG dépendait du fonds transitoire de 280 millions de dollars du gouvernement fédéral pour aider la province à s'adapter à l'élimination des exigences minimales relatives à la transformation, qui a été un sujet de préoccupation profonde pour les habitants de la province.

Nous devons tenir cette promesse. Des relations fédérales-provinciales efficaces doivent émaner d'un dialogue ouvert et continu et l'engagement effectif doit être fondé sur les intérêts et les priorités des habitants de Terre-Neuve-et-Labrador et de toutes les provinces.

Nous chercherons aussi à augmenter les exportations de fruits de mer canadiens en soutenant des produits innovateurs et en promouvant les ventes de fruits de mer à l'échelon international afin d'augmenter la demande en poissons et produits de la mer sur des marchés comme l'Union européenne et l'Asie.



News Release

For Immediate Release

2021 Newfoundland and Labrador Fisheries Decisions

May 28, 2021

Ottawa, Ontario

Fisheries and Oceans Canada

St. John's, NL – The Government of Canada is committed to responsibly managing stocks in Newfoundland and Labrador to ensure the sustainability of fish species today and for generations to come. This work requires close collaboration with harvesters, the Fish Food and Allied Workers (FFAW) union, Indigenous partners, and other stakeholders while also considering socioeconomic factors and the most recent science advice.

Today, the Honourable Bernadette Jordan, Minister of Fisheries, Oceans, and the Canadian Coast Guard, announced decisions for the Northern cod stewardship fishery, the 2J3KLPs capelin fishery, and the Recreational groundfish fishery (known locally as the recreational food fishery).

The decisions are as follows:

- Northern cod (2J3KL) stewardship fishery – maximum authorized harvest level of 12,999 tonnes (an increase over the 2020 level of 12,350 tonnes);
 - Northern Cod remains under moratorium, however, when a total allowable catch is established, the first 115,000 tonnes of directed Canadian access will be allocated to the inshore sector and Indigenous groups in Newfoundland and Labrador.
- 2J3KLPs capelin fishery – 14,533 tonnes (a 25 per cent reduction from 2020);
 - The 2021 stock assessment noted that capelin abundance remains very low and the stock is experiencing reduced productivity. Capelin is essential to the entire ecosystem, and particularly as a foraging species for cod.
- Recreational groundfish fishery – 39 day season (roll-over of management approach, including season, days and regulations from 2020).
 - The fishery includes an individual daily bag limit of five groundfish, with a maximum boat limit of 15 fish when three or more people are fishing – the same as last year.

Our oceans are vital to the livelihoods of communities across Canada. We want to keep our oceans healthy, so we can grow these industries sustainably, and create more opportunities for our coastal communities. We also recognize the cultural importance of recreational fisheries and the economic spin-off they create.

Quotes

“Our government understands the value of the fishery to Newfoundlanders and Labradorians and its importance in sustaining prosperous coastal communities. These decisions will provide access to the resource while considering science advice and socioeconomics. When science shows declines in stocks, we act; and when we see stocks rebounding, we responsibly pass gains along to industry. With our rebuilding plan for Northern cod we are forging a path forward for the stock while taking into account reasonable fishing opportunities as well as the cultural and historical attachment to the resource. The food fishery is important to Newfoundlanders and Labradorians, and I’m pleased to keep the same management measures in place this year. I thank harvesters, the FFAW, Indigenous partners and other stakeholders who provided advice and input into this year’s management process. I wish you a safe fishing season.”

The Honourable Bernadette Jordan, Minister of Fisheries, Oceans and the Canadian Coast Guard

Quick Facts

- In accordance with the rebuilding plan and associated Harvest Decision Rule for Northern cod, the maximum authorized harvest level for the stewardship fishery this year will be 12,999 tonnes.
- Capelin is an integral component of the ecosystem on the Newfoundland and Labrador Shelf and is an important forage species for important stocks such as Northern cod. Recent science advice for 2J3KLPs capelin indicates prospects remain poor with continued record poor larval production, late spawning, and a lack of sustained growth in the stock.
- The Newfoundland and Labrador Recreational Groundfish Fishery – known locally as the recreational food fishery – will be open this season for 39 days. Every Saturday, Sunday and Monday from July 3 to September 6, and also for the period September 25 to October 3.

Associated Links

<http://www.nfl.dfo-mpo.gc.ca/NL/CP/Orders/2021/Notices-List>

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› [Atlantic, Quebec and the Arctic - 2021](#)

2021 2J3KL Northern Cod stewardship fishery management approach

Species and area

Northern Cod (*Gadus morhua*) fishery in Northwest Atlantic Fisheries Organization (NAFO) Divisions 2J3KL.

The management approach for the Northern cod Stewardship fishery for NAFO Divisions 2J3KL is based on stakeholder perspectives received during the Northern cod advisory and the results of the regional stock assessment.

Single or multi-year planning

This is a one-year management plan for 2021.

Management measures

The 2021 Stewardship fishery management approach will include measures to ensure catches do not exceed 12,999t. Details on the management measures (e.g. open and close dates, weekly limit amounts, etc) will be included in the Conservation and Harvesting Plan (CHP).

When finalized, the CHP will be [available online](#). This plan will continue to recognize that harvesters have availed of the Department's Combining policy and made investments to acquire additional allocations. Weekly limits

for combined enterprises will be greater than the base weekly limit by an amount proportional to the level of Combining. Full details on the weekly limits for combined enterprises will be outlined in licence conditions.

The 2021 Management approach also includes a decision to allocate the first 115,000t of Northern cod to the inshore sector and Indigenous groups. When a total allowable catch (TAC) for Northern (2J3KL) cod is established, the first 115,000 t of directed Canadian access will be allocated to the inshore sector and Indigenous groups in Newfoundland and Labrador. At a TAC level less than or equal to 115,000 t, directed fishing activity will be limited to inshore harvesters and Indigenous groups in Newfoundland and Labrador. All other fleets, where no quota is allocated, will be limited to bycatch only. The Integrated Fisheries Management Plan will be updated to reflect this decision.

Date modified:

2021-05-28



FOR IMMEDIATE RELEASE: First 115K Confirmed in 2021 Management Plan

MAY 28, 2021

ST. JOHN'S NL – The Department of Fisheries and Oceans (DFO) released the harvest plan for the 2021 Northern cod (2J3KL) stewardship fishery today, confirming a Total Allowable Catch (TAC) of 12,999 tonnes. The decision is an increase over the 2020 level of 12,350 tonnes, which continues with the extremely restrictive plan, keeping the harvest rate below 2%.

Most noteworthy in the plan however, was the confirmation that the first 115,000 tonnes of directed Canadian access will be allocated to the inshore sector and Indigenous groups in Newfoundland and Labrador. FFAW-Unifor applauds the Minister's recognition of the value of this allocation to our inshore fishery, and the principle of adjacency in the decision.

This decision is welcomed news for the entire province of Newfoundland and Labrador, as this ensures that the value of our resources will benefit inshore owner-operator harvesters and our coastal economy. Much of our province was built on cod, and as this resource continues to rebuild, it can provide hundreds of millions of dollars in revenue to our communities.

FFAW would like to thank harvesters for continuing to impress upon DFO and elected officials the importance of access to Northern cod for inshore harvesters who have always been dependant upon it for their livelihoods.

"Newfoundland and Labrador has a 500 year history of commercially harvesting Northern cod, and the fishery continues to be critically important to inshore fish harvesters and processing plant workers in our province. There is a tremendous amount of economic development that is happening in our small coastal communities with inshore fisheries, and as we prepare for measures towards economic recovery, the value of these fisheries and their capacity to directly employ tens of thousands of peoples should not be understated," said FFAW-Unifor President Keith Sullivan.

Details of the 2021 Northern Cod Conservation Harvesting Plan, such as season dates, will be announced at a later date.

###



Groundfish Newfoundland and Labrador Region

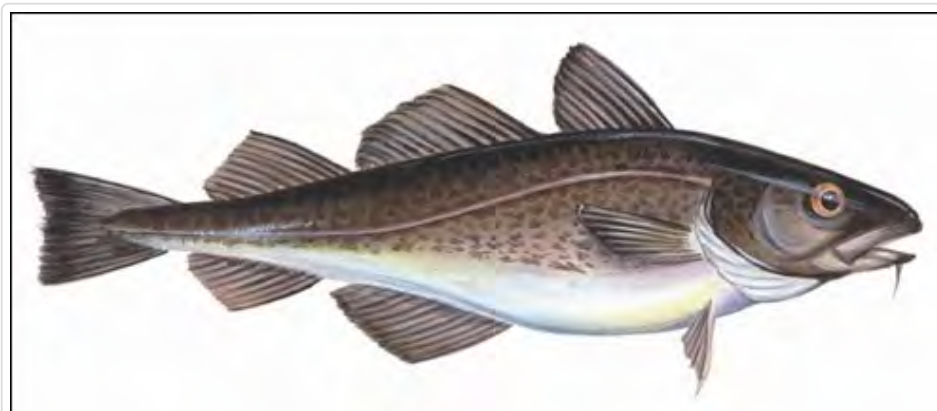
NAFO Subarea 2 + Divisions 3KLMNO

Foreword

The purpose of this Integrated Fisheries Management Plan (IFMP) is to identify the main objectives and requirements for the

Newfoundland and Labrador Region groundfish fishery in NAFO Subarea 2 and Divisions 3KLMNO, as well as the management measures that will be used to achieve these objectives.

This document also serves to communicate basic information on the



Cod



Redfish



Greenland halibut

fishery and its management to Fisheries and Oceans Canada (DFO) staff, legislated co-management boards and



American plaice

committees, and other stakeholders. This IFMP provides a common understanding of the basic “rules” for the sustainable management of the fisheries resource.

This IFMP is not a legally binding instrument which can form the basis of a legal challenge. The IFMP can be modified at any time and does not fetter the discretionary powers of the Minister of Fisheries, Oceans and the Canadian Coast Guard (the “Minister”) set out in the *Fisheries Act*. The Minister can, for reasons of conservation or for any other valid reasons, modify any provision of the IFMP in accordance with the powers granted pursuant to the *Fisheries Act*.

Where DFO is responsible for implementing obligations under land claims agreements, the IFMP will be implemented in a manner consistent with these obligations. In the event that an IFMP is inconsistent with obligations under land claim agreements, the provisions of land claims agreements will prevail to the extent of the inconsistency.

As with any policy, the Minister retains the discretion to make exceptions to, or to change, this policy at any time. It is, however, DFO’s expectation and intention to follow the management process set out in this IFMP, with a view to contributing to increased certainty and direction for the groundfish fishery in Newfoundland and Labrador.

This IFMP will be in effect until it is replaced. While the elements of this plan will remain in effect indefinitely, quotas are subject to annual review and may be adjusted based on updated Science information. This could include changes to the TAC, as well as adjustments to annexes and website listings.

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Table of concurrence

The following updates and additions are included in this 2021 update to the 2020 2+3KLMNO Groundfish Integrated Fisheries Management Plan (IFMP):

Section	Notes
<u>Section 1.2</u>	The recreational fishery season dates were updated for 2020, as well as the FSC access section.
<u>Section 1.3</u>	The number of communal commercial and commercial participants was updated for 2020.
<u>Section 2.0</u>	Stock status updated for those stocks which have been assessed or are planned to be assessed by DFO Science (<u>Table 2</u>) or by NAFO Scientific Council (<u>Table 3</u>) since publication of the 2020 IFMP.
<u>Section 3.0</u>	Policy & Economic updated the socio-economic profile and dependency on groundfish information to reflect 2016-2020 data.
<u>Section 4.2</u>	Gear marking requirements added to Marine Mammal Interactions.
<u>Section 4.3</u>	Additional information on species at risk added.
<u>Section 4.4</u>	Marine conservation initiatives information has been updated to reflect new marine refuges and protected areas.
<u>Section 4.8</u>	The date under market access was updated from 2022 to 2023 due to one-year extension.
<u>Section 5.4</u>	2J3KL Atlantic cod Rebuilding Plan was added to the list of rebuilding plans.
<u>Section 6.1</u>	The Minister's commitment of the first 115,000t of Northern cod is now reflected in this section.
<u>Section 6.3</u>	The Northern Integrated Commercial Fisheries Initiative program was added and communal commercial fishery information was updated to reflect 2020 data.
<u>Section 7.1</u>	Total Allowable Catch decisions for 2021 and 2022 added to <u>Table 7</u> .
<u>Section 7.3</u>	New information on the Atlantic Fishery Regulation amendment that replaced PIIFCAF was added.
<u>Appendix 1</u>	Available CHPs were updated and Table was updated.

Section	Notes
Appendix 6	The 2J3KL Atlantic Cod Rebuilding Plan was added as Appendix 6.
Appendix 7	The 3LN Redfish Harvest Control Rule for 2021 and 2022 was added.
Appendix 10	Conservation & Protection enforcement information was updated to reflect 2016-2020 data.

1. Overview of the fishery

1.1 History of the fishery

The groundfish fishery, and particularly the Atlantic cod fishery, has been a very important part of the history, economy and culture of Newfoundland and Labrador for centuries. Prior to the 1950s, the fishery was primarily conducted inshore with small vessels, using gillnets or jigging. In the post-World War II era, a larger-scale commercial fishery began for several groundfish species including cod, Atlantic halibut, Greenland halibut (turbot), pollock and redfish in Newfoundland and Labrador waters. This post-war period saw technological and geographic expansion of the fishery, with large foreign offshore trawling vessels and the otter trawl fleet beginning to fish in Newfoundland and Labrador and Nova Scotia waters. This resulted in a dramatic increase of groundfish landings by 1968. The Food and Agriculture Organization of the United Nations (FAO) has compiled [catch statistics](#) for NAFO Subarea 2 and Divisions 3KLMNO, back to 1950.

As fishing capacity increased throughout the 1960s and 1970s, the intensified fishing pressure began to have an impact on fish stocks and groundfish habitat in Atlantic Canada. In 1977, Canada signed on to the United Nations Convention on the Law of the Sea (UNCLOS), and extended its marine jurisdiction from 12 nautical miles from the coastline, to 200 nautical miles. Initially, some NAFO Contracting Parties were permitted to fish in Canadian fisheries waters with authorization from Canada, however

in recent decades all authorized NAFO fishing activity has been restricted to the NAFO Regulatory Area outside the 200 mile exclusive economic zone (EEZ).

Intensive fishing continued throughout the 1980s. For the 2J3KL cod stock, landings increased from approximately 151,750 t under a TAC of 155,000 t in 1980, to 238,000 t under a TAC of 235,000 t in 1989. A moratorium was implemented on the 2J3KL cod fishery in July 1992, due to substantial declines in catches and stock biomass. As most inshore fleets in Newfoundland and Labrador were primarily dependent on the cod fishery, the closure resulted in severe declines in revenue for those enterprises and significant economic impact within the province.

The 2J3KL cod moratorium was followed by reductions and closures of other groundfish stocks. In 1994 a moratorium was implemented for 3LNO American plaice, 3M American plaice, 3NO witch flounder, and 3LNO yellowtail flounder; followed by a moratorium on 3NO cod in 1995; 2GH cod in 1996; 2+3 grenadier in 1997; and 2+3K American plaice, 3LNO haddock, 2+3K redfish, and 2J3KL witch flounder in 1998. The moratoria on 3LNO yellowtail flounder and 3NO witch flounder were lifted in 1998 and 2015 respectively.

Since the establishment of the cod moratorium in 1992, other groundfish species have accounted for a significant proportion of the catch, and shellfish such as shrimp, snow crab and lobster have become highly valuable fisheries in Newfoundland and Labrador. From 2013 to 2017, more than 127,000 tonnes of groundfish (valued at over \$311 million), was caught in 2+3KLMNO. Since 2006, a small-scale inshore Stewardship Fishery of 2J3KL cod (Northern cod stock) has been permitted to allow fishers the opportunity to test their beliefs about the health of the stock. The information gained contributes to the stock assessment and future management of the stock.

Since the mid-2000s, changing marine environmental conditions appear to have resulted in an increase in groundfish resources in some areas around Newfoundland and Labrador, while shellfish resources in some areas have

declined. This shift may be signaling a return to a groundfish-dominated ecosystem, although the structure of that system may differ from that of the pre-moratorium period. This shift has resulted in increased participation in groundfish fisheries in recent years, and increased landings of some groundfish species.

1.2 Type of fishery

The groundfish fishery in 2+3KLMNO is primarily commercial, with recreational and Indigenous (Food, Social and Ceremonial) components.

Commercial

The following species are currently taken in directed groundfish fisheries or as bycatch in 2+3KLMNO:

- American plaice
- Atlantic cod
- Atlantic halibut
- Greenland halibut (turbot)
- grenadier
- haddock
- lumpfish
- monkfish
- redfish
- skate
- white hake
- winter flounder (blackback)
- witch flounder (greyscale)
- yellowtail flounder

There are eight distinct domestic fleet sectors involved in the commercial groundfish fishery in 2+3KLMNO:

- offshore (vessels greater than 100' in length overall)
- Scandinavian longliners (greater than 100'), fixed gear

- midshore (65-100'), fixed gear
- midshore (65-100'), mobile gear
- nearshore (less than 89'), mobile gear
- nearshore (40-89'), fixed gear
- inshore (<40'), fixed gear
- commercial communal

The management of these sector groups is integrated, with all groups subject to at-sea and dockside monitoring. Most fleets and fisheries are subject to Enterprise Allocation (EA) or Individual Quota (IQ) management regimes; however, where these management regimes are not in place, similar management tools are often used, such as:

- weekly limits;
- trip limits;
- trip permits; and
- harvest caps.

Indigenous access to commercial fisheries is authorized via a communal commercial licence issued by DFO under the authority of the *Aboriginal Communal Fishing Licences Regulations*. These licences are issued communally to the respective Indigenous group, and not its individual harvesters. These licences are fished in a manner that is comparable to the general commercial fishery.

Recreational

Since 2006, a recreational groundfish fishery has been in place in Newfoundland and Labrador waters. Recreational fisheries are managed using season and bag limits. In 2021, the recreational groundfish fishery was open for a total of 39 days between July 3 and October 3. Refer to the *Fisheries Management Decision* for more details.

Indigenous

In the 1990 Sparrow decision, the Supreme Court of Canada ruled that where an Indigenous group has a right to fish for Food, Social, and Ceremonial (FSC) purposes, it takes priority, after conservation, over other uses of the resource.

Fisheries and Oceans Canada (DFO) negotiates time-limited fisheries agreements with eligible Indigenous organizations to set out fishing arrangements for FSC purposes. Licences are issued and contain conditions respecting a variety of fisheries management measures like, but not limited to, species, harvest limits, fishing areas and seasons. The agreements may also provide for fisheries related economic opportunities.

In 2021, Atlantic cod was the only 2+3KLMNO groundfish species for which a licence was issued to harvest for FSC purposes.

Aquaculture

DFO continues to support the research and development of the aquaculture sector. Under the Access to Wild Resources as it Applies to Aquaculture Policy, the Department will provide the aquaculture industry with reasonable access to the wild groundfish resource by scientific licence to assist with industry development (growth and diversification). Requests to access the wild resource will be contingent upon stakeholders providing detailed project proposals to DFO for review and approval.

1.3 Participants

Commercial

In 2020, there were a total of 1,804 licensed enterprises for groundfish in 2+3KLMNO (all fleets). These harvesters were primarily in northeastern and eastern Newfoundland coastal communities in NAFO Division 3L (53.9%) and 3K (39.5%), with a small number of harvesters based in Labrador in NAFO

Divisions 2J (6.5%) and 2H (0.1%). Of the total number of licenced enterprises, 1,426 (79%) were active in 2020 (as defined by having landings) and operated 1,616 vessels.

Recreational

A licence is currently not required for the recreational harvest of groundfish. The fishery is open to both residents and non-residents and the level of participation varies annually. Retention of Atlantic halibut, Spotted and Northern wolffish, and any species of shark is prohibited. Sculpins and cunners may be released.

Indigenous

As of December 2020, there were a total of thirty-seven (37) 2+3KLMNO groundfish communal commercial licences authorized in the Newfoundland and Labrador Region to the following Indigenous groups:

- Nunatsiavut Government (NG)
- Innu Nation
- NunatuKavut Community Council (NCC)
- Miawpukek First Nation (MFN)
- Qalipu First Nation (QFN)
- MAMKA (Aboriginal Aquatic Resource and Oceans Management Department composed of MFN and QFN representatives).

1.4 Location of the fishery

This IFMP covers groundfish fisheries taking place in NAFO Subarea 2 and Divisions 3KLMNO (refer to [Figure 1](#)), an area adjacent to Labrador and eastern Newfoundland, extending over the Nain Bank and Hamilton Bank in the north, and to the Grand Banks in the south. As shown in [Figure 1](#), part of divisions 2+3KLMNO extends beyond Canada's 200 nautical mile EEZ. For more details on governance, see [Section 1.6](#).



Figure 1: Map of Northwest Atlantic Fisheries Organization (NAFO) Management Divisions in Newfoundland and Labrador Region and surrounding area.

Catch weight for 2014 to 2016 of groundfish in 2+3KLMNO is shown in [Figure 2](#) below based on logbook data. Note that each grid square is 10 Km by 10 Km. Only records that are georeferenced could be included; some records were excluded due to privacy regulations.

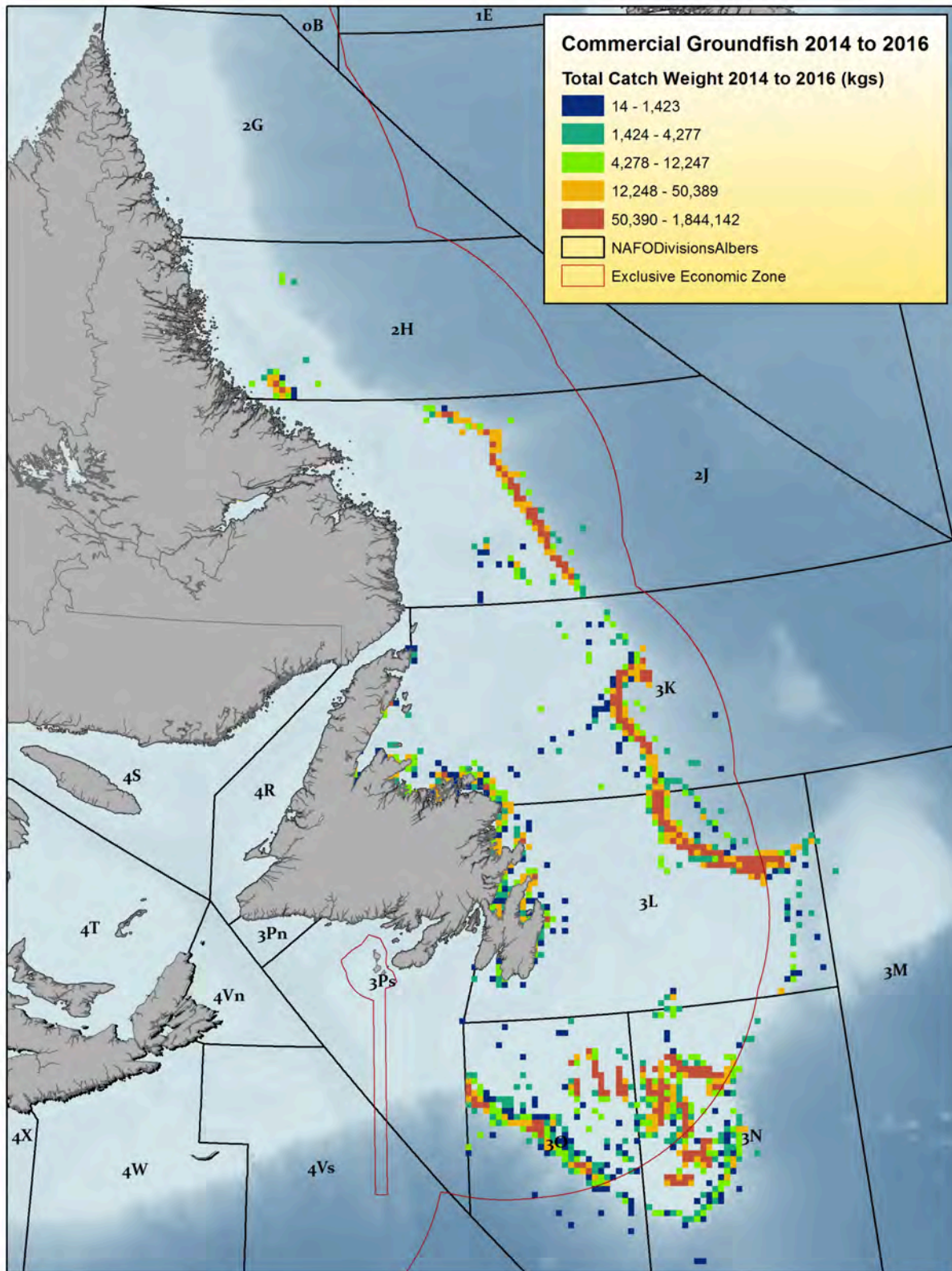


Figure 2: Map illustrating distribution of catch weight of groundfish in NAFO Subarea 2 and Divisions 3KLMNO for 2014 to 2016 period.

These data indicate that highest catch weight occurs on the nose and tail of the Grand Banks, and the continental shelf edge of NAFO Division 2J, 3K, 3L, 3N and 3O.

1.5 Fishery characteristics

Groundfish is harvested in 2+3KLMNO using both fixed and mobile gear to target a number of species, with several stocks under moratorium (refer to [Table 1](#)). The fixed gear fishery uses primarily gillnets, as well as handlines, longlines, and cod pots to a lesser extent. The mobile gear fishery uses primarily bottom otter trawl. The specific authorized gear used varies by fishery, and is specified in licence conditions provided to fish harvesters. Fleet sectors are based on vessel size and gear type (described in [Section 1.2](#)).

Table 1: Directed 2+3KLMNO groundfish fisheries and species currently under moratorium.

Species	Directed fishery	Moratorium
American plaice		2+3K/ 3LNO* / 3M*
Atlantic halibut	3NO ¹	
Cod	3M*	2GH/ 2J3KL ² / 3NO*
Greenland halibut	2+3K* / 3LMNO*	
Grenadier		2+3
Haddock		3LNO
Lumpfish	2GHJ / 3KL	
Monkfish	3LNO	
Redfish	3LN* / 3M*/3O*	2+3K
Skate	3LNO*	
White hake	3NO*	
Winter flounder	3KL	
Witch flounder	3NO*	2J3KL

Species	Directed fishery	Moratorium
Yellowtail flounder	3LNO*	

Notes:

*Stock is NAFO-managed

¹ This is a portion of the broader 3NOPs4VWX5c Atlantic halibut stock, managed by DFO-Maritimes region. For further details on the management of this fishery please refer to the [4VWX5 Groundfish IFMP](#).

² Stock is under moratorium; inshore Stewardship fishery.

Conservation Harvesting Plans (CHPs) describe fishery-specific information such as permitted gear types, season dates, and other management measures. There are several management measures that apply across fisheries, including specified season dates, area closures, small fish protocols, incidental catch protocols, and dockside monitoring. As well there are requirement to use gear tags, vessel monitoring systems (VMS), logbooks, hailing, and at-sea observers in some fisheries (refer to [Section 7](#) for further details on management measures). Additional stock-specific measures from CHPs are outlined in [Appendix 1, Table 8](#).

1.6 Governance

Several groundfish stocks in NAFO Subarea 2 and Divisions 3KLMNO are managed exclusively by Canada, with TACs and other management measures established by DFO. Some other groundfish stocks that straddle Canada's 200-mile limit and discrete stocks on the Flemish Cap (3M) are managed by the Northwest Atlantic Fisheries Organization (NAFO). NAFO is a regional fisheries management organization consisting of Canada and eleven other Contracting Parties, with an overall purpose to ensure the long term conservation and sustainable use of the fishery resources in the Convention Area and, in so doing, to safeguard the marine ecosystems in which these resources are found. While the NAFO Convention Area includes the 200-mile exclusive economic zones of coastal states jurisdiction (Canada, Denmark in respect of the Faroe Islands and Greenland, France in respect of

St. Pierre et Miquelon, and USA), its regulatory action is limited to those parts of the Convention Area beyond areas of national jurisdiction, defined as the NAFO Regulatory Area (NRA). A list of the stocks managed by Canada and those managed by NAFO are provided in Table 1 (refer to notes).

The current management cycle for groundfish in Subarea 2 and Divisions 3KLMNO, with respect to both Canadian-managed and NAFO-managed stocks, runs from January 1 to December 31. Canadian groundfish fisheries are governed by the Fisheries Act, regulations made pursuant to the Act, and DFO policies. The Fisheries Licencing Policy of Newfoundland and Labrador Region provides details on the various licensing policies that govern the commercial fishing industry in the Newfoundland and Labrador Region (please note that DFO should be consulted for all purposes of interpreting this document). Other key regulations and policies that apply include, but are not limited to:

- Aboriginal Communal Fishing Licences Regulations
- Atlantic Fishery Regulations 1985
- Fishery (General) Regulations
- Commercial Fisheries Licencing Policy for Eastern Canada, 1996

DFO has established a Groundfish Advisory Committee as a forum to discuss issues with stakeholders and Indigenous groups related to the management of the groundfish fishery in Subarea 2 and Divisions 3KLMNO. The Committee's purpose is to seek input and advice from members to inform the sustainable use of groundfish resources. The Committee meets semi-annually, once in the spring to discuss northern cod, and a separate meeting in the fall to discuss other groundfish stocks. The Terms of Reference are found in Appendix 7. With respect to NAFO, DFO seeks the advice and input from stakeholders and Indigenous groups on Canada's priorities through a separate NAFO Advisory process.

1.7 Approval process

This Integrated Fisheries Management Plan document is approved by the DFO Regional Director General of the Newfoundland and Labrador Region. Opening and closing dates for specific areas and gear types and other issues that arise through the fishery are addressed by DFO staff in consultation with industry. Any significant changes to management measures are generally tabled by DFO officials at the advisory meeting.

The intent is to manage the fishery based on the measures outlined in this IFMP, unless there are conservation issues. Stakeholders seeking new management measures should table their requests through their representative as part of the Groundfish Advisory Committee process.

2. Stock assessment, science and traditional knowledge

To inform sound management decisions for groundfish resources in Subarea 2 and Divisions 3KLMNO, DFO Science provides peer-reviewed information and advice, through both the domestic and NAFO scientific advisory processes, on the status of the resource and anticipated results of management options.

DFO Science conducts routine data collection, analysis, and specialized research on the general biology of groundfish in support of stock assessment which feeds into the CSAS and NAFO processes described above, including:

- collection and archiving of catch data from fish harvester logs, at-sea observers, electronic logs, and unloading slips;
- collection of biological and demographic data from dockside, at-sea and research vessel surveys; and,
- archiving of biological data collected from DFO and contract sources.

The annual research vessel survey includes the collection of biological data and physical oceanographic data (e.g. water temperature, salinity), and provides critical fishery-independent data for undertaking stock assessments. DFO Science has carried out stratified random research vessel surveys in portions of NAFO Subareas 2+3 since the early 1970s. The research vessel survey of Divisions 2HJ3KLNO is conducted in the fall between mid-September and mid-December, although in some years the survey has extended into January. From 2011 to 2018, 674 sets were allocated over the survey area. During each set, fish collected by the bottom trawl are weighed and counted and these data are used to develop biomass and abundance indices for individual fish stocks. For some species (including Atlantic cod, American plaice, Greenland halibut, Atlantic halibut, white hake, yellowtail flounder) otoliths are collected for age estimation. Data from these samples form the basis of age based-population models used in the assessment of some stocks. Data and samples are also collected to assess maturity stage, and trends in fish diet over time.

2.1 Biological characteristics

As a group, groundfish live and feed in association with the ocean floor, but individual species exhibit a wide range of biological characteristics.

Generally, groundfish have relatively long life spans with many species living for two to three decades, while redfish are known to live up to 75 years.

Reproductive patterns differ between species. Some species such as Atlantic cod release pelagic eggs and have planktonic larvae that float independently in the water column, while monkfish deposit eggs in a mucous sheet that floats near the surface, and lumpfish deposit egg masses directly on rocky bottoms that are defended by the males. Redfish have an entirely different reproductive pattern as they are live bearers, releasing larvae that may be transported large distances before settling toward the bottom.

Juvenile groundfish may settle to bottom habitats and remain relatively stationary throughout their life or migrate large distances annually for feeding, spawning or overwintering. The diet of juvenile groundfish typically

consists of invertebrates such as copepods and euphausiids. As they grow, some species will consume small fish but continue to feed on invertebrates either in the water column (e.g. redfish) or on the bottom (e.g. American plaice), while other species switch to a mostly fish-based diet.

American plaice

American plaice (*Hippoglossoides platessoides*) is a benthic marine flatfish with an elongated, strongly laterally compressed body. On the Grand Banks and Labrador shelf, American plaice consists of three stocks: 2+3K; 3LNO; and 3M. American Plaice are usually considered a cold-water species; they are most numerous within a temperature range from just below zero to around -1.5°C. Once settled, adults and juveniles frequently inhabit the same areas over depths ranging from 20 to 700 m with a preference for depths in the range of 100 to 300 m.

American plaice are generally a slow-growing and moderately long-lived species that exhibit sexual dimorphism; females grow faster and are larger than the males for any given age. American Plaice are highly opportunistic feeders throughout their life cycle, feeding on whatever prey items are available in appropriate sizes for ingestion and varying with fish size, locality and seasonally. Adults and juveniles feed on polychaetes, echinoderms, molluscs, crustaceans and fish (capelin, sand lance, other flatfish, etc.).

Atlantic cod

Atlantic cod (*Gadus morhua*) is a gadoid fish that inhabits water on both sides of the North Atlantic. On the Grand Banks and Labrador shelf, Atlantic cod consists of four stocks: 2GH; 2J3KL; 3M; and 3NO. Cod that inhabit the northeast Newfoundland Shelf and Labrador shelves typically mature between five and seven years of age. Since the late-1980s females have been maturing at about age five, which is earlier than in previous years. The number of eggs produced by a single female in a single breeding season typically ranges from between 300,000 and 500,000 at maturity to several million eggs for females greater than 75 cm in length. Atlantic cod typically spawn over a period of less than three months in water that may vary in

depth from tens to hundreds of metres. During the larval stage, the young feed on phytoplankton and small zooplankton in the upper 10 to 50 metres of the water column. After the larval stage, the juveniles swim, or 'settle', to the bottom, where they appear to remain for a period of 1 to 4 years. These settlement areas are known to range from very shallow (< 10 m to 30 m) coastal waters to moderately deep (50 to 150 m) waters on offshore banks. After this settlement period, it is believed that the fish begin to undertake the often-seasonal movements (apparently undirected swimming in coastal waters) and migrations (directed movements to and from specific, highly predictable locations) characteristic of adults. Adult cod feed on a wide variety of prey, and can also be cannibalistic. In the Northwest Atlantic, capelin are an important prey source. Cod off Labrador and eastern Newfoundland grow slowly and are less productive compared with populations in the eastern Atlantic, the Flemish Cap (3M), and further south in the western Atlantic.

Historically much of the Northern cod stock (2J3KL) was highly migratory. They over-wintered near the edge of the continental shelf and migrated in spring/summer to shallow waters along the coast and onto the plateau of Grand Bank. By the mid-1990s these offshore over-wintering components were barely detectable, but at the same time, there were aggregations of cod in the inshore in Division 3L and southern part of Division 3K. These inshore components appeared to be more productive during the 1990s than those in the offshore. Inshore components were small relative to the components that historically migrated into the inshore from the offshore during spring/summer. The shoreward seasonal migration pattern observed prior to the moratorium did take place in recent years. Overwintering inshore aggregations, such as those observed in Smith Sound, Trinity Bay, have diminished and most of the stock now appears to overwinter in the offshore, similar to the pre-moratorium period. The offshore biomass of cod has increased in most of the stock area in the past decade, except in southern Division 3L. The current contribution of offshore cod to the inshore during summer is likely substantial.

Greenland halibut

Greenland halibut (*Reinhardtius hippoglossoides*) is a deep-water flatfish species with a circumpolar distribution through the north Atlantic and Pacific oceans. The species is widely distributed in the northwest Atlantic ranging stock in Subarea 2 and Divisions 3KLMNO is considered to be part of a biological stock complex, which includes Subareas 0 and 1. Greenland halibut are late maturing and relatively long lived. Off Newfoundland and Labrador, Greenland halibut have shown changes in distribution across decades of changing temperature, moving to deeper, warmer water associated with the cold period of the mid-1980s to mid-1990s.

Redfish

There are two species of commercial interest in the genus *Sebastes* with overlapping distributions in several areas of the northwest Atlantic, namely the Gulf of St. Lawrence, Laurentian Channel, off Newfoundland and south of Labrador Sea: the deep sea redfish (*Sebastes mentella*), typically higher in abundance at depths greater than 350m, and Acadian redfish (*Sebastes fasciatus*), preferring waters of less than 300m. They are currently commercially fished on the slopes of the Grand Bank, both in Division 3LN (north-south east) and Division 3O (south-west).

Redfish (*Sebastes* spp.) are viviparous, long living and slow growing, with females attaining size of 50% maturity at 30-34 cm. For both species, settlement to the bottom is a long process. Older redfish may also be associated with the bottom, but dense aggregations are also observed in pelagic (open ocean) habitats. The external characteristics of the two species are very similar, making them difficult to distinguish. Therefore they are reported collectively as "redfish" in the commercial fishery statistics. *S. mentella* and *S. fasciatus* are also treated as a single species in the Grand Bank surveys carried out by Canada, Russia and EU-Spain, and are commonly referred to as "Beaked redfish". In Division 3LN, neither redfish species belong to isolated local populations, but rather are part of a large Northwest Atlantic population complex ranging from the Gulf of Maine to south of Baffin Island.

Within the 3LN management unit, relative abundance of *S. mentella* – *S. fasciatus* may vary with the recruitment level and survival of juveniles from either species, though *S. fasciatus* tend to be more abundant in the south (Division 3N) while *S. mentella* is more abundant in Division 3L. Over 2011-2015, most of Canadian spring and autumn surveys found larger redfish concentrations more frequently in Division 3N, despite the major proportion of the being taken annually from Division 3L.

Witch flounder

Witch flounder (*Glyptocephalus cynoglossus*) is a long lived, right-eye flounder found across the North Atlantic, with distribution in the western Atlantic that extends from Labrador to North Carolina. In NAFO Divisions 2J3KL, individuals have been aged to over 30 years old, but the number of age groups in this area was substantially reduced from the mid-1970s to early-1980s, with fish older than 15 years rarely seen in the survey or fishery catch in after the early-1980s. Aging information has been unavailable for this species on the Newfoundland and Labrador Shelves since 1994.

Witch flounder are most commonly associated with shelf slope waters and deeper channels, but are present at a wide range of depths, from <100 m to well over 1,000 m. This species prefers soft substrates such as sand, clay or mud. Historically, the highest abundance of 2J3KL witch flounder was found in the Hawke Channel. The 3NO witch flounder stock is mainly distributed in Division 3O along the southwestern slope of the Grand Bank, at depths ranging from 60-200 m.

Spawning of witch flounder in the Northwest Atlantic occurs over a prolonged period from March through to September; the highest intensity is considered to occur from March to May in 2J3KL.

2.2 Ecosystem interactions

The Newfoundland and Labrador (NL) Shelves bioregion can be described in terms of four ecosystem production units: the Labrador Shelf (2GH), the Newfoundland Shelf (2J3K), the Grand Bank (3LNO), and southern Newfoundland (3Ps). Trends in the fish community in these ecosystem units are typically summarized from DFO research vessel surveys data in terms of fish functional groups defined by general fish size and feeding habits: small, medium, and large benthivores, piscivores, plank-piscivores, planktivores, and shellfish.

Commercial groundfish species encompass several of these functional groups. For example, Atlantic cod, Greenland halibut, and Atlantic halibut are included in the piscivores functional group, American plaice, haddock, and thorny skate are large benthivores, yellowtail flounder and witch flounder are among the medium benthivores, while redfishes are considered plank-piscivores. This broad distribution among functional groups is an indication that the aggregate referred to as commercial groundfish is not conformed by ecologically similar species. However, some commonalities among these species include adult stages that can be deemed as medium to large in size (maximum sizes >50cm), and medium to high trophic positions in the food web.

Groundfish species experience many life history changes as they develop. They generally begin with pelagic juvenile stages with a higher incidence of zooplankton in the diet, and change to more demersal habits as they grow, and their diet becomes more reliant on forage fishes (e.g. capelin, sandlance, herring) and/or larger invertebrates (e.g. shrimp, crabs). While a diet signature can be coarsely described for each groundfish species for general characterizations (i.e. a "typical/average" diet composition), actual diets vary in space and time based on food availability. For example, in the case of 2J3KL Atlantic cod, capelin was the dominant prey species prior to its collapse in the early 1990s, but northern shrimp became its primary prey from the mid-1990s until the early 2010s. Capelin did increase its dominance in the cod diet in the early-to-mid 2010s, but did not reach the 1980's level.

Consistent signals in diet composition were also documented for Greenland halibut, reflecting the changes in relative availability of capelin and northern shrimp in the environment. Since the mid-2010s capelin and northern shrimp have shown clear reductions in their contributions to the diets of groundfish species like Atlantic cod, Greenland halibut and American plaice.

Food sources can impact individual condition, fitness and/or survival, and overall productivity, both in terms of quality (e.g. energy rich prey such as capelin vs energy poor prey such as shrimp), and quantity (availability of prey). For example, capelin availability has been shown to be a significant driver of Atlantic cod in 2J3KL.

Ongoing work by DFO Science in Newfoundland and Labrador (Ecosystem Research Program) which has been presented at scientific assessment meetings, has shown that the fish functional groups for which commercial groundfish species are dominant components are also important predators in these ecosystem units. The food consumption by these functional groups coarsely represents around 60-70% of the total food consumption estimated for the entire fish community (this estimation includes all finfishes and commercial shellfish, but does not include other invertebrates, and underestimates consumption by forage fishes; it is considered a first approximation to total consumption), and can exert important predation pressure. Predation mortality by these fishes has played an important role in the decline of northern shrimp in 2J3KL.

In terms of trends, the ecosystem units in the NL Shelves bioregion were historically dominated by groundfish, most typically Atlantic cod, which were also the main target of fisheries. Fishing pressure on these ecosystems was very high during the 1960s and early 1970s, with overall fishing catches above the capacity of these ecosystems to sustain. Even though catches were lower in the 1980s, many stocks had not recovered from the previous decade of exploitation, and some continued to be overfished at a time when environmental conditions were becoming less favorable for demersal fishes.

During the late 1980s and early 1990s, the entire bioregion underwent an abrupt shift in community structure. Changes were observed earlier and were more dramatic in the north than in the south, but were evident all around. These changes involved major declines in groundfish and pelagic fishes, and involved both commercial and non-commercial species alike. Capelin, a key forage species, collapsed in 1991, and has yet to rebuild to its pre-1991 levels. During this period, the cold environmental conditions together with the reduced predation pressure from groundfishes, allowed the build-up of shellfish species, like northern shrimp and snow crab. Even though changing environmental conditions were important drivers of this abrupt ecosystem change, the overfishing experienced by many important fish stocks is believed to have weakened the ability of these ecosystems to tolerate environmental changes.

By the mid-late 2000s, warmer environmental conditions (more favourable to demersal fish than shellfish production), coupled with some modest improvements in capelin levels prompted an overall build-up of fish biomass, while shellfish declined. By the early 2010s, total fish biomass in the Newfoundland Shelf (2J3K) and Grand Bank (3LNO) had nearly doubled from the mid-1990s level. These trends also speak about a changing internal structure of these ecosystems, with groundfish regaining their dominance in the marine community. However, these changes do not mean a return to the same ecosystem structure that existed prior to the 1990s.

Overall, even though total biomass has improved since the mid-1990s, current levels are still well below the total biomasses observed in the 1980s. Furthermore, since 2014, ecosystem units in this bioregion have shown reductions in total biomasses in the order of 30% in comparison to immediately precedent years, suggesting conditions that promoted groundfish build-ups have eroded. This current low ecosystem productivity may be linked to declines in primary production and zooplankton biomass, and the simultaneous reductions in availability of forage species like capelin and shrimp. Although fishing has undoubtedly been an important driver of

changes in the commercial groundfish species in the NL Shelves bioregion, bottom-up processes and species interactions have also been major driving forces in these ecosystems over the past three decades.

2.3. Indigenous Traditional Knowledge

Indigenous traditional knowledge and traditional ecological knowledge from Indigenous groups are considered in science processes and management decisions. Indigenous organizations in Newfoundland and Labrador have participated formally in the following DFO processes related to 2+3KLMNO groundfish:

- Participation in meetings of the 2+3KLMNO Groundfish Advisory Committee to discuss and provide input on management measures for groundfish.
- Participation in 2+3K and 3L Greenland halibut Working Group
- Participation in DFO's Cod Recovery Working Group process
- Participation in science advisory processes for groundfish Stock Assessments
- Participation as members of the Canadian Delegation to NAFO to inform Canadian position on management approach for NAFO-managed stocks.

2.4. Stock assessments

Domestic

For groundfish stocks managed by Canada, the Canadian Science Advisory Secretariat (CSAS) oversees the provision of scientific advice required by DFO. Scientific assessments and advice with respect to groundfish resources are regularly conducted through regional CSAS peer-review meetings to address a number of scientific questions related to the management of Canadian oceans and the conservation of marine and freshwater resources. Individuals with knowledge and technical expertise may be invited to these meetings to contribute to the peer review and development of advice. A

schedule of past and upcoming science advisories is available [online](#). During the science advisory process, the health of marine ecosystems, the conservation of species at risk, and the status and trends of different stocks of fish, invertebrates and marine mammals in Canada are considered.

Following the provision of new science advice on groundfish stocks, advisory committee meetings are held with stakeholders and Indigenous groups to discuss the scientific results and obtain input on appropriate fisheries management measures.

The status of each stock of 2+3KLMNO groundfish can be found in [Table 2](#), based on the most recent CSAS Science Advisory Reports. [Published CSAS reports](#) can be found on our website.

Table 2: Status of DFO-managed 2+3KLMNO groundfish stocks based on most recently available CSAS assessment.

Stock	Assessment type	Status of stock
2+3K American plaice	Research vessel survey indices	<p>An LRP was determined using SSB from the survey, and recruitment estimated from the relative cohort strength model. Recruitment has generally been impaired when survey SSB is below 70,000 t, therefore this was chosen as the LRP. Survey SSB was at 24% of the LRP in 2009. A stock status update in 2020 indicated that the stock remains in the critical zone.</p> <p><u>The CSAS Science Response Report is expected to be available online in 2021</u></p>
2GH Cod		<p>Information on the Labrador cod stock is sparse and there is no consistent survey time series from which to evaluate trends. This area has shown no sign of recovery since a moratorium on directed fishing was imposed in 1993.</p> <p><u>CSAS Science Advisory Report 2011/037</u></p>

Stock	Assessment type	Status of stock
2J3KL Cod	State space model	<p>The 2021 assessment indicated that SSB remains in the critical zone at 52% of the LRP. The estimated fishing mortality remains low. Probability that SSB will reach the LRP by 2022 is <1% under all catch scenarios; probability that the stock will increase in 2022 over 2019 levels is 52-59%. Ecosystem indicators such as plankton and forage species (capelin, shrimp) suggest overall low productivity which may negatively impact cod productivity and stock recovery.</p> <p><u>The report from the 2021 assessment is expected to be available online in 2021</u></p> <p><u>CSAS Science Advisory Report 2019/050</u></p>
Roundnose Grenadier	Research vessel survey indices	<p>Available abundance indicators from RV surveys are limited and sample only a portion of the preferred depth range/distribution of this species. Recent RV survey data indicate that population levels appear to be relatively stable since the early 2000s. Population models indicate that current bycatch levels appear to be sustainable; however reduction in bycatch could enhance recovery of roundnose grenadier.</p> <p><u>CSAS Science Advisory Report 2010/021</u></p> <p>There is no schedule for this assessment.</p>

Stock	Assessment type	Status of stock
3LNO Haddock	Research vessel survey indices	<p>RV survey indices have varied without trend since the mid-1990s. Recruitment of fish less than 20cm in length is low with no fish less than 20cm being caught in the 2016 or 2017 fall RV surveys. No LRP exists for this stock although several were considered. Prospects for this stock are poor.</p> <p><u>CSAS Science Advisory Report 2018/009</u></p>
Lumpfish	Research vessel survey indices	<p>Lumpfish was assessed by COSEWIC as Threatened in 2017. The Pre-COSEWIC assessment (<u>Research Document 2016/068</u>) was carried out in November 2015.</p> <p>A DFO Recovery Potential Assessment (RPA) for Lumpfish took place in March 2019. The Science Advisory Report from this meeting will be available on the <u>CSAS website</u> when published</p> <p>There is no schedule for this assessment.</p>
3LNO Monkfish	Research vessel survey indices	<p>Recruitment of Age 3 Monkfish over 2014-17 was less than 50% of the time-series' average, and the lowest in the 2001-2017 time-series. The relative fishing mortality index for Divs. 3LNOPs peaked during 2002-03, and then remained below the 1996-2016 average since 2007. A proxy limit reference point (LRP) of 2,000 t was accepted for Divs. 3LNOPs Monkfish. The Monkfish biomass index for Divs. 3LNOPs (5,010 t) was estimated to be 2.5 times larger than the accepted LRP.</p> <p><u>CSAS Science Advisory Report 2018/010</u></p> <p>There is no schedule for this assessment.</p>

Stock	Assessment type	Status of stock
2+3K Redfish		Redfish biomass increased considerably from 2003-2010, with biomass during 2010-2015 reaching approximately half of the pre-collapse (1978-1990) levels. Recruitment since 2000 was above the long term average, with a time-series high in 2014. The fishery remains under moratorium. In the absence of an LRP, it is not possible to identify which zone of the PA framework this stock is currently within. <u>CSAS Science Advisory Report 2020/021</u>
2J3KL Witch Flounder	Research vessel survey indices	In 2016 and 2017, indices of abundance and biomass reached the highest levels since 1990, but remained below the levels of the mid-1980s. The abundance index of fish <23 cm indicate improved recruitment since 2013. Following a contraction of the stock to shelf slope areas through the 1990s, the distribution of the stock has expanded in recent years, returning to deep channels occupied in the mid 1980s. The stock is currently in the critical zone, at 68% of the LRP. <u>CSAS Science Advisory Report 2018/053</u>

NAFO managed stocks

With respect to groundfish stocks managed by NAFO, science advice is provided by NAFO's Scientific Council which consists of scientific experts from NAFO Contracting Parties (including Canada). Advice is provided by the Scientific Council upon request by the NAFO Commission for specific fish stocks within the NAFO Regulatory Area; by coastal states who need information on stocks within their EEZs; or, on stocks that are straddling between two jurisdictional areas. The Scientific Council primarily conducts its scientific assessments during its annual meeting in June, with advice presented to the NAFO Commission during its annual meeting in

September. Scientific Council stock assessments and scientific advice are published on the [NAFO website](#). A summary of, and link to the most recent NAFO Scientific Council assessments for 2+3KLMNO groundfish can be found in [Table 3](#).

Table 3: Status of NAFO-managed 2+3KLMNO groundfish stocks based on the most recent assessment.

Stock	Assessment type	Status of stock
3M American plaice	Research vessel survey Trends - XSA Illustration	<p>The stock has increased in recent years due to improved recruitment (at age 3) since 2009, and recovered to the levels of the mid 1990s, when the fishery was closed. Both catches and F remain low, although slightly higher catches are observed since 2013.</p> <p>SCR 20/039 (PDF, 2.61 MB)</p>
3LNO American plaice	ADAPT framework - Virtual Population Analysis	<p>Fishing mortality increased from the late 1990s to 2015 and has subsequently declined. Recruitment has been very low in the last two decades. The stock remains low compared to historic levels and is presently considered to be below Blim.</p> <p>Recommendation is that, in accordance with the rebuilding plan, there should be no directed fishing on American plaice in Div. 3LNO in 2022, 2023 and 2024. Bycatch of American plaice should be kept to the lowest possible level and restricted to unavoidable bycatch in fisheries directing for other species.</p> <p>SCR 21/035 (PDF, 5.47 MB)</p> <p>This stock will be assessed in June 2024.</p>

Stock	Assessment type	Status of stock
3M cod	Virtual Population Analysis type Bayesian model	<p>Strong year-classes of 2009 to 2011 are dominant in the current SSB. Subsequent recruitments are much lower; therefore, substantial declines in stock size are occurring and expected to continue in the very near future under any fishing scenario.</p> <p>Yield of less than or equal to 5 000 tonnes in 2022 results in a very low probability ($\leq 10\%$) of SSB being below Blim in 2023 and a very low probability of exceeding Flim. However, given the present low level of the SSB and projected decline of total biomass under any fishing scenario, in order to promote growth in SSB, SC advises catches of no more than 3 000 tonnes in 2022.</p> <p><u>SCR 21/017REV</u> (PDF, 5.61 MB)</p>
3NO cod	ADAPT framework - Virtual Population Analysis	<p>Recommended no directed fishing in 2022 to 2024 to allow for stock rebuilding. Bycatch of cod in fisheries targeting other species should be kept at the lowest possible level. Projections of the stock were not performed but given the poor strength of all year-classes subsequent to 2006, the stock will not reach Blim in the next three years.</p> <p><u>SCR 21/031</u> (PDF, 3.21 MB)</p> <p>This stock will be assessed in June 2024.</p>

Stock	Assessment type	Status of stock
2+3KLMNO Greenland halibut	2 Models – SCAA & SSM	<p>The Statistical Catch-at-Age (SCAA) and state-space modeling (SSM) assessment methodology applied to the Greenland halibut resource in 2017 was updated to include data up to 2019. Estimates of quantities such as recruitment, exploitable biomass, and average F hardly changed from values estimated in 2017. There has been a slight downward trend in exploitable biomass, but this is expected to reverse given that the estimates of incoming recruitment are of above average strength. New data and recent resource trends are consistent with predictions made in 2017 when a revised management procedure for Greenland halibut was adopted.</p> <p>The TAC for 2022 derived from the HCR is 15 864 tonnes.</p> <p><u>SCR 20/030</u> (PDF, 1.31 MB)</p>

Stock	Assessment type	Status of stock
3LN Redfish	Surplus production model	<p>Stock declined with a sudden rise of the catch over the late 1980's first half of the 1990's, and started to gradually recover after catches fell to a residual level in response to stock collapse. The maximum observed sustainable yield (MSY) of 21 000 t is linked to a Fmsy at 0.11/year and a Bmsy at 185 000 t. There is a high probability (>90%) that the stock was at least 38% above Bmsy at the beginning of 2020, after crossing 2019 under a fishing mortality not higher than 46% Fmsy.</p> <p>At present the stock is kept at a safe zone and is moderately exploited. Nevertheless this management unit is also passing through low productivity times and the end of this regime is (still) not foreseen. Under the present circumstances, a medium term risk based management strategy that goes beyond what the stock can offer and sustain now is not a precautionary strategy. Therefore, management should be based on bi-annual assessments and short term equilibrium yield projections.</p> <p>SCR 20/033REV2 (PDF, 930 KB)</p>
3M Redfish	Extended Survivor analysis (XSA)	<p>Catches do not exceed F0.1 level, given the life history of the stock. This corresponds to a TAC of 10 933 t in 2022 and 11 171 t in 2023.</p> <p>SCR 19/016 (PDF, 1.18 MB)</p> <p>This stock will be assessed in June 2023.</p>

Stock	Assessment type	Status of stock
3O Redfish	Research vessel survey trends	<p>There is insufficient information on which to base predictions of annual yield potential for this resource. Stock dynamics and recruitment patterns are also poorly understood. Catches have averaged about 12,000 t since the 1960s and over the long term, catches at this level appear to have been sustainable. Scientific Council is unable to advise on an appropriate TAC for 2020, 2021 and 2022.</p> <p><u>SCR 19/038</u> (PDF, 988 KB)</p>
3LNO Thorny skate	Research vessel survey trends	<p>The stock is currently above Blim. The probability that the current biomass is above Blim is >95%. Total survey biomass in Divisions 3LNOPs has remained stable since 2007 but is still lower than the levels observed at the end of the 1980s. Recruitment in 2017 was above average but declined to below average in 2018 and was average in 2019. Fishing mortality is currently low.</p> <p><u>SCR 20/041REV</u> (PDF, 2.46 MB)</p>

Stock	Assessment type	Status of stock
3NO White hake	Research vessel survey trends	<p>The assessment is considered data limited and is associated with a relatively high uncertainty. Biomass of this stock increased in 1999 and 2000, generated by the large recruitment observed in those years. Subsequently, the biomass index decreased and has since remained variable but lower. No large recruitments have been observed since 2000, however the 2019 index is the highest in two decades. Fishing mortality is low. Given the absence of strong recruitment, catches of white hake in 3NO should not increase.</p> <p><u>SCR 21/022</u> (PDF, 2.24 MB)</p> <p>This stock be assessed in June 2023.</p>

Stock	Assessment type	Status of stock
3NO Witch flounder	Surplus production model	<p>The stock size increased from 1994 to 2013, then declined during 2013-2015 and has since increased slightly. In 2020 the stock is at 44% Bmsy (59 880 tonnes). There is 14% risk of the stock being below Blim and a 4% risk of F being above Flim ($F_{msy}=0.063$). With the exception of the growth of the stock following improved recruitment in the late 1990s, it is unclear if the recruitment index is representative. Nevertheless, the recruitment index in 2019 is the highest in the time series.</p> <p>The probability of F exceeding Flim in 2020 is 16% at a catch of 1 175 tonnes (TAC 2020). The probability of F being above Flim ranged from 2% to 50% for the catch scenarios tested. The population is projected to grow under all scenarios and the probability that the biomass in 2023 is greater than the biomass in 2020 is greater than 60% in all scenarios. The population is projected to remain below Bmsy through to the beginning of 2023 for all levels of F examined with a probability of greater than 88%. The probability of projected biomass being below Blim by 2023 was 7% to 11% in all catch scenarios examined and was 4% by 2023 in the F=0 scenario. The probability of F exceeding Flim in 2020 is 16% at a catch of 1 175 tonnes (TAC 2020). The probability of F being above Flim ranged from 2% to 50% for the catch scenarios tested. The population is projected to grow under all scenarios and the probability that the biomass in 2023 is greater than the biomass in 2020 is greater than 60% in all scenarios. The population is projected to remain below Bmsy through to the beginning</p>

Stock	Assessment type	Status of stock
		<p>of 2023 for all levels of F examined with a probability of greater than 88%. The probability of projected biomass being below Blim by 2023 was 7% to 11% in all catch scenarios examined and was 4% by 2023 in the F=0 scenario.</p> <p>SCR 20/046REV (PDF, 2.24 MB)</p>
<p>3LNO Yellowtail flounder</p>	<p>Surplus production model</p>	<p>Fishing mortality up to 85% Fmsy , corresponding to catches of 22 100 t, 20 800 t, and 19 900 t in 2022 to 2024 respectively, have risk of no more than 30% of exceeding Flim, and are projected to maintain the stock above Bmsy.</p> <p>SCR 21/018 (PDF, 1.82 MB)</p>

2.5. Precautionary approach

Canada has national and international commitments to establish decision-making frameworks for groundfish stocks that are compliant with the Precautionary Approach (PA), in order to ensure sustainable fisheries management. The Precautionary Approach can be defined as being cautious when scientific knowledge is uncertain, and to not postpone or fail to take action to avoid serious harm to fish stocks or their ecosystems by using the absence of adequate scientific information as a reason for such inaction. This approach is widely accepted as an essential part of sustainable fisheries management. Applying the Precautionary Approach to fisheries management decisions entails establishing a harvest strategy that:

- identifies three stocks status zones (healthy, cautious, and critical) according to upper stock reference points and limit reference points;
- sets the removal rate at which fish may be harvested within each stock status zone; and,
- adjusts the removal rate according to fish stock status variations (i.e. spawning stock biomass or another index/metric relevant to population

productivity) based on decision rules.

Groundfish stocks assessments are written in a manner consistent with DFO's Precautionary Approach. For more information visit the [Sustainable Fisheries Framework](#) website.

With respect to those groundfish stocks managed by NAFO, stock assessments are written in a manner consistent with NAFO's Precautionary Approach Framework. Further information can be found on [NAFO](#)'s website.

For some groundfish stocks reference points exist and in other cases work continues on identifying reference points.

2.6. Research

A goal of DFO Science is to provide high quality knowledge, products and scientific advice on Canadian aquatic ecosystems and living resources, with a vision of safe, healthy, productive waters and aquatic ecosystems. In addition to ongoing research vessel survey research to inform stock assessments for both Canadian and NAFO managed stocks, DFO Science carries out scientific research related to fish ecology and nearshore fisheries.

Various studies are currently being conducted to improve our understanding of the important ecological processes relevant to groundfish. Growth, condition, and maturity are being investigated for a variety of stocks, and research into predation on groundfish, and by groundfish, is being advanced through ongoing modelling efforts. A few examples of these research efforts are described below.

Between 2012 and 2015, DFO released more than 10,000 Greenland halibut with external tags. The majority of these fish were tagged along the edge of the continental shelf in NAFO Divisions 3KL. This program has a two-tiered reward system in order to attempt to estimate reporting rates, with rewards at either a \$20 value or \$100 value, depending on the tag colour. As Greenland halibut are relatively long lived (maximum age of 30 years;

maturity at approximately 14 years of age), it is expected that these experiments will yield information on movements and migration for years to come. This information will be evaluated in future stock assessments.

DFO-Science have maintained a tagging program for Atlantic cod in the Newfoundland and Labrador region since the 1950s (annually since 1978), which now includes records of over 400,000 tagged fish. The program tags a sample of fish across the province in an effort to better understand exploitation rates and movement of cod. A subset of fish are tagged with high reward (\$100) tags to estimate reporting rate of the tags by harvesters. In recent years, information from the tagging program has been used in the stock assessment model for 2J3KL cod. In addition, since 2005, DFO has deployed an annual sample of acoustic transmitters in cod to better understand timing and movement of fish. An array of acoustic receivers along the eastern and northeastern Newfoundland is maintained by DFO to support the acoustic telemetry program.

The Sentinel Survey of Atlantic cod has been conducted in NAFO Divisions 2J3KL since 1995, and currently there are twenty-two complete years of catch and effort data and biological information. Sentinel Survey data are collected by trained fish harvesters at various inshore sites along the eastern and northern coasts of Newfoundland, and the southern coast of Labrador. The main goals of the Sentinel Survey Program include: to develop indices of relative abundance (i.e., catch rates) for resource assessments; to incorporate knowledge of inshore fish harvesters in the resource assessment process; to evaluate inter-annual variability in resource distribution over inshore areas; and to collect information on key biological parameters used in assessments (i.e. fish length, sex, maturity stage, and otoliths to determine fish age), as well as biological samples used for genetic, physiological, and toxicological analyses, along with stomach contents for food and feeding studies.

3. Economic, social and cultural importance of the fishery

3.1. Socio-economic profile

In NAFO Divisions 2+3KLMNO, there are directed commercial fisheries for groundfish species including: Greenland halibut, Atlantic halibut, lumpfish, monkfish, redfish, skate, white hake, winter flounder, witch flounder, and yellowtail flounder (refer to [Section 1.5, Table 1](#)). Although 2J3KL cod is under moratorium, a stewardship fishery and cod quality project is in place.

Over the 2016 to 2020 period, groundfish landings have trended upwards, albeit with some variability by species. For instance, redfish and Greenland halibut landings declined in the more recent years of the data series, whereas the landings of other groundfish has increased. Refer to [Table 4](#).

Table 4: Landings of 2+3KLMNO groundfish landed in Newfoundland and Labrador Region by all fleet sectors (2016-2020).

2+3KLMNO Groundfish Catch^{1,2} excluding discards (tonnes)					
Species	2016	2017	2018	2019	2020(p)
Atlantic cod	10,056	12,847	9,507	10,534	10,213
Atlantic halibut	209	150	175	213	158
Redfish	3,047	4,243	4,399	3,280	1,533
Greenland halibut	6,121	5,356	6,068	6,049	5,574
Winter flounder	23	55	20	27	6
Other Groundfish³	8,222	7,491	7,967	12,315	14,330
Total per Year	27,678	30,141	28,137	32,419	31,813

Source: DFO-NL Catch and Effort Database. Data preliminary and subject to revision.

Notes:

¹ Due to guidelines on privacy protection, Fisheries and Oceans Canada is unable to release landings and catch information if a data set has fewer than five fishers, vessels or buyers. Data has been combined where it did not meet this requirement.

² Groundfish catch by calendar year

³ Other Groundfish includes American plaice, chimaera, Arctic cod, rock cod, cusk, dogfish, black dogfish, haddock, monkfish, pollock, rough-head grenadier, sculpin, silver hake, skate, white hake, witch flounder, yellowtail flounder, and unspecified groundfish, northern wolffish, spotted wolffish, and striped/Atlantic wolffish.

Vessel overview

In 2020, there were approximately 1,427 active enterprises with groundfish landings in the 2+3KLMNO, operating from 1,619 vessels. The majority (87 per cent) of these vessels were <40' in length and accounted for approximately 28 per cent of the total groundfish landings. Twelve per cent of the vessels were in the 40'-89'11" category and accounted for about 13 per cent of the total groundfish landings. The number of active vessels with groundfish landings has declined over the 2016-2020 period with a decline of 29 per cent since 2008. Refer to [Figure 3](#).

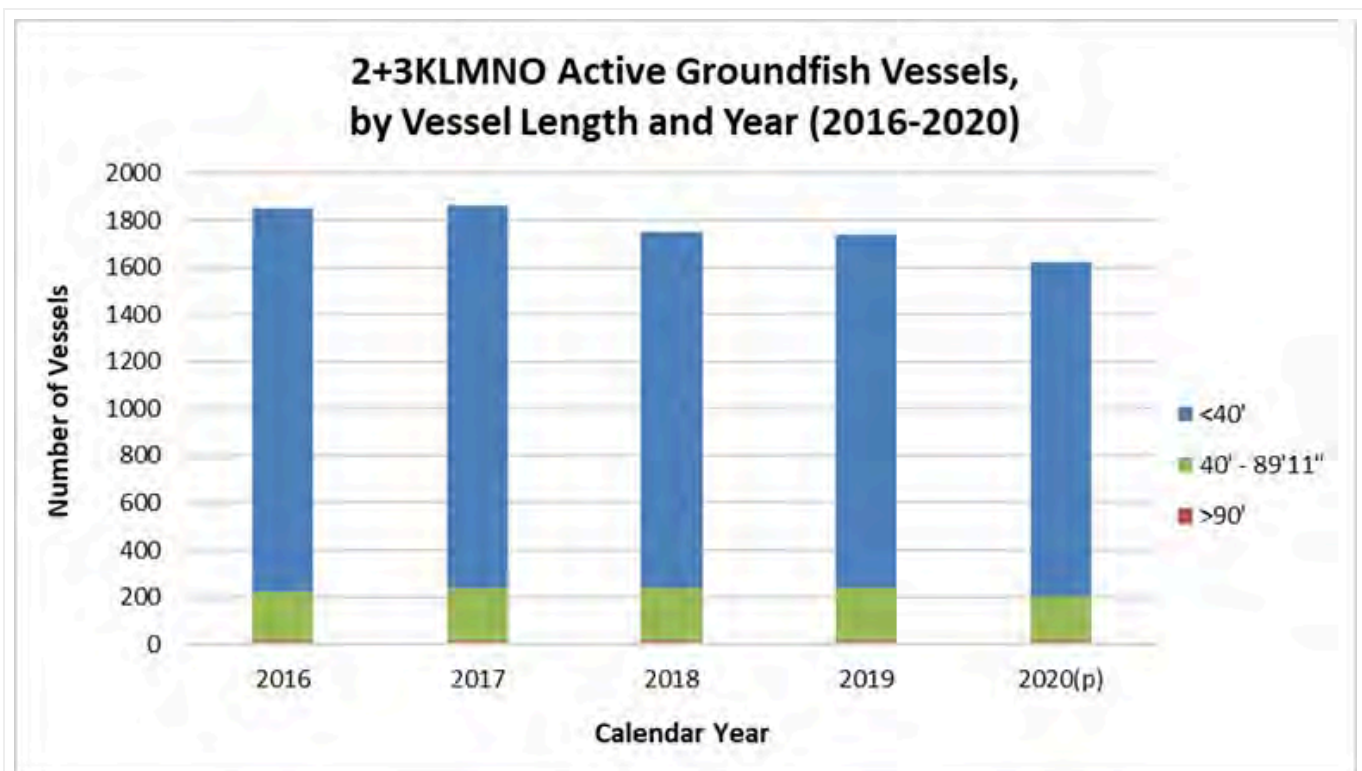


Figure 3: Number of active vessels in 2+3KLMNO groundfish fishery by vessel length (2016-2020).

► Description

Landings

In 2020, there was approximately 31,816 tonnes (t) of groundfish landed from 2+3KLMNO (excluding discarded catch). This was the second-highest landings in the 2016-2020 period. Peak landings in the series were 32,419 (t) in 2019. The average annual groundfish landings over this period were approximately 30,000 (t). In 2020, groundfish accounted for approximately 26 per cent of the total landings, crustaceans 43 per cent, pelagics 19 per cent and molluscs 11 per cent. Although crustaceans account for the greatest proportion of catch, this has been decreasing in recent years. Refer to [Figure 4](#).

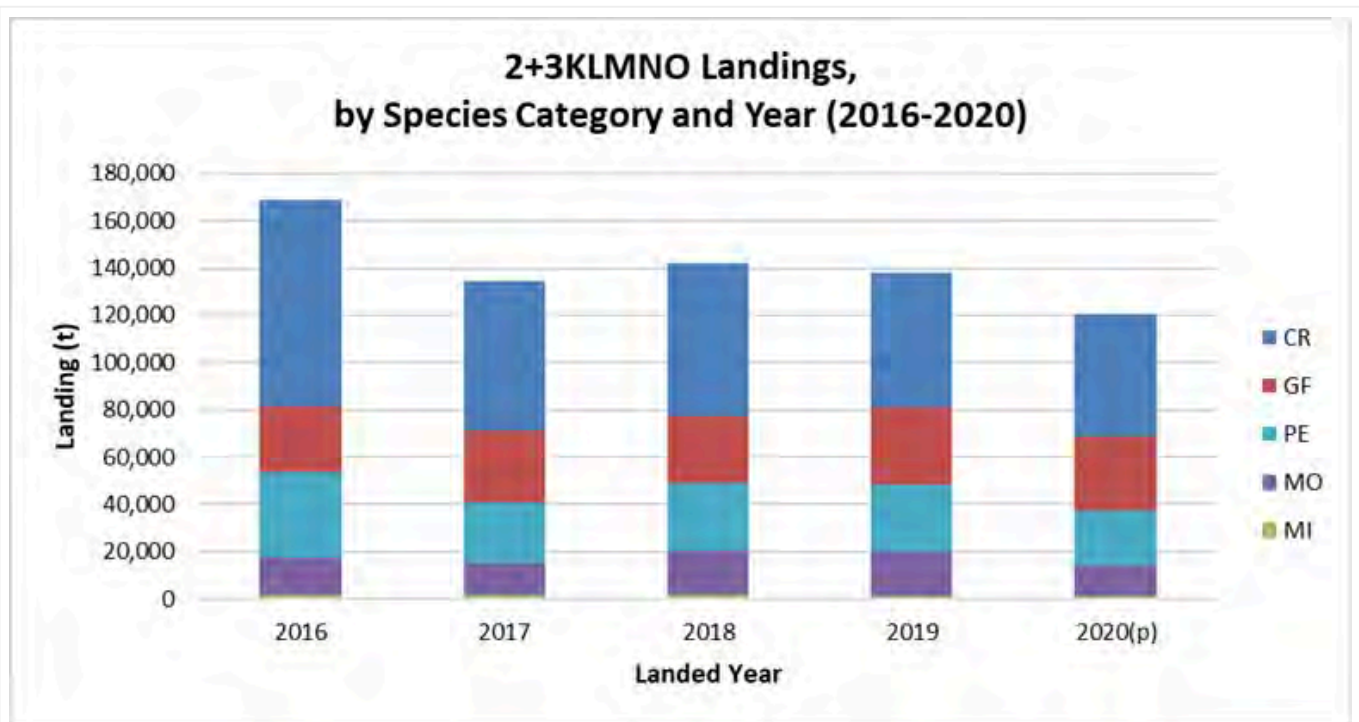


Figure 4: Landings (t) by species category (2016-2020).

[Note: CR is crustaceans, GF is groundfish, MO is molluscs, PE is pelagic, and MI is miscellaneous. Landings of marine mammals (seals) is not included].

► Description

Of the total groundfish landings, cod accounts for the largest amount by volume (see [Figure 5](#)). In 2020, cod comprised 32 per cent of 2+3KLMNO groundfish landings, Greenland halibut 18 per cent and redfish 5 per cent. Other groundfish species were combined to meet privacy guidelines.

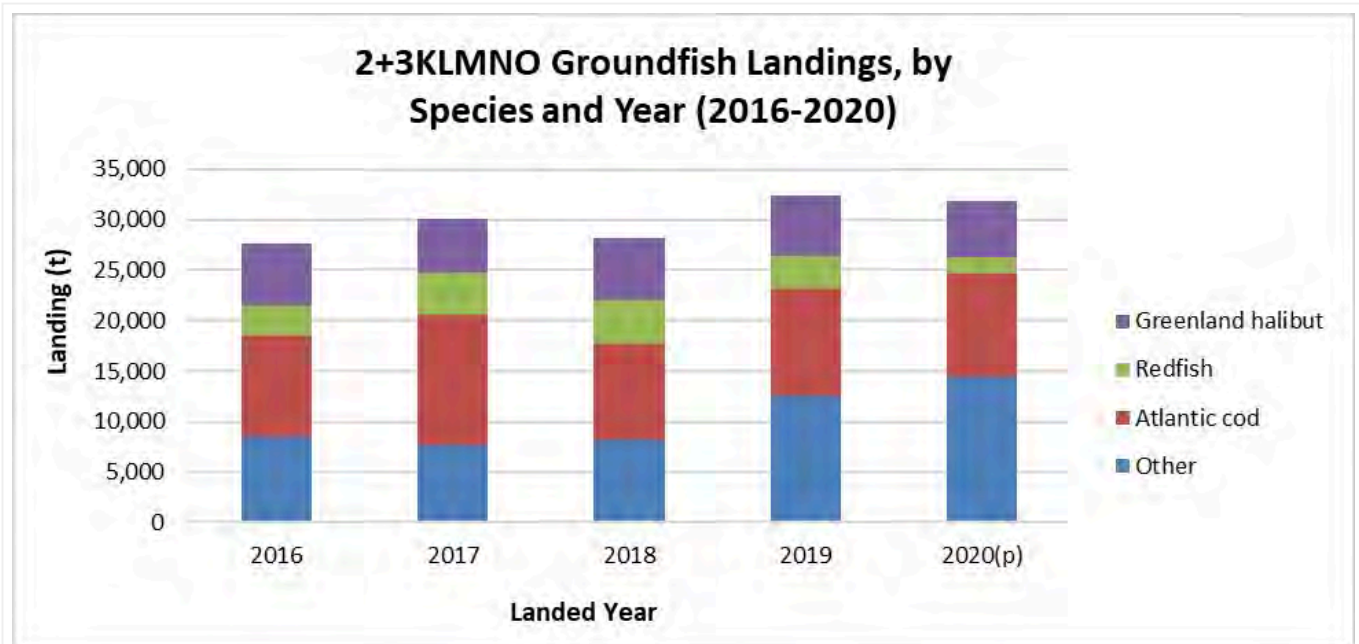


Figure 5: Landings (t) by Species (2016-2020).

► Description

Landed value

The average landed value of groundfish in 2+3KLMNO over the 2016-2020 period was approximately \$70 million annually. Overall, crustaceans had the greatest landed value, with an annual average of approximately \$434 million. Refer to [Figure 6](#).

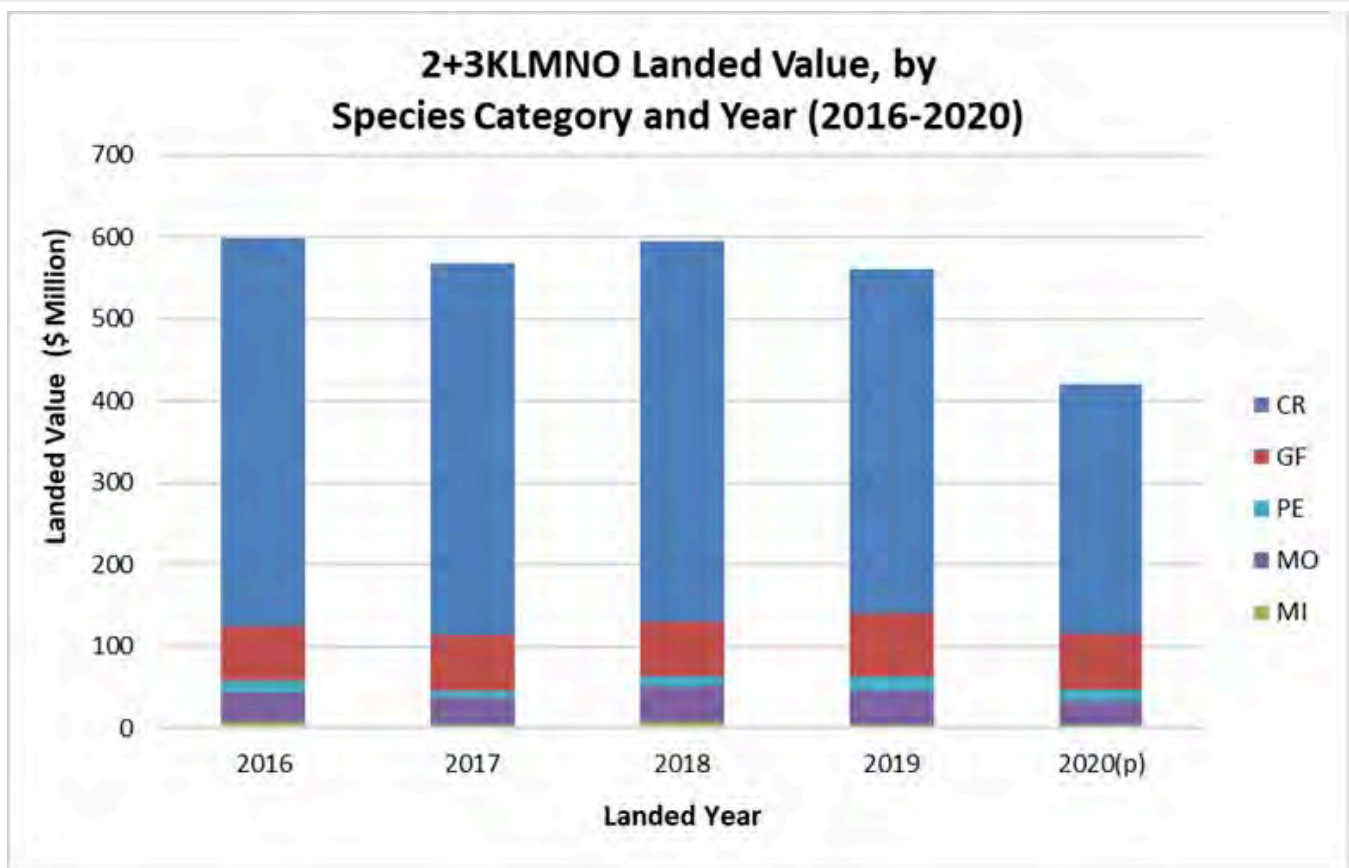


Figure 6: Landed value by Species Category (2016-2020). Note: CR is crustaceans, GF is groundfish, MO is molluscs, PE is pelagic, and MI is miscellaneous.

► Description

The annual landed value of 2+3KLMNO groundfish has been relatively consistent over the most recent five year period. Landed value increased in 2019, however, it returned to average levels in 2020. Greenland halibut had the highest landed value for all years. In 2020, Greenland halibut landed value was approximately \$28 million, cod was \$15 million, and redfish was \$4 million. Refer to [Figure 7](#).

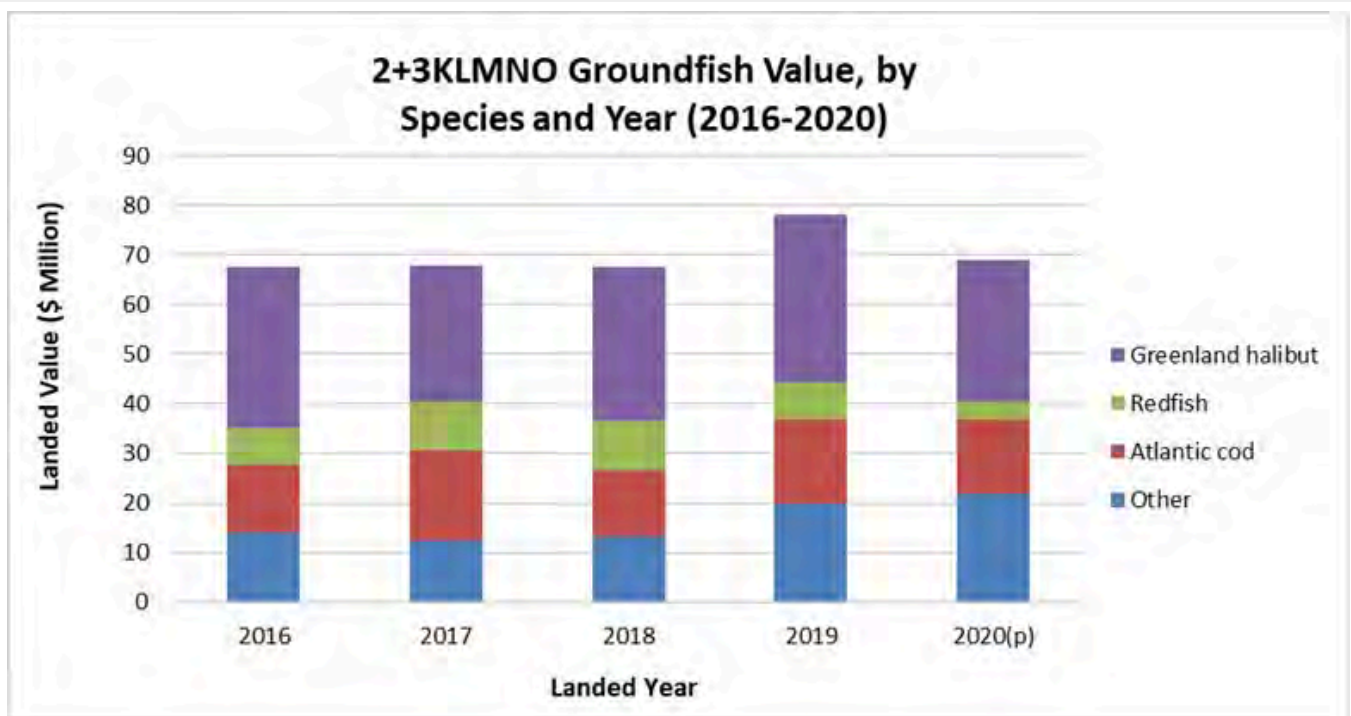


Figure 7: Landed value (\$ Millions) by Species (2016-2020).

► Description

3.2. Dependency on Groundfish

In 2020, there were 1,127 active enterprises operating <40' vessels with groundfish landings. On average, the landed value of groundfish was approximately \$11,000 and accounted for 22 per cent of total enterprise fishing revenue (all species). Snow Crab landings comprised about 58 per cent of the average enterprises total fishing revenue, followed by cod (21 per cent), capelin (8 per cent), Greenland halibut (1 per cent) and other species (12 per cent).

There were 333 active enterprises operating vessels between 40'-89'11" with groundfish landings. On average, the landed value of groundfish was approximately \$51,000 and accounted for 12 per cent of total enterprise fishing revenue (all species). Snow Crab landings comprised about 78 per cent of the average enterprises total fishing revenue, followed by Greenland halibut (9 per cent), shrimp (5 per cent), capelin (3 per cent), cod (3 per cent) and other species (2 per cent).

Dependency information for enterprises operating >90' vessels was excluded due to privacy guidelines.

4. Management issues

4.1 Bycatch

In general, fishing methods and gears select imperfectly. In many fisheries it is not possible to direct for one species without incidentally capturing others, and/or to avoid the capture of juveniles or other undesired individuals of the target species. As there is mandatory landing of groundfish in Newfoundland and Labrador (except where authorized), the incidental catch, or *bycatch*, is retained by the fishery and recorded through the dockside monitoring program. Recognizing bycatch is often unavoidable and with growing concerns about long-term sustainability of fisheries and ocean health, Canada signed on to the United Nations *Code of Conduct for Responsible Fisheries* in 1995, which called on signatories to adopt measures to minimize bycatch, and 'to the extent practicable, the development and use of selective, environmentally safe and cost effective fishing gear and techniques'.

Fishing gears and harvesting practices have evolved to improve the selectivity of fishing, and efforts have been made to maximize the potential for survival of catch that is returned to the water. Nevertheless, some amount of incidental fishing mortality remains. For this reason, bycatch in Canadian waters needs to be systematically addressed in all fisheries management plans. At the same time, increasing demand from markets for evidence that seafood comes from sustainable fisheries is bringing more attention to the management of bycatch in major fisheries.

Under the Sustainable Fisheries Framework, DFO has created the [Policy for Managing Bycatch](#). This policy is national and applies to commercial, recreational, and Indigenous fisheries managed or licensed by DFO under the *Fisheries Act*. This policy has two objectives. First, to ensure that Canadian fisheries are managed in a manner that supports the sustainable harvesting

of aquatic species and that minimizes the risk of fisheries causing serious or irreversible harm to bycatch species. Second, to account for total catch, including retained and non-retained bycatch. This policy will be implemented over time through Integrated Management Plans.

This policy does not apply to any catch that harvesters are licensed to direct for and that is retained. This includes any species that harvesters are licensed to direct for on a given trip regardless of whether or not they did so. This policy also does not apply to any catch that licence holders are authorized to direct for in catch-and-release fisheries. Also not covered by this policy is bycatch of corals, sponges, marine plants and other benthic organisms. These are considered to be better protected under habitat-related policies, which, in Canada, is the Policy for Managing the Impact of Fishing on Sensitive Benthic Areas. The management of the retained, targeted catch is guided by A Fishery Decision-Making Framework Incorporating the Precautionary Approach.

For each fishery, Conservation Harvesting Plans set out measures to reduce incidental catch of non-target species, including those listed under the *Species at Risk Act*. In many of the 2+3KLMNO groundfish fisheries, there is an incidental catch daily limit or trip limit, which if exceeded, may result in the fishery to close for a period of time. In addition, there are ongoing efforts to improve selectivity of fishing gear, to reduce the environmental impact of gear, and to maximize post-release rates of survival for released individuals.

Bycatch is monitored by DFO through dockside monitoring programs (by independent third-party), daily hails, logbooks, and at-sea observers (refer to Section 7). Coverage of at-sea observers is generally 5-10%, and there are challenges with logbook compliance; consequently a degree of uncertainty remains around the amount of discards.

4.2 Marine mammal interactions

Preventive, Mitigation and Response measures have been put in place to reduce marine mammal incidents. As of 2018, it is mandatory for all harvesters to report marine mammal incidents. Mandatory reporting of lost gear, sequential numbering of buoys and measures reducing the amount rope on the water surface, were also implemented in 2018. Gear marking for fixed gear was implemented in 2020. In February 2020, new gear modification measures to reduce harm to whales from entanglement were announced. The new gear modifications will result in a reduced likelihood of entanglements occurring, and mitigate duration and severity of entanglements that do occur. Gear modifications being considered are weak rope, sleeves and ropeless gear.

In addition, the Newfoundland and Labrador region has a contract with a marine mammal response group to respond to strandings, entanglements and entrapments.

4.3 Species at Risk

Several marine species are considered to be at risk within Canadian waters as a result of human activity. To prevent extinction and promote recovery of species considered to be extirpated, endangered, threatened or of special concern, the *Species at Risk Act* (SARA) and associated measures was adopted in 2002. This legislation includes prohibitions that protect endangered, threatened and extirpated species, their residences, and their critical habitats. There are requirements to develop and implement a recovery strategy, action plan, or management plans for any species listed under SARA. Fishing and other activities that may impact species protected under SARA can proceed through the use of permits or agreements under Section 73 and 74 or through exemptions under Section 83(4). The SARA public registry is available [online](#).

The following SARA-listed species occur in Newfoundland and Labrador waters:

- Northern Wolffish (*Anarhichas denticulatus*) – Threatened

- Spotted Wolffish (*Anarhichas minor*) – Threatened
- Atlantic Wolffish (*Anarhichas lupus*) – Special Concern
- White Shark (*Carcharodon carcharias*) – Endangered
- Leatherback Sea Turtle (*Dermochelys coriacea*) – Endangered
- Loggerhead Sea Turtle (*Caretta caretta*) – Endangered
- Beluga whale (*Delphinapterus leucas*) - Endangered
- Blue whale (*Balaenoptera musculus*) - Endangered
- Fin whale (*Balaenoptera physalus*) – Special Concern
- North Atlantic Right Whale (*Eubalaena glacialis*) – Endangered.
- Sowerby’s Beaked Whale (*Mesoplodon bidens*) – Special Concern
- Northern Bottlenose Whale (*Hyperoodon ampullatus*) – Endangered

In accordance with the recovery strategies for the northern wolffish (*Anarchichas denticulatus*), spotted wolffish (*Anarchichas minor*), leatherback sea turtle (*Dermochelys coriacea*), the licence holder is permitted to carry out commercial fishing activities authorized under the Fisheries Act that may incidentally kill, harm, harass, capture or take the northern wolffish and/or spotted wolffish as per subsection 83(4) of the Species at Risk Act, and the license holder is permitted to carry out commercial fishing activities authorized under the Fisheries Act that are known to incidentally capture leatherback sea turtles.

Having met the conditions of sections 73(2) to (6.1) of SARA for white shark, licence holders are permitted to carry out commercial fishing activities authorized under the Fisheries Act that may incidentally kill, harm, harass, or capture this species

Licence holders are required to return northern wolffish, spotted wolffish, leatherback sea turtle or white shark to the place from which it was taken, and where it is alive, in a manner that causes the least harm.

Licence holders are required to report in their logbook any interaction with northern wolffish, spotted wolffish, leatherback sea turtles or white shark.

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) in an independent advisory body to the Minister of Environment and Climate Change that meet twice annually to assess the status of species at risk of

extinction. There are several marine species which occur in Newfoundland and Labrador 2+3KLMNO waters that have been assessed as endangered, threatened or of special concern by COSEWIC, but which are not yet listed under SARA (refer to COSEWIC [website](#)). Should additional species be listed under SARA, there will be a need to address potential impacts to these new species. Industry will be consulted as required to develop any necessary strategies to mitigate these impacts.

4.4 Marine conservation initiatives

As of August 2021, the Government of Canada has formally protected 13.81% of Canada's marine and coastal areas. The Government of Canada has further committed domestically to protecting 25% by 2025, and working towards 30% by 2030.

To meet marine conservation targets, Canada is establishing Marine Protected Areas (MPAs) and "other effective area-based conservation measures" (OECMs), in consultation with industry, non-governmental organizations, and other interested parties. An overview of these tools, including a description of the role of fisheries management measures that qualify as Other Measures is available on the [DFO website](#).

A number of the marine conservation measures established to date around the Newfoundland and Labrador Region ([Figure 8](#)) were designed to benefit cod and other groundfish. The Gilbert Bay Marine Protected Area, in which all commercial fishing is prohibited, was established specifically to protect the unique sub-population of Northern Cod found in that area. The Funk Island Deep Closure and Hawke Channel Closure marine refuges specifically prohibit bottom trawl, gillnet, and longline fishing in order to protect habitat important to Atlantic cod. Marine refuges established through the Division 30 Coral Closure, Northeast Newfoundland Slope Closure, Hopedale Saddle Closure and the Hatton Basin Conservation Area prohibit all bottom-contact fishing activities to protect cold water corals and sponges. Commercial fishing is prohibited also in the Laurentian Channel, and Eastport Marine

Protected Areas. More information on these conservation measures can be found on the [DFO website](#). Other protected areas may be established in the future.

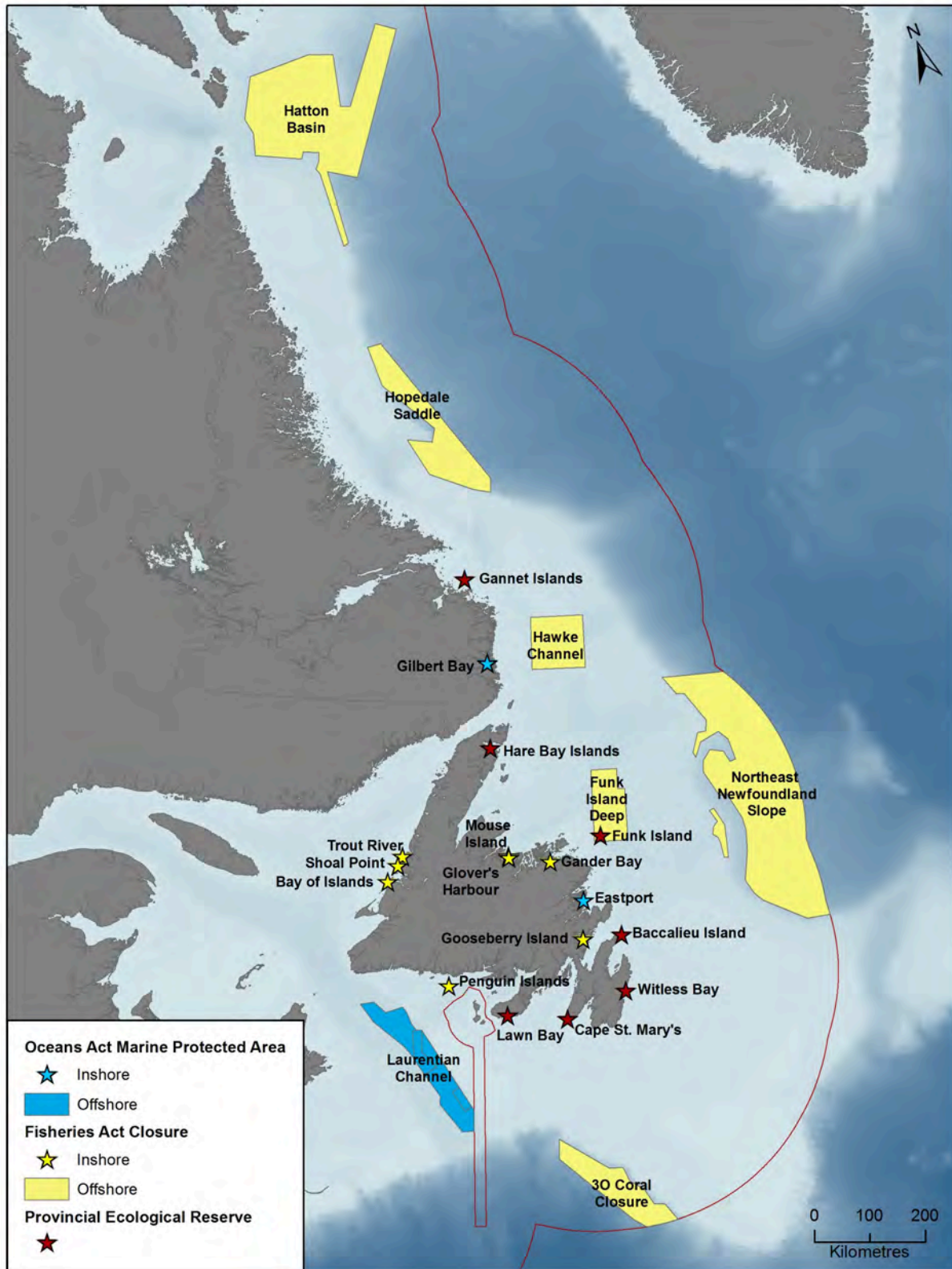


Figure 8: Map of Marine Conservation Areas in the Newfoundland & Labrador Region.

4.5 Habitat considerations

DFO seeks to conserve and protect fish habitat that supports Canada's fisheries resource through application of the fisheries protection provisions of the Fisheries Act. A key provision of the Fisheries Act is subsection 35 which prohibits the carrying on of a work, undertaking or activity that results in serious harm to fish that are part of or support a commercial, recreational or Indigenous fishery without an authorization from the Minister.

The Fisheries Protection Program provides advice to proponents to enable them to proactively avoid and mitigate the effects of projects on fish and fish habitat, undertakes the review of proposed works, undertakings and activities that may affect fish and fish habitat, and ensures compliance with the Fisheries Act and the Species at Risk Act by issuing authorizations and Letters of Advice, with conditions for offsetting, monitoring, and reporting. Information related to how and when DFO reviews projects near the water is available on The Projects Near the Water [webpage](#).

4.6 Aquatic Invasive Species (AIS)

Best practices to prevent the introduction and spread of AIS include:

- annual routine vessel maintenance (i.e. cleaning the hull and using anti-fouling paint to prevent bio-fouling)
- cleaning and airing dry gear and ropes to prevent movement between areas by gear
- avoiding transportation of large amounts of water from one location to another
- recognizing and reporting any AIS to DFO for early detection

More information and maps of aquatic invasive species in Newfoundland and Labrador can be found on the [Identify an Aquatic Invasive Species](#) section of the DFO website.

4.7 Catch monitoring

Catch monitoring is important to the overall management of fisheries, including quota monitoring and scientific assessment processes. Logbooks, dockside monitoring program, daily hauls, vessel monitoring systems (VMS), and at-sea observers are required in many 2+3KLMNO groundfish fisheries. Please refer to [Section 7](#) for further information on these specific management programs and tools.

4.8 Market access

There is a market demand for ensuring fisheries are compliant with the Precautionary Approach, as seafood retailers have become increasingly committed to selling only seafood that has been certified as sustainable. Some groundfish fisheries in 2+3KLMNO have been certified as sustainable by the Marine Stewardship Council (MSC), and industry has established several Fisheries Improvement Projects to move other fisheries in 2+3KLMNO towards meeting or exceeding the MSC standard. These initiatives have resulted in an increased focus on the development of PA-compliant frameworks, including the establishment of reference points and harvest control rules, which in turn is resulting in an increased demand for management and scientific capacity and capabilities.

Other market access challenges include the need for comparability measures to meet export requirements. The United States (US) is implementing the import provisions of the *[Marine Mammal Protection Act](#)* following court direction. The import rule requires countries exporting fish and fish products to the US to demonstrate that they have regulatory measures in place that are comparable in effectiveness to those of the US for reducing marine mammal incidental mortality and serious injury in commercial fisheries. Countries who fail to obtain such comparability measures to the US for their export fisheries by January 1, 2023, will be prohibited from entering the US market. Canada is currently working towards demonstrating appropriate measures are in place in all Canadian fisheries.

5. Objectives

DFO strives to manage groundfish stocks based on the principles of stock conservation and sustainable harvest, as well as ecosystem health and sustainability. The following objectives are used to guide the development of management measures that are designed to maximize the benefit of this resource for all stakeholders.

5.1 Stock conservation and sustainable harvest

Sustainable fisheries mean harvesting and farming fish stocks in a way that meets Canada's present needs without compromising the ability to meet future needs. Conservation and the long-term sustainability of groundfish stocks are important objectives for DFO. DFO will work with all stakeholders to ensure these objectives are achieved and that groundfish stocks support an economically viable and self-reliant fishery.

A successful model for sustainable fisheries management relies on five components, including: planning; making science-based decisions; managing environmental impacts; enforcing the rules; and monitoring results. More details on each of these components can be found on our website.

5.2 Ecosystem health and sustainability

The consideration of ecosystem health and sustainability is an essential component of groundfish fisheries management. The role of groundfish species in the food web, as well as the impact of fisheries on non-target species and habitat are examples of important considerations for the long-term health of the ecosystem. Ongoing ecosystem-based research and science advice helps to inform the sustainable management of groundfish stocks (refer to Section 2.2 for further information).

5.3 Stewardship

The shared stewardship management objective recognizes that industry participants and all stakeholders are an important component of fisheries management policy development and the decision-making process. It also recognizes that achievement of the conservation objective requires that governments, resource users and other stakeholders share responsibility for the implementation of fisheries management decisions and for their outcomes. The mandate of the 2+3KLMNO Groundfish Advisory Committee recognizes this objective and meets twice annually to provide recommendations to the Department in support of the development of management measures that address conservation and sustainable use of groundfish resources (refer to [Appendix 4](#) for further details about the committee).

5.4 Stock-specific objectives

In some instances, stock-specific objectives have been identified as part of rebuilding plans for the following stocks:

- 3LNO Yellowtail Flounder ([Appendix 2](#))
- 3NO Cod ([Appendix 3](#))
- 3LNO American plaice ([Appendix 4](#))
- 2+3KLMNO Greenland halibut ([Appendix 5](#))
- 2J3KL Atlantic cod ([Appendix 6](#))
- 3LN Redfish ([Appendix 7](#))

6. Access and allocation

The Minister can, for reasons of conservation or for any other valid reasons, modify access, allocations and sharing arrangements as outlined in this IFMP in accordance with the powers granted pursuant to the [Fisheries Act](#).

6.1 Quotas and allocations

Decisions on domestic stocks are taken in consultation with the Groundfish Advisory Committee and based on latest available science advice provided through the CSAS process (refer to [Section 2.4](#)). Information on the Total Allowable Catch (TAC) for stocks managed by Canada are available online on the Fisheries Management decisions section of the DFO [website](#).

Several straddling stocks within NAFO Subarea 2 and Division 3KLMNO are managed by the Northwest Atlantic Fisheries Organization (NAFO) (refer to [Section 1.6](#)). Decisions on NAFO-managed stocks are based on latest available science provided by Scientific Council (refer to [Section 2.4](#)), and decided upon by the Commission at the annual NAFO meeting in September. The annual TACs for stocks managed by NAFO are available [online](#).

When a total allowable catch (TAC) for Northern (2J3KL) cod is established, the first 115,000 t of directed Canadian access will be allocated to the inshore sector and Indigenous groups in Newfoundland and Labrador. At a TAC level less than or equal to 115,000 t, directed fishing activity will be limited to inshore harvesters and Indigenous groups in Newfoundland and Labrador. All other fleets, where no quota is allocated, will be limited to bycatch only.

TACs for 2018, 2019, 2020, 2021 and 2022 (where it has already been determined) for domestic groundfish stocks and NAFO managed stocks are found in [Section 7.1, Table 7](#).

6.2 Sharing arrangements

For stocks where NAFO establishes the TAC, a Quota Table that lists allocations for each Contracting Party is published annually on the [NAFO website](#). Canada's proportional share of the TAC for the respective NAFO-managed 2+3KLMNO groundfish stocks are shown in [Table 5](#).

Table 5: Canadian shares of NAFO-managed 2+3KLMNO groundfish stocks.

Species	Canadian share
3LNO American plaice	98.5%
3M American plaice	7.5%
3M Atlantic cod	0.8%
3NO Atlantic cod	47.68%
2+3K Greenland halibut^a	100.0%
3LMNO Greenland halibut	15.0%
3LN Redfish	42.6%
3M Redfish^b	2.5%
3O Redfish^c	30.0%
3LNO Skate	16.6%
3NO White hake	29.4%
3NO Witch	60.0%
3LNO Yellowtail	97.5%

Notes:

^a Canada is allocated the entire (100%) NAFO TAC for 2+3K Greenland halibut. France is then allocated 3% of the TAC under the *1994 Procès-Verbal Applying the March 27, 1972 Agreement Between Canada and France on their Mutual Fishing Relations (PV)* in respect of the French islands of St. Pierre and Miquelon.

^b For 3M redfish, the allocation for this stock is based on a quota of 20,000 t. However, the fishery is closed when the annual TAC is reached.

^c Canada is allocated 30.0% of the NAFO TAC for 3O redfish. France is then allocated 15% share of the total Canadian allocation amount under the *1994 Procès-Verbal Applying the March 27, 1972 Agreement Between Canada and France on their Mutual Fishing Relations (PV)* in respect of the French islands of St. Pierre and Miquelon.

The shares of the Canadian allocation per fleet are shown in [Table 6](#), for all domestic and NAFO stocks that are currently subject to a directed fishery, and where a TAC has been set.

Table 6: Canadian fleet sharing arrangement for commercial 2+3KLMNO groundfish stocks that are managed with a quota.

Species	Canadian Fleet Shares
3M Atlantic cod	100% allocation to Vessels Over 100' (competitive)
2+3K Greenland halibut	Fixed Gear <65': 51.118% Mobile Gear <65': 1.805% Fixed Gear 65-100': 6.477% Mobile Gear 65-100': 0.171% Offshore EA holders (>100'): 32.121% Scandinavian Long Liners (>100'): 4.928% Nunatsiavut Government Communal: 3.380%
3LMNO Greenland halibut	Fixed Gear <65': 59.421% Mobile Gear <65': 1.546% Fixed Gear 65-100': 2.609% Mobile Gear 65-100': 0.193% Vessels >100': 32.851% Nunatsiavut Government Communal: 3.380%
3LN Redfish	Fixed Gear <65': 3.010% Vessels over 100':96.990%
3M Redfish	Vessels over 100':100.000%
3O Redfish	Mobile Gear <100': 21.29% Vessels over 100':78.71%
3LNO Skate	Fixed Gear <35': 11.689% Fixed Gear 35-64': 32.489% Fixed Gear >65': 10.000% Mobile Gear (all fleet sectors): 45.822%

Species	Canadian Fleet Shares
3NO White hake	All vessels (directed competitive): 34.014% All vessels (bycatch): 65.986%
3NO Witch flounder	Mobile Gear 65-100' (competitive): 3.330% Vessels over 100':96.670%
3LNO Yellowtail	Vessels over 100':100.000%

6.3 Communal commercial fisheries

Indigenous fishing policy in Canada is guided by a vision of supporting healthy and prosperous Indigenous communities through: building and supporting strong, stable relationships; working in a way that upholds the honour of the Crown; and facilitating Indigenous participation in fisheries and aquaculture and associated economic opportunities.

As per the Principles respecting the Government of Canada's relationship with Indigenous peoples, the Government of Canada is committed to achieving reconciliation with Indigenous peoples through a renewed, nation-to-nation, government-to-government, and Inuit-Crown relationship based on recognition of rights, respect, co-operation, and partnership as the foundation for transformative change.

Fisheries and Oceans Canada supports the participation of adjacent Indigenous organizations in commercial fisheries. The Aboriginal Fisheries Strategy Program (AFS) is designed to encourage Indigenous involvement in commercial fisheries and related economic opportunities. The Allocation Transfer Program (ATP) component of the AFS was the primary instrument used to voluntarily retire licences from commercial harvesters and subsequently reissue them to Indigenous groups on a communal basis. This program was retired in 2018. The Northern Integrated Commercial Fisheries Initiative (NICFI) provides funding and supports development of Indigenous-owned communal commercial fishing enterprises and aquaculture operations. Indigenous groups also self-fund the acquisition of communal commercial fishing licences.

A subsequent program, Aboriginal Aquatic Resource and Oceans Management (AAROM) Program, was designed for Indigenous groups to collaboratively develop capacity and expertise to facilitate their participation in aquatic resource and oceans management.

All communal commercial fishing licences issued to Indigenous groups are done so under the authority of the Aboriginal Communal Fishing Licences Regulations and not the Fisheries Act.

As of December 2020, there were a total of thirty-seven (37) 2+3KLMNO groundfish communal commercial licences authorized in the Newfoundland and Labrador Region.

7. Management measures

7.1. Groundfish Total Allowable Catch (TAC)

Most commercial stocks are managed under a Total Allowable Catch or bycatch limit, however several stocks are currently under moratorium. The TACs or Canadian allocation (in the case of NAFO-managed stocks), are listed in Table 7, for 2018, 2019, 2020, 2021 and 2022 (where it has already been determined).

Table 7: Canadian total allowable catch (tonnes) for each 2+3KLMNO groundfish stock (2018-2022).

Species/Fishery	2018 TAC (t)	2019 TAC (t)	2020 TAC (t)	2021 TAC (t)	2022 TAC (t)
2+3K American plaice	Under moratorium	Under moratorium	Under moratorium	Under moratorium	Under moratorium
3LNO American plaice (NAFO)	Under moratorium	Under moratorium	Under moratorium	Under moratorium	Under moratorium
3M American plaice (NAFO)	Under moratorium	Under moratorium	Under moratorium	Under moratorium	Under moratorium

Species/Fishery	2018 TAC (t)	2019 TAC (t)	2020 TAC (t)	2021 TAC (t)	2022 TAC (t)
2GH Atlantic cod	Under moratorium	Under moratorium	Under moratorium	Under moratorium	Under moratorium
2J3KL Atlantic cod	Moratorium; inshore stewardship fishery	Moratorium; inshore stewardship fishery	Moratorium; inshore stewardship fishery	Moratorium; inshore stewardship fishery	TBD
3M Atlantic cod (NAFO)	89,160	140	68	12	32
3NO Atlantic cod (NAFO)	Under moratorium	Under moratorium	Under moratorium	Under moratorium	Under moratorium
2+3K Greenland halibut (NAFO)^a	4,273	4,151	4,384	4,111	4,109
3LMNO Greenland halibut (NAFO)	1,833.9	1,836	1,881	1,884	1,763
2+3 Grenadier	Under moratorium	Under moratorium	Under moratorium	Under moratorium	Under moratorium
3LNO Haddock	Under moratorium	Under moratorium	Under moratorium	Under moratorium	Under moratorium
2GHJ Lumpfish	No TAC is set for this fishery				
3KL Lumpfish	No TAC is set for this fishery				
3LNO Monkfish	No TAC is set for this fishery				
2+3K Redfish	Under moratorium	Under moratorium	Under moratorium	Under moratorium	Under moratorium
3LN Redfish (NAFO)	6,049	7,710	7,710	7,710	7,710
3M Redfish (NAFO)	500	500	500	500	500

Species/Fishery	2018 TAC (t)	2019 TAC (t)	2020 TAC (t)	2021 TAC (t)	2022 TAC (t)
3O Redfish (NAFO)^b	6,000	6,000	6,000	6,000	6,000
3LNO Thorny skate (NAFO)	1,167	1,167	1,167	1,167	1,167
3NO White hake (NAFO)	294	294	294	294	294
3KL Winter flounder	No TAC is set for this fishery				
2J3KL Witch flounder	Under moratorium	Under moratorium	Under moratorium	Under moratorium	
3NO Witch flounder (NAFO)	669.6	705	705	705	705
3LNO Yellowtail flounder (NAFO)	16,575	16,575	16,575	16,575	19,500

Notes:

^a Canada is allocated the entire (100%) NAFO TAC for 2+3K Greenland halibut. France is then allocated 3% of the TAC under the *1994 Procès-Verbal Applying the March 27, 1972 Agreement Between Canada and France on their Mutual Fishing Relations (PV)* in respect of the French islands of St. Pierre and Miquelon.

^b Canada is allocated 30.0% of the NAFO TAC for 3O redfish. France is then allocated 15% share of the total Canadian allocation amount under the *1994 Procès-Verbal Applying the March 27, 1972 Agreement Between Canada and France on their Mutual Fishing Relations (PV)* in respect of the French islands of St. Pierre and Miquelon.

7.2. Fishing seasons

There are a number of factors DFO takes into consideration when establishing the season for the groundfish fishery, including:

- fish harvester safety (refer to [Appendix 9 – Safety at Sea](#))
- conservation
- markets
- presence of small fish / by-catch
- provide for an orderly harvest

Season dates are regularly discussed in detail as part of the industry consultation process. Season dates are generally established on a fleet-by-fleet basis, and input from stakeholders is a key consideration.

Fishery openings and closings are communicated through DFO's Notice to Fish Harvesters system. Fishery opening and closing dates/times may be adjusted due to weather conditions. To the extent practicable, these decisions are taken in consultation with industry. Openings will occur at 0600 hours whenever possible in the interest of safety at sea.

7.3. Licensing

The Newfoundland and Labrador [Fisheries Licensing Policy](#) provides details on the various licensing policies that govern the commercial fishing industry in Newfoundland and Labrador Region. The policy was developed to provide fish harvesters, Indigenous Organizations, and the Canadian public with a clear and consistent statement regarding the DFO policy respecting commercial fishing enterprises, the registration of vessels, and the issuance of recreational and commercial fishing licences in the Newfoundland and Labrador Region. The policy is updated on an ongoing basis. It is further supplemented by various complementary policies:

- The *Commercial fisheries licensing policy for Eastern Canada – 1996*, which is found [online](#).
- The Policy on Issuing Licences to Companies, which is found [online](#)

On December 9, 2020, the Government of Canada published amendments to the Atlantic Fishery Regulations, 1985 and the Maritime Provinces Fishery Regulations in Canada Gazette, Part II, some of which came into force on April 1, 2021. These amendments replaced the *Preserving the Independence of the Inshore Fleet in Canada's Atlantic Fishery* policy (PIIFCAF). The PIIFCAF was discontinued as of March 31, 2021.

The amended regulations prohibit licence holders from transferring the use and control of the rights and privileges conferred under the licence to any third party; restrict the issuance of inshore licences to licence holders who have not transferred use or control of the rights and privileges conferred under the licence; and, prohibit anyone other than the licence holder from using and controlling the rights and privileges associated with a licence.

The NL Regional Licensing policy sets out requirements and eligibility criteria established by the Minister of Fisheries, Oceans and the Canadian Coast Guard with respect to the licensing of commercial fishing and Communal Commercial fishing in the Newfoundland and Labrador Region. Communal Commercial Licences issued to Indigenous Organizations are managed under the authority of the *Aboriginal Communal Fishing Licences Regulations*. The Minister retains complete discretion to make an exception to these provisions.

This policy is built on the following principles, as outlined in the Commercial Fisheries Licensing Policy for Eastern Canada – 1996 (CFLP):

- Be consistent with DFO's core mandate,
- Achieve a balance between capacity and the resource,
- Encourage environmentally sustainable harvesting,
- Foster greater economic viability of the fishery sector,
- Facilitate industry self-reliance,
- Develop a greater degree of partnership with a professional group of harvesters,
- Streamline administration of licensing.

Fisheries and Oceans Canada (DFO) Resource Management and Indigenous Fisheries should be consulted for all purposes of interpreting and applying licensing policies. Participants in the Newfoundland and Labrador Region commercial fisheries who are not satisfied with licensing decisions made by DFO have the opportunity to request a licensing appeal.

Reasons for requesting a licensing decision appeal must relate to:

- an incorrect application of licensing policies;
- extenuating circumstances; or,
- a change in policy.

Licences for harvesting groundfish are issued through the National Online Licensing System (NOLS). The licence outlines the specific licence conditions under which the harvester is permitted to fish, including fishing area, season dates, fishing restrictions, gear type specifications, and harvest limits. The NOLS system is also used for paying licence fees, renewing vessel registration, submitting licence requests such as vessel transfers, and printing licences and licence conditions.

7.4. Dockside monitoring program

The Dockside Monitoring Program (DMP) provides independent third party verification of fish landings. The program supports fisheries management by providing accurate and timely harvest data, including the weight and species landed. All groundfish landings in 2+3KLMNO are subject to DMP, with the exception of lumpfish. However, all groundfish taken as bycatch in the lumpfish fishery is subject to DMP.

It is the responsibility of licence holders to ensure their catch is monitored by a DFO certified dockside monitoring company. Specific procedures for the monitoring of catch weights at dockside have been developed through consultation with industry and Dockside Monitoring Program (DMP) companies. DFO's accepted method of verification of landings at dockside is a direct weight-out using certified weight scales. The cost for this monitoring is the responsibility of the fishing industry.

7.5. Logbooks

Completing a logbook is mandatory under Section 61 of the Fisheries Act. Fish harvesters are required to record information about fishing catch and effort, and submit this data as specified in the conditions of licence. Fish harvesters are responsible for obtaining their own *logbook*. Information that should be in the logbook includes:

- location
- date
- time
- sets
- gear type
- weight of fish caught
- bycatch
- interactions with Species at Risk
- interactions with marine mammals

Include information on anything else which may be useful to fish harvesters or DFO. Note that marine mammal mitigation measures are now mandatory and fish harvesters must report all interactions. Logbooks can be purchased from one of the Department's prequalified logbook suppliers. Failure to submit a logbook may result in enforcement action.

7.6. At-sea observer program

The At-Sea Observer Program provides independent third party verification of fish harvesting activities. Observers are assigned to fishing vessels operating in the offshore, inshore and near-shore areas. The program provides accurate and timely information on fish harvests. It also provides scientific catch and sampling data. The fishing industry and the department use this information for fisheries management and scientific research purposes.

Commercial groundfish harvesters who are required to use at-sea observers as a condition of licence, make agreements with service providers qualified by the Canadian General Standards Board and designated by Fisheries and

7.7. Vessel monitoring system

The National Vessel Monitoring System (VMS) is a satellite-based, positional tracking system used to monitor the location of vessels and their movement. The data is received in near real-time and contributes to improved compliance with fisheries regulations (refer to Section 9.2), safety at sea, science, and marine security. Licence conditions specify requirements for carrying a DFO approved VMS unit on fishing vessels. The VMS monitoring requirement applies to all vessels fishing groundfish in Canadian waters of 2+3KLMNO, except vessels that are in the less than 10.668m (35ft) in Length Overall category. All groundfish vessels fishing in the NAFO Regulatory Area outside Canada's 200 mile limit are required to have a VMS device onboard that transmits positional information on an hourly basis, in addition to its course and speed.

7.8. Hails

Fish harvesters fishing groundfish in 2+3KLMNO who are at sea in excess of 24 hours duration, and/or are landing in ports outside the Newfoundland and Labrador Region, have hail-in and hail-out requirements as specified in licence conditions. Harvesters are required to report the round weight of all species caught on a daily basis as described in Schedule 16. The hail report shall be sent to DFO by phone, fax or e-mail as outlined in the groundfish general licence conditions, regardless of whether or not there has been fishing activity.

7.9. Area closures

Areas restricted to fishing are specified in licence conditions. There are a number of areas in 2+3KLMNO where fishing is prohibited or restricted. Please refer to Section 4.4 for specific information on marine conservation closures.

7.10. Small fish and incidental catch protocols

There are protocols in place in order to ensure that the incidence of capturing undersized fish and bycatch are minimized. Protocols for small fish are based on a percentage limit for the capture of fish smaller than the given minimum legal size, specified in licence conditions and Conservation Harvesting Plans. The incidental catch protocols are based on established daily limits in weight of the bycatch or as a percentage of the total catch. Exceeding the limit may result in the closure of a fishery. Refer to [Section 4.1](#) for further information on efforts to reduce bycatch.

7.11. Gear restrictions

There are several measures in place that specify the required configuration of gear (for example mesh size or hook size) and the amount of gear permitted (number of nets, hooks). These measures are identified in the corresponding CHP for each directed fishery, and/or the licence conditions. A few examples of general gear restrictions follow:

- All fishing gear must be returned to port with the vessel at the end of the fishing trip.
- For all fixed gear fisheries, each gillnet must have a valid tag, issued under the authority of the Minister, securely attached to the head-rope or footrope of the net. Gillnets shall not exceed 50 fathoms in length.
- Occurrences of lost gillnets must be recorded in the fishing logbook and reported to nearest DFO office. Every reasonable effort should be made to retrieve any lost nets.

7.12. Quota reconciliation

In fisheries where it is applied, quota reconciliation is a process of automatically deducting inadvertent quota overruns on a one-for-one basis from one year to the next. The accounting will result in a quantity of fish equal to the quantity of the overrun being taken off the allocation (i.e., not allocated) of the respective licence holder and/or fleet before the next fishing season starts.

Quota reconciliation is not a penalty or sanction for over-fishing. Rather, it is simply an accounting of overruns to support conservation of the resource and ensure that removals respect established quotas over time.

8. Shared stewardship arrangements

DFO officials work closely with the harvesting and processing sectors in all aspects of fisheries management, science, and conservation and protection.

8.1 Oceans management initiatives promoting shared stewardship

DFO is leading initiatives in integrated oceans management, including MPA network planning within the Newfoundland and Labrador Shelves and Estuary, and Gulf of St. Lawrence Bioregions. This provides a collaborative governance model founded on principles of shared responsibility. As a result, stewardship is promoted by providing a forum for consultation with stakeholders who want to be engaged in marine resource or activity management decisions that affect them.

Aligning integrated oceans management with fisheries management plans will support evidence-based resource use and fisheries management decisions. These decisions will be made with input from multiple interests, including commercial fisheries and other stakeholder groups.

9. Compliance plan

9.1 Conservation and Protection program description

The deployment of Conservation and Protection (C&P) resources in the fishery is conducted in accordance with management plan objectives, as well as in response to emerging issues. The mix of enforcement options available and over-riding conservation objectives determine the level and type of enforcement activity.

Work plans at the regional, area and detachment levels are designed to establish priorities based on management objectives and conservation concerns. The monitoring and evaluation elements of enforcement work plans facilitate in-season adjustments should conservation concerns and/or significant occurrences of non-compliance emerge.

9.2 Compliance performance

The Conservation and Protection program promotes and maintains compliance with legislation, regulations and management measures implemented to achieve the conservation and sustainable use of Canada's aquatic resources, and the protection of species at risk, fish habitat and oceans.

The program is delivered through a balanced regulatory management and enforcement approach. Specifically:

- promotion of compliance through education and shared stewardship
- monitoring, control and surveillance activities
- management of major cases and special investigations in relation to complex compliance issues
- and use of intelligence data supplied through the National Fisheries Intelligence Service

Pillar 1: Education and shared stewardship

Fishery officers who work within C&P actively participate in consultation processes with the fishing industry and Indigenous groups to address compliance issues. Informal meetings with stakeholders also occur on an ad-hoc basis to resolve in-season matters, in addition to regular interaction with fish harvesters. The consultative process may include C&P membership on area integrated management planning committees, which are comprised of fish harvesters, representatives from the provincial and federal governments, and other community groups with an interest in fishery conservation issues.

Fishery officers also visit local schools and educational institutions to present and discuss fisheries conservation issues and use this information as part of the C&P planning process.

Pillar 2: Monitoring, control and surveillance

Compliance monitoring

C&P promotes compliance with management measures governing the fishery through:

- routine patrols
- dockside inspections
- at-sea inspections
- aerial surveillance
- Vessel Monitoring System (VMS) review
- at-sea observer deployments
- National Fisheries Intelligence Service (NFIS)

Patrols by vehicle, vessel and fixed-wing aircraft are conducted in accordance with operational plans which are developed based on available intelligence.

Each C&P detachment ensures that monitoring and inspections of fish landing activity are carried out on a routine basis. Where a vessel is selected for comprehensive inspection, C&P ensures that catch composition, weight verification and size variation sampling is conducted. C&P also ensures that surveillance flights are conducted on a routine basis.

VMS is a requirement for certain fleets, and provides real-time data on the location of vessels. C&P uses this resource to help determine where the enterprise is fishing, the port of destination and the estimated time of arrival to port. VMS data will also be relied upon for future analysis and comparisons of fishing activity.

At-sea observers are randomly deployed to observe, record and report aspects of the fishing activity. The resulting data is used to compare catch composition of vessels on observed trips vs. non-observed trips. C&P also

reviews quota monitoring reports to ensure individual quotas are not exceeded.

C&P supplies best-known available local information to the National Fisheries Intelligence service for processing and uses this intelligence to combat all types of illegal fishing activity.

Compliance performance

C&P conducts post-season analysis sessions to review issues encountered during the previous season and to make recommendations on improving management measures. The initial sessions are conducted at the area level, followed by a regional session with other DFO sectors.

Pillar 3: Major case

C&P recognizes the need to focus attention on high-risk illegal activities that pose significant threat to the achievement of conservation objectives, which usually cannot be addressed through education or routine monitoring. Some individuals, usually motivated by financial gain, persist through various complex and well-coordinated means in hiding illegal activities which put Canada's aquatic resources at risk.

C&P will focus on high-risk illegal activities that pose significant conservation threats. Detailed analysis of licence holders and possibly companies will be completed using:

- fishery profiling
- targeting of high-risk violators
- conducting forensic investigations
- accessing the resources of the National Fisheries Intelligence Service

Targeting of high risk violators and / or processing facilities will be also be a primary focus should intelligence gathered warrant such action. Any resulting operations will be conducted in conjunction with NFIS staff, additional field staff and area resources as required.

9.3 Compliance priorities

Compliance considerations in groundfish fisheries include:

- fishing gear requirements
- quota overruns
- high grading
- unmonitored landings
- fishing during closure
- monitoring of activity in the newly established Marine Refuge areas.

Verifying accurate reporting of all groundfish fishing activities will be a primary focus of C&P efforts for the duration of this IFMP.

C&P will focus enforcement effort on the detection of unmonitored landings.

9.4 Compliance strategy

C&P has developed an operational plan that outlines monitoring and compliance activities that will be carried out by C&P personnel adjacent to the 2+3KLMNO management areas. The plan provides guidance for C&P, promotes effective monitoring of the fishery, and enables C&P personnel to effectively maintain compliance with management measures governing this fishery. The objective of the plan is to collect information for ensuring compliance and conducting investigations.

The objective is to collect information for ensuring compliance and conducting investigations. Sources of information used by C&P include:

- NFIS
- vessel positioning data
- officer inspection data
- fishing logs
- dockside monitoring program records
- at-sea observer records
- purchase transactions

10. Performance review

A review of the short-term and long-term objectives is an integral part of assessing the performance of groundfish fisheries. During the regional assessment process on the status of the stock, DFO Science may consider the applicable objectives in providing its advice. For fisheries management, the advisory meeting with industry is a formal setting to review both short and long-term objectives. In addition to these formal reviews, DFO officials and industry representatives have an on-going dialogue on the fishery on a year-round basis. These informal discussions provide opportunities to review objectives and identify issues for discussion at the advisory meetings.

DFO Newfoundland and Labrador region completes an annual internal post-season review with participation from Resource Management, Conservation and Protection, and Science staff. Regional headquarters and area-based staff participate in this process to identify local, area and regional fishery performance issues.

The Performance Review outlines the activities and controls that are used in achieving fisheries management objectives. [Table 8](#) identifies the specific strategies that are used to achieve fisheries management objectives.

Table 8: Measurable Objectives/Activities and Fisheries Management Strategies

Objectives	Fisheries management strategies
Conservation and sustainable harvest	
To conserve the groundfish resource to provide commercial sustainability to fish harvesters	<ul style="list-style-type: none">• Fishing season• Total Allowable Catch• Quota monitoring• Gear limits/restrictions

Objectives	Fisheries management strategies
Conservation and sustainable harvest	
To mitigate the impacts on other species, habitat and the ecosystem where groundfish fishing occurs, protecting biodiversity and ecosystem structure and function	<ul style="list-style-type: none"> • Mandatory reporting of lost gear • Bycatch limits • Gear limits/restrictions • <u>Species at Risk Act</u> • Area closures
To promote the development of sustainable fishing practices	<ul style="list-style-type: none"> • Small fish protocols
To employ effective monitoring and surveillance tools and mechanisms that ensure compliance with conservation measures and provide scientists with appropriate information and basic data required to manage the groundfish fishery	<ul style="list-style-type: none"> • Accurate completion of logbooks • Reliable dockside monitoring program • Adequate level of at-sea observer coverage, both spatial and temporal • Adherence to electronic vessel monitoring system (VMS) requirements
Benefits to stakeholders	
To promote the continued development of a commercially viable and self-sustaining fishery	<ul style="list-style-type: none"> • Access and allocation formulas are identified in the IFMP • Opportunities for additional access are addressed through the Allocation Transfer Program
To provide fish harvesters with increased opportunity to develop long-term business stability	<ul style="list-style-type: none"> • Multi-year decisions • Evergreen management plans

Objectives	Fisheries management strategies
Conservation and sustainable harvest	
To promote a co-management approach, providing stakeholders with an effective sharing of responsibility, accountability and decision making, within the constraints of the <u>Fisheries Act</u>	<ul style="list-style-type: none"> • Establish an effective consultative process for stakeholders to participate in the decision-making process • Organize and participate in annual advisory meetings

Fisheries and Oceans Canada (DFO) measures the performance of the fisheries that it manages through the Sustainability Survey for Fisheries (SFF). The survey is published every year and currently includes 170 fish stocks, with more added each year. The fish stocks were selected because of their economic or cultural importance; they represent the majority of total catch of fisheries managed by DFO.

The Sustainability Survey for Fisheries reports on the status of each fish stock and DFO's progress to implement its Sustainable Fisheries Framework policies, a set of national policies to guide the sustainable management of Canada's fisheries.

11. Glossary of terms

Abundance: number of individuals in a stock or a population.

Age Composition: proportion of individuals of different ages in a stock or in the catches.

Area/Subarea: an area defined by the Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries by NAFO, and as described in the Atlantic Fishery Regulations, 1985.

Biomass: total weight of all individuals in a stock or a population.

Bioregion: a biogeographic division of Canada's marine waters out to the edge of the Exclusive Economic Zone, and including the Great Lakes, based on attributes such as bathymetry, influence of freshwater inflows, distribution of multi-year ice, and species distribution. Canada's marine protected areas network is being advanced in five priority marine bioregions: the Gulf of St. Lawrence, the Scotian Shelf, the Newfoundland-Labrador Shelves, the Western Arctic, and the Northern Shelf.

Bycatch: the unintentional catch of one species when the target is another species.

Catch per Unit Effort (CPUE): the amount caught for a given fishing effort, e.g. tonnes of fish per hundred longline hooks.

Conservation Harvesting Plan (CHP): An annual plan submitted by each fleet and approved by the department that includes management measures to ensure fleet's do not exceed their quotas, minimize bycatch, encourage economic prosperity and enhance scientific information.

Committee on the Status of Endangered Wildlife in Canada (COSEWIC): committee of experts who assess and designate which wild species are in some danger of disappearing from Canada.

Communal Commercial Licence: licence issued to Aboriginal organizations pursuant to the *Aboriginal Communal Fishing Licences Regulations* for participation in the general commercial fishery.

Discards: portion of a catch thrown back into the water after it is caught in fishing gear.

Dockside Monitoring Program (DMP): A monitoring program conducted by a company that has been designated by DFO to verify the species composition and landed weight of all fish landed from a commercial fishing vessel.

Ecosystem-Based Management: taking into account species interactions and the interdependencies between species and their habitats when making resource management decisions.

Fishing Effort: quantity of effort using a given fishing gear over a given period of time.

Fishing Mortality: death caused by fishing, often symbolized by the mathematical symbol F .

Fixed Gear: a type of fishing gear that is set in a stationary position. This includes traps, weirs, gillnets, longlines, handlines, bar/beach seines and modified bar seines (known as tuck seines).

Food, Social and Ceremonial (FSC): a fishery conducted by Aboriginal groups for food, social and ceremonial purposes.

Gillnet: fishing gear: netting with weights on the bottom and floats at the top used to catch fish. Gillnets can be set at different depths and are anchored to the seabed.

Groundfish: species of fish living near the bottom such as cod, haddock, halibut and flatfish.

Handlining: fishing using a line with usually one baited hook and moving it up and down in a series of short movements; also called "jigging".

Landings: quantity of a species caught and landed.

Longlining: using long lines with a series of baited hooks to catch fish.

Maximum Sustainable Yield: largest average catch that can continuously be taken from a stock.

Mesh Size: size of the mesh of a net. Different fisheries have different minimum mesh size regulations.

Mobile Gear: any type of fishing gear that is drawn through the water by a vessel to entrap fish, including purse seines.

Natural Mortality: mortality due to natural causes, represented by the mathematical symbol M .

Observer Coverage: carrying a certified at-sea observer onboard a fishing vessel for a specific period of time to verify the amount of fish caught, the area in which it was caught and the method by which it was caught.

Population: group of individuals of the same species, forming a breeding unit, and sharing a habitat.

Precautionary Approach: set of agreed cost-effective measures and actions, including future courses of action, which ensures prudent foresight, reduces or avoids risk to the resource, the environment, and the people, to the extent possible, taking explicitly into account existing uncertainties and the potential consequences of being wrong.

Quota: portion of the Total Allowable Catch that a fleet, vessel class, association, country, etc. is permitted to take from a stock in a given period of time.

Recruitment: the number of individuals growing large enough to become part of the exploitable stock e.g. that can be caught in a fishery.

Research Survey: survey at sea, on a research vessel, allowing scientists to obtain information on the abundance and distribution of various species and/or collect oceanographic data (e.g., bottom trawl survey, plankton survey, hydroacoustic survey, etc.).

Species at Risk Act (SARA): a federal law enabling the Government to take action to prevent wildlife species from becoming extinct and secure the necessary actions for their recovery. It provides the legal protection of wildlife species and the conservation of their biological diversity.

Spawner: sexually mature individual.

Spawning Stock: sexually mature individuals in a stock.

Stock: a population of individuals of one species found in a particular area, and used as a unit for fisheries management, e.g. NAFO area 4R Herring.

Stock Assessment: scientific evaluation of the status of a fish stock within a particular area in a given time period.

Total Allowable Catch (TAC): the amount of catch that may be taken from a stock.

Traditional Ecological Knowledge: a cumulative body of knowledge and beliefs, handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment.

Tonne: metric tonne, 1000kg or 2204.6 lbs.

Trawl: fishing gear; a cone-shaped net towed in the water by a boat called a "trawler". Bottom trawls are towed along the ocean floor to catch species such as groundfish, while mid-water trawls are towed through the water column.

Validation: the verification by an observer of the weight of fish landed.

Vessel Size: length overall.

Year-class: individuals of a same stock born in a particular year, also called "cohort".

Appendix 1: Conservation harvesting plans

Conservation Harvesting Plans (CHP) that cover 2+3KLMNO groundfish outline management measures such as season dates, authorized gear, gear restrictions, minimum size, incidental catch limitations, and area closures (refer to [Section 7.0](#) for further information), and are considered relatively stable. The following CHPs are available from DFO upon request (refer to [Appendix 11 – Departmental contacts](#)) and include detailed and specific measures for groundfish covered by this IFMP. Specifically:

- 2J3KL Stewardship cod
- 3KL Winter flounder (blackback)
- 2+3K Greenland halibut (turbot), less than 65
- 3LMNO Greenland halibut (turbot), less than 65
- Atlantic-wide licence holders for vessels, mobile gear 65-100'
- Atlantic-wide licence holders for vessels, fixed gear 65-100'
- Newfoundland and Labrador Mobile gear less than 65'
- 2J3KLP4R Newfoundland lumpfish

- 3NO Skate, Monk and Hake, fixed gear
- 3Pn and 4R Western, fixed and mobile gear less than 90'

CHPs can be found on the DFO [Fishery Management Decisions](#) website under groundfish.

An overview of stock-specific measures for 2+3KLMNO groundfish are outlined below in [Table 9](#). Please note that the table does not include any stocks currently under moratorium, and that measures are subject to change.

Table 9: General fishery characteristics for various 2+3KLMNO groundfish fishery as outlined in Conservation Harvesting Plans.

Species	NAFO division	Fleet/Gear type	Season	Key management measures
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Species	NAFO division	Fleet/Gear type	Season	Key management measures
Atlantic cod	2J3KL	Stewardship cod: only vessels less than 89 feet permitted. Authorized gear: <ul style="list-style-type: none"> • Gillnet • Longline • Handline • Cod pot 	Season dates can vary. In 2021, season dates as per the CHP: 2J: August 1 to October 30 3KL: July 25 to October 30	<ul style="list-style-type: none"> • Weekly catch limitations. • 3KL Fall-only and 2J Period 2 fishery option to promote the distribution of catch throughout the season. • Restrictions on number of gillnets permitted onboard the vessel or in the water, and on number of hooks for longlining. • Minimum size (length of fish) specified. • CHP available <u>online</u>.

Species	NAFO division	Fleet/Gear type	Season	Key management measures
Atlantic cod	3M	Vessels greater than 100 feet. Authorized gear: <ul style="list-style-type: none"> • Otter trawl • Longline 	Jan 1-Dec 31 (subject to identified closure provisions).	<ul style="list-style-type: none"> • Minimum mesh size on otter trawl is specified. • Minimum gape size on hook on longline is specified. • Minimum fish size specified.
Greenland halibut	2+3K; 3LMNO	Vessels greater than 100 feet, Authorized gear: <ul style="list-style-type: none"> • Otter trawl • Longline 	Jan 1-Dec 31	<ul style="list-style-type: none"> • Minimum mesh size on otter trawl is specified. • Minimum gape size of hook on longline is specified. • Minimum fish size specified.
Greenland halibut	2+3K; 3LMNO	Vessels 65 to 100 feet, mobile gear. Authorized gear: <ul style="list-style-type: none"> • Otter trawl 	Jan 1-Dec 31	<ul style="list-style-type: none"> • Minimum mesh size on otter trawl is specified. • Minimum fish size specified. • CHP available <u>online</u>

Species	NAFO division	Fleet/Gear type	Season	Key management measures
Greenland halibut	2+3K; 3LMNO	Vessels 65 to 100 feet, fixed gear. Authorized gear: <ul style="list-style-type: none"> • Gillnet • Longline 	Jan 1-Dec 31	<ul style="list-style-type: none"> • Minimum mesh size for gillnet is specified. • Gape size of hook on longline is specified. • Maximum number of gillnets is specified. • Depth restrictions in place. • CHP available <u>online</u>
Greenland halibut	2+3K; 3LMNO	Vessels less than 65 feet, fixed gear. Authorized gear: <ul style="list-style-type: none"> • Otter Trawl 	Season dates can vary and are determined annually. CHP recommends opening date of March 1.	<ul style="list-style-type: none"> • Quota allocated according to random draw of eligible fishers. • Minimum mesh size on otter trawl is specified. • Depth restrictions in place • CHP available <u>online</u>

Species	NAFO division	Fleet/Gear type	Season	Key management measures
Greenland halibut	2+3K; 3LMNO	<p>Vessels less than 65 feet, fixed gear.</p> <p>Authorized gear:</p> <ul style="list-style-type: none"> • Gillnets • Longlines 	<p>Season dates can vary and are determined annually, following consultation with industry.</p> <p>Opening date typically occurs in June.</p>	<ul style="list-style-type: none"> • Maximum catch limit is specified. Multiple trips to harvest the permit will be allowed, however all gear must be removed from the water when returning to port. • The portion of the quota that is not harvested under the initial permit will be subject to a draw. • Number of gillnets permitted is specified. • Minimum mesh size is specified by NAFO Division. • Water depth restrictions in place when using longlines. • Longlining and gillnetting are not both

Species	NAFO division	Fleet/Gear type	Season	Key management measures
				permitted on the same fishing trip. <ul style="list-style-type: none">• CHP available <u>online</u>

Species	NAFO division	Fleet/Gear type	Season	Key management measures
Lumpfish	2GHJ and 3KL	<p>Vessels less than 65 feet, fixed gear.</p> <p>Authorized gear:</p> <ul style="list-style-type: none"> • Gillnets 	<p>Season dates vary annually and are determined following consultations with industry.</p> <p>Opening dates vary by fishing area, and typically occur in May and June.</p>	<ul style="list-style-type: none"> • Minimum mesh size is specified for gillnets. • Maximum number of gillnets is specified. • Depth restrictions for fishing lumpfish are in place, and fishing is only permitted in specified coastal areas (refer to licence conditions). • Harvesters are restricted to the Lumpfish area of their homeport. Harvesters who elect to fish an alternate area, must contact DFO prior to the season opening and submit a completed Schedule 14. • Lumpfish landings are not subject to

Species	NAFO division	Fleet/Gear type	Season	Key management measures
				<p>dockside monitoring, but 100% of groundfish bycatch landed in the lumpfish directed fishery are subject to DMP.</p> <ul style="list-style-type: none"> • CHP available online
Monkfish	3LNO	<p>Vessels less than 65 feet, fixed gear.</p> <p>Authorized gear:</p> <ul style="list-style-type: none"> • Gillnets • Longline 	<p>Season dates vary. Opening date is set in consultation with industry.</p>	<ul style="list-style-type: none"> • Trip limits and harvest cap specified. • Minimum mesh size is specified for gillnets. • Maximum number of gillnets is specified. • Gillnets and longline may not both be fished during the same fishing trip, unless an at-sea observer is onboard. • CHP available online

Species	NAFO division	Fleet/Gear type	Season	Key management measures
Redfish	3LN	Vessels greater than 100 feet, mobile gear. Authorized gear: <ul style="list-style-type: none"> • Otter trawl 	Jan 1-Dec 31	<ul style="list-style-type: none"> • Minimum mesh size on otter trawl specified. • Minimum fish size specified.
Redfish	3M	Vessels greater than 100 feet, mobile. Authorized gear: <ul style="list-style-type: none"> • Otter trawl 	Jan 1-Dec 31	<ul style="list-style-type: none"> • Minimum mesh size on otter trawl: 130 mm. • Minimum fish size specified.
Redfish	3O	Vessels greater than 100 feet, mobile gear; Authorized gear: <ul style="list-style-type: none"> • Otter trawl 	Jan 1-Dec 31	<ul style="list-style-type: none"> • Minimum mesh size on otter trawl specified. • Minimum fish size specified. • CHP available <u>online</u>

Species	NAFO division	Fleet/Gear type	Season	Key management measures
Skate	3LNO	Vessels greater than 100 feet, mobile or longline gear Authorized gear: <ul style="list-style-type: none"> • Otter trawl • Longline 	Jan 1-Dec 31	<ul style="list-style-type: none"> • Minimum mesh size on otter trawl specified. • Minimum gape size of hook on longline specified.
Skate	3LNO	Vessels 65 to 100 feet, mobile gear Authorized gear: <ul style="list-style-type: none"> • Otter trawl 	Jan 1-Dec 31	<ul style="list-style-type: none"> • Minimum mesh size on otter trawl specified.
Skate	3LNO	Vessels 65 to 100 feet, fixed gear.	Jan 1-Dec 31	<ul style="list-style-type: none"> • Minimum mesh size for gillnet is specified. • Required gape size of hook on longline is specified.

Species	NAFO division	Fleet/Gear type	Season	Key management measures
Skate	3LNO	Vessels less than 65 feet, fixed gear Authorized gear: <ul style="list-style-type: none"> • Gillnet • Longline 	Season dates vary. Opening date is set in consultation with industry.	<ul style="list-style-type: none"> • Trip limits specified. • Minimum mesh size for gillnet is specified. • Maximum number of gillnets is specified. • Gillnets and hook and line (longline) gear may not be fished during the same fishing trip, unless an at-sea observer is onboard. • CHP available online
White hake	3NO	Vessels 65 to 100 feet, fixed gear. Authorized gear: <ul style="list-style-type: none"> • Gillnet • Longline 	Jan 1-Dec 31	<ul style="list-style-type: none"> • Minimum mesh size for gillnet is specified. • Required gape size of hook on longline is specified. • CHP available online

Species	NAFO division	Fleet/Gear type	Season	Key management measures
White hake	3NO	Vessels less than 65 feet, fixed gear. Authorized gear: <ul style="list-style-type: none"> • Gillnet • Longline 	Season dates vary. Opening date is set in consultation with industry.	<ul style="list-style-type: none"> • Maximum number of gillnets is specified. • Minimum mesh size for gillnet is specified. • Water depth restrictions specified. • Gillnets and hook and line (longline) gear may not be fished during the same fishing trip, unless an at-sea observer is onboard. • CHP available <u>online</u>

Species	NAFO division	Fleet/Gear type	Season	Key management measures
Winter (blackback) flounder	3KL	Vessels less than 65 feet, fixed gear. Authorized gear: <ul style="list-style-type: none"> • Gillnet 	Season dates vary annually. Note that fishery is only open when 2J3KL Stewardship cod is open.	<ul style="list-style-type: none"> • Maximum number of gillnets is specified. • Minimum mesh size for gillnet is specified. • Areas where fishing is permitted is specified in licence conditions. • CHP available <u>online</u>
Witch flounder	3NO	Vessels greater than 100 feet, mobile gear. Authorized gear: <ul style="list-style-type: none"> • Otter trawl 	Jan 1-Dec 31	<ul style="list-style-type: none"> • Minimum mesh size on otter trawl is specified. • Minimum fish size specified.

Species	NAFO division	Fleet/Gear type	Season	Key management measures
Yellowtail flounder	3LNO	Vessels greater than 100 feet, mobile or longline gear; Authorized gear: <ul style="list-style-type: none"> • Otter trawl • Longline 	Jan 1-Dec 31	<ul style="list-style-type: none"> • Minimum mesh size on otter trawl is specified. • Minimum gape size of hook on longline is specified. • Bycatch limits specified. • Minimum fish size specified. • Spawning closure: 3LNO closed to directed fishing for yellowtail flounder for six-week period, commencing in June.

Appendix 2: 3LNO Yellowtail flounder: Conservation plan and harvest control rules

NAFO sets the Total Allowable Catch (TAC) and national fishing quotas for the 3LNO yellowtail flounder fishery. Canada holds 97.5% of the TAC set by NAFO. Fishing activity is regulated by NAFO within the NAFO Regulatory Area (NRA), and by Canada within its 200-mile zone. The following Harvest Control Rules reflect scientific council advice for this stock and have in part formed the basis of Canadian positions and subsequent NAFO decisions related to establishment of the TAC. They are compliant with the NAFO

Precautionary Approach Framework which guides the setting of TACs within that decision-making forum. Further review of these Harvest Control Rules will continue within the NAFO context and may lead to consideration of a proposal to NAFO for adoption.

Objective:

To maintain the Relative Biomass at or above 1 and to keep Relative Fishing Mortality at less than 1.

Reference Points:

Rather than using specific estimates in a given year, ratio values derived from the production model are considered to be more stable over time.

- a. Limit reference point for SSB (*B_{lim}*): 30% of *B_{msy}*
- b. Limit reference point for fishing mortality (*F_{lim}*): Relative F (F/F_{msy}) of 1 (about 0.21 in recent assessments)
- c. *B_{msy}*: Relative Biomass (B/B_{msy}) of 1 (about 1.5 in recent assessments)

Harvest Control Rules:

- a. When Relative Biomass is below *B_{lim}*:
 - i. No directed fishing
 - ii. By-catch should be restricted to unavoidable by-catch in fisheries directing for other species
- b. When Relative Biomass is between *B_{lim}* and *B_{msy}*
 - i. Fishing mortality of $< 2/3 F_{msy}$
- c. When Relative Biomass is above *B_{msy}*:
 - i. Fishing mortality should have a low¹ risk of exceeding *F_{msy}*

Ecosystem Considerations:

The yellowtail flounder fishery experiences a bycatch of American plaice. Hence, in establishing the TAC for yellowtail flounder, the impacts on the 3LNO American plaice of any increase in yellowtail flounder TAC should be considered, especially at TAC levels when the Relative Biomass of yellowtail flounder is above *B_{msy}*.

Appendix 3: 3NO Cod – NAFO Conservation plan and rebuilding strategy

Objectives:

- a. Long-term Objective: The long-term objective of this Conservation Plan and Rebuilding Strategy is to achieve and to maintain the 3NO Cod Spawning Stock Biomass (SSB) in the 'safe zone', as defined by the NAFO Precautionary Approach framework, and at or near B_{msy} .
- b. Interim Milestone: As an interim milestone, increase the 3NO Cod Spawning Stock Biomass (SSB) to a level above the Limit Reference Point (B_{lim}). It may reasonably be expected that B_{lim} will not be reached until after 2015.

Reference Points:

- a. Limit reference point for spawning stock biomass (B_{lim}) – 60 000 tonnes¹
- b. An intermediate stock reference point or security margin B_{sr2} – [120 000 tonnes]
- c. Limit reference point for fishing mortality ($F_{lim} = F_{msy}$) – 0.30
- d. Interim B_{target} – 185 000 tonnes and interim F_{target} of $F_{0.1}$ – 0.193

Re-opening to Directed Fishing:

- a. A re-opening of a directed fishery should only occur when the estimated SSB, in the year projected for opening the fishery, has a very low⁴ probability of actually being below B_{lim} .
- b. An annual TAC should be established at a level which is projected to result in:
 - i. continued growth in SSB
 - ii. low probability of SSB declining below B_{lim} throughout the subsequent 3-year period, and
 - iii. fishing mortality $< F_{0.1}$

Harvest Control Rules:

Noting the desire for relative TAC stability, the projections referred to in items (a) through (d) below should consider the effect of maintaining the proposed annual TAC over 3 years. Further, in its application of the Harvest Control Rules, Commission may, based on Scientific Council analysis, consider scenarios which either mitigate decline in SSB or limit increases in TACs as a means to balance stability and growth objectives.

a. When SSB is below *B_{lim}*:

- i. no directed fishing, and
- ii. bycatch should be restricted to unavoidable bycatch in fisheries directing for other species.

Before SSB increases above *B_{lim}*, additional or alternative harvest control rules should be developed, following the Precautionary Approach, to ensure the long-term objective is met, such as:

b. When SSB is between *B_{lim}* and *B_{isr}*:

- i. TACs should be set at a level(s) to allow for continued growth in SSB consistent with established rebuilding objective(s)
- ii. TACs should result in a low probability of SSB declining below *B_{lim}* throughout the subsequent 3-year period, and
- iii. Biomass projections should apply a low risk tolerance

c. When SSB is above *B_{isr}*:

- i. TACs should be set at a level(s) to allow for growth in SSB consistent with the long term objective, and
- ii. Biomass projections should apply a risk neutral approach (i.e. mean probabilities)

d. When SSB is above *B_{target}*:

- i. TACs should be set at a level of F that has a low probability of exceeding *F_{msy}*, and
- ii. Biomass projections should apply a risk neutral approach (i.e. mean probabilities)

Ecosystem Considerations:

Considering the importance of capelin as a food source, consistent with the ecosystem approach, the moratorium on 3NO capelin will continue until at least 31 December 2018.

Bycatch Provisions:

The bycatch provisions in the CEM for 3NO cod should be reviewed periodically, to coincide with scheduled assessments of the stock by Scientific Council, and adjusted to reflect the overall trend in spawning stock biomass.

Appendix 4: 3LNO American plaice – NAFO Conservation plan and rebuilding strategy

Objective(s):

- a. Long-term Objective: The long-term objective of this Conservation Plan and Rebuilding Strategy is to achieve and to maintain the 3LNO American plaice Spawning Stock Biomass (SSB) in the 'safe zone', as defined by the NAFO Precautionary Approach framework, and at or near *B_{msy}*.
- b. Interim Milestone: As an interim milestone, increase the 3LNO American plaice Spawning Stock Biomass (SSB) to a level above the Limit Reference Point (*B_{lim}*). It may reasonably be expected that *B_{lim}* will not be reached until after 2014.

Reference points:

- a. Limit reference point for spawning stock biomass (*B_{lim}*) – 50 000 tonnes
- b. An intermediate stock reference point or security margin *B_{isr6}* – [100 000 tonnes]
- c. Limit reference point for fishing mortality (*F_{lim}* = *F_{msy}*) – 0.31
- d. *B_{msy}* – [242 000 tonnes]

Re-opening to directed fishing:

- a. A re-opening of a directed fishery should only occur when the estimated SSB, in the year projected for opening the fishery, has a very low⁷

probability of actually being below *Blim*.

- b. An annual TAC should be established at a level which is projected to result in:
 - i. continued growth in SSB,
 - ii. low probability of SSB declining below *Blim* throughout the subsequent 3-year period, and,
 - iii. fishing mortality $< F_{0.1}$.

Harvest control rules:

Noting the desire for relative TAC stability, the projections referred to in items (a) through (d) below should consider the effect of maintaining the proposed annual TAC over 3 years. Further, in its application of the Harvest Control Rules, Commission may, based on Scientific Council analysis, consider scenarios which either mitigate decline in SSB or limit increases in TACs as a means to balance stability and growth objectives.

- a. When SSB is below *Blim*:
 - i. no directed fishing, and
 - ii. bycatch should be restricted to unavoidable bycatch in fisheries directing for other species
- b. When SSB is between *Blim* and *B_{isr}*:
 - i. TACs should be set at a level(s) to allow for continued growth in SSB consistent with established rebuilding objective(s)
 - ii. TACs should result in a low probability of SSB declining below *Blim* throughout the subsequent 3-year period, and
 - iii. Biomass projections should apply a low risk tolerance
- c. When SSB is above *B_{isr}*:
 - i. TACs should be set at a level(s) to allow for growth in SSB consistent with the long term objective, and
 - ii. Biomass projections should apply a risk neutral approach (i.e. mean probabilities)
- d. When SSB is above *B_{msy}*:

- i. TACs should be set at a level of F that has a low probability of exceeding F_{msy} , and
- ii. Biomass projections should apply a risk neutral approach (i.e. mean probabilities)

Appendix 5: 2+3KLMNO Greenland halibut – NAFO rebuilding program

Rebuilding Program

1. The current Management Strategy (MS) for Greenland halibut stock in Subarea 2 + Divisions 3KLMNO adopted by NAFO in 2017 shall be in force from 2018 to 2023 inclusive.
2. The total allowable catch (TAC) shall be adjusted annually according to the harvest control rule (HCR) specified in Annex I.F.
3. The Exceptional Circumstances Protocol (Annex I.G) shall be invoked in response to an event or observation by Scientific Council which is outside of the range of possibilities considered within the MSE.

Control Measures

4. The following measures apply to vessels 24 meters or greater in overall length engaged in the Greenland halibut fishery in Subarea 2 and Divisions 3KLMNO:
 - a. Each Contracting Party shall allocate its quota for Greenland halibut among its authorized vessels.
 - b. An authorized vessel shall land its Greenland halibut catch only in a designated port. To this end, each Contracting Party shall designate one or more ports in its territory where authorized vessels may land Greenland halibut.
 - c. Each Contracting Party shall post to the NAFO MCS Website, in PDF format, the name of every port it has so designated. Any subsequent changes to the list shall be posted in replacement of the previous one no less than fifteen days before the change comes into effect.

- d. At least 48 hours before its estimated time of arrival in port, an authorized vessel or its representative on its behalf, shall advise the quantity of Greenland halibut retained onboard, and information on the division or divisions where the catches were taken.
 - e. Each Contracting Party shall inspect each landing of Greenland halibut in its ports and prepare an inspection report in the format prescribed in Annex IV.C, which it posts to the NAFO MCS Website, in PDF format, within 14 working days from the date on which the inspection was completed. The PSC3 report shall identify and provide details of any infringement to the CEM detected during the port inspection. It shall include all relevant information available in reference to infringements detected at sea during the current trip of the inspected fishing vessel.
5. The following procedures apply with respect to authorized vessels with more than 50 tonnes live weight total catch on board taken outside the Regulatory Area entering the Regulatory Area to fish for Greenland halibut:
- a. the master shall notify the Executive Secretary by e-mail or fax, at the latest 72 hours prior to the vessel's entry into the Regulatory Area, of the amount of catch on board, the position by latitude and longitude where the master intends to commence fishing, the estimated time of arrival at the position, and contact information for the fishing vessel (e.g., radio, satellite phone or email).
 - b. An inspection vessel that intends to inspect a fishing vessel before it begins fishing for Greenland halibut shall notify that fishing vessel and the Executive Secretary of the coordinates of a designated inspection point that is no more than 60 nautical miles from the position where the master estimates that the vessel will commence fishing and shall inform other inspection vessels that may be operating in the Regulatory Area accordingly.
 - c. A fishing vessel notified in accordance with paragraph (b) shall proceed to the designated inspection point.

d. Until inspected in accordance with this Article, a fishing vessel may not begin fishing unless:

- i. it receives no notification within 72 hours of the notification it has transmitted in accordance with subparagraph 5(a); or
- ii. within 3 hours of its arrival at the designated inspection point, the inspection vessel has not begun the intended inspection.

6. The Contracting Parties shall prohibit landings of Greenland halibut from non-Contracting Party vessels that have engaged in fishing activities in the Regulatory Area.

Duties of the Executive Secretary

7. The Executive Secretary:

- a. places on the agenda of the Commission in the context of reviewing the implementation of this rebuilding plan, the issue of deciding on additional measures to ensure the effective attainment of its objective;
- b. ensures that the list of designated ports posted by the Contracting Parties for the purpose of this Article as well as any subsequent changes is automatically made available to all Contracting Parties;
- c. ensures that any port inspection report posted to the NAFO MCS Website in accordance with subparagraph 4(e) is transmitted to any Contracting Party that requests it; and
- d. transmits the information received in accordance with subparagraph 5(a) to all inspection vessels in the Regulatory Area.

8. If the Executive Secretary does not receive a notification from an inspection vessel within 24 hours of the notification transmitted in accordance with subparagraph 5(b) of this Article, the Executive Secretary immediately advises the fishing vessel that it may begin fishing and notifies inspection vessels and the flag State FMC accordingly.

Restoration of the “Others” quota

9. When the TAC exceeds 30 000 tonnes the next 1300 tonnes beyond 30 000 tonnes will be allocated to the “Others” quota. In deciding the relevant contributions of Contracting Parties to the 1300 tonnes “Others” quota, the Commission will take into account the benefit that some Contracting Parties received from the assignment of the “Others” quota that occurred when the Greenland Halibut Rebuilding Plan was adopted.

Appendix 6: Rebuilding plan for Atlantic Cod – NAFO divisions 2J3KL

On December 21, 2020, the Rebuilding Plan for Atlantic cod (Northern cod) NAFO Divisions 2J3KL was implemented. The purpose of this plan is to identify the main objectives and requirements for rebuilding Atlantic cod in NAFO Divisions 2J3KL, as well as the management measures that will be used to achieve these objectives.

The rebuilding plan objectives, harvest decision rule and calculation are outlined below. The full rebuilding plan for 2J3KL Atlantic cod can be found [online](#).

Objective(s):

- a. The short-term objective is to facilitate an increase of the 2J3KL Cod spawning stock biomass (SSB) beyond 75% of *Blim*, while also providing reasonable fishing opportunities. As evident from the history of this stock, a timeline for this objective cannot be defined, as high levels of natural mortality can delay rebuilding. Tactical management action is therefore required to ensure low levels of fishing mortality is maintained while the stock is below 75% of *Blim*.
- b. The long-term objective is to have 2J3KL cod SSB exceed *Blim* with a high probability. The timeline for meeting this objective cannot be determined as the rate of recovery critically depend on future rates of recruitment and natural mortality. Long-term forecasts of these rates

are highly uncertain, which makes it difficult to conduct meaningful evaluations of strategic management measures.

Harvest decision rule:

- a. The harvest decision rule (HDR) is based on a phased approach in the short-term until the spawning stock biomass (SSB) is above the interim target of 75% of Biomass Limit Reference Point (*Blim*).
- b. Until then, a low level of fishing mortality (F) is maintained and is linked to stock magnitude and direction with a cap on removals.
- c. The HDR is informed by the annual scientific stock assessment. Annual changes in total landings are computed by a rule that uses the size of the stock relative to *Blim*, relative to a base landings level (chosen to be the level of landings in 2017).
- d. The HDR is based on two quadratic formulas that computes the relative change in landings based on stock status relative to *Blim*
 - A modest increase in removals within range of 50-75% *Blim*
 - At 75% *Blim*, a 50% increase in landings from current level
 - Majority of increase occurs as you approach 75% *Blim*
 - Within range of 25-50% *Blim*
 - At 25% *Blim*, a 67% decrease in landings from current level
 - Rate of decline increases as stock size decreases

Harvest decision rule calculation:

$$C = C_{2017} \left(1 + \gamma \left(\frac{B}{B_{lim}} - x_{mid} \right)^2 \right); \begin{cases} \frac{B}{B_{lim}} < x_{mid}, & \gamma = \frac{y_l - 1}{(x_l - x_{mid})^2} \\ \frac{B}{B_{lim}} > x_{mid}, & \gamma = \frac{y_h - 1}{(x_h - x_{mid})^2} \end{cases}$$

Parameters of rule	Value	Description
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Parameters of rule	Value	Description
xmid	0.52	"Starting point" of rule when conceptualized, i.e. 52% of Blim
xl	0.25	Lower bound of B/Blim
xh	0.75	Upper bound of B/Blim
yl	0.33	HDR result is 33% of C ₂₀₁₇ at b/blim=xl (0.25)
yh	1.5	HDR result is 150% of C ₂₀₁₇ at b/blim=xh (0.75)
C ₂₀₁₇	13000	Catch value of stewardship fishery in year 2017 (tonnes)

With the above values, the equation evaluates to:

$$C = 13000 \left(1 + \gamma \left(\frac{B}{B_{lim}} - 0.52 \right)^2 \right); \begin{cases} \frac{B}{B_{lim}} < 0.52, & \gamma = -9.19 \\ \frac{B}{B_{lim}} > 0.52, & \gamma = 9.45 \end{cases}$$

Appendix 7: 3LN Redfish – NAFO Conservation plan and harvest control rule

Objectives:

The long-term objective of the Redfish 3LN Conservation Plan is to maintain the biomass in the 'safe zone', as defined by the NAFO Precautionary Approach framework.

Reference points:

- Limit reference point for biomass (*Blim*): 30% of *Bmsy*
- Limit reference point for fishing mortality (*Flim*): *Fmsy*

Performance statistics (levels of risks that apply to section 4):

- Very low (< 10%) probability of biomass declining below *Blim*.

- b. Low ($< 30\%$) probability of fishing mortality $> F_{msy}$
- c. Less than 50% probability of declining below 80% B_{msy} on or before 2021

Supplementary guidance to the 3LN Redfish harvest control rule:

- a. When biomass is below B_{lim} :
 - i. No directed fishing
 - ii. Bycatch should be restricted to unavoidable bycatch in fisheries directing for other species
- b. When biomass is between B_{lim} and 80% of B_{msy} :
 - i. TAC's should be set at a level(s) to allow for growth to above 80% of B_{msy} or to avoid or mitigate further decline in biomass consistent with explicit rebuilding objectives. Tolerance for short-term preventable decline is reduced as biomass approaches B_{lim} .
- c. When biomass is above 80% of B_{msy} :
 - i. TAC's should be set at a level(s) to maintain biomass above 80% of B_{msy} or to avoid or mitigate decline below 80% of B_{msy}
- d. If fishing mortality is above F_{msy} :
 - i. Fishing mortality should be reduced to a level below F_{msy} .

Management strategy/harvest control rule:

A stepwise biannual catch increase in TAC, reaching 18,100 tonnes by 2019-2020. (18,100t is the equilibrium yield in the 2014 assessment under the assumption of an MSY of 21,000 tonnes).

2015: 10,400 t

2016: 10,400 t

2017: 14,200 t

2018: 14,200 t

2019: 18,100 t

2020: 18,100 t

2021: 18,100 t

2022: 18,100 t

Review/Monitoring:

- a. Scientific Council will monitor the performance of the HCR by examining the trends in the survey indices and by conducting a full assessment every 2-3 years and for the first time in 2016.
- b. Conduct a full review/ evaluation of the management strategy at the end of the 7 year implementation period.

Appendix 8: 2+3KLMNO groundfish advisory committee

Mandate

The 2+3KLMNO Groundfish Advisory Committee (GAC) serves as a forum for the discussion of issues related to the management of the groundfish fishery in NAFO Sub-area 2 and Divisions 3KLMNO. The Committee's purpose is to provide advice and recommendations to the Department in support of the development of management measures that address conservation and the sustainable use of groundfish resources. The committee will work to foster local and industry stewardship and partnerships. Science review and advice to support management measures is sought through the annual Science Regional Advisory Process (RAP) and is supplemented by advice from NAFO Scientific Council (where applicable).

Guiding principles

The following principles will be used to guide decisions on the structure and operations of the 2+3KLMNO GAC:

Transparent:

The advisory process is transparent with open lines of communication and the provision of timely, accurate, accessible, clear and objective information. This information will be available to all participants in the process on an equal basis. DFO organizers will provide access to agendas and necessary information in advance of meetings.

Accountable:

Participants who represent a constituency are expected to bring forward the general views, knowledge and experience of those they represent, and report back about deliberations of the consultation activity and reasons for decisions taken. All participants share accountability for the success of the process.

Inclusive representation:

Participation in the advisory process should be balanced and reflect the broad range of interest of the membership. Observer status will be available at 2+3KLMNO GAC meetings, at the discretion of the chair(s), if requested by non-member stakeholders. Observers may be provided an opportunity to participate in discussions following input from members.

Effective:

All participants should be satisfied that the process can achieve the goals of the mandate. This does not mean that participants will always agree with the final advice, outcome or recommendation.

Efficient:

The size of the advisory committee will reflect a balance between the diversity of fleet sector interests and participant numbers that will facilitate productive discussion.

Membership:

The Groundfish Advisory Committee will be comprised of representatives from DFO, the harvesting and processing sectors, Province of Newfoundland and Labrador, Indigenous Organizations, and environmental non-governmental organizations.

The GAC can be expanded, to accommodate an organization or group that has an interest in management of groundfish resources. Requests for nomination to the GAC will be reviewed at the annual meeting. Changes to

the membership will be at the discretion of the Chair. Further, the Chair reserves the right to limit membership to maintain the committee's efficiency.

Ad hoc working groups may be established by the GAC to review specific issues and report their findings to GAC as a whole.

All members are expected to review minutes and be aware of the discussion and outcome of the previous meeting in preparation for subsequent meetings. Further discussion of issues dealt with at previous meetings will generally be limited to correction or clarification of issues discussed.

Administration

- Meetings will be chaired by DFO.
- The GAC will meet at least once a year. The meeting schedule is at the call of the chair, with the schedule to be adjusted as the need requires. Any designated representative or alternate can request additional meetings.
- Meetings may occur either in person or by teleconference.
- The agenda will generally include only those issues for which the meeting was convened.
- DFO will be responsible for the preparation of the meeting agenda and minutes, in consultation with the GAC members.
- Expenses by designated representatives and alternates to attend GAC meetings are the responsibility of the organization, department, or company that they represent.

Operating principles:

- The Minister of Fisheries and Oceans Canada is responsible for the management of fisheries in the Newfoundland and Labrador Region; DFO will maintain legislative authority towards the conservation of the groundfish resource and its habitat.
- GAC will strive to reach consensus. When consensus is not possible, the views of all members will be reflected in the record of the meeting, and

GAC's views will be conveyed in a manner that communicates the points of view expressed by all of its members.

- Participants agree to share all relevant information where possible, and to accept the concerns and goals of others as legitimate.
- Participants agree to act in "good faith" in all respects of the process, including respecting confidentiality in relaying information to others.
- Participants will maintain a professional manner and refrain from discussions of a personal nature.
- Participants will be asked to provide any proposals to DFO in advance of the meeting for distribution to GAC members.
- The chair shall be responsible for notifying all participants of any meeting.
- Summary minutes of each meeting will be distributed by the Department of Fisheries and Oceans after they are reviewed and accepted by the chair.

Appendix 9: Safety at sea

Vessel owners and masters have a duty to ensure the safety of their crew and vessel. Adherence to safety regulations and good practices by owners, masters and crew of fishing vessels will help save lives, protect the vessel from damage and protect the environment. All fishing vessels must be in a seaworthy condition and maintained as required by Transport Canada and other applicable agencies. Vessels subject to inspection should have a certificate of inspection valid for the area of intended operation.

In the federal government, responsibility for regulating shipping, navigation, and vessel safety lies with Transport Canada, while emergency response is the responsibility of the Canadian Coast Guard (CCG). DFO has responsibility for the management of fisheries resources, and in Newfoundland and Labrador, the provincial Workplace Health, Safety and Compensation Commission (WHSCC) has jurisdiction over health and safety issues in the workplace.

Before leaving on a voyage the owner, master or operator must ensure that the fishing vessel is capable of safely making the passage. Critical factors for a safe voyage include:

- seaworthiness of the vessel
- vessel stability
- having the required safety equipment in good working order
- crew training
- knowledge of current and forecasted weather conditions

Useful publications include Transport Canada's [Small Fishing Vessel Safety Manual](#) which can be obtained from Transport Canada (TC) or printed from their website.

Fishing vessel safety includes three priority areas:

- vessel stability
- emergency drills
- cold water immersion

Fishing vessel stability

Vessel stability is paramount for safety. Care must be given to the stowage and securing of all cargo, skiffs, equipment, fuel containers and supplies, and also to correct ballasting. Fish harvesters must be familiar with their vessel's centre of gravity, the effect of free surface liquids on stability, loose water or fish on deck, loading and unloading operations and the vessel's freeboard. Fish harvesters should know the limitations of their vessels. If unsure, the vessel operator should contact a qualified naval architect, marine surveyor or the local Transport Canada Marine Safety office.

Fishing vessel owners are required to develop detailed instructions addressing the limits of stability for each of their vessels. The instructions must be based on a formal assessment of the vessel by a qualified naval architect and include detailed safe operation documentation. Instructions should be kept on board the vessel at all times.

Fishing vessel owners should also keep on-board detailed documentation on engine room procedures, maintenance schedules to ensure watertight integrity, and instructions for regular practice of emergency drills.

Emergency drill requirements

The vessel master must establish procedures and assign responsibilities to each crew member for emergencies such as crew member overboard, fire, flooding, abandoning ship and calling for help.

Since July 30, 2003 all crew members with more than six months at sea are required to have taken minimum Marine Emergency Duties (MED) training or be registered for such training.

MED provides a basic understanding of:

- hazards associated with the marine environment
- prevention of shipboard incidents (including fires)
- raising and reacting to alarms
- fire and abandonment situations
- skills necessary for survival and rescue

Cold water immersion

Drowning is the number one cause of death in the fishing industry. Cold water is defined as water below 25 degrees Celsius, but the greatest effects occur below 15 degrees Celsius. Newfoundland and Labrador waters are usually below 15 degrees.

The effects of cold water on the body occur in four stages:

- cold shock
- swimming failure
- hypothermia
- post-rescue collapse

Vessel masters should know what to do to prevent themselves or their crew from falling into the water and what to do if that occurs.

Other issues

Weather

Vessel owners and masters are reminded of the importance of paying close attention to current weather trends and forecasts during the voyage.

Marine weather information and forecasts can be obtained from [Environment Canada's website](#).

Emergency radio procedures

Vessel owners and masters should ensure that all crew are able to activate the Search and Rescue (SAR) system by contacting the Canadian Coast Guard (CCG) early rather than later. It is strongly recommended that all fish harvesters carry a registered 406 MHz Emergency Position Indicating Radio Beacon (EPIRB). These beacons should be registered with Coast Guard's National Search and Rescue secretariat. When activated, an EPIRB transmits a distress call that is picked up or relayed by satellites and transmitted via land earth stations to the Joint Rescue Co-ordination Centre (JRCC), which will task and co-ordinate rescue resources.

All crew members should know how to make a distress call and should obtain their restricted operator certificate from Innovation, Science and Economic Development Canada (formerly Industry Canada). Whenever possible, masters should contact the nearest Canadian Coast Guard (CCG) Marine Communications and Traffic Services (MCTS) station prior to a distress situation developing. Correct radio procedures are important for communications in an emergency. Incorrect or misunderstood communications may hinder a rescue response.

Since August 1, 2003 all commercial vessels greater than 20 metres in length are required to carry a Class D VHF Digital Selective Calling (DSC) radio. A registered DSC VHF radio has the capability to alert other DSC equipped vessels in the immediate area and advise Coast Guard MCTS that the vessel is in distress. Masters should be aware that they should register their DSC

radios with ISED Canada to obtain a Marine Mobile Services Identity (MMSI) number; otherwise the automatic distress calling feature of the radio may not work.

A DSC radio that is connected to a GPS unit will also automatically include the vessel's current position in the distress message. More detailed information on MCTS and DSC can be obtained by contacting a local MCTS center or from the [Canadian Coast Guard](#).

Collision regulations

Fish harvesters should have a thorough knowledge of the [Collision Regulations](#) and the responsibilities between vessels where risk of collision exists. Navigation lights must be kept in good working order and must be displayed from sunset to sunrise and during all times of restricted visibility. To help reduce the potential for collision or close quarters situations that may also result in the loss of fishing gear, fish harvesters are encouraged to monitor the appropriate local Vessel Traffic Services (VTS) VHF channel, when travelling or fishing near shipping lanes or other areas frequented by large commercial vessels.

Vessels required to participate in VTS include:

- every ship 20 metres or more in length
- every ship engaged in towing or pushing any vessel or object, other than fishing gear
- where the combined length of the ship and any vessel or object towed or pushed by the ship is 45 metres or more in length, or
- where the length of the vessel or object being towed or pushed by the ship is 20 metres or more in length

Exceptions include:

- a ship towing or pushing inside a log booming ground
- a pleasure yacht less than 30 metres in length, and
- a fishing vessel that is less than 24 metres in length and not more than 150 tonnes gross

Additional information can be found on the Collision Regulations page.

Sail plan

An important trip consideration is the use of a sail plan which includes the particulars of the vessel, crew and voyage. The sail plan should be left with a responsible person on shore or filed with the local MCTS centre. After leaving port the fish harvester should contact the holder of the sail plan daily or as per another schedule. The sail plan should ensure notification to JRCC when communication is not maintained which might indicate your vessel is in distress. Be sure to cancel the sail plan upon completion of the voyage.

Appendix 10: DFO Conservation and Protection enforcement data

Table 10. Number of fishery officer hours dedicated to, and number of domestic¹ Canadian waters by DFO Conservation and Protection,

Species	2016			2017			2018	
	Fishery Officer Patrol Hours	Total Hours	# Vessel Checks	Fishery Officer Patrol Hours	Total Hours	# Vessel Checks	Fishery Officer Patrol Hours	Total Hours
Cod ²	3,615.5	5,465.5	248	3,405.5	5,247.5	663	4310	6710
Greenland halibut	801.5	1,183.5	61	989.75	1,899	95	639.25	1020
Redfish	415.5	732	65	567	929.5	72	3038	4820
Atlantic halibut	141	216.2	37	183	235	29	123	1220
Flounder ³	171	282.5	13	48	75	11	432	7720
Skate	19	19	3	47.5	95	4	239	4220
Hake ⁴	28.5	47.5	1	4	8	1	19.5	1920

Species	2016			2017			2018	
	Fishery Officer Patrol Hours	Total Hours	# Vessel Checks	Fishery Officer Patrol Hours	Total Hours	# Vessel Checks	Fishery Officer Patrol Hours	Total Hours
Lumpfish	2	3.5	1	0.5	0.5	0	3.5	3.5
Other Groundfish ⁵	36	78	0	70.5	133.5	1	85.5	100

Notes:

1. Information on Canada's High Seas Monitoring, Control and Surveillance Activities, including those in the NAFO Regulatory Area, is available [online](#).
2. Cod includes Atlantic cod and rock cod.
3. Flounder includes American plaice, winter flounder, witch flounder, and yellowtail flounder.
4. Hake includes white hake and silver hake.
5. 'Other Groundfish' includes data for monkfish and haddock.

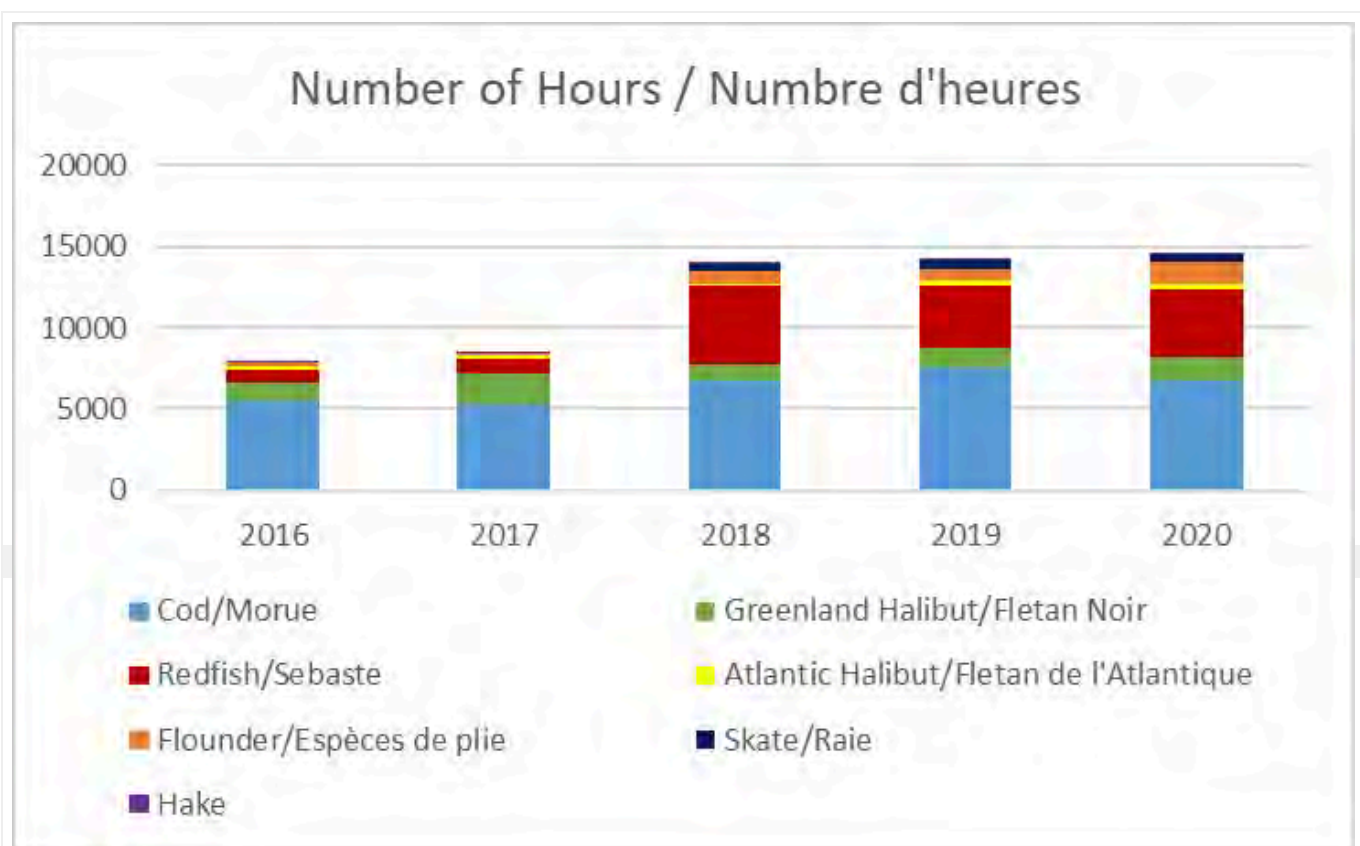


Figure 9: Total DFO monitoring and surveillance hours per species in Canadian 2+3KLMNO waters for 2016-2020 period (Conservation and Protection, DFO-NL Region).

► Description

Table 11. Total violations per species in domestic¹ Canadian waters of 2+3KLMNO for 2016-2020 period (DFO-NL Conservation & Protection, NL Region).

Species	2016	2017	2018	2019	2020	Average per year
Cod ²	138	90	86	125	104	108.6
Greenland halibut	52	19	23	24	17	27
Atlantic halibut	7	2	16	10	0	7
Flounder ³	7	5	2	6	3	4.6
Redfish	0	2	6	2	2	2.4
Skate	0	0	0	0	0	0
Monkfish	0	0	0	0	0	0
Lumpfish	0	1	2	2	0	1
Other Groundfish ⁴	2	0	5	0	3	12
Total	206	119	140	169	129	

Notes:

1. Information on Canada's High Seas Monitoring, Control and Surveillance Activities, including those in the NAFO Regulatory Area, is available [online](#).
2. Cod includes Atlantic cod and rock cod.
3. Flounder includes American plaice, winter flounder, witch flounder, and yellowtail flounder.
4. 'Other Groundfish' includes data for white hake, silver hake and haddock.

Appendix 11: Departmental contacts

For additional information please contact:

Contact	Telephone
DFO Newfoundland and Labrador Region Headquarters 80 East White Hills Road, P.O. Box 5667, St. John's, NL, A1C 5X1	
Regional Manager, Groundfish and International Fisheries	709-772-4472
Resource Manager, 2+3KLMNO Groundfish	709-772-0695
Senior Resource Manager, 2+3KLMNO Groundfish	709-772-5020
DFO Newfoundland and Labrador Area Offices	
Resource Management Area Office Grand Falls-Windsor, NL	709-292-5167 709-772-5845
Resource Management Area Office Happy Valley-Goose Bay, NL	709-896-6153

Date modified:

2022-03-23

APPENDIX 2

Federal and Provincial Reports Endorsing Joint Fisheries Management

Harris, L. Dr. (Chairman), 1990. Independent Review of the State of the Northern Cod Stock. Final Report Prepared for the Minister of Fisheries and Oceans

DFO. 1991, Fisheries Management: A Proposal for Reforming Licensing and Allocation Systems, DFO/4652, ISBN 0-662-19260-5. Ottawa, ON[i].

Vardy, David and Eric Dunne, 2003, New Arrangements for Fisheries Management In Newfoundland And Labrador, A Report Prepared for the Royal Commission on the Renewal and Strengthening of Our Place in Canada

Young, Victor L, et al, 2003, Our Place in Canada, The Report of the Commission on the Renewal and Strengthening of Our Place in Canada

May 26, 2003, White Paper on Joint Management of Newfoundland and Labrador Fisheries. [ii]

Cashin, Richard, November 2005, Report of the Chairman RMS Review Committee

Blackwood, Glenn, Gabe Gregory and William Broderick, October 2023 "Report of Fish Price-Setting Strategic Review Team"

ADDITIONAL (Not Appended)

Managing All Our Resources: A Development Plan for Newfoundland and Labrador, 1980-85. St. John's: Government of Newfoundland

House, Douglas, 1986, "Report of the Royal Commission on Employment and Unemployment", prepared for the Government of Newfoundland and Labrador

Maloney, Aidan, 1990, Report of the Commission of Enquiry into the Alleged Erosion of the Newfoundland Fishery by Non-Newfoundland Interests, prepared for the Honourable Clyde K. Wells, Premier of the Province of Newfoundland and Labrador

Effective Fisheries Management: Joint Management and Government Cooperation in the Newfoundland and Labrador Fishery. GNL Discussion Paper, St. John's NL; 1991

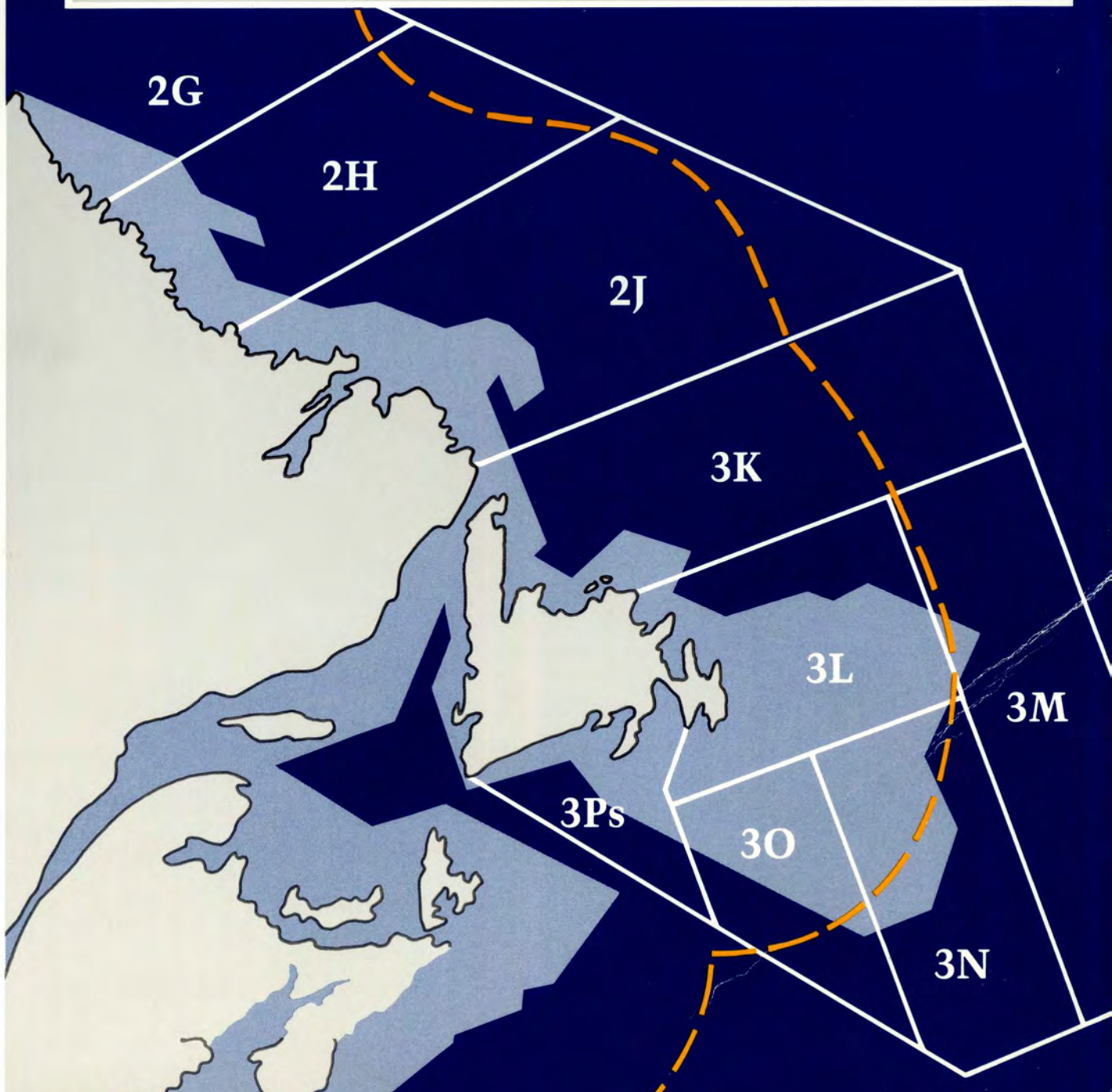
Dean, Leslie, 2001 Report of the Special Panel on Corporate Concentration in the Newfoundland and Labrador Fishing Industry, prepared for the Minister of Fisheries and Aquaculture



Independent Review Of The State Of The Northern Cod Stock

Prepared For
The Honourable Thomas E. Siddon

Submitted By
Dr. L. Harris



Independent Review of the State of the Northern Cod Stock

Final Report

**Prepared for
The Honourable Thomas Siddon
Minister of Fisheries**

**Submitted by
Dr. Leslie Harris
Northern Cod Review Panel**

February, 1990

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EXECUTIVE SUMMARY

Northern cod, that is the cod stock(s) inhabiting NAFO statistical divisions 2J, 3K, and 3L and spilling over into divisions 2GH and 3NO, has been exploited by fishermen since c. 1481. Though patterns of exploitation have varied, these stocks were, through four centuries at least, the economic foundation for the growth of a settled community along the east and northeast coast of Newfoundland and the coast of Labrador. Though supplemented by comparatively modest contributions from other marine species such as salmon, herring, seals, and whales, the cod stocks were the *raison d'être* for the existence of Newfoundland as a colony, and subsequently as a Dominion, and contributed in a lesser way to the well-being of several Nova Scotian coastal communities.

Though there has been, throughout the past century, some economic diversification, it is true even today that the vast majority of the Newfoundland coastal communities that were built upon a foundation of cod are still utterly dependent upon that resource for their continued existence.

Although foreign fishing fleets and a smaller number of Newfoundland based vessels have, throughout the centuries concentrated their fishery upon the northern cod sub-groups that frequented for some part of each year the shallow offshore banks of what are now known as divisions 3LNO, the vast majority of Newfoundland fishermen were reliant upon the seasonal feeding migration that brought the codfish to shallow coastal waters where they were accessible to fixed gear deployed in traditional berths or on traditional near shore fishing grounds.

Though annual harvests fluctuated in accord with changing environmental conditions and to some extent with the vagaries of the international market, the northern cod stock(s) yielded, in the century prior to 1950, for example, an annual production varying about an average of some 250,000 tons. In general, the harvest level gradually moved upward as populations grew and fishing effort increased. Nevertheless, except for environmentally induced disruptions of migratory patterns that resulted in localized failures of the fishery, sometimes for a number of consecutive years, the overall historical record indicates that the stock(s) could sustain the fishing pressures imposed upon them without exhibiting any obvious sign of decreasing abundance.

By the middle of the twentieth century, however, new fishing technologies were being introduced at an increasingly rapid rate. Chief among them was the comparatively heavily powered vessel equipped with otter trawls that was capable of fishing in deeper waters than were heretofore accessible and of exploiting the large concentrations of fish that at the end of their autumn migrations were assembled for spawning in the outer shelf regions of the several offshore banks. Subsequently, inshore fishermen, too, began to acquire larger diesel powered vessels (the long-liner fleet) with extended range and seakeeping capacities, equipped with electronic navigational and fish finding instruments and with hydraulic net haulers that permitted utilization of long "fleets" of gillnets. This new fleet extended the "inshore" effort into deeper waters, upwards of fifty miles from shore. Did the fish thus made accessible to inshore gear constitute the older elements of the population that terminated their feeding migration in those deeper "middle-distance" waters? Or on the other hand, did they constitute discrete inshore spawning populations? This, regrettably, is still a matter for speculation. In any case, they represent elements of the northern cod spawning biomass that were, for the first time, subjected to intense fishing pressure.

Then came the burgeoning of offshore technology, with West Germany in the vanguard and other European nations quickly following and the notorious assault upon the spawning aggregations on the northern banks during the late 1960s and 1970s. With catches reaching 800,000 tons in the peak year of 1968, the predictable result was a collapse of the stock with inshore landings falling to figures lower than any recorded in the previous centuries.

The Law of the Sea Convention, though still unratified in 1977, prompted Canada in that year to declare a two hundred mile management zone. This provided the opportunity to begin the process of rebuilding depleted stocks and of establishing fishing strategies that would ensure continuing long-term viability for both an inshore and offshore fishery. With the objective of building spawning stocks to a biomass capable of sustaining a harvest at historical levels, the Department of Fisheries and Oceans (DFO) adopted a management strategy designated as $F_{0.1}$ which would have permitted annual fish landings of approximately 20% of the exploitable biomass.

During the next seven years the euphoria that had been engendered by the declaration of the exclusive economic zone was reinforced by the steady growth of the stock, by continually improving catches, and by the belief that the $F_{0.1}$ objective was, indeed, being met. In those circumstances, scientists, lulled by false data signals and, to some extent, overconfident of the validity of their predictions, failed to recognize the statistical inadequacies in their bulk biomass model and failed to properly acknowledge and recognize the high risk involved with state-of-stock advice based on relatively short and unreliable data series. Furthermore, the Panel is concerned that weaknesses in scientific management and the peer review process permitted this to happen.

Such blunt criticism is, of course, itself the product of hindsight. In fairness, we must recognize the simple enormity of the task of taking a census of fish populations over so vast a territory. We must recognize as well that DFO scientists had to do the best they could with short data series since longer ones were simply not available to them. As well, they had to contend with misreporting of catches, bycatches, and discard rates and other significant inaccuracies in the commercial catch data; with their own inability to modify certain research vessel data to account for changes in the time of the survey and for fluctuating environmental conditions; with unanticipated changes in recruitment levels; and with a substantial number of lesser variables

whose consequences are easier to identify in retrospect than they were to forecast. Nevertheless, it is possible that if there had not been such a strong emotional and intellectual commitment to the notion that the $F_{0.1}$ strategy was working, the open and increasing scepticism of inshore fishermen might have been recognized as a warning flag demanding more careful attention to areas of recognized weakness in the assessment process.

In any event, by the late autumn of 1988, it was apparent that the more sophisticated analytical methodologies recently adopted and the acquisition of two additional years of data combined to indicate that the actual fishing mortality rates since 1977 had in fact been at least double those projected in the $F_{0.1}$ strategy. That the population did, in spite of this relatively intense fishing, continue, at least until 1984, to show substantial growth was, for the most part, attributable to good earlier recruitment. Now, however, it was apparent that the more recent trend in recruitment was definitely downward. Thus, it is apparent that, even though there is not an immediate threat to the survival of the northern cod stock, recent catch levels simply cannot be maintained without causing a significant and potentially very serious decline in the exploitable and spawning biomass.

On the positive side, the Panel is persuaded that the current modelling methodology employed by DFO scientists is superior to that previously used. Further, the Panel is reasonably confident that the range of fishing mortalities provided by that methodology are in the right domain. This position is supported by results obtained when the data are subjected to a number of independent analytical techniques.

Nevertheless, the data themselves are still to some considerable degree unreliable or, at least, subject to strong suspicion of unreliability; and, this stricture applies, though perhaps not with equal force, to both the Research Vessel (RV) data and the commercial catch per unit of effort (CPUE) data. The former, it is believed, might be improved through increased sampling effort, by appropriate correction for time of survey, and for environmental variability. The latter are, perhaps, distorted by underestimation of the significance of technological changes in catching effectiveness when fishing is conducted primarily upon spawning or other aggregations.

In light of this, the Panel would emphasize that a vital aspect of management strategy must be the improvement of the quality of data used in assessment and the establishment of additional independent indices of abundance including an inshore CPUE index, and the incorporation into the assessment process of such additional elements as acoustic survey data and environmental indices of availability and abundance. Further, DFO should expand its computing power to remove current restrictions on timely data processing and should include in the scientific assessment process a rigorous peer review by other scientists drawn from the university or industrial communities, for example, and who are not directly involved in departmental processes.

The Panel would also urge DFO not to place too much reliance upon mathematical models alone to solve the problems of the northern cod assessment. Good mathematical models are of course a central part of the assessment process, but they cannot compensate for inadequate or missing data. There is a need to develop appropriate models and to collect the appropriate data with sufficient precision and accuracy. In such modelling a danger to be avoided is the tendency to forget the distinctions between convenient mathematical abstractions, for example, constant

catchability rates and the living fish whose behaviour may well be in response to varying environments.

Thus, the Panel believes that more sophisticated modelling, combined with a broader and deeper understanding of the biology of the animals involved and of the physical environment in which they function, is essential to the proper management of the ecosystem of which northern cod is but one element. Indeed, the Panel sees as necessary a long-term goal of a properly integrated systems approach to stock management.

In the meantime, it would appear to be imperative that a very considerable research effort should be mounted and that, in the management of that effort, DFO should ensure that all its best resources are brought to bear through planned collaborative approaches to a hierarchy of particular problems that are cooperatively identified as demanding early resolution. Beyond this, the Panel would urge DFO to mobilize the resources of the broader scientific community as well as those of the fishing industry to address the enormously important scientific challenges facing Canadians in respect of their oceans and the life systems within them. The Panel, of course, is not unaware that DFO has already, in response to our Interim Report, committed considerable additional resources to its research efforts and that in taking such action has given consideration to the appropriate reallocation of existing resources.

In short, both the management of the scientific effort and the management of the fish stocks must be set in the context of clearly enunciated sets of biological, economic and social goals and objectives. Our intrusion into the natural domain can be justified only in terms of human reliance upon the resources that the oceans afford. At the same time, all such intrusions must be sensitive to necessities of the environment and to our obligations to protect and conserve. Because the technology we control gives us the power to be utterly destructive, we must be all the more aware of the heavy moral responsibilities we bear. Among those responsibilities is that of seeking and acquiring the knowledge that is within our grasp and that will alone enable us to manage as we ought. We can only pray for the wisdom to use our knowledge wisely.

In the opinion of the Panel, the beginning of wisdom is acceptance of the proposition that the fishery based upon the northern cod stock(s) will not be saved unless the spawning biomass is permitted to grow. This implies the urgent necessity to reduce the rate of fishing mortality from its current value of 0.45 or higher to a value below 0.30. Even if such a reduction were to be achieved, the pace of recovery would probably be still very slow and, perhaps, of such a marginal nature that natural environmental fluctuations might at any time tip the balance in the other direction. Thus, the Panel believes that the rate should, as soon as it is feasible, be reduced to 0.20 and that this should be the goal of DFO management strategy for the foreseeable future.

In the meantime, every reasonable effort must be directed to whatever tactics are available to encourage the survival of cod to increase the spawning population. This implies the rigid enforcement of regulations respecting gear types, fishing areas, allocations, bycatches, discards, etc. and the implementation of policies specifically aimed at a very considerable reduction in mortality of two, three, four, and five year old cod. It implies as well a very determined effort to restrict or eliminate the actual catch of cod by foreign vessels operating under Canadian licence within the two hundred mile zone and a determined Government of Canada initiative either to

bring the entire Canadian shelf under Canadian management or to reach an effective international agreement that will curb the irresponsible and destructive activities of certain countries fishing the “Nose” and “Tail” of the Bank.

In respect of both foreign and domestic fisheries, the Panel would urge consideration of the dangers of compartmentalization. Indeed, if the case for an integrated approach to science is well made, so will be the case for a similar approach to management. That is to say, we cannot contemplate a crab fishery, a capelin fishery, or a shrimp fishery, for example, that does not impact upon cod population and biomass, either directly or through bycatch possibilities, or indirectly through weight-at-age or density dependent, or other analogous relationships. In this context, foreign licences to take allegedly underutilized species should be carefully examined. By the same token, it is incumbent upon DFO to undertake a serious study of predator-prey relationships within the northwest Atlantic ecosystem with a view both to expanding essential knowledge and of refining management objectives. At the very least, we should know, for example, how many harp seals there currently are and, in terms of their bioenergetics, what their current tax upon the system may be. In a similar vein, the status of the capelin and shrimp stocks may be of enormous importance to the long-term health of the cod populations and, through weight-at-age relationships, for example, may not be entirely without significance to the process of cod biomass assessment.

In conclusion, the Panel having concluded that the population, the biomass, the spawning population, and the spawning biomass of northern cod are all currently in decline and that the fishing mortality rate is currently at the level of 0.45 or higher would stress the following recommendations:

- that in respect of the northern cod stock(s) and as a matter of urgency there should be an immediate reduction of fishing mortality to the level of at least 0.30 and, at the earliest feasible date, to the level of 0.20;
- that DFO must establish regulations to limit fishing mortalities imposed during the spawning period proportionally with the general reduction in total fishing mortality and should explore with the affected sectors of the fishing industry whether this objective can be best achieved through a straight reduction in the winter catch (i.e. during the spawning period) or through a combination of seasonal closure coupled with a catch reduction proportional to the reduction of the TAC during the remainder of the spawning period;
- that DFO should for both biological and economic reasons examine immediately the selectivity of traps, small and large trawlers, gillnetters, and other gear types with the intent of improving the yield in cod fisheries; the goal should be to eliminate the harvest of two, three, four, and five year olds and to reduce the bycatch of these year classes;
- that DFO review its management structures and approaches with the end of establishing a more focused and coordinated approach to the management of the northern cod stocks;

- that while we must work assiduously to refine our mathematical modelling techniques, it is also urgently important to acquire, through research, a more profound biological and general environmental knowledge of the system we seek to manage;
- that, in particular, we must address the problems of stock discrimination and of migratory and distributional patterns and adjust our fishing effort to bear with proportionate weight upon the several stock components;
- that we must convince the domestic and foreign fishermen that conservation is a matter of the utmost importance and that violations of appropriate regulations will not be tolerated;
- that the Government of Canada must be convinced of the imperative necessity of regulating, through agreement or otherwise, foreign fishing pressure upon northern cod;
- that predator-prey relationships be accepted as a matter of considerable importance and that, in particular, a seal census be initiated as a matter of urgency;
- that the management of DFO science be reorganized to recognize the necessity for the clarification of goals and priorities and for the appropriate integration of services and facilities and expertise to serve established priorities;
- that the DFO assessment process be submitted to peer review by independent scientists and that DFO should seek to involve the broader scientific community in its overall research programme;
- that the Government of Canada and the relevant provincial governments be encouraged while recognizing the importance of conservation to identify in unequivocal terms the socio-economic and cultural objectives of the Atlantic coast fisheries and so to coordinate their respective areas of jurisdiction to improve the collection of objective biological and economic data and to obviate conflict in terms of stock management;
- that the principles of adjacency and of essential needs be adopted as a fundamental premise underlying quota allocations.

CHAPTER I

Introduction

1.1.0 General Background

Under the Canadian Constitution, the Federal Government has authority over and management responsibility for both coastal and inland fisheries in all provinces and territories. This confers upon the Minister of Fisheries and Oceans the mandate to exercise licensing authority to individuals, to corporate entities, and to other parties permitting the exploitation of specified stocks or species of fish, for specified periods of time, in accordance with such conditions both general and particular as are deemed appropriate to the circumstances. It also confers upon the Minister the obligation of responsibility for the welfare of the stocks, for their proper management and conservation.

In respect of the marine fisheries on the east coast the role of the Minister was prior to 1977 clearly circumscribed by the exigencies of a situation in which international fishing fleets had ready access to the stocks beyond the narrow strip of territorial sea that international law allowed. Nations such as Great Britain, France, Spain, and Portugal who had traditionally fished waters of the Northwest Atlantic were joined by numerous others including East and West Germans, Russians, Poles, Rumanians, Danes, Norwegians, Cubans, and Japanese as fish became an increasingly valuable commodity, as domestic fisheries were depleted by overfishing, and as technological advance permitted access to hitherto inaccessible resources in distant waters. An attempt to introduce some element of order into this fishery was made through the establishment of the International Commission for Northwest Atlantic Fisheries (ICNAF) whose regulatory and management functions covered stocks beyond the twelve mile coastal limit. **As an agency for conservation, however, ICNAF was a total failure.** It did, perhaps, succeed in obviating direct international conflicts, but it did so by setting catch quotas so high that they could not possibly be met and that threatened the very survival of the fisheries dependent on cod and haddock.

Fortunately, movement towards the Third United Nations Convention on the Law of the Sea was sufficiently promising that many coastal states including Canada took unilateral action in 1977 to establish fishing zones extending two hundred nautical miles out to sea. Some five years later in 1982 the Convention was adopted by an overwhelming majority of the United Nations Conference membership. It is expected that the ratification process will be completed in the next few years, at which time the provision that fishing zones “shall not extend beyond two hundred nautical miles from the baseline from which the breadth of the territorial sea is measured,” will be formally confirmed as part of the Law of the Sea Treaty.

Regrettably, provisions for the management of stocks of fish that straddle the two hundred mile line but that are indigenous to the continental shelf of a coastal state are cumbersome requiring agreement among the international user group and leaving the concentrations of the stocks in question in limbo during the period of dispute resolution. Thus, in the case of the northern stock, the Canadian Government is left in a still invidious position in respect of its conservational and management mandate. For, setting aside the question of the Flemish Cap with its separate stocks, the two hundred mile line cuts through several important fish populations on the “Nose” and “Tail” of the Bank leaving the issue of their proper management very much in doubt.

Nevertheless, in October 1978 the Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries was adopted and out of this came the Northwest Atlantic Fisheries Organization (NAFO) as the regulatory agency for the establishment and enforcement of fisheries regulations in the zone outside the two hundred mile Canadian limit. NAFO was composed of thirteen contracting parties including Canada, the USSR, the countries of the European Community, Japan, and Portugal.

NAFO agreed that Canada would manage the 2J3KL cod stock, even though it was recognized as a transboundary stock, on the grounds that only a small part of the stock was normally present outside the two hundred mile limit and that for only part of the year and because of the vital importance of that stock to the coastal state. Nevertheless, NAFO continued until 1986 through its Scientific Council to do the scientific assessments of 2J3KL stocks and, furthermore, continued, as it does at present, to establish quotas to be fished outside the two hundred mile limit. **However, NAFO like ICNAF before it is totally devoid of “teeth.”** Its moral authority counts for less than nothing in the world of “realpolitik” and nations of the European Community, for example, may through the simple expedient of filing a protest against the TAC set by NAFO free themselves from any obligation to be bound by it. **In practice, such nations as Spain and Portugal habitually ignore scientific advice, flaunt their defiance of conservational strategies, and limit their catches only by the capacity of their fishing fleets.** As an example, we may cite the year 1986 in which Canada established a northern cod TAC of 266,000 tons, in which NAFO proposed a TAC for the European Community countries of approximately 36,000 tons to be taken from the “Nose” and “Tail” of the Bank, and in which those countries reported landings from those areas of approximately 100,000 tons.

In this context of international irresponsibility amounting in the eyes of most Newfoundland fishermen who addressed our Panel to outright piracy, the mandate of the Canadian Minister of Fisheries and Oceans cannot be executed properly. Even if it is impossible to attain international agreement under which the Canadian writ would run to embrace all the stocks of the Canadian

Continental Shelf, it should be possible to develop a cooperative approach to scientific assessment and to management that recognizes both the preponderant interest of the coastal state but as well the necessity to ensure the long-term survival of the stocks. Ideally, we believe that that control should be exercised by a single authority and that authority should be Canada.

Despite the difficulties arising from a divided jurisdiction, the declaration of 1977 provided to Canada an opportunity to begin the process of rebuilding depleted stocks and to establish a management regime based upon a solid scientific base that would ensure a viable fishery into the foreseeable future. Wisely, Canada's approach to this objective was to concentrate within its jurisdictional zone upon the active encouragement of long-term growth of the spawning stock. This overriding objective was sought through routine monitoring of stock population and biomass followed by careful regulation of the total allowable catch (TAC) in conformity with a strategy developed around the stated goal of a $F_{0.1}$ mortality which identified approximately 20% of the exploitable biomass for harvest each year. This strategy if effectively pursued should have guaranteed a healthy and steadily growing stock and a TAC that increased proportionally in successive years.

However, the management of any fishery is a difficult undertaking at the best of times as a wide range of varying conditions come into play, any or all of which have the potential of altering the hoped for results. These can include an unpredictable and highly variable physical environment, wide swings in the numbers of young fish annually recruited to the stock, extensive and incompletely known interactions among different species occupying similar territories, the misreporting of fish catches, unrecognized sources of natural mortality, uncertain reliability of data gathering methodologies, and the subsequent failures to submit available information to sufficiently sensitive and rigorous statistical models.

Despite those constraints, there was in the decade immediately following Canada's assumption of management rights a widespread belief that the $F_{0.1}$ harvest strategy was resulting in the recovery of the northern cod stocks that had been shamelessly overexploited in the decade of the 1960s. The TAC had increased progressively from 135,000 tons in 1978 to 266,000 tons from 1984-1988, and a major restructuring of the fishery had been carried out. With renewed confidence investors and fishermen alike began to believe that a resource that had been the backbone of the regional economy for five hundred years, with all the profound socio-cultural implications thereby entailed, could be so managed as to represent the best hope for an illimitable future.

Early in 1989, however, it became clear that there were serious discrepancies in the assessment figures. It now seemed that total stock size was significantly smaller than had been predicted from all previous estimates. The reasons for this altered view were variously ascribed but principally to the introduction of new and more sophisticated statistical modelling techniques and to the availability of data in an increasingly longer time series. The revised position was that while the stock had not declined relative to previous years, it had not grown at a sufficiently rapid rate to justify the TAC of a year earlier, i.e. 266,000 tons. In essence, the new calculations indicated that the previous estimate of fishing mortality had been too low with the consequence of offering a brighter view of stock growth than had been warranted. Consequently, it was

recommended that if the F_{0.1} strategy were indeed to be realized so as to encourage an increased growth rate in the spawning stock, the TAC would have to be reduced by one-half.

1.2.0 Composition of the Panel

The Minister of Fisheries and Oceans responded to this alarming advice by adopting the temporary expedient of reducing the TAC for 1989-1990 to 235,000 tons and by creating an independent review Panel to examine the situation.

The Panel was called into being on February 12, 1989 with membership as follows:

Dr. Leslie Harris
President and Vice-Chancellor
Memorial University of Newfoundland
St. John's, Newfoundland
(CHAIRMAN)

Dr. D. L. Alverson
President
Natural Resources Consultants
Seattle, Washington
U.S.A.

Dr. Robert O. Fournier
Professor of Oceanography and Associate Vice-President (Research)
Dalhousie University
Halifax, Nova Scotia

Mrs. Mary Lou Peters
Mary Lou Peters and Associates
St. John's, Newfoundland

Mr. J. G. Pope
Directorate of Fisheries Research
Fisheries Laboratory
Ministry of Agriculture, Fisheries and Food
Lowestoft
United Kingdom

Mr. Maxfield Short
Director
Inshore Sector of the Fishermen Food and Allied Workers Union
St. John's, Newfoundland

Mr. Frank D. Smith
President and Chief Executive Officer
NORDCO
St. John's, Newfoundland

1.3.0 Terms of Reference

The Terms of Reference provided to the Panel by the Honourable Tom Siddon, Minister of Fisheries and Oceans were as follows:

Independent Review of The State of the Northern Cod Stock

Terms of Reference

The panel will consider the scientific advice provided by the Department of Fisheries and Oceans since 1977 on the Northern cod stock and the current state and size of the stock, and make recommendations regarding stock assessment methods and means with a view to better forecasting the size, growth potential and behavior of the stock in future.

In fulfilling its mandate the panel will examine:

the definition of the Northern cod stock complex and the relationships over time between its components;

the data used in assessing the abundance and growth potential of the stock and in forecasting catches;

the methodologies used in Canada to assess the state of the Northern cod stock;

possible causes of changes in the state of the stock, including natural phenomena, environmental factors, fishing practices within and beyond the 200-mile limit;

approaches taken by other countries and by the Northwest Atlantic Fisheries Organization (NAFO) to the measurement of fish stocks; and

explanations for the variance between the current and earlier scientific advice as to the overall state of the 2J3KL stock;

and will recommend:

possible improvements in data collection, methodologies, and related research resources that would contribute to the achievement of greater certainty in forecasting the state of the stock in 1990 and in future years, including means of incorporating the monitoring of the inshore fishery into the stock assessment process.

The panel will receive submissions from the public and hold public hearings.

The review panel will provide an initial report to the Minister of Fisheries and Oceans no later than May 15, 1989 on any new measures that might be needed in 1989 to ensure reliability of the scientific advice for the 1990 fishing season. The panel will provide further comprehensive advice by the end of 1989.

1.4.0 Work Methodologies

The Panel commenced its work with a review of current and historical documentation touching the northern cod stocks and the total ecosystem of which they constitute a part. In this context, the library and resources of the Northwest Atlantic Fisheries Centre were made available in a manner that reflected the generous spirit of cooperation with which the Director of the Centre and his scientific staff greeted the efforts of the Panel and which continued to the conclusion of the project. Indeed, the Panel cannot praise too warmly the efforts of Mr. M. C. Mercer and his colleagues to ensure its access to all available data sources and to all sources of particular expertise that might inform its deliberations and assist it in reaching valid conclusions. Thus, in the early days the Panel was not only provided with reams of documentation but was as well and upon request given oral briefings by members of the scientific staff of the Centre and by senior officials of the Canadian Atlantic Fisheries Scientific Advisory Committee (CAFSAC).

Further, because there was not time before presentation of its interim report to organize and to conduct public hearings, the Panel did seek through informal meetings the views of individuals and groups representing both inshore and offshore fishermen, the major fishing companies, the fishermen's union, and other special interest groups.

Nevertheless, in the limited time available before the May 15 deadline for submission of an interim report, it was necessary to concentrate attention upon the statistical methodologies and the mathematical models being employed by CAFSAC in assessing the state of the northern cod stock complex. In due course, members of the Panel became reasonably comfortable with their understanding of the source and nature of the errors that had led to earlier overestimates of stock abundance and confident that they had correctly identified the likeliest source of weakness or of deficiency in data being employed to tune the cohort analysis figures to project current abundance. Further, the Chairman and Dr. Alverson were able to spend some time at the Fisheries Laboratory, Lowestoft, of the British Ministry of Agriculture, Fisheries and Food and through the good offices of Mr. John G. Pope and his superiors, to use their computer facilities to check fishing mortality levels derived from available data by Canadian scientists using the ADAPT mathematical model against levels obtained by submitting the data to other models employed in other jurisdictions. Furthermore, they were able to generate certain risk analysis scenarios assuming different levels of fishing mortality and varying TACs which were a significant part of the interim report which was submitted to the Minister on May 15, 1989.

Following submission of the interim report, the Chairman accepted a number of invitations to present the Panel's tentative conclusions to interested and informed groups and organizations and to engage in dialogue in respect to them. This process provided opportunities for the clarification

of issues, for the identification of questions of concern to the fishing industry, and for the dissemination of information to the public at large.

This process was continued in the more formal context of public hearings. Scheduled in two series, the first between June 21 and 24 at Clarenville, Marystown, Gander, and St. Anthony; the second between September 25 and October 4 at Makkovik, Cartwright, Port Hope Simpson, La Scie, Twillingate, Fogo, Bonavista, St. John's, and Halifax. In the course of those hearings some seventy-eight presentations were made to the Panel, a complete list of which is included in Appendix A.

The hearings were, in the main, characterized by lively discussion, a free exchange of information, and more particularly by the repeated and passionate outpourings of anger and frustration. From the northern coast of Labrador to the southern shore of the Avalon Peninsula the message of the inshore fishermen was clear and unequivocal. Their livelihood, their communities, their lifestyle, their heritage were all under attack. The resource upon which they and their fathers and grandfathers before them had built their lives and which they had regarded as preeminently theirs had been alienated from them. The great schools of migrating cod no longer came to shore. Despite vastly increased efforts and more and more substantial investments in boats and gear, their landings were in steady decline and as related to effort were only a minuscule fraction of what they once had been. Nor was any doubt expressed but that the decline precisely paralleled the growth of the offshore trawler fleets whose rapacious assaults upon the spawning concentrations represented the ultimate in destructive potential. And as if this were not enough the Canadian Government appeared to condone the depredation of foreign fleets, many elements of which fished under Canadian licence, and the ravages of an expanding herd of seals whose growth would be checked, presumably, only when it had exhausted its food supply.

Even this bleak tale failed to exhaust the catalogue of woes besetting the beleaguered inshore fixed gear fisherman. For when, they argued, a few fish did escape the nets of domestic and foreign trawlers and the maws of predacious seals, they were intercepted before they could reach shore by gillnets in the thousands deployed across the migration routes by a middle distance fleet owned, in part, by desperate inshore fishermen being forced further and further from the land and, in part, by government, an intrusion signifying to many fishermen a singularly poignant symbol of betrayal.

Has this presentation of the burden of the inshore argument in any way gilded the lily? Indeed, it has not, for the reportage pales in comparison with the force of the language used to convey the message so that the Panel might, like William Pitt, stand in astonishment at its own moderation.

Moving from evidences of anger to symptoms of frustration, we must note the oft repeated refrain, "we told them so, but they wouldn't listen." Over and over, the Panel was urged to recommend incorporation of inshore data into assessment equations. Over and over, the Panel was urged to consider the principle of adjacency. Over and over, it was urged to think upon the value of local knowledge and experience. Over and over, it was urged to find the means of involving fishermen in the process of decision making. **Over and over, it was urged in so many words to reflect upon the proposition that there are categories of knowledge that are not amenable to**

quantification and that, even if they cannot be incorporated into mathematical models, should not for that reason be scorned.

From the foregoing it will appear that the preponderant voice heard at the public hearings was that of the inshore fishermen. And that is, indeed, the case. Nevertheless, it should not be thought that the offshore trawler industry does not, as well, have its passionate and articulate spokesmen. Nor are such persons merely tools or agents of major corporate interests. For there are communities whose traditions are offshore and whose survival depends upon the maintenance of a viable trawling industry. From their perspective they are the truly endangered species. Already more highly regulated than any other branch of the fisheries, with their every action subject to the supervision of law and authority, they are as well the most consistently productive component of the entire fishing industry. And if they are very efficient fish killers they are also, because they function under such close governmental supervision, potentially efficient agents of conservation. Compelled by law and by self-interest and being responsive to an increasingly demanding market, they have long since abandoned their old ways of profligate destruction so that the current generation of trawler men have never witnessed the practices that still inspire the mythology in forming the inshore prejudice. And if they do fish upon spawning concentrations, they do so with the clear conviction that such a fishery is not of itself inimical to the viability of the stock. Supported by the weight of evidence provided by the international scientific community, they are persuaded that the real threat to a population is the killing of too many individuals so that not enough are left to constitute a viable spawning biomass. There is no magic in the date on which the killing occurs.

In addition to the scheduled public hearings, Panel members met on request with individuals and groups who, though unable to be present at public sessions, were yet desirous of making their views known or who wished to supplement the presentations they had already made in the public forum. These included officials from the Government of Newfoundland and Labrador, scientists from Memorial University of Newfoundland, officers of Fishery Products International Ltd., the Economic Council of Newfoundland and Labrador, a former member of the fisheries observer programme, and others.

1.5.0 Organization of the Report

In the meantime Panel members were busily engaged in attempting to read and digest the enormous volume of documentation that had been assembled for their consideration. Individual members of the Panel were assigned specific writing and research tasks and periodic meetings were held to debate issues, to share information, and to seek consensus in respect of critical issues. The overall structure of the report was collectively determined but the final task of collating and editing the several contributions of Panel members into a coherent final report was assumed by the Chairman who must, therefore, bear responsibility for the style of this presentation.

If the Panel were to make a single collective complaint, it would be the very tight time frame into which its work has had to fit. From the very beginning it has worked under extreme pressure, not only because of the enormously important issues upon which it is required to pronounce, but because of the great complexity of the questions with which it has been confronted. It is

inconceivable that Panel members should have been able in the time at their disposal even to strip mine the wealth of published material touching its concerns or to address, in anything like comprehensive fashion, the range of environmental and socio-economic concerns that must inform any approach to a satisfactory resolution of the crucial questions before us. It has, therefore, tended rather to oversimplification than otherwise and has probably raised new questions where some might have expected it to provide answers. Perhaps its best hope is that in stressing certain fundamentals both in respect of principles to be observed and of gaps in our knowledge to be made good, we will have pointed a direction that will lead ultimately to the desired goal of a healthy stock of northern cod and a viable fishery based upon it.

1.6.0 Acknowledgements

The Chairman of the Panel would be remiss if he did not acknowledge the total commitment and the hard work of all Panel members who accepted his chairmanship with such good grace and in such a spirit of cooperation as to leave him with nothing but a most profound sense of gratitude. In particular, he wishes to acknowledge the outstanding contribution of Dr. D. L. Alverson whose breadth of knowledge, whose wide experience, whose former familiarity with the northern cod problem were all of enormous value to the Panel's deliberations and whose profoundly humane values so inform his science that working with him was a joy. The Chairman also is happy to acknowledge a great debt of gratitude to Mr. John G. Pope upon whose very special expertise in the domain of mathematical modelling the Panel placed its reliance and whose performance has not been disappointing. The Chairman and Dr. Alverson owe him a particular word of thanks for the warmth of his hospitality at his laboratory in Lowestoft. Indeed, they must in this context express their thanks, as well, to the Directorate of that Laboratory who permitted such generous access to their staff and facilities.

To all those people along the coast of Newfoundland and Labrador who participated in the public hearings the Panel expresses its gratitude and its admiration. The arrangements were in all cases excellent and the participation all that could be desired. To those with no previous exposure to rural Newfoundland the experience was both enlightening and moving. Perhaps it would not be inappropriate to single out for particular mention the splendid meal and superb hospitality provided by the Makkovik Women's Group and the very special courtesies extended to the Panel by Ms. Carol Burden at Port Hope Simpson.

To Mr. M. C. Mercer and his staff at the Northwest Atlantic Fisheries Centre the Panel is also deeply grateful. They have been unfailing in their cooperation and have given freely of their time and talents as they were called upon. There is not any sense in which more could have been expected and even in expressing its criticism the Panel does so with respect for their integrity as scientists and in full recognition of the great difficulties of the tasks confronting them. The Panel would also acknowledge with gratitude the assistance of Mr. C. A. Whalen and his staff.

The Chairman and members of the Panel involved with historical research would record as well their grateful appreciation of the work of Ms. Barbara Cox who assembled and compiled virtually all the statistical data in Chapter II, compiled the bibliography, and willingly and efficiently undertook literature searches and other useful tasks upon request. Her invaluable services were

made available to the Panel through the courtesy of Dr. Niall J. Gogan, Associate Vice-President (Research), Memorial University of Newfoundland who permitted her part-time secondment to the project.

Finally, the Chairman and members of the Panel must acknowledge the person of whose superb organizational skills they stand in awe. Mrs. Florence Parsons has been the secretariat. With total efficiency and unfailing good humour she has made all ways smooth, kept the Panel closely to what often appeared to be an impossible schedule, bargained, cajoled and browbeat as circumstances required, sublimated her fear of flying to advance the cause, and withal behaved as the perfect secretary.

CHAPTER II

Historical Overview

2.1.0 Introduction

The first humans to occupy the territories now known as the Province of Newfoundland and Labrador probably settled along the shores of the Strait of Bell Isle, for in the fecund waters of the Strait a fortuitous confluence of oceanographic and biological elements conspired to produce a profusion of marine life, fish, flesh, and fowl that promised a seemingly inexhaustible resource for those who could harvest its teeming abundance. Several millennia later, the first Europeans known to have inhabited any part of North America also chose for their settlement the region of the Straits and, perhaps, for similar reasons. Some five hundred years later still the stench of great trying pots signalled the presence at Red Bay and other adjacent harbours of Basque whalers also intent upon the exploitation of the riches to be wrested from those northern waters.

The coming of the Basques heralded the dawn of a new and different era. The native peoples who for some seven or eight thousand years had exacted a subsistence economy from their harsh environment were, with their primitive technology and their small numbers, incapable of diminishing to any appreciable degree the prolific life supported by the seas around them. But the Basques were a different kettle of fish; not in and of themselves, but because they represented the first wave of West European expansion that carried the flags of Europe to every corner of the earth and that brought newly burgeoning European technology to bear upon the exploitation of earth's resources wherever they might be found.

2.2.0 Evolution of the Fishery

Among those resources were the great stocks of northern cod whose seasonal migrations to the shallow waters of the near shore and of the offshore banks made them accessible to the technology of the age. And so the earlier adventurers with their visions of the fabled Northwest Passage, of magical spice islands, and mountains of gold were replaced by others whose more prosaic mission was the catching and curing of cod for sale in the markets of Europe.

There is some evidence suggesting that there were English voyages to the shores (or Banks) of Newfoundland as early as 1481. In any event, by the opening decade of the sixteenth century the fishing ports of northern Europe were rife with stories of fish so abundant that they impeded the progress of ships and that were to be caught by the simple expedient of lowering a basket over the side and drawing it up filled. In those circumstances, fishermen of Portugal, Spain, France, and England were prepared to place their vessels and their lives at hazard in braving twice each year the dangers of the western ocean passage.

Through the course of the sixteenth and seventeenth centuries there developed a substantial migratory fishery prosecuted on the banks and in the coastal waters of Newfoundland and Southern Labrador. For the nations of continental Europe, it was, by and large, a ship fishery in which the cod was taken back across the ocean each autumn in what we would now describe as “salt bulk” to be washed and sun dried in their own salubrious climates. The English alone, perhaps because they lacked a native source of cheap salt and perhaps because of somewhat damp autumnal weather, developed the practice of light salting and drying on the shores of Newfoundland. This, in turn, led to settlement. In the first instance winter crews were left behind in the fall — to cut timber and erect wharves, stages, flakes, and other structures of a standard fishing room; to serve as watchmen and caretakers or merely to hold good berths for the next season. In time some of these became attracted to the land and chose to stay to become land and property owners if, indeed, penniless ones; others opted for the comparative freedom of life in a new world. For a host of individual reasons Newfoundland, “the great ship moored near the fishing banks,” became by slow evolution a crypto-colony with a settled population.

By the same token, the economic structures that had emerged in the age of transience were transformed into systems dependent upon resident fishermen; the dogma of the fishery as the great training school for English seamen became a meaningless shibboleth and the statutory injunctions against settlement came to be more honoured in the breach than in the observance. So the population grew and particularly during periods of war, notably the Seven Years’ War (1756-1763) and the Napoleonic War (1792-1815), when market demand drove fish prices to unprecedented heights and when wartime conditions made the ocean passage more hazardous than heretofore. And as it grew, so did the peculiar nature of Newfoundland demography become established.

2.3.0 Cod and Demography

There are two significant characteristics of that demography that relate directly to cod as the *raison d’etre* for Newfoundland’s existence as a distinct society. First there is the fact that the settlers’

beachheads at the edge of the sea were tenuous. Unlike situations facing their counterparts to the south, the hostile land confronting those newcomers to the shores of Newfoundland daunted any budding anticipation of landward development and left them clinging to the barest margin of the sea facing eastward and looking to the continental shelf that lay submerged before them as their primary field of endeavour. The constraints of this environment precluded the kind of diversified production that allowed the development of a different society in New England and to a lesser extent in the Maritime provinces and determined the nature of the cultural and commercial patterns that were to control the lives and destinies of Newfoundlanders for centuries.

The central significance of this phenomenon should not escape us. The Newfoundlander did not clear the forest and plant fields; he did not stake claim to vast tracts of land; he did not often bother even to give names to prominent physical features of the landscape (excepting those that bordered the sea). Indeed, he hardly even thought of the land except as a convenient platform from which to exploit those underwater banks and shoals to which he did lay claim and whose every feature he knew and named as farmers did their field and pastures. Small wonder then that the typical Newfoundland fisherman should resent allegations and legal determinations purporting to show that his fields because they were covered by water were common property and that his reliance upon them as his only source of livelihood for four hundred years or so counted for less than nothing.

The second demographic characteristic of interest to us is that which relates to the fact that it was not sufficient for our early settlers merely to live beside the sea; it was crucially important to live beside the resource that the sea afforded. And that resource was not evenly distributed throughout coastal waters. Locations for settlement were those at which a precise combination of geographic, oceanographic, and biological elements came together, the essential conditions being the interaction of winds, tides, and currents, operating to keep plankton rich waters sufficient to attract concentrations of feeding fish within reasonable distance (given primitive technology) of an adequate haven with sufficient foreshore and a supply of fresh water. Look at the early and ultimately most successful settlements and we will see that they do not represent the best or most sheltered harbours, the best and most readily accessible supply of wood, the best and most accessible supply of arable land or of fresh water; rather they frequently offer only the barest modicum of shelter from the seas, only a modicum of passably good land, only the least amount of fresh water necessary to survival. What they have in common is easy accessibility, at a time before the invention of the internal combustion engine, to good fishing grounds. Thus, we see early successful settlements at Hibbs Hole but not at Avondale, at Bay de Verde but not at Holyrood, at Bonavista but not at Clarendville, at Greenspond but not at Valleyfield, at Fair Island but not in Indian Bay, at Fogo but not at Lewsiporte, and so on through the whole of the gazetteer of the coasts of Newfoundland and Labrador.

2.4.0 Northern Cod — The Socio-Economic Context

The settlement pattern dictated by the overriding importance of accessible fishing grounds has over the centuries created a unique set of problems for successive Newfoundland administrations. These include a relatively small population, thinly scattered in more than one thousand communities along ten thousand miles of coastline, often in the locations most difficult of access

involving astronomical per unit cost for basic infrastructural services like roads, harbours, electricity, water, sewage, schools, and hospitals; and, all dependent upon a single seasonal resource that fluctuated in availability in tune with environmental fluctuations that were neither understood nor controllable.

Nevertheless, this demographic pattern, a nightmare to finance ministers and central planners, constituted the foundation of the Newfoundland socio-cultural experience and created lifestyles that have become the object of passionate adherence and that inform a political consciousness that has not grown weak with time but rather, in recent decades, has witnessed a virtual renaissance. The personal and social values of hardihood of endurance, of survival, of resilience, of neighbourliness, of sharing, of community, of independence have become the immutable elements of a mystique that might almost be described as the cult of the unique and distinctive Newfoundland. We have only to look to the political history of the past twenty-five years to recognize the old passions that were evoked in the face of a perceived threat to the social structure. A political party that had been deliberately identified as “Her Majesty’s **Outport Government**” and that had been more popular than any that had ever before existed was swept from power by one whose name had, heretofore, been anathema to much of the rural community. The magic formula offered by the new dispensation was a commitment to turn the tide of centralization and to promote economic development in the context of “Newfoundland Culture,” the preservation and conservation of the distinct Newfoundland society and lifestyle predicated upon the historic demographic pattern.

Nor can there be a doubt of the intimacy of the relationship between that distributional pattern and the accessibility of northern cod. The spread of settled population northward from very early centres on the Southern Shore and in Conception Bay to Trinity Bay, to Bonavista Bay, to Notre Dame Bay, to the Northern Peninsula (when the exigencies of imperial relations with France permitted), and to the coast of Labrador was, in part, a response to increased crowding of inshore fishing grounds and in part an aspect of the competitive urge to be first to occupy the headland areas to which the summer migration of cod came in greatest abundance. Through this process the whole of the east and northeast coast from Cape St. Mary’s to Cape Chidley was by the beginning of the twentieth century dotted with fishing communities, though the coast of Labrador had retained some of the prototypical characteristics of the early transient West Country fishery to Newfoundland. That is to say, much of the Labrador fishery continued to be prosecuted by fishermen, whether “floaters” or “stationers,” who maintained permanent residence in villages strung along the east and northeast coast of the island. In any case, roots had been sunk deep, or to use a more appropriate metaphor, holdfasts had been securely attached in hundreds of coves and harbours and bays which, as inhospitable as some might to the casual glance appear, had become the focal point of all those associations, both practical and emotional, that connote home and community. After three or four hundred years of occupancy even a barren, rock-strewn piece of foreshore becomes an infinitely valued piece of property, sanctified by the lives and the striving of a family through many generations. A house that is owned outright and that stands on the site once occupied by one’s father, and his father and his father’s father becomes a sacred property not to be lightly abandoned. An environment whether physical or social in which one has exclusively lived and moved and had one’s being; a church in which generations of a single family have worshipped; a churchyard in which the bones of generations of ancestors have been laid; a seasonal round of work and relaxation made comfortable with time; are but some of the elements

that together constitute a lifestyle fostering social and emotional security and not lightly to be forsaken.

Of course, there are none who doubt that the whole structure collapses when the fish, that is to say the cod, fail in their annual migration to appear in the shallow coastal waters where they have traditionally been accessible to the relatively unsophisticated technology of the inshore fisherman. For a year or two or three, poor catches may be endured. Traditionally in such times, the merchant offered credit or the government offered dole sufficient between them to obviate outright starvation. But in the end, either the fish returned or the community died. There was and is no middle ground. There was and is no other economic activity to which the dispossessed fisherman could turn. The limited agricultural and pastoral pursuits, the small sawmilling operations, and such like were supplements to and not replacements for the fishery. If the fish failed, the ultimate solution was to release the hold-fast and move in a few cases to urban centres within Newfoundland but more probably to “the Boston States” or latterly to the mecca of Southern Ontario. Nevertheless, the hold of the land was so strong that many refusing to irrevocably sever the connection with “home” became seasonal migrants seeking summer employment in the construction camps and mines and mills of Northern Canada and returning each winter to the place that had given them birth and in which they could find the psychological security their spirits craved. It is no accident of language that an average Newfoundlander will say not that “I come from ...” but rather “I belong to ...” (a particular community)

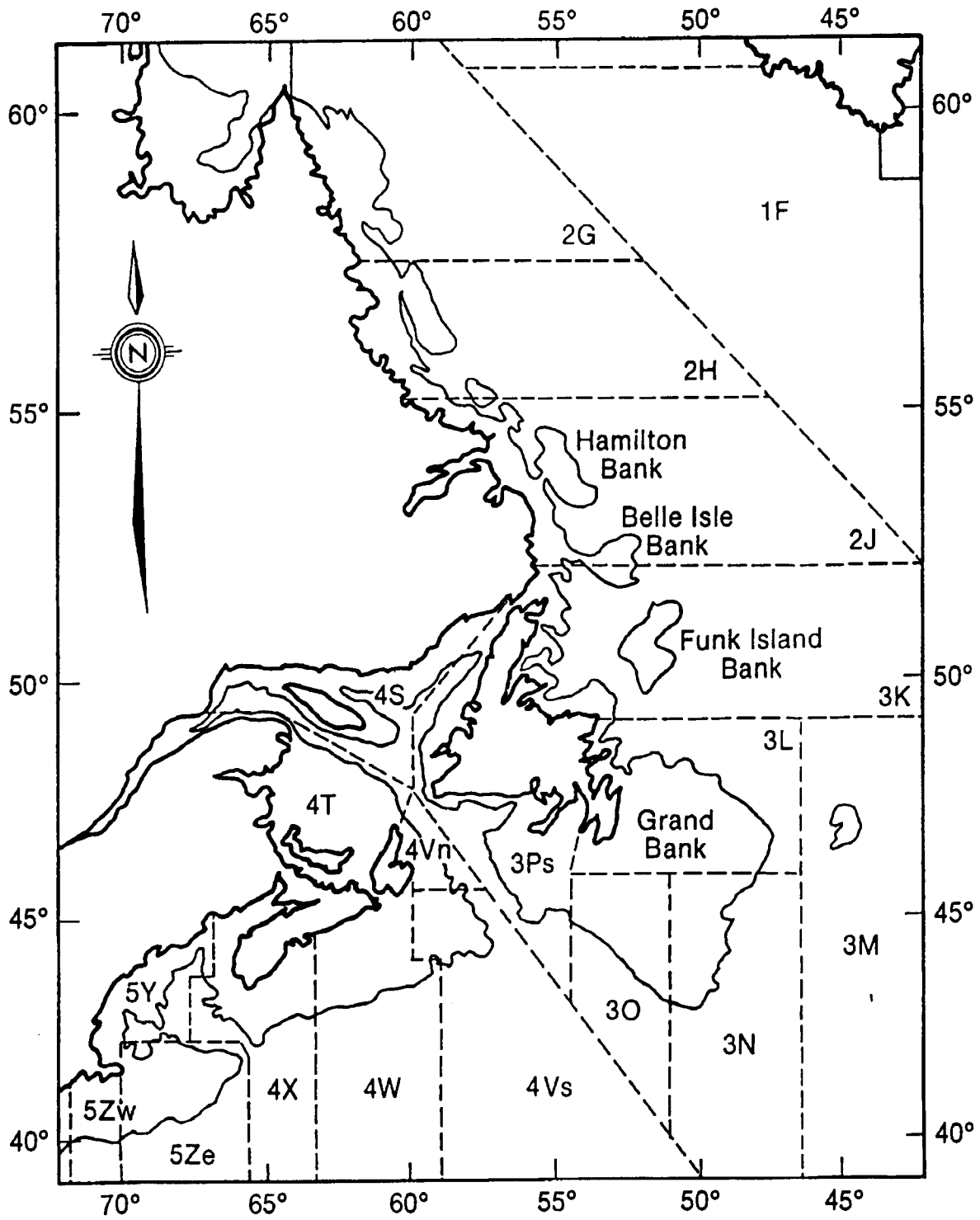
In short, if we contemplate, over the long-term, the demise of the northern cod stocks, we contemplate the death of communities along the whole east and northeast coast of Newfoundland as we have known them. For the vast majority of the communities in question, northern cod was their only reason for existence and northern cod remains the only substantial economic basis for their survival. And this is a simple statement of fact and not an argument pro or con.

2.5.0 Northern Cod — Historical Landings

Let us now examine the nature and extent of the economic base as it has been exploited over the years.

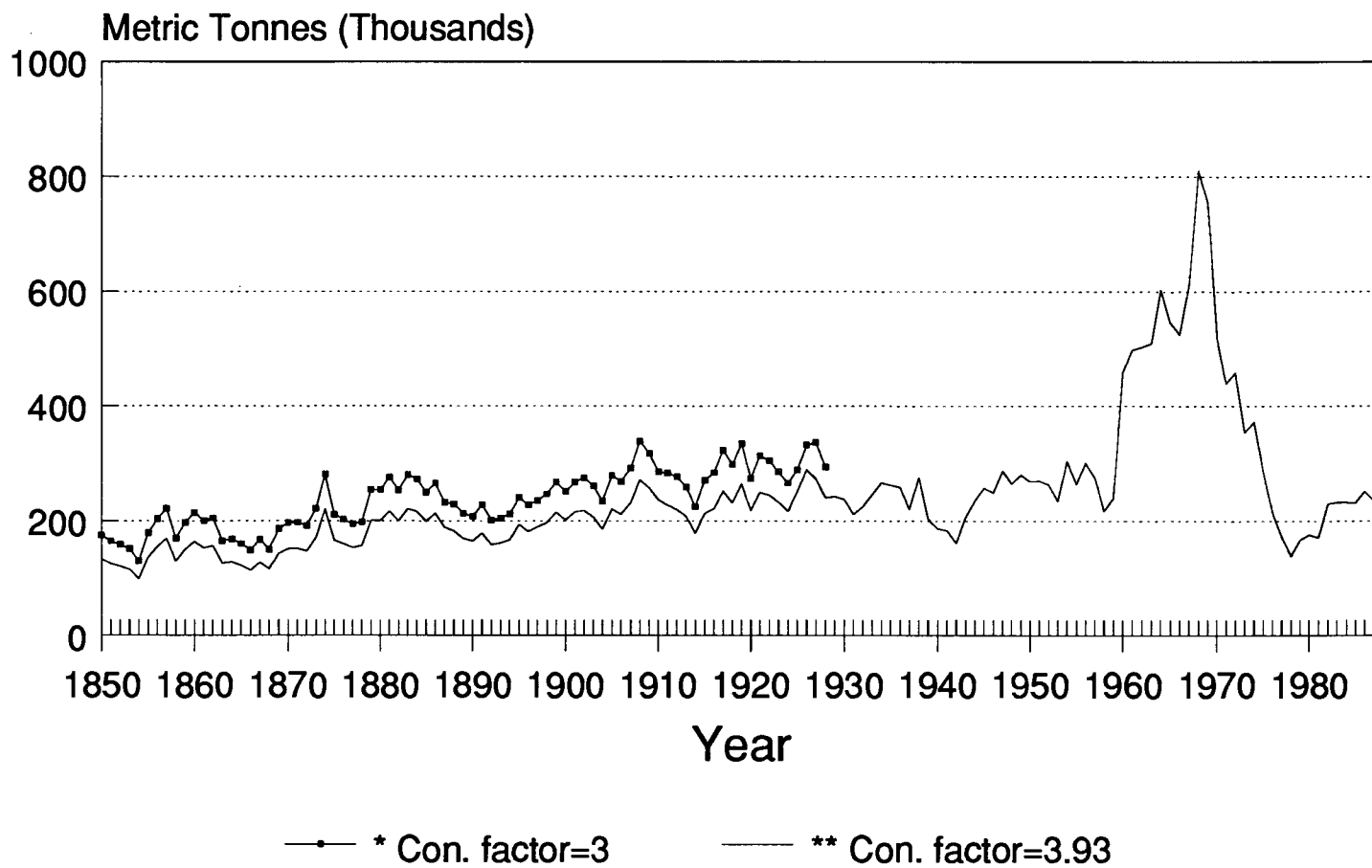
Figure 1 is an attempt to reconstruct from available data historic landings of northern cod from waters that are now designated as management zones 2J, 3K, and 3L. We cannot, of course, be certain of the absolute accuracy of the figures cited for a number of reasons that will appear. An attempt has, however, been made to reconcile the difference in statistical treatment that appear in the several sources that have been used. In consequence, what emerges is probably sufficiently close to reality as to provide a reasonably sound basis for our conclusions.

Landings in the 2J3KL (see **Figure 2**) area prior to 1952 are estimated from data provided in Part 4, *Second Annual Report of the International Commission for the Northwest Atlantic Fisheries* (often cited as Volume 1, *ICNAF Statistical Reports*, 1951). The historical data presented by ICNAF were, in turn, derived from “Statistics of the Catch of Cod off the East Coast of North America to 1926” by Oscar E. Sette, U. S. Bureau of Fisheries Document No. 1034, supplemented to 1928 by R. H. Fiedler and R. A. Power of the U. S. Bureau of Fisheries. ICNAF data presented



Map showing 2J3KL divisions

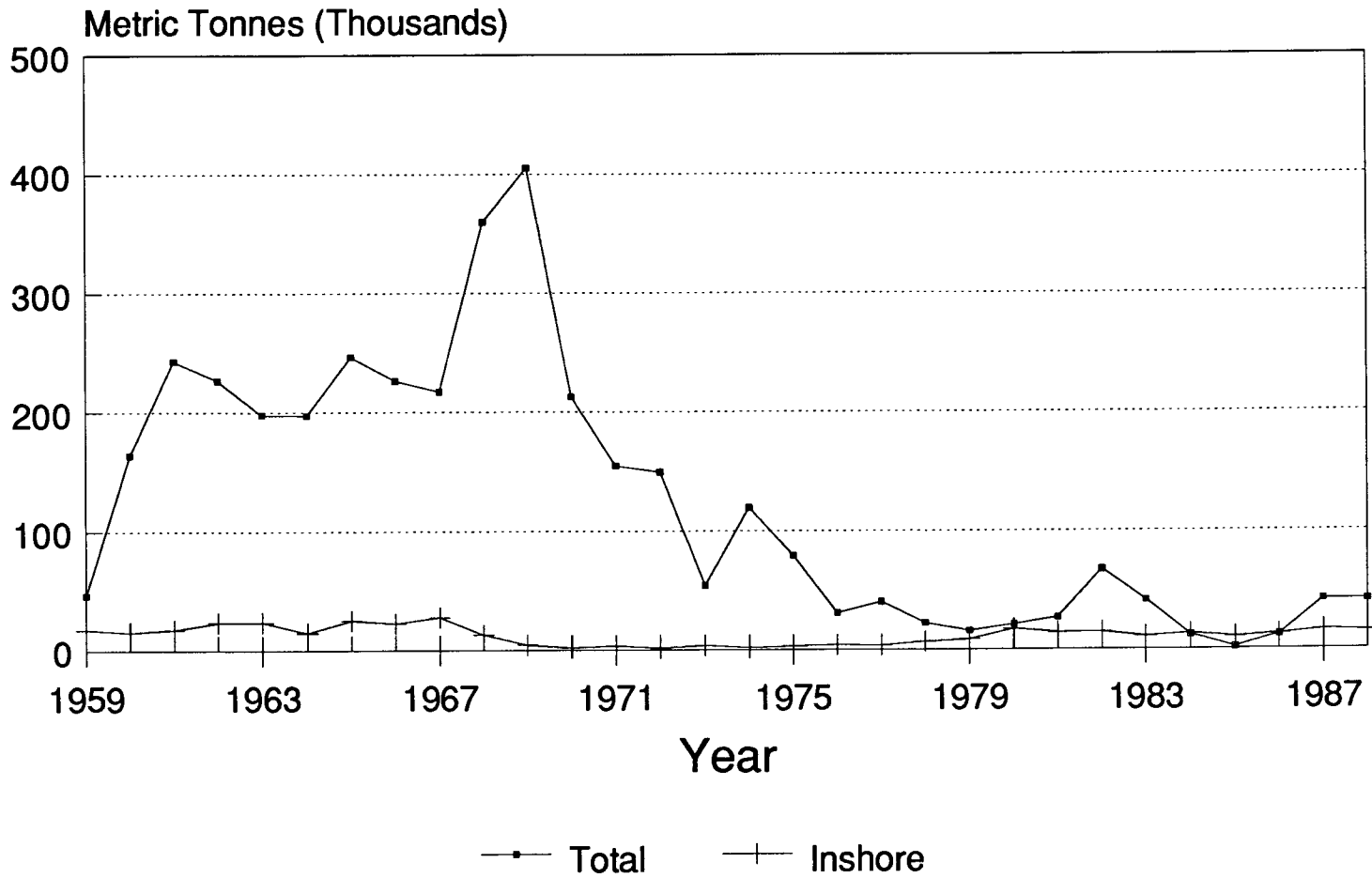
Figure 1: Cod Landings 2J3KL 1850-1987



* NF Dry to Fresh Conversion Factor=3

**NF Dry to Fresh Conversion Factor=3.93

Figure 2: Historical Catches of Cod Division 2J



for the period 1929-1951 were obtained from reports of the Newfoundland Fisheries Research Station. Actual landings covering the period 1952 to 1987 are available for the 2J3KL area from ICNAF Statistical Bulletins (Vols. 2-28) and NAFO Statistical Bulletins (commencing with Vol. 29).

Historical reviews of the period prior to 1951 either cite the ICNAF statistics or Sette's U. S. Bureau of Fisheries Document No. 1034, or they present data that correlate closely with these sources. Therefore, these statistics would appear to be the best available data from which to calculate total landings in the 2J3KL area.

In making such a calculation, however, we must be aware that for the historical period prior to 1952 the data we have refers to total Newfoundland landings. To derive from those figures the 2J, 3K and 3L landings, we must determine what percentage of the total came from those zones, and we have estimated that figure to be in the order of 74%.

The rationale for such an estimate derives from the record of actual landings in the 2J, 3KL areas between 1953 and 1961 as reported in ICNAF Statistical Bulletins 3-11. Yearly percentages for the period in question range from a high of 80% in 1953 to a low of 68.1% in 1958 and it will, therefore, be apparent that the assignment of any fixed number will result in overestimations for some years and underestimations for others.

However, it should be noted that for the first four years, 1953 up to and including 1956, the percentage of cod landings attributable to the 2J3KL area were consistently above 75% while for the years 1957 to 1961 they were consistently below. Since it would appear that the earlier years of the nine-year period analyzed are more representative of the 1850 to 1952 historical period, it follows that taking 74% of total landings will probably provide a conservative estimate of the 2J3KL landings prior to 1953.

To provide a complete estimate of 2J3KL landings, landings by Canada (other than Newfoundland) as well as landings by other countries have to be taken into account. Unfortunately, the historical data for Canada (other than Newfoundland) are available only from 1869; for France from 1874; and for Portugal from 1896. Spanish landings are not reported by ICNAF until 1951. For the data that are available, once again, estimates of the portion attributable to the 2J3KL area have been based on a fixed percentage determined by obtaining the average of actual landings reported in the 2J3KL area over the years 1953 to 1961. Canadian (other than Newfoundland) 2J3KL landings have been calculated on the basis of 5.5% of total reported landings for the period 1869 to 1952; French 2J3KL landings have been calculated on the basis of 38% of total reported landings for the period 1874 to 1952; and Portuguese 2J3KL landings have been calculated on the basis of 30% of total reported landings for the period 1896 to 1952. For the period 1953 to 1987, as indicated above, the graph combines actual reported landings by all countries in the 2J3KL area.

To add to the difficulty encountered in providing a reasonably accurate assessment of total 2J3KL landings in the years prior to 1953, a number of estimates which were included in the total landings presented in the ICNAF statistics have to be assessed. The landings reported to 1928 by Oscar E. Sette *et al.* were converted from exports of dried fish (quintals) to landed pounds of fresh

round cod by multiplying by a factor of 3. He also included an estimate to cover Newfoundland consumption. The landings from 1929 to 1951 reported by the Newfoundland Fisheries Research Station were reported in thousand pounds fresh fish, head on and eviscerated. ICNAF converted these data to round fresh weights by using 1.20 as a conversion factor.

While the factor of 1.20 used to convert the landings reported from 1929 to 1951 appears reasonable, the factor of 3 used to convert exports of dried fish to landed pounds of fresh round cod from 1850 to 1928 seems rather low. An additional set of computations have, therefore, been used to show on the graph the result of using a factor of 3.93 (440 pounds fresh to 112 pounds dried) to convert to landed pounds of fresh round fish. The amount factored in for domestic consumption, on the other hand, could be a little high. Sette assumes a consumption rate of 3 quintals of dried cod (336 pounds) per family per year or 97.78 pounds of dried fish per person per year. The graph from 1929 certainly seems to suggest that the combined estimates of domestic consumption and the 3.93 dried to fresh conversion rate are on the high side.

Nevertheless, we must also note that DFO has used a conversion factor of 4.88 per quintal of salted dried fish in some of their catch calculations while the ICNAF statistics are based on a conversion factor of 3.0. If indeed 4.88 were the appropriate figure, the graph for the period 1850-1949, at least, would shift upwards. The same pattern of fluctuation would, of course, remain.

Setting aside the inescapable imprecision in these data, we may, nevertheless, express a reasonable confidence in the general pattern. And that pattern shows that, even if we take the higher graph line representing the most optimistic conversion factors, the 2J3KL stock(s) of cod prior to 1959 sustained an annual production that in the peak years did not reach 350,000 tons and that on average was not in excess of 250,000 tons. The significant technological innovations introduced in the late fifties and early sixties of the twentieth century produced landings that in its peak year exceeded 800,000 tons, but that effort precipitated a crash to levels as low as any recorded in the previous century.

It is clearly not possible from this superficial examination of historical data to arrive at a firm conclusion in respect of the sustainable yield from the 2J, 3K and 3L stock(s). What does appear, however, to be a reasonable proposition is that an annual reported harvest of 300,000 tons was a sustainable figure in the years between 1902 and 1958, while harvests in excess of 600,000 could not be sustained during the later 1960s and early 1970s as was clearly evident from the notable and rapid decline in both catches and estimated stock size.

2.5.1 Limits of Growth

It is, perhaps, sometimes appropriate to state the obvious. And it is obvious that even in its virgin state, before the intrusion of any fishermen, the numbers of cod did not grow infinitely. Within any particular ocean regime, finite limits to growth are, in fact, set by combinations of biological and physical conditions that determine the life-sustaining capacities of the whole and that determine as well the success or failure of the individual species within the complex of interrelated species inhabiting a particular ecosystem. If this were not so, John Cabot might have walked

ashore from the Matthew on the backs of densely packed cod and even in modern times, cod would, for example, be abundant in the 2GH management zones from which no significant numbers have been taken in the past twenty years or more.

There is, therefore, a finite biomass of codfish that the 2J, 3KL region of the northwest Atlantic will support. Clearly, the largest size of that biomass will be attained when all environmental conditions are at their optimum. Fluctuation in the biomass will occur with the vagaries of wind and current, with changes in temperature regimes, with increases or decreases in salinity, with the success or failure of other species, with the incidence of naturally arising or induced pathologies, with levels of natural or introduced pollution, or with any one of dozens of other causes. For the life that the ocean system supports is a complex and intricate web constantly seeking but never achieving an equilibrium.

The intrusions of fishermen who selectively remove particular species may disturb the natural balance in a most profound way. Indeed, the perturbation thus created may lead to total annihilation of species. Man's history in the terrestrial regions and in respect of marine mammals is replete with such instances. Fortunately, the cod and other marine species of which we have become major predators have heretofore shown sufficient resilience as to survive the worst excesses of our rapacity. But we cannot assume that it will be always so. If we continue to insist upon walking the very edge of the precipice, the laws of chance ordain that we daily walk in greater danger of falling over. The oft-repeated story of our assault upon the haddock stocks ought to be an instructive parable. In the case of northern cod, the madness in which we indulged in the decade 1964-1974 ought to stand as a great warning beacon that we should never forget.

Nor should we fail to observe that even if we were capable of bringing our science to a state of perfection and establishing the optimum yield with great precision, we would still be dealing with an ephemeral number that would hold only so long as all other conditions remained equal. Thus, even subtle changes in the oceanographic regime could lead to either an increased or diminished capacity of the system to sustain life and by the same token would weaken or strengthen the capacities of individual species to be fruitful and multiply. It need, for example, hardly be argued that an adequate and accessible food supply is a necessary condition to the optimum growth of any animal and that growth rates and weight-at-age are critical determinants of biomass. In consequence, any changing environmental conditions that reduce the abundance of dominant prey species to less than the optimum demands of its predator species will result in a reduced biomass. In this context, recent experiences in the Barents Sea respecting the cod-capelin relationship clearly demonstrate the point. Heavy exploitation of capelin, limiting the food supply available to cod, led to reduced weight-at-age among the latter and, consequently, a substantially reduced biomass.

What is true for cod-capelin may also be true for other similar relationships. Thus the introduction of a crab fishery or a shrimp fishery will, since both crab and shrimp are food for cod, carry with it the potential for reducing the food supply available to cod below the optimum level with the inevitable result of a reduced biomass. Conversely, however, we should also note that exploitation of cod may reduce predation levels on their prey species and, perhaps, ensure the survival of such species. The same argument can obviously be applied *pari-passu* to a great many other sets of circumstances. An environmental change that results in declining production of planktonic

forms upon which capelin feed will result in a declining capelin biomass; the multiplication of seals that feed upon shrimp and capelin will even if seals eat no cod at all still have the potential for reducing the cod biomass.

But one need not belabour the point. The long and the short of it is that we are dealing with a system and no individual species within that system can be treated in isolation. Whether we are primarily concerned with the scientific assessment of stock abundance, the setting of TACs, the introduction of new fisheries, or any other matter of that nature, we must be continuously aware that significant tinkering with any part of the system can set up reverberations that may echo throughout the whole. Nevertheless, we should also be aware that the system while incredibly complex is not nearly so fragile as may sometimes be supposed. In fact, most ecosystems are subject to major annual and seasonal events that precipitate large changes and force such systems into a continual state of adjustment. Minor tinkering by humans may, in such a context, be frequently lost in the scale of other events.

2.5.2 Fixed and Mobile Gear

We may note as well that the introduction of new styles and methods of fishing and of new technologies that increase the overall fishing mortality on a stock may have far-reaching reverberative effects on resource productivity and upon the fisheries that have traditionally exploited that stock. In the case before us that fishery was predominantly an inshore fishery. That is to say, it was a fishery conducted in shallow water with essentially passive gear. The availability of fish to that gear was dependent upon the constancy of recurring patterns of stock migrations. Codtraps were set, year after year, in the same berths; long-line trawls were set around the same rocks and shoals; hand-lines or jiggers were used on spots of ground precisely determined by traditional “marks” giving exact navigational coordinates. Even the offshore fishery on the Grand Banks was of a similar nature for it, too, was dependent upon fish that was accessible only when its seasonal migration brought it to the shallower regions of the Banks and to such traditional ground as the Virgin Rocks, the Southeast Shoal, the Thirty Fathom Gravels, and so on.

It is true that a passive gear fishery was peculiarly susceptible to the variability of oceanographic conditions and to fluctuations in the overall or local abundance of prey species such as capelin. This is apparent from an examination of **Figure 1** which exhibits a steady progression of peaks and valleys, some of which may be attributable to variability of effort deriving from conditions of war, or market depression, or other socio-economic phenomena, but which in the main signify disruptions of normal migratory patterns in response to changing environmental conditions as well as variable year-class success.

Notwithstanding those year to year fluctuations, the fixed gear fishery produced landings of northern cod that, from the beginning of the twentieth century until the introduction of the deep-sea trawler fleets, rarely fell below 225,000 tons or, if we use the 3.0 conversion factor, below 200,000 tons. In that context, it is instructive to examine the patterns that emerge after 1950 or thereabouts when large otter trawlers and factory freezer trawlers entered the fishery in a major way. Though the charts differentiate between inshore and offshore landings, the real

distinction is between the production of fixed gear set in shallow waters and mobile gear deployed in deeper water and particularly upon spawning concentrations heretofore inaccessible.

Figures 2, 3, and 4 show, respectively, inshore and offshore (fixed and mobile gear) landings in the 2J, 3KL zones since 1954 while **Figure 5** is a combination of these three and hence represents the entire northern cod stock(s). Even a cursory examination of these graphs will lead to certain inescapable conclusions. It may be noted, for example, that the rapid expansion of the trawler fleet in the mid-1950s led to significant increases in total catches taken from 2J3KL as a whole and, in particular, from divisions 2J and 3L. Second, it appears that the excessively high landings during the period 1967-1970 subsequently led to declining catches in both the inshore and offshore fisheries. Finally, the graphs strongly suggest that the inshore and offshore fisheries, at least in part, compete with each other for a common resource and that large catches offshore reduce the level of inshore landings. Indeed, the impact of the offshore fishery upon the traditional inshore fixed gear fishery may be significantly greater than the graphs indicate. For, the line indicating inshore landings includes not only the production of the codtrap and traditional near shore hook and line, jigger, and cod net fisheries but as well the landings of the steadily growing fleet of larger and more seaworthy gillnetters, and latterly of small otter trawlers that have steadily moved the "inshore" fishery further and further off shore. That is to say, it has been only through the extensive capitalization of the inshore fishery and a major transfer of effort to tap elements of the cod population that had been previously inaccessible to fixed gear deployed in near shore waters that the inshore fishery has even come close to landing its total allowance which even now represents no more than 44% of the northern cod TAC. The increase of the fleet of 35 ft. to 65 ft. vessels directing their efforts to more and more distant waters has been most pronounced in the 3L zone, less so in 3K, and much less significant in 2J. This fact is clearly reflected in **Figures 2, 3 and 4** which show that inshore landings are lowest in 2J, somewhat higher in 3K and highest in 3L.

2.5.3 Inshore Catch by Gear Type

We can complete the historical picture, insofar as our data will allow, by recording the inshore catch by gear type for the period 1969 to 1988. **Tables 1, 2, and 3** provide these data for the 2J, 3K, and 3L regions respectively, while **Table 4** gives the combined figures. While the data cannot be used as an index of abundance since they are not in any way adjusted for effort, they are nevertheless interesting in that they show: (1) that the gillnet and long line catches fluctuate almost as widely as trap catches, and (2) that there does not appear to be any directly discernible relationship between, for example, the gillnet and codtrap catches. That is to say, high gillnet catches are not reflected in a reduced yield from cod traps. This may imply that the gillnets by selecting older, that is larger fish, may take those fish that would not, in any case, migrate all the way to the near inshore, or that the mortality on the stock imposed by the gillnet fishery was relatively small and, hence, did not significantly affect trap landings. It would, however, be foolhardy to draw such conclusions from the insufficient evidence before us. A more reasonable proposition is that the success or failure of the inshore fishery, whatever the gear type employed, is contingent upon prevailing environmental conditions, the intensity of the offshore fishery coupled with the success or failure of year-class survival which in turn is responsive to the size of the spawning biomass which is itself, in large part, a function of the number of fish permitted

Figure 3: Historical Catches of Cod Division 3K

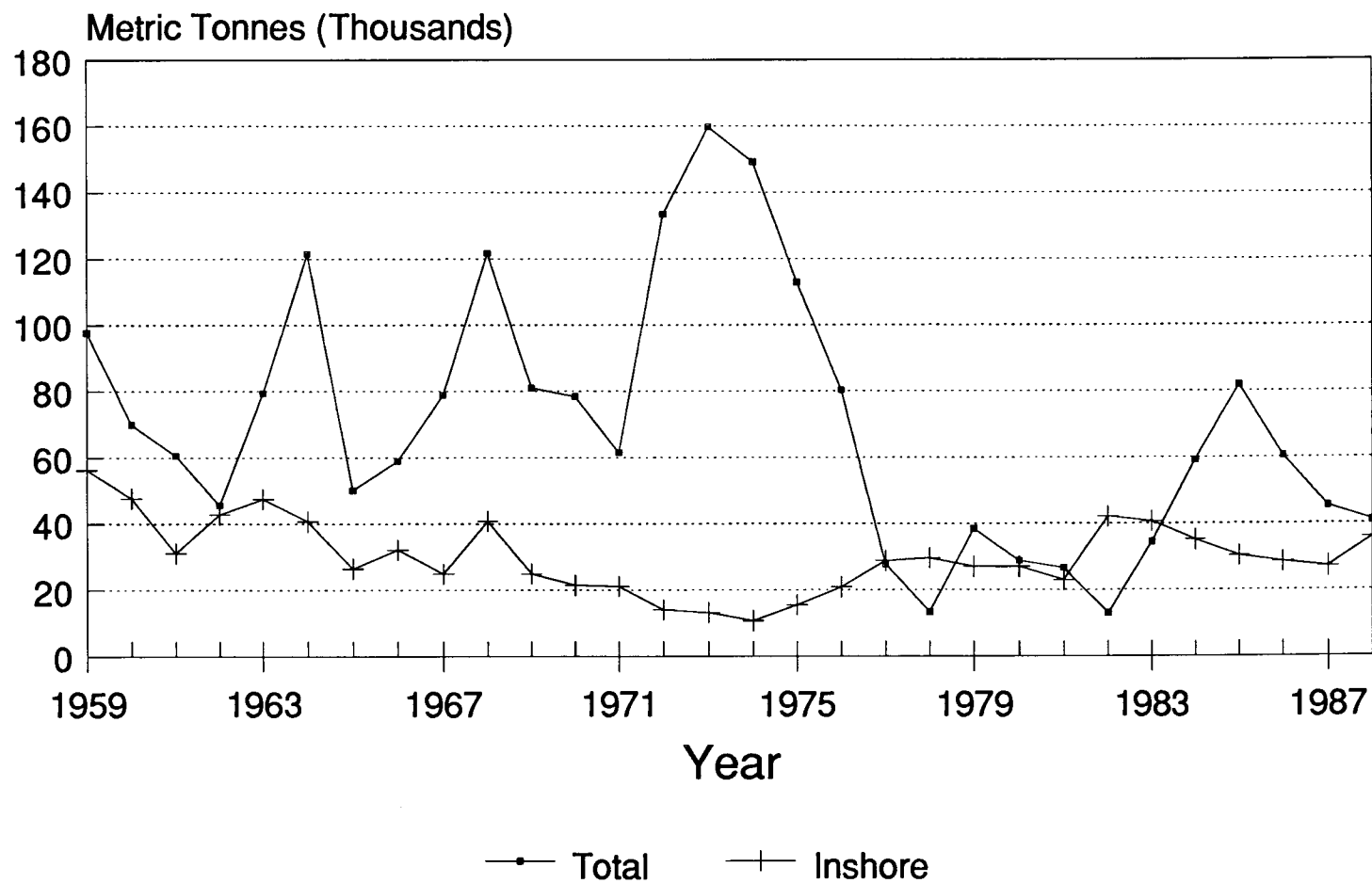


Figure 4: Historical Catches of Cod Division 3L

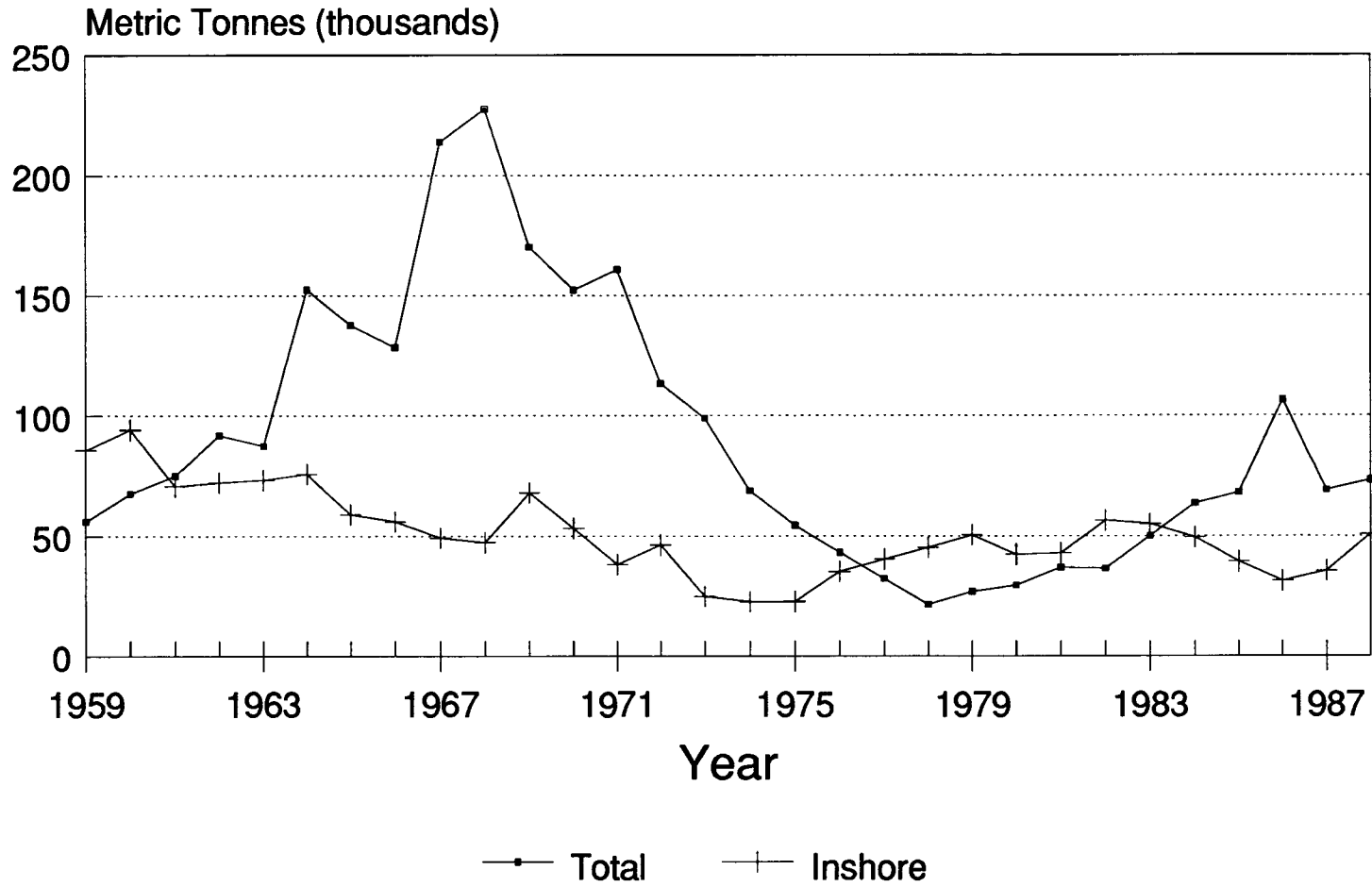


Figure 5: Historical Catches of Cod Division 2J3KL

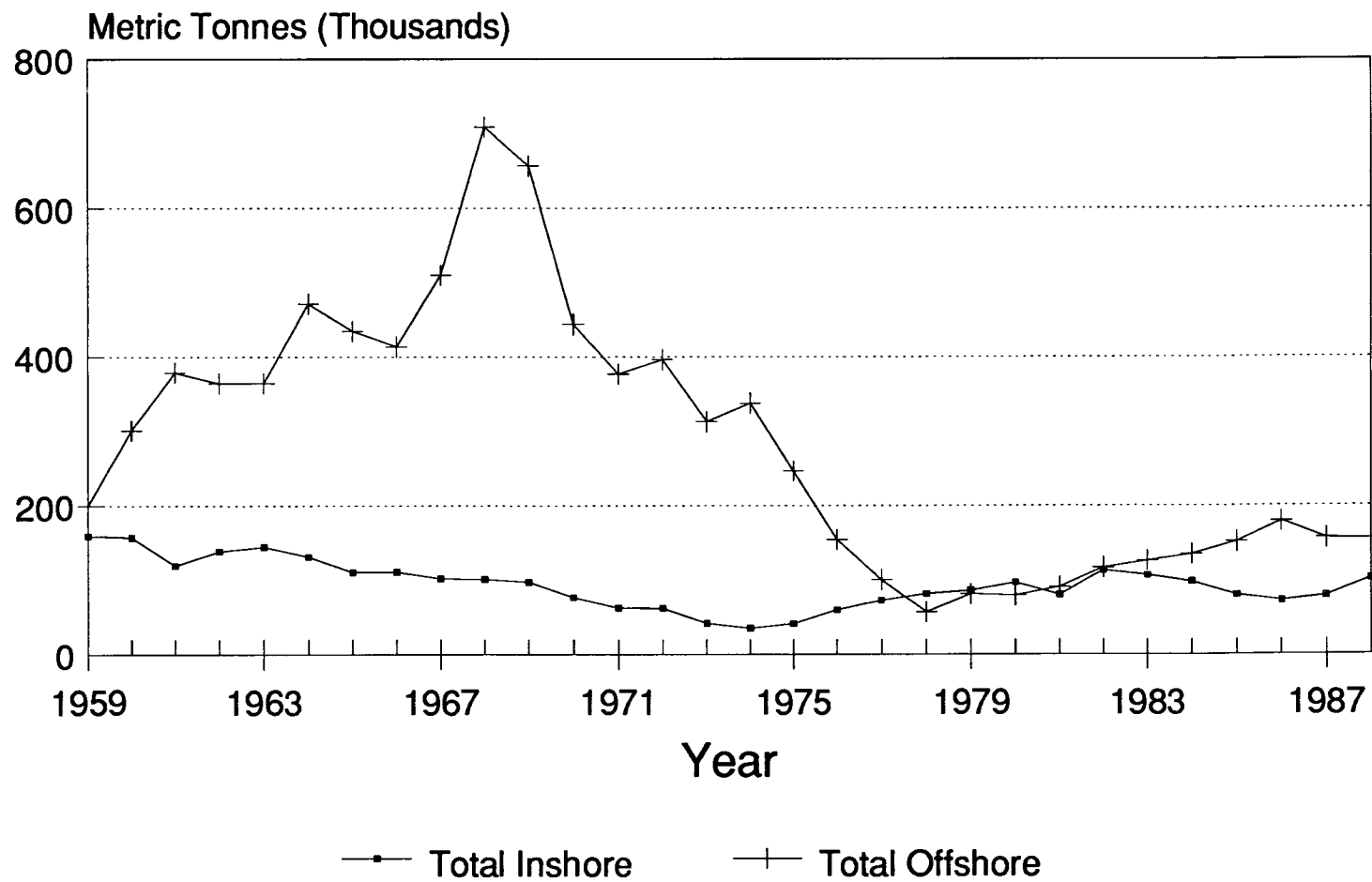


Table 1
Inshore Catches by Gear Type (MT) — Area 2J

Year	Trap	Gillnet	Longline	Handline	*Misc
1969	2,142	1,619	72	278	217
1970	416	317	0	237	993
1971	1,577	707	18	488	523
1972	655	197	47	314	511
1973	1,432	1,196	35	239	717
1974	66	1,520	12	183	23
1975	678	2,269	0	54	-
1976	1,383	2,426	6	36	-
1977	1,466	1,895	37	125	-
1978	3,046	3,202	55	335	-
1979	1,333	5,663	175	1,274	-
1980	4,679	11,414	204	913	-
1981	3,893	10,105	72	181	-
1982	4,464	9,121	114	730	-
1983	3,870	4,854	837	1,182	-
1984	5,618	6,116	379	1,037	-
1985	4,973	2,990	252	1,994	-
1986	4,340	7,607	58	562	-
1987	5,010	9,525	216	1,388	-
1988	6,615	6,607	265	1,774	-

* Represents catches which are not specified by gear type.

Table 2
Inshore Catches by Gear Type (MT) — Area 3K

Year	Trap	Gillnet	Longline	Handline	*Misc
1969	9,058	9,713	1,894	1,975	2,283
1970	6,494	10,843	1,146	1,416	1,613
1971	8,019	9,384	1,356	2,133	219
1972	3,801	7,093	459	1,941	760
1973	3,143	5,695	1,067	2,181	1,104
1974	3,415	4,571	526	2,112	123
1975	4,662	8,495	565	1,646	150
1976	7,056	10,638	718	2,439	28
1977	11,501	11,611	1,294	4,412	-
1978	11,329	11,445	3,647	3,202	-
1979	3,532	11,474	8,407	3,605	-
1980	12,732	13,549	8,059	2,675	-
1981	3,952	10,679	6,360	2,011	-
1982	16,415	17,571	6,101	2,054	-
1983	10,490	18,305	2,558	9,328	-
1984	9,872	14,325	2,396	8,403	147
1985	13,310	8,082	2,352	6,624	-
1986	14,803	7,636	1,416	4,684	-
1987	11,258	10,101	1,479	4,303	-
1988	18,189	12,488	852	4,436	-

* Represents catches which are not specified by gear type.

Table 3
Inshore Catches by Gear Type (MT) — Area 3L

Year	Trap	Gillnet	Longline	Handline	*Misc
1969	42,533	11,623	3,104	8,492	2,221
1970	31,835	10,603	1,768	5,716	3,191
1971	15,832	13,648	3,409	4,552	674
1972	28,021	10,403	1,794	4,706	1,349
1973	12,123	6,250	1,981	2,686	1,799
1974	12,157	5,344	1,460	3,636	32
1975	10,390	7,529	1,641	3,112	23
1976	18,404	9,057	2,904	4,835	9
1977	20,987	8,852	3,591	6,851	1
1978	23,218	9,023	5,114	7,839	-
1979	20,785	13,488	7,022	9,064	-
1980	12,871	11,231	9,394	8,802	-
1981	10,177	13,579	11,419	7,646	-
1982	24,248	20,295	5,693	6,243	-
1983	25,690	16,446	3,832	9,031	-
1984	22,996	14,897	3,804	7,387	344
1985	21,594	8,760	3,245	5,707	-
1986	15,783	8,932	2,437	4,111	-
1987	11,386	17,446	2,083	4,552	-
1988	25,617	14,843	2,261	7,978	-

* Represents catches which are not specified by gear type.

Table 4
Inshore Catches by Gear Type (MT) — Area 2J3KL

Year	Trap	Gillnet	Longline	Handline	*Misc
1969	53,733	22,955	5,070	10,745	4,721
1970	38,745	21,763	2,914	7,369	5,797
1971	25,428	23,739	4,783	7,173	1,416
1972	32,477	17,693	2,300	6,961	2,620
1973	16,698	13,141	3,083	5,106	3,620
1974	15,638	11,435	1,998	5,931	178
1975	15,730	18,293	2,206	4,812	173
1976	26,843	22,121	3,628	7,310	37
1977	33,954	22,358	4,922	11,388	1
1978	37,593	23,670	8,816	11,376	-
1979	25,650	30,625	15,604	13,943	-
1980	30,282	36,194	17,657	12,390	-
1981	18,022	34,363	17,851	9,838	-
1982	45,127	46,987	11,908	9,027	-
1983	40,050	39,605	7,227	19,541	-
1984	38,486	35,338	6,579	16,827	491
1985	39,877	19,832	5,849	14,325	-
1986	34,926	24,175	3,911	9,357	-
1987	27,654	37,072	3,778	10,243	-
1988	50,421	33,938	3,378	14,188	-

* Represents catches which are not specified by gear type.

to survive the total fishing effort. Since fish that escape the efforts of all classes of fishermen tend to congregate in spawning concentrations during the winter months, it is obvious that an important key to a healthy spawning biomass is the establishment of appropriate harvest rates and modes of operation that allow an adequate number of fish to survive to spawn.

2.6.0 Total Fishing Pressure Upon Northern Cod

Having assessed as accurately as possible, given the imperfect nature of our data, the historical indications of fishing pressure that the northern cod stock can sustain, let us now briefly examine the pressures that are in fact currently exerted upon it. The current TAC of 235,000 tons gives us a starting point. To that number we must add bycatches both licit and illicit, underreporting, discards both within and beyond the legal limits, and foreign catches of 2J3KL cod beyond the two hundred mile economic zone. Furthermore, in converting numbers of animals to tonnages, we must be aware of the profound effects that may be induced by changing weight-at-age as a function of disrupted food supplies or density dependent factors.

2.6.1 Northern Cod and Foreign Fishing

In some respects, the easiest of those elements to estimate is that reflecting the foreign fishing effort.

It is currently accepted that the stock complex which supplies the cod fishery in the 2J3KL area is a transborder stock which overlaps with NAFO divisions 2GH and 3NO. In addition, portions of the 2J3KL area fall outside the two hundred mile Canadian management zone and under the jurisdiction of NAFO. Areas of particular interest with respect to the 2J3KL stock complex outside the two hundred mile zone include the “Nose” (NAFO Division 3L) and “Tail” (NAFO Division 3NO) of the Grand Bank. To be comprehensive, therefore, a study of fishing pressure on the 2J3KL stock by countries other than Canada must include an assessment of pressure from international fishing in the 2J3KL area both inside and outside the two hundred mile Canadian management zone as well as in the immediate areas (2GH and 3NO) that border 2J3KL.

An important consideration in any comprehensive study of international fishing pressure on the 2J3KL cod stock is bycatch of cod (both actual and potential) by countries which have been allocated quotas of other fish species in the areas indicated above. The current policy is that a maximum of 10% bycatch of cod is permissible. This applies both inside and outside the two hundred mile zone. However, if a country has a cod allocation for the particular area in which the bycatch of cod is taken, then the bycatch is counted towards fulfilment of its cod allocation.

Tables 5, 6, and 7 calculate total foreign pressure (including maximum potential bycatch where applicable) on the 2J3KL cod stock on a country-by-country basis for the years 1985 through 1987, the last year for which complete data are available. The tables also include for comparison purposes the total nominal catch (by area) reported by each country. (The word “nominal” refers to the live weight equivalent of reported landings.)

For 1985, the total pressure on the stock complex by countries other than Canada was estimated at a maximum of 54,882 metric tons (cod allocations of 13,000 - 2GH; 16,200 - 2J3KL; 16,345 - 3NO; plus potential bycatches of 9,337). However, the total nominal catch reported by countries other than Canada for 1985 was 63,150 metric tons (2GH - 318; 2J3KL - 44,199; 3NO - 18,633). These statistics show that although allocations of 13,000 metric tons were issued in 2GH, the reported catch in that area amounted to only 318 metric tons while reported catches in 2J3KL were more than double those allocated.

This situation repeated itself in 1986 with an increase in the volume of fishing over established allocations in both 2J3KL and 3NO. Although allocations in 2J3KL were reduced from 16,200 metric tons to 9,500 metric tons, reported foreign catches in that area increased to 66,583 from the 44,199 reported in 1985, resulting in catches over seven times those allocated. The maximum pressure on the stock calculated for 1986 at 45,432.5 metric tons, therefore, was only half the level of catches reported for that year.

In 1987, the latest year in which nominal catches are available, total nominal catches were reported at 58,440 metric tons as compared with total calculated pressure on the stock of 49,795. Although the picture of international fishing in excess of allocations was not as bleak as presented the previous year, the situation with respect to excess fishing in the 2J3KL area itself was still severe. A total nominal catch of 36,653 metric tons was reported, representing catches nearly four times as great as those allocated.

The data incorporated into these tables have been compiled from Foreign Allocation Tables provided by Department of Fisheries and Oceans (DFO) staff for the years 1985 to 1989. Initial allocations for 1989 (all species) show a reduction in total allocation for each country with the exception of France whose total initial allocation is listed as 26,615 metric tons (all species) up from 23,490 metric tons in 1988. However, these allocations have yet to be finalized. The statistics representing total nominal catches for the years 1985 to 1987 are taken from NAFO SCS Doc. 89/07, Serial No. NI584.

Assuming that reporting is accurate, we can be certain that to calculate the total pressure upon the northern cod stock from the combined Canadian TAC and the reported foreign effort, we must add to the Canadian TAC a figure ranging up to 100,000 (cf. **Table 6** for 1986). Nor can we safely assume that reported foreign landings represent the absolute truth. Even in respect of vessels carrying Canadian observers, we have been informed by what seem to be reliable sources that underreporting of up to 25% is not at all uncommon, and if that should be the case for vessels under observation, we might well suppose that similar or larger "errors" will occur in reported figures from vessels fishing outside the two hundred mile limit.

2.6.2 Other Sources of Fishing Mortality

Other sources of unrecorded fishing mortality include discarded bycatches of fisheries directed to other species such as capelin or shrimp, discards in excess of legal limits by domestic and foreign deep-sea trawlers within the two hundred mile zone, discards of small fish from inshore draggers and from codtraps, discards of spoiled fish from irregularly attended gillnets, and fish

FOREIGN FISHING PRESSURE ON NORTHERN COD STOCK

YEAR: 1985

Country Catch)	Total Cod Allocation	Total Potential Cod By-Catch	Total Pressure from Allocations on 2GH, 2J3KL, 3NO Cod	Actual Pressure on 2GH, 2J3KL, 3NO Cod (Reported)
Cuba	-	1,270	1,270	126
EEC (Germany)	13,125	260	13,385	22,684
EEC (Portugal)	9,015	210	9,225	9,421
EEC (France)	1,995	-	1,995	880
EEC (Spain)	10,780	400	11,180	24,320
EEC (U.K.)	1,130	-	1,130	0
Faroes	2,500	350	2,850	294
GDR	500	680	1,180	70
Japan	-	2,350	2,350	64
Norway	2,000	-	2,000	1,178
Poland	500	325	825	20
USSR	4,000	3,492.5	7,492.5	4,093
USA	-	-	-	84
Non-Members	-	-	-	3
TOTALS	45,545	9,337.5	54,882.5	63,237

TOTALS BY SECTOR	TOTAL ALLOCATION	TOTAL REPORTED CATCH
2GH	13,000	318
2J3KL	16,200	44,199
3NO	16,345	18,720

FOREIGN FISHING PRESSURE ON NORTHERN COD STOCK

YEAR: 1986

Country Catch)	Total Cod Allocation	Total Potential Cod By-Catch	Total Pressure from Allocations on 2GH, 2J3KL, 3NO Cod	Actual Pressure on 2GH, 2J3KL, 3NO Cod (Reported)
Cuba	-	1,270	1,270	46
EEC (Germany)	13,125	260	13,385	7,420
EEC (Portugal)	1,315	-	1,315	37,353
EEC (France)	1,745	30	1,775	1,724
EEC (Spain)	10,780	-	10,780	45,244
EEC (U.K.)	1,130	-	1,130	821
Faroos	3,000	450	3,450	148
GDR	500	650	1,150	8
Japan	-	2,550	2,550	172
Norway	2,500	-	2,500	4,384
Poland	500	325	825	2
USSR	1,500	3,802.5	5,302.5	1,327
USA	-	-	-	315
Non-Members	-	-	-	337
TOTALS	36,095	9,337.5	45,432.5	99,301

TOTALS BY SECTOR	TOTAL ALLOCATION	TOTAL REPORTED CATCH
2GH	13,000	149
2J3KL	9,500	66,583
3NO	13,595	32,569

FOREIGN FISHING PRESSURE ON NORTHERN COD STOCK

YEAR: 1987

Country Catch)	Total Cod Allocation	Total Potential Cod By-Catch	Total Pressure from Allocations on 2GH, 2J3KL, 3NO Cod	Actual Pressure on 2GH, 2J3KL, 3NO Cod (Reported)
Cuba	-	1,307.5	1,307.5	0
EEC (Germany)	13,125	-	13,125	7,463
EEC (Portugal)	1,315	-	1,315	17,728
EEC (France)	4,995	-	4,995	3,893
EEC (Spain)	10,780	-	10,780	27,490
EEC (U.K.)	1,130	-	1,130	822
Faroes	2,500	150	2,650	19
GDR	500	750	1,250	32
Japan	-	2,630	2,630	137
Norway	2,000	300	2,300	0
Poland	500	395	895	1
USSR	2,000	5,417.5	7,417.5	855
USA	-	-	-	217
Non-Members	-	-	-	-
TOTALS	38,845	10,950	49,795	58,657

TOTALS BY SECTOR	TOTAL ALLOCATION	TOTAL REPORTED CATCH
2GH	15,000	123
2J3KL	9,500	35,653
3NO	14,345	22,881

taken in “ghost nets.” Given the state of our current knowledge, it is, of course, impossible to assign any precise numeric values to any of those sources of unrecorded mortality to which we have referred. It would not, however, be wildly impossible to suggest that the aggregate number might well equal 30,000 tons. If that figure is even close to the truth, we can see that the total pressure upon northern cod is of the order of 365,000 tons which is a larger number than the stock historically sustained and probably a larger number than the existing spawning biomass can continue to provide.

2.7.0 Northern Cod — The Economic Impact

Although the primary purpose of this review must be to assess the state of the northern cod stock and of the science underlying the management decisions made in respect of it, it is difficult, if not impossible, to do so in a socio-economic vacuum. Thus, we have already referred to the overriding significance of northern cod as the base of the economy of the east and northeast coast of Newfoundland and of the coast of Labrador.

This fact will be made more apparent when we realize that 63% of all the Province’s fishermen and 69% of the fish plant workers are residents in communities contiguous with the 2J3KL zones. In actual numbers, this means approximately 8,100 full-time fishermen, 8,200 part-time fishermen, and 18,600 plant workers for a total contribution to employment of 34,900 which does not include deep-sea fishermen and plant workers from south coast communities that also depend, in part, upon access to northern cod.

In a province in which the unemployment rate is in excess of 16%, some 35,000 jobs is a matter of very great consequence and completely overshadows the fact that the fishery, as a whole, contributes only 6% to the gross provincial product.

We must also note the historical basis of the Nova Scotian claim of access to northern cod. It is, of course, true that Nova Scotian deep-sea fishermen and particularly those of Lunenburg were a significant presence on the southern Grand Banks in the first half of the twentieth century. In respect of northern cod, their efforts were, however, restricted to the 3NO and 3L zones as we now identify them, and it has only been in the post-1977 era that trawlers from Nova Scotian ports have ventured into the 2J3K areas.

In any case, the Nova Scotian fishery, being much more diversified than that of Newfoundland, is much less dependent upon groundfish which accounts for only half the recorded landings, northern cod representing no more than 15% of the total or only 7.5% of all landings. In fact, more than 90% of all the jobs generated by northern cod are in Newfoundland.

2.7.1 Adjacency and “Vital Needs”

Without discounting the value of historical association and of practices ordained by custom, it is still apparent that we should draw a distinction between conditions of stock abundance when all reasonable expectations for access can be met and conditions of stock depletion when no need

can be wholly satisfied. In the Newfoundland context, **it would seem altogether appropriate that first preference for access should in all cases go to the communities contiguous to the resource and whose survival is historically dependent upon it.** In such circumstance, it might well be appropriate to consider the adoption of a doctrine analogous to the “Hague Preferences,” a component of the general agreement among nations of the European Economic Community (EEC) at the time of the implementation of the two hundred mile economic management zone. In the context of a general resolution developed to protect inshore fisheries, the EEC declared its willingness to take into account the “vital needs” of local communities particularly dependent on fishing and the industries allied thereto. The regions covered by the “Hague Preferences” were Greenland, Ireland, and the northern parts of the United Kingdoms.

2.8.0 Issues Arising from Historical Review

We may conclude this brief historical overview with an equally brief assessment of some, at least, of the significant problems that have emerged from our review of past conditions and practices. At the top of the list is the indisputable fact that the northern cod stock has not recovered from the heavy overfishing of the late sixties and early seventies of this century at the rate projected and confidently expected in the years immediately following the watershed year 1977. Along with this recognition has come the realization that the northern cod stock complex exhibits what appears to be a strong relationship between recruitment levels and size of the spawning biomass. Whether or not subsequent scientific investigation will explain this phenomenon either by way of confirming or exploding the hypothesis of the relation of recruitment to spawning stock size, the fact remains that our current state of knowledge dictates the absolute necessity of substantially increasing the size of the spawning biomass. Furthermore, until there is clear evidence that the noted relationship is invalid, it would seem prudent to adhere to the best scientific data available to us.

2.8.1 A More Holistic Approach to Management

Another lesson that may be derived from historical experience is that neither northern cod nor any other species can be understood, nor managed, in a vacuum. Northern cod as an individual species are yet part of an enormously complex system, and whether we address our concerns to scientific comprehension or to management strategies, we must do so from the systems perspective. The record would seem to indicate that in the past some excellent science and even good management tactics as relates to individual parts of the system have been less effective than they might have been because they were conceived and executed as if a vast, diverse and dynamic system could be segregated into watertight compartments.

2.8.2 The Danger of Overcapitalization

Another set of problems flow from the condition of near euphoria that followed upon the establishment of the two hundred mile economic zone and the confident projections of rapid stock recovery. In this context, brightening future prospects, encouraged by an actual stock growth of

some magnitude during the late seventies and early eighties, led to large investments in boats and gear as well as in new and improved plants and processing facilities. This, in turn, placed heavier and heavier demands upon the stocks since the natural concomitant of larger investment is larger catches of fish to justify them. In an essentially open fishery, the tendency is for investment to outstrip the resource available to support it and, as well, a tendency to indulge in wishful thinking in respect of the general status of the stocks themselves. An unwillingness to recognize clear warning signs and to invent rationalization that discount them is not a phenomenon peculiar to the Canadian jurisdiction. Indeed, the present posture of Spain and Portugal, for example, in respect of transborder stocks on the “Nose” and “Tail” of the Grand Banks are clearly analogous.

Nor does the problem with overcapitalization end there. As fish stocks decline, catches may still be maintained by increased fishing effort brought about through improved technology, the use of larger vessels, the deployment of more gear, and other like strategies that by maintaining landings at or near historic levels mask the real problem. Indeed, in the context of steady improvement in boat design, in motive power, in range and seakeeping capacities, in gear design, in quality of materials used, in electronic navigational fish finding instruments, and in other numerous ways, the definition of a constant unit of effort is a problem of very considerable complexity.

Thus, overcapitalization in the harvesting sector tends not only to increase pressure upon the stocks but to conceal the true level of fishing mortality by encouraging an underestimation of the effort involved in the landing of a given quantity of fish and thereby suggesting interpretations of abundance that would justify higher TACs as opposed to a policy of conservation.

On the other hand, overcapitalization in the processing sector will not affect calculations of fishing mortality but may put political and social pressures upon government to adopt the most optimistic view of resource availability and where optional interpretations of abundance are available, to err on the side of overexploitation rather than on the side of conservation.

2.8.3 Federal-Provincial Relationship

These difficulties are compounded by the fact that management of the harvest is the prerogative of the federal authority while licensing within the processing sector is a provincial responsibility. It will not be difficult to believe that a failure of coordination between those two jurisdictions will continue to generate unfortunate situations that were better avoided. The management of conflict avoidance is clearly a matter of political will as may be made manifest in appropriate arrangements within an established constitutional framework. Perhaps the model of the Offshore Petroleum Board might be adapted to the requirements of the case, but, in any event, there can be no doubt **that Federal and Provincial Governments must agree upon a mechanism that permits and encourages communication between them and that ensures a rational decision making process that reconciles the basic objectives of both jurisdictions.**

2.8.4 Inshore Versus Offshore

Another area in which the arts of conflict avoidance must be practised emerges in the growing polarization of interests represented as inshore/offshore but which really represent differences between operators using, respectively, fixed and mobile harvesting gear or, to put the matter more simply still, between deep-sea trawlers and all others.

In all of the presentations made to our Panel whether in written or oral form no single issue appeared more frequently than this and none evoked more passionate protestations.

The inshore fixed gear fisherman seeing his landings annually decline or seeing them maintained only through an enormous increase in effort cannot help but be convinced that the deep-sea fleet whose catch rates remain high must be taking the fish that would otherwise be accessible to his gear. Within narrow limits he will accept explanations that involve varying temperature regimes, variations in available numbers of prey species, and other phenomena of a like nature. But as he examines the historical patterns or draws upon the accumulated community experience of the past, he will not accept the proposition that the universal decline both in population and in size of individual fish is or can be unrelated to offshore activities. We have seen no evidence that will persuade the average inshore fishermen that a trawler fleet equipped with the most sophisticated means of locating concentrations of fish wherever they may be; comprised of ships designed and powered to fish wherever such concentrations appear; and equipped with the most up-to-date gear technology that virtually guarantee the capacity to catch whatever may be found does not potentially represent the most destructive fishing machine yet devised by human ingenuity. Any argument to the contrary will be countered by anecdotal accounts of the fate of various populations, whether of redfish, haddock, flounder, or others, that after centuries of relative abundance succumbed in short order to the ravages of the modern trawler. Nor should we discount the emotional appeal of what we may call the “knee deep in spawn” argument that describes the modern trawler as mercilessly ripping through beds of spawning fish, disrupting behavioural patterns, destroying habitat and killing not only the adults in the population but countless millions of potential young who will never have the opportunity of being hatched.

One may, of course, quite logically argue that the death of any female at anytime represents the loss not only of that individual but of all her potential to reproduce for all time to come; that the death of a gravid female is the same loss to the population whether she dies one month or one hour before spawning; that, in fact, the danger to survival of the species resides in the killing of too many adults and not in the date on which you choose to kill them.

Nevertheless, logic has little impact in the face of the emotion generated by images of large numbers of animals killed in the very act of procreation. Nor can we be absolutely certain that persistent and eventually violent disruption of spawning activity does not affect behaviour in a manner that might be inimical to fecundity or to the survival of the fertilized egg. In any event, it is a matter that must be addressed in the process of effecting a general resolution of the inshore/offshore conflict.

By the same token, we must address the counter charges levelled by trawlermen against inshore fishermen and particularly against those employing codtraps that their killing is concentrated upon

juvenile fish, a practice that is neither economically nor biologically sound. In economic terms such fish are costly to process, provide low yields of marketable product and command very low prices. Biologically, the numbers of such animals that must be killed to produce a ton of product is extremely large while the killing before the attainment of sexual maturity means that none will live to reproduce their kind. As with the argument regarding fishing on the spawning grounds, there is an element of sound common sense in this position. It should nevertheless be borne in mind that having allowed substantial numbers of juvenile fish to survive to maturity and to constitute a viable spawning biomass, care must be taken to ensure that enough of them continue to live through several spawnings to ensure a continuing adequate supply of juveniles to sustain or enhance the population. To put the case bluntly, a process that enjoined the protection of all juveniles up to sexual maturity at, let us say, age seven years and then permitted a fishing mortality of 100% on fish aged seven or older would be a prime recipe for disaster. Simply put, while it would be desirable to restrict, in so far as possible, the killing of three, four, and possibly five year olds, the only way in which a viable spawning biomass can be sustained is through a general reduction of mortality of all age groups.

We are, of course, aware that there are many arguments pro and con both inshore and offshore positions that we have not addressed in large part because they do not impinge directly upon the problems of stock assessment. We should note, however, the specific argument that an offshore trawler fishery is necessary because of its capacity to take fish at any season of the year and in quantities required to satisfy market demands. By way of contrast, it is agreed, the inshore fishery traditionally proceeds in a cycle of glut and famine that virtually rules out the possibilities of orderly marketing. While realizing that such arguments, though appealing in their simplicity, may be countered by others that are not totally devoid of logic, we are constrained to admit that the trawling industry, though possessing the potential to be totally destructive, need not be more destructive than proper management permits it to be. To reiterate the oft repeated maxim, technology is a marvellous servant but a very poor master. If we are not prepared to curb our technological capacities in the interests of environmental integrity and in cognizance of human dimensions of all our activities, then we will obviously invite the inevitable disaster that we will undoubtedly deserve to have visited upon us.

2.8.5 Scientific Credibility

One final point must be made as we bring these introductory remarks to a conclusion. The entire fisheries community, harvesters and processors, individual fishermen and corporations, all alike have indicated a degree of disenchantment with the capacity of scientists to provide adequate advice and with the capacity of political managers to make appropriate decisions to preserve the northern cod stocks in such a state of health that they can continue to provide a sound economic base for the communities that have traditionally depended upon them. While recognizing that this crisis of credibility stems from promises now shown to have been illusory, we do not concede that the case is in any sense hopeless. On the contrary, it is gratifying to note that the DFO scientists themselves recognized their errors and some, at least, the sources of such errors. Moreover, without downplaying the significance and magnitude of mistakes that were made, we must reemphasize the incredible complexity of the problems, the short data sequences available for analysis and the psychological pressure operating to compel acceptance of evidence that

appears to support ones own hypotheses and to discount warning signs that may be interpreted as aberrational elements deriving from temporary environmental disturbances. In hindsight the errors of the past stand out clearly, and we are certainly capable of devising systems that will obviate similar errors for the future. But it is not at all clear that at the time and under the circumstances in question any other group of scientists would have done much better. Nor should we forget that scientific knowledge advances, in part at least, through a process of disproof. What must, of course, be avoided is the use of hypotheses that have not been subjected to rigorous tests of proof or disproof as the foundation of management decisions that may have far reaching future effects of a negative nature.

This is not to say that in the absence of comprehensive knowledge, the world must stand still. It does mean that when our knowledge is deficient we should proceed with extreme caution, and if error is inevitable, we should at least attempt to ensure that our errors are on the right side of the ledger. At the same time, we should move as rapidly and as efficiently as circumstances permit to fill those gaps in our knowledge that inhibit our capacity to manage properly.

In short, we have no hesitation in asserting that the credibility of our scientific establishment must be firmly established. Apart from sound science, there is no other acceptable source of appropriate management advice. It may, indeed, be true that in the development of the current crisis, the warnings of fishermen predicated upon their intuition, their feelings, their observations, their conclusions derived from personal and community history ought to have been heeded. As events transpired, they were seen to be nearer the mark than were the overly optimistic projections of growth based upon a flawed assessment process. Indeed, even though such information may be difficult if not impossible to quantify, it should not for that reason be ignored. If a means is not currently at hand to integrate it within the modelling equation, at the very least, it should be reckoned as a guide to the interpretation of ambiguous or anomalous data. Those who have submitted themselves to the disciplines of history will be fully aware of the unreliability of folk memory and of the manner in which over the years fact becomes interwoven with myth and legend. Nevertheless, years of cumulative knowledge and experience will provide a substratum of fact and of wisdom to which even the most rigorous scientist should give heed. Good science is still the essential key to our problem, but until such time as we have absolutely perfected our techniques, we must remain willing to submit our uncertain data to every reasonable test to confirm or reject it.

And even when the credibility of our science is firmly and unequivocally established, we must ensure that the political process through which management decisions are taken is equally credible. We are involved with the manipulation of a vast and extremely complex natural system involving many hundreds of species and many billions of life forms. For that reason alone, we should proceed with extreme caution. But when we add to that the fact that there is also at stake the future of a province and the material and psychological well-being of a substantial part of its population, it is all the more incumbent upon us to permit no consideration of temporary political advantage to deflect us from the path of true conservation.

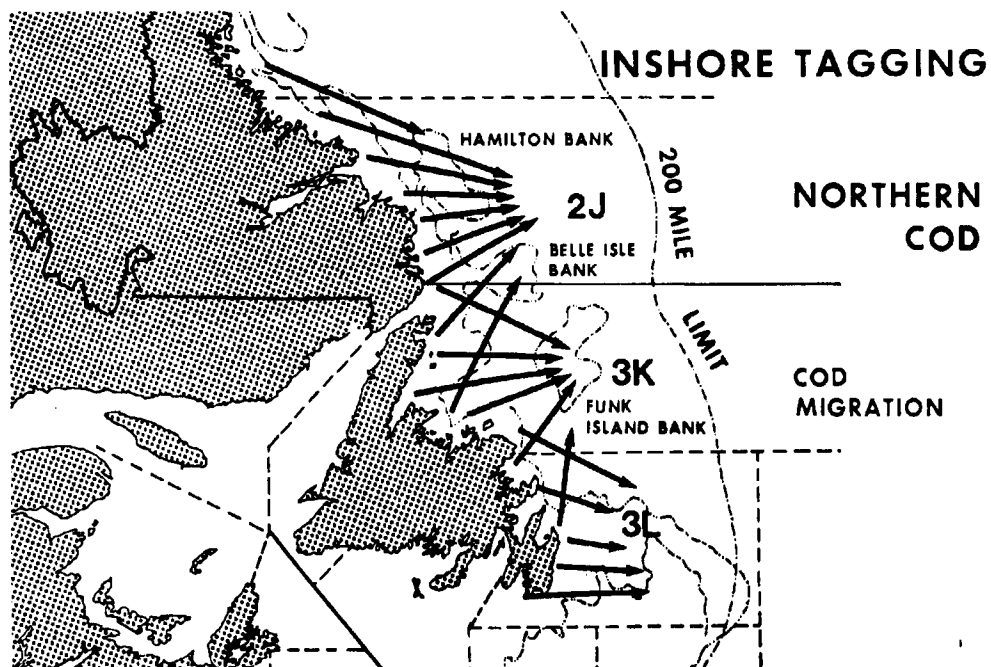
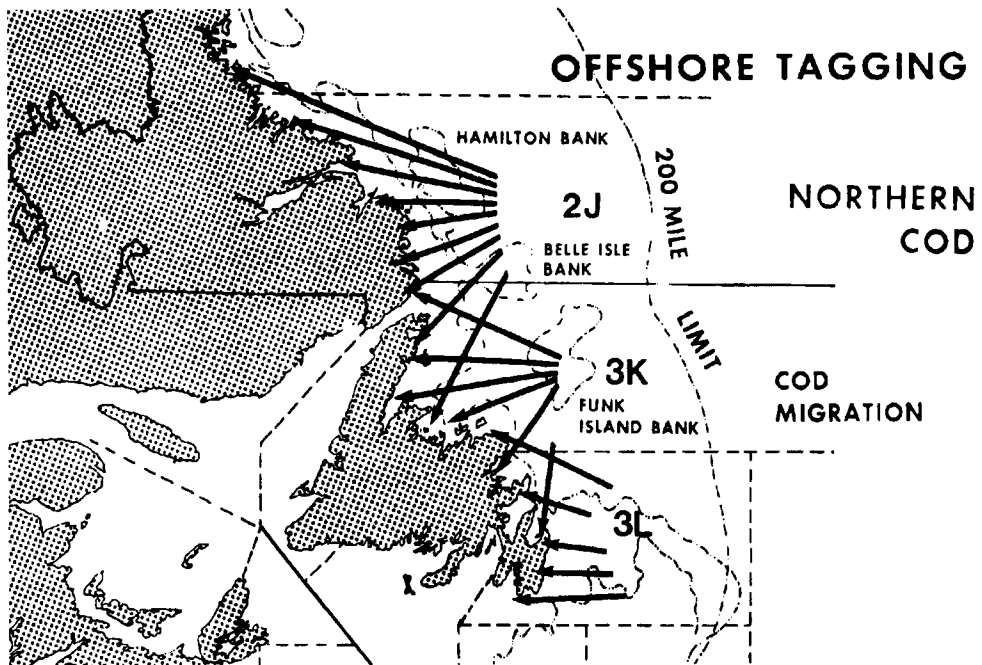
CHAPTER III

The Definition of the Northern Cod Stock Complex and the Relationship Over Time Between Its Components

3.1.0 Introduction

The Newfoundland—Labrador northern cod population within the Northwest Atlantic Fisheries Organization (NAFO statistical divisions designated as 2J, 3K, and 3L (2J3KL) constitute, by operational definition, a population of fish that is considered to be suitable for management as a unit and that has, indeed, been so managed since the early 1970s. This suggests a belief that the fish recruited to the several statistical divisions within the area have relatively small seepage in and out of the management area or that whatever seepage does occur is relatively consistent from year to year.

That some seepage does occur is, however, a point upon which fishermen, at least, have no difficulty in reaching agreement. Nor is there in the record any substantial scientific evidence to suggest that the line between 2GH and 2J, for example, represents any real separation of fish populations in those divisions. By the same token, the separation between statistical divisions 3L and 3NO may be seen as equally artificial. If, however, the interchanges that may occur between 2J and 2GH on the one hand and between 3L and 3NO on the other are consistent from year to year, the suitability of 2J3KL as a management unit need not be substantially impaired. Nevertheless, it must be clear that a better management plan might be implemented if all the fish belonging to the stock or stock complex were included in the management area.



Maps Showing Spawning Areas

3.2.0 What is Northern Cod?

Indeed, the best management plan for northern cod can only emerge in the context of full and accurate information concerning the nature of the population and of the territory it occupies. At present, our information is deficient. We do know or at least we believe strongly that the population consists of a complex of somewhat discrete subgroups that gather for spawning on the outer continental shelf and slope regions of the Hamilton Bank, Belle Isle Bank, Funk Island Bank, the Northern Grand Bank, and possibly at various inshore locations. But even here, the introduction of the word “possibly” indicates a gap in our knowledge. There is certainly strong presumptive evidence and some empirical evidence from tagging studies to suggest that some elements of the northern cod population do not regularly migrate to the spawning grounds of the outer continental shelf but rather remain to spawn in some of the deeper trenches that reach into the bays of the Newfoundland coast. Whether there are discretely separable groups, whether they recruit only from their own progeny, or whether they may be casual aggregations whose assemblage is variable and contingent upon environmental fluctuations are all moot points that clearly demand explication. It is unnecessary for us to repeat the discussions on this matter included in the Report of the Task Group on the Newfoundland Inshore Fishery (TGNIF), but it is important to reiterate the point that the possession of accurate information in this domain would have profound implications for overall management strategies as they impact separately upon inshore and offshore fishing operations.

To return to what we do know, we can state unequivocally that the summer distributions of the various subgroups do overlap in the coastal waters off Newfoundland and Labrador. We are further persuaded that both the offshore migration to spawning grounds and the inshore feeding migration are more or less replicated from year to year. Nevertheless, it should not be thought that a constant proportion of each spawning subgroup moves inshore each year to defined coastal waters nor that each of the major offshore spawning areas contribute equally or even proportionally to the inshore summer migration. Nor should it be presumed that the importance or relative size of the subgroups remains constant over time. There is, in fact, some empirical evidence that the proportion of spawning cod in 3L that moves to inshore areas of Newfoundland is less than that in either 2J or 3K.

What we do not know is whether or not the spawning subgroups constitute genetically separable stocks or whether their aggregations are fortuitous and dependent upon behavioural patterns as modified by changing environmental circumstance. In any case, there is no evidence at present available to us to indicate that the 2J3KL cod population necessarily recruit young exclusively from the spawning stocks within the 2J3KL management divisions. On the other hand, there is some evidence that once a fish recruits to a particular spawning group it will retain its relationship with that group.

3.3.0 Appropriate Management Units

These matters clearly cry out for elucidation. The TGNIF before us recognized the problem and suggested that it would be prudent to consider each major offshore spawning subgroup as a potential management unit. Although the DFO has not followed this suggestion to its obvious

conclusion, they have in recent years distributed the catch more evenly among 2J, 3K, and 3L by assigning one-third of the TAC to each of the management divisions. This we believe to be a wise precautionary policy designed to reduce the possibility of localized depletion of inshore fishing grounds. Indeed, there is some evidence to suggest an improvement in inshore landings in some sections of the northeast coast coincident with the reduction, under the one-third, one-third, one-third policy of offshore effort in 2J and 3K. For this reason, we must express concern with the recent decision to permit catch deficiencies in the northern zones to be made up by increasing the allowable catch in 3L.

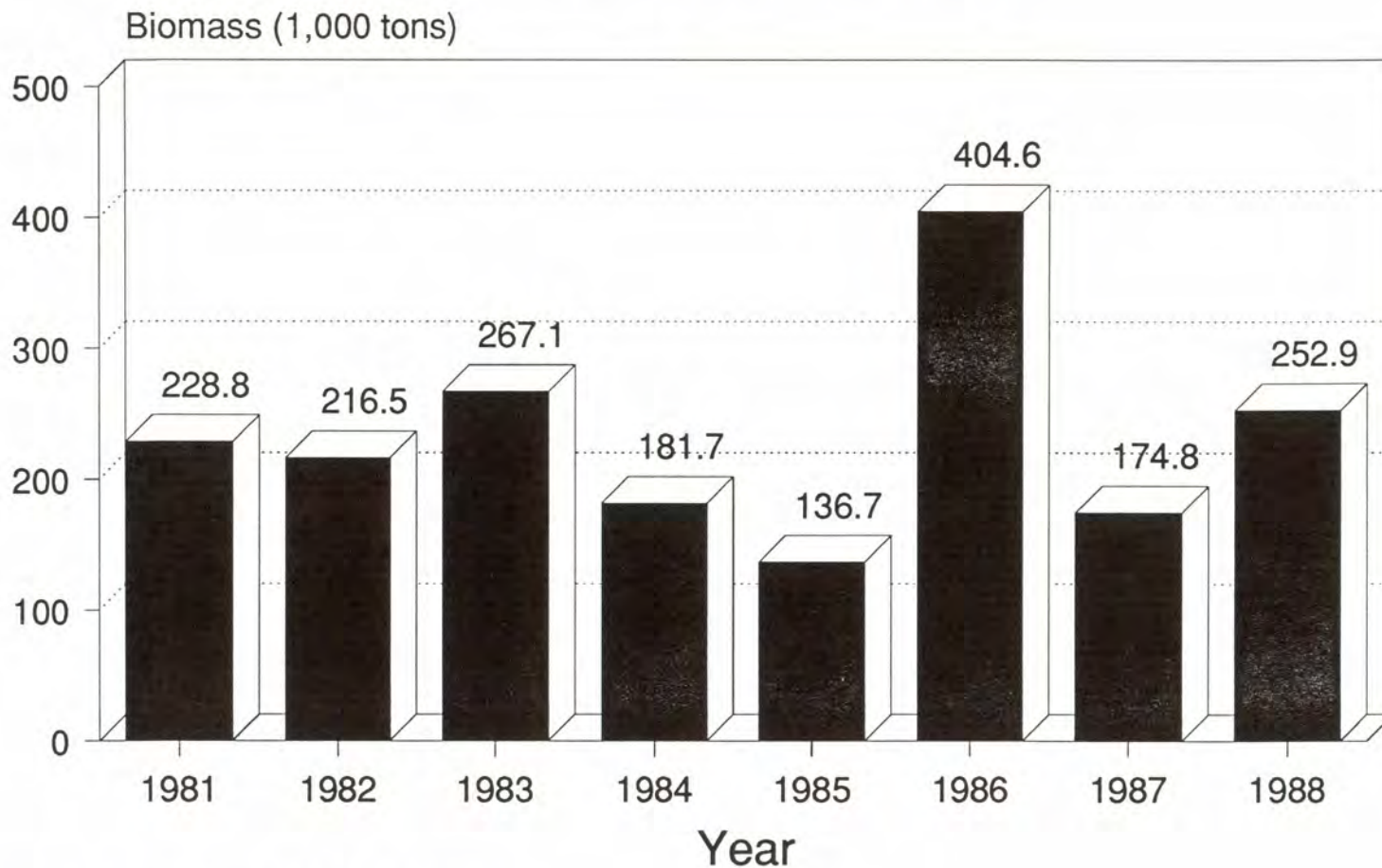
Indeed, we are persuaded that the current policy is nothing more than a desirable first step. In the long run, we must ensure that fishing effort is applied in direct relationship with the actual distribution of the exploitable biomass. We realize, of course, that the attainment of this highly desirable goal is contingent upon our capacity to acquire much more detailed information on the major spawning components of the stock, on the nature of inshore/offshore migrations, and on the levels of exploitation imposed upon each of the spawning subgroups.

Nor should we forget that our knowledge must be extended to encompass the important question raised by the TGNIF and to which we have alluded above and that refers to the potential existence of an inshore stock or stocks that is/are separate in a genetic and/or behavioural sense from the offshore stocks. Tagging carried out in the last two years adds weight to other evidence, some of it admittedly anecdotal, suggesting that such inshore discrete or semi-discrete stock components do, in fact, exist. If that should indeed be the case then it is clear that we must inject a new element into all our calculations of population size and must, as well, be prepared for an appropriate modification of management strategy. Various impacts upon earlier and current calculations are possible depending upon what may be discovered in respect of the size and behaviour of any existing inshore stocks and the history of their exploitation. It is clear, however, that before anything can be done to identify such impacts, we must establish the facts.

In short, though our ignorance is regrettable, we really do not have any definitive answers in respect of the relationships among the several components of the northern cod stock complex over time. We do have access to anecdotal evidence derived from the observations of fishermen through the years, and we have the results of a few relatively modest tagging studies by fisheries scientists. But apart from speculation as to what may have occurred as the consequence of historical harvest patterns, we are principally dependent for our limited information upon gleanings from the Research Vessel (RV) estimated population trends by statistical division.

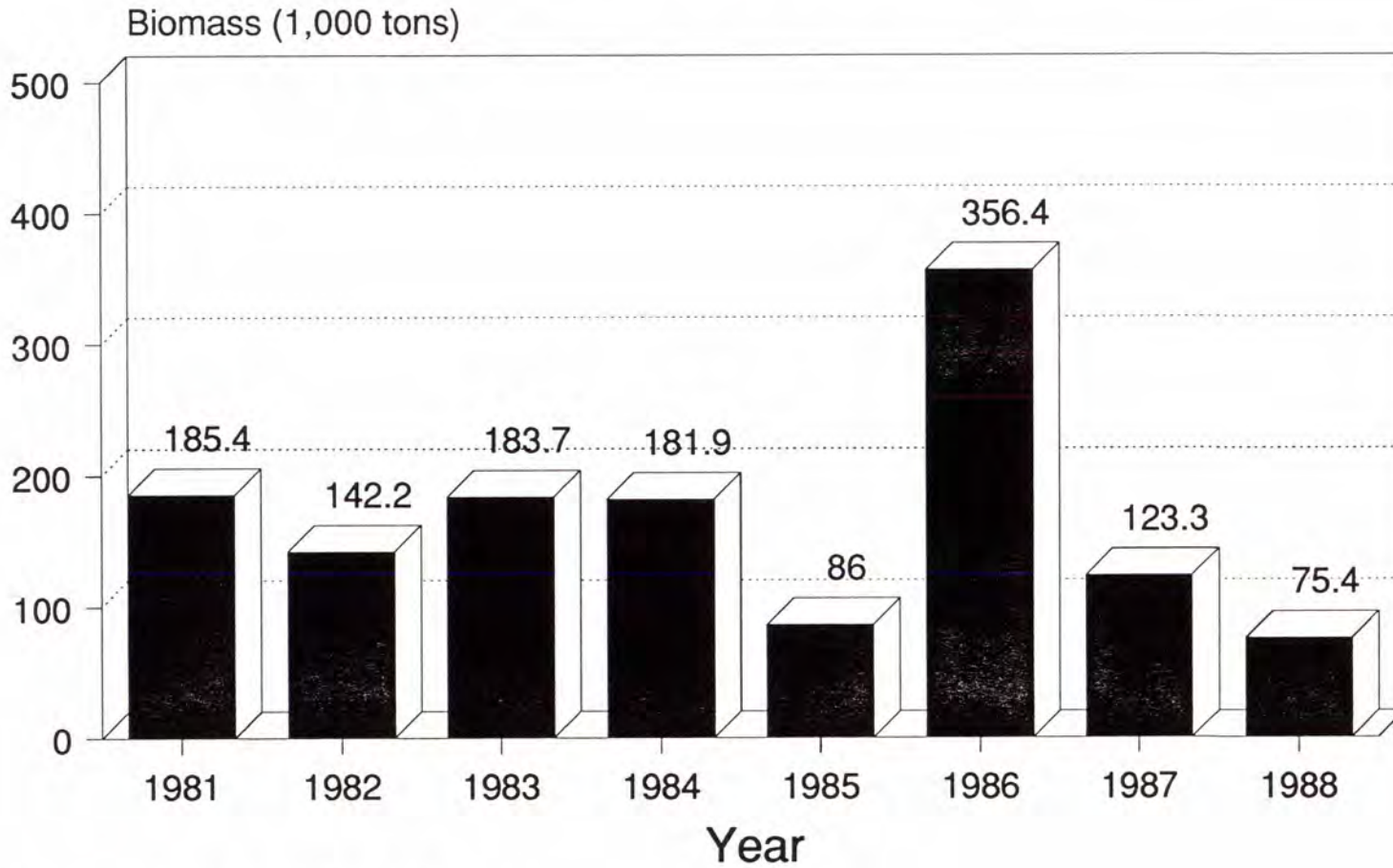
The RV population trends by statistical division but unadjusted for time and temperature data are provided in **Figures 6, 7, and 8** and the summed trend in **Figure 9**. In these tables both 3K and 3L show rather stable or slightly declining numbers in recent years while the population in 2J seems to have been improving somewhat since 1985. However, the danger of overreliance upon such data is apparent in the fact that the graphs show that the vast majority of the northern cod population appears to have been located in division 2J during the period of the autumn survey of 1988. This situation is one that has obviously varied over time, is consistent with information provided from the experiences of fishermen operating in the 2J3K divisions, and may suggest a behavioural or environmentally induced rather than a genetically driven pattern of migration. In

FIGURE 6: BIOMASS ESTIMATES OF COD FROM
AUTUMN RESEARCH VESSEL SURVEYS
IN NAFO DIVISION 2J



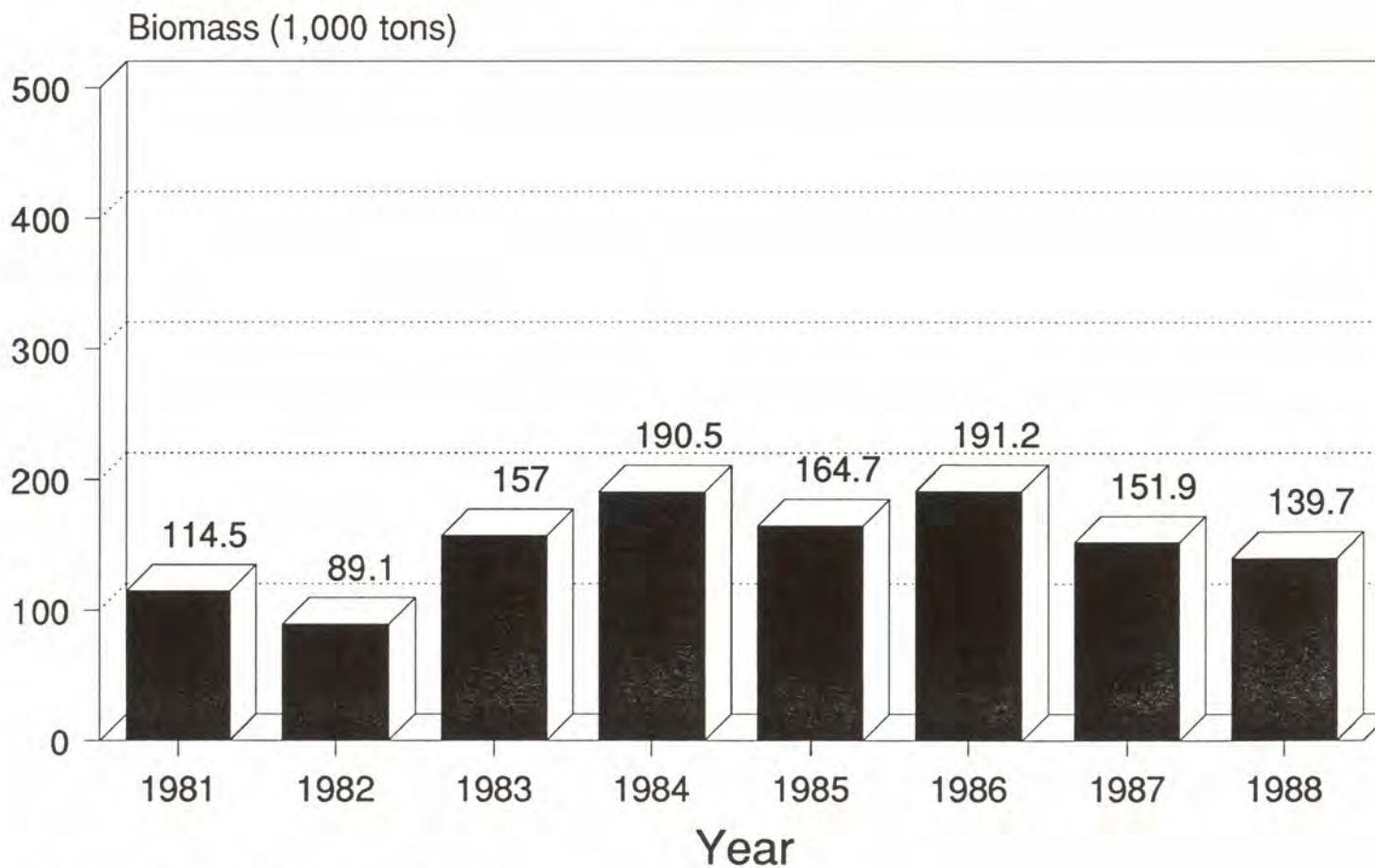
Source: Canadian Dept. of Fish. & Oceans

FIGURE 7: BIOMASS ESTIMATES OF COD FROM AUTUMN RESEARCH VESSEL SURVEYS IN NAFO DIVISION 3K



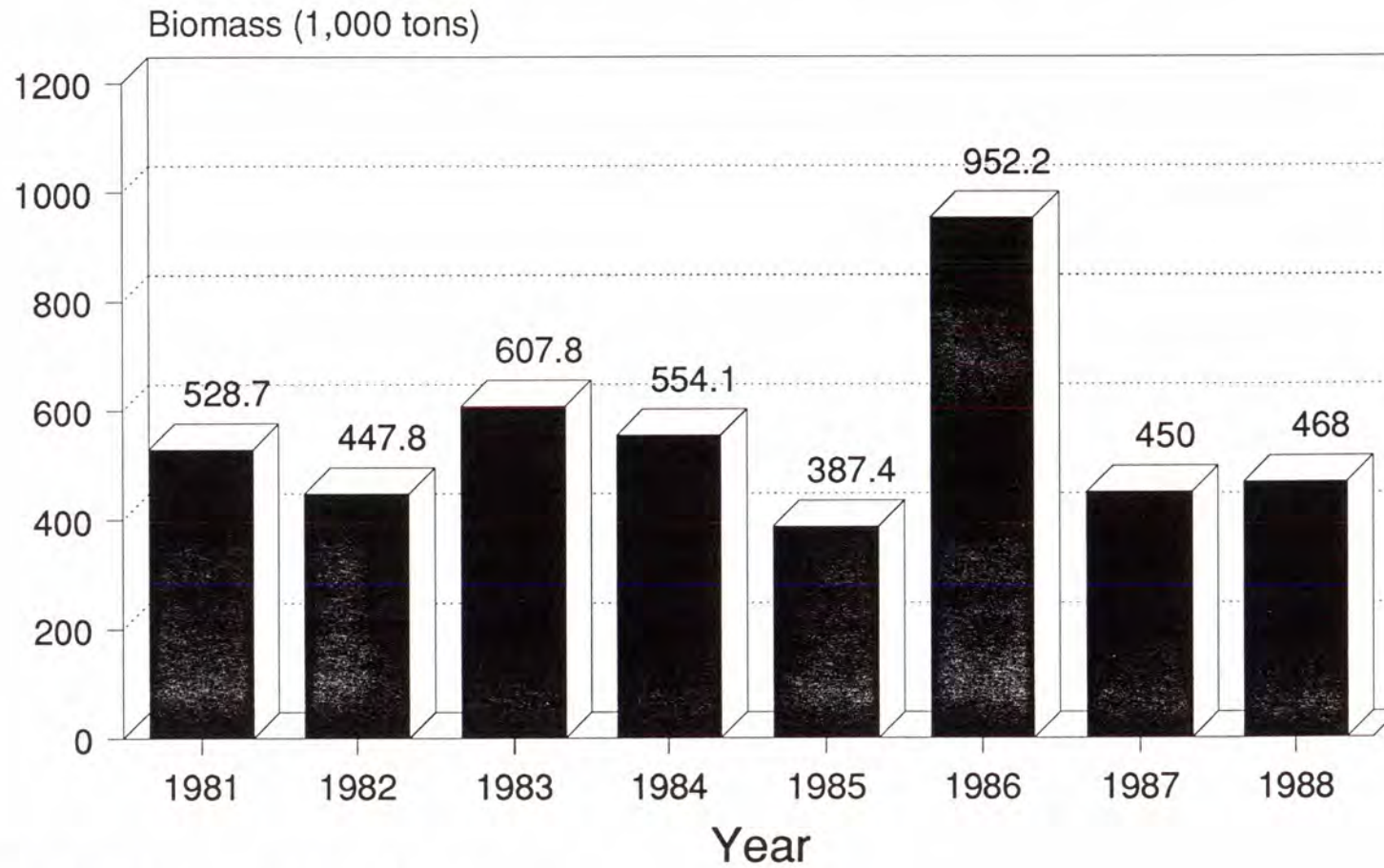
Source: Canadian Dept. of Fish. & Oceans

FIGURE 8: BIOMASS ESTIMATES OF COD FROM AUTUMN RESEARCH VESSEL SURVEYS IN NAFO DIVISION 3L



Source: Canadian Dept. of Fish. & Oceans

FIGURE 9: BIOMASS ESTIMATES OF COD FROM AUTUMN RESEARCH VESSEL SURVEYS IN NAFO DIVISIONS 2J, 3K AND 3L



Source: Canadian Dept. of Fish. & Oceans

any event, it constitutes another in the table of uncertainties that derive from our essential ignorance.

What, we must ask, do these estimates of changing stock size by statistical division really represent? Do they merely reflect differential responses of the various stock components to differing fishing pressures? Do they represent infinitely varying redistribution patterns of the population during its feeding migrations? Do they suggest the practical impossibility of management by statistical division? Or, do they suggest that it is possible or even desirable to draw other lines of demarcation on our map to replace those currently differentiating 2J from 3K and 3K from 3L?

Whatever may be the case, there can be no doubt but that the differential population trends within the several 2J3KL divisions are of great interest and concern because they impact directly and significantly upon our estimates of both population and fishing mortality (F) values. Certainly, the long-term catch history of northern cod clearly implies either an earlier inshore stock that has been much depleted if not exhausted: or, migration patterns that have changed dramatically over time: or, perhaps, a much smaller general population than even current estimates allow.

After this somewhat cursory review of available data associated with the nature of the northern cod stocks, we can conclude without hesitation that effective management for the future demands a broader and more comprehensive data base. **Specifically, we must know whether the stock is one or many; whether the separate spawning groups are genetically discrete or whether they may be differentiated by behaviour; whether behavioural patterns are fixed and immutable or whether they are responsive to the imperatives of changing environmental conditions; how and from which source separate subgroups attract recruits; how and under what conditions interchanges among existing statistical divisions occur; whether migratory routes are fixed or variable; how patterns of inshore and offshore distribution are determined; how such patterns may be affected by varying temperature or salinity regimes, varying availability of prey species or varying presence or absence of predators; and, whether or not there exist discrete inshore spawning groups and, if so, what is the basis of their separateness and what is their current status.**

With this knowledge in hand, it will be possible to develop a management regime that will be able to make an appropriate allocation of catches by statistical division. For so long as our knowledge remains deficient, we must proceed with caution. At the very least we should enforce, without exception, the current policy of allocating one-third of the catch to each statistical division. However, as our knowledge increases we should be prepared to move quickly to make appropriate adjustments to the catch apportionment so that as our understanding grows so will our management practices become more effective.

CHAPTER IV

Data and Methods Used in the Assessment of the Northern Cod Stock(s)

4.1.0 Data Used

The Department of Fisheries and Oceans database used in stock assessment for division 2J3KL and which is the basis of the advice given to the Government of Canada involves:

- A. Catch data for the inshore and offshore components of the fishery by gear and vessel classes as well as by divisions.
- B. Catch per unit of effort (CPUE) data on the offshore fleet used to form a commercial fishing index of abundance.
- C. The RV survey data which leads to swept area estimates of population numbers and biomass by age and CPUE numbers by depth strata and which includes samples of catch for age-weight information.
- D. Age-length and age-weight samples of the commercial catch by years based on shore-based sampling of both inshore and offshore landings.
- E. Commercial observer data related to discards and operational modes of the offshore fleet.

These databases constitute the underlying information used to develop estimates of population numbers and biomass, CPUE trends, recruitment patterns, and fishing mortality. The data are supplemented by various behavioral, ecological, and environmental observations that are useful

in evaluating availability trends to sectors of the commercial fleet and fall research surveys. They may also be useful in forecasting long-term population trends, but this is less certain or needs considerable refinement. The data corrected to account for environmental influences have not as yet been used to adjust population estimates used in providing advice to the government, although some preliminary work of this character has been initiated.

Since we can never have total confidence in the absolute reliability of any of these data sets, it is important that as many independent sources of information as possible be employed so that in checking one against the other the closest possible approximation to reality can be attained. Thus, while the Panel is content that the data sets listed above are being used in an appropriate fashion, it was inclined to wonder why historical CPUE data for the inshore fleets, acoustic survey data and environmental indices of availability and abundance have not played a larger role in developing abundance estimates and resource forecasting.

4.2.0 The Methodologies Used

DFO scientists are currently using a retrospective population analysis [Virtual Population Analysis (VPA) or cohort analysis] to estimate population size and terminal fishing mortality. This method is rather simple conceptually in that it involves adding up the catch of a particular year-class over time and adjusting this number upwards to account for natural mortality. Let us explain in simple terms. Suppose, for example, we take all the young fish recruited to the stock in 1982 and which may be described as the 1982 year-class. By 1985, they would be three year olds and would be large enough to be caught. If we count the numbers of them caught in that year and add to that the numbers of four year olds caught in 1986, of five year olds caught in 1987, of six year olds caught in 1988, of seven year olds caught in 1989, and so on until no more fish of that year-class are caught; and if we add to that total the numbers from that same year-class that have died from natural causes, we will know how many fish there were in the 1982 class at the beginning. This is to say, by 1995 or there about we will know, if our counting was done correctly and if our estimate of natural mortality is correct and if there are no other fishing-induced mortalities other than those accounted for by the commercial catches, how many young fish were recruited to the stock in 1982. This in turn is to say that VPA or cohort analysis is, if the underlying assumptions are correct, an accurate method of **hindcasting**. Such hindcasting does not, of course, even if it is very precise tell us how many fish are alive in the ocean today. If we again take our 1982 year-class as an example, we know, if our data sets are reasonably accurate, how many of that class have already been caught or have already died from other causes; but, our knowledge of how many are still alive is only a "guesstimate." To make that "guesstimate," we use a calculated value for fishing mortality which we identify as F (an instantaneous fishing mortality rate) and which can be easily equated to the percentage of the total exploitable populations that is killed each year by fishing. At some future time, when all the 1982 year-class have been caught, we will know whether or not our "guesstimates" were correct. At that time, it will also be possible to determine whether the values we used to calculate the F value were correct and, if they were not, to modify the calculations appropriately for the future. It will be clear from the foregoing that the longer the period of time over which our data sets extend, the greater will be the chance of our getting the answers right.

In the meantime, in order that appropriate management advice may be offered, we must use our hindcasting abilities as a foundation from which to make reasonable forecasts. To do this, the basic VPA model is “tuned”¹ by employing RV and CPUE data. Each of these sources of tuning data has its strengths and each its weaknesses. These are discussed at some length in the TGNIF report and the arguments need not be duplicated here. Sufficient to say, the standardized RV survey takes trawl samples at various depths (strata) within each subarea at a randomly selected set of stations. The catch at each location and at each depth is sampled to provide information on age and weight. The sample data are then used to determine the age composition of the population as well as a “minimum” estimate of total numbers and of biomass of the fish in the subareas sampled.

The extrapolation from the “swept area” partial estimate of population size to a “minimum population estimate” is based on the area swept by the net divided into the total area being sampled and multiplied by the estimated average density. Independent estimates are made for the several strata tested and the sub area estimates are added to obtain the overall population index.

Inasmuch as the net may not capture all the fish within its path and inasmuch as the area surveyed may contribute only a portion of the total northern cod habitat, the estimates derived in this way cannot be taken as absolute but rather as an “index” of population trends. It is assumed that the index remains a reasonable constant proportion of the true population size over time. The surveys provide important information on the abundance of various age classes and whether they are larger or smaller than in past years.

By the same token, the CPUE data which are derived from measuring the commercial catch as related to hours of fishing effort (i.e. hours in which a trawl is actually on the bottom and being towed in a fishing mode) are also used to construct an index of population trends. The assumptions in this case are that there is a direct linear relationship between CPUE and population size or, if not, that the relationship of population size to CPUE is a known function.

Since annual behaviour pattern of cod may be influenced by various environmental or ecological factors, it is clear that the timing of the survey may be very important if, from year to year, like is to be compared with like. That is to say, it may be necessary, if greater precision is to be obtained, to correct or adjust the RV data in the context of conditions that may be changed from year to year. These might include such components as temperature, salinity, and abundance of the food supply. In the same respect, CPUE data may be impacted by advancing technology, changes in gear type or deployment, changes in management strategy, and differences in skill level or experience among fishing masters and others.

1. “Tuning” is a collective name for a family of techniques in which known data such as historical population levels, age structure, etc. are used in conjunction with trends appearing in the indexes derived independently from the RV surveys and the commercial CPUE, to establish and estimate of the current population size. Essentially they use the good estimates of absolute population size that VPA provides for the past years to calibrate survey and CPUE indices of relative abundance. The calibrated (to absolute population size) indices of abundance for current years are then used to replace the “guesstimates” of current population size in the VPA. Of course, such estimates of recent populations and size are only as good as the trends indicated by the survey and CPUE data.

The Panel was reasonably satisfied that the current analytical approaches used by the DFO scientists represented state-of-the-art methodology, but were concerned over (a) the absence of an estimate of cod losses due to bycatch losses, (b) the large variability in RV survey results, and (c) the utilization of the offshore CPUE data to tune the VPA/cohort model. **The Panel saw a need for an alternative independent measure of population trends.**

4.3.0 Approaches Taken by Other Countries and NAFO to the Measurement of Fish Stocks

In principle, the approaches used by scientists of other countries in measuring the size and trends in fish stocks are similar to those used by CAFSAC scientists. However, the degree of reliance on a single population estimate varies among species and among regions of the world. It is obviously desirable to have several independent indicators of population trends. CAFSAC scientists' population estimates are derived from their cohort analysis in conjunction with "tuning calibrations" that employ commercial CPUE and RV indices of abundance. Throughout the world cohort analyses are normally supplemented by independent estimates of population trends such as CPUE data, acoustic and RV surveys, egg and larva surveys and/or estimates derived from tagging studies.

In the past, the northern cod population estimates have been tuned using what is known as a bulk biomass method. This method uses the overall (all ages combined) catch rate estimates from vessel surveys and/or from commercial fishing vessels. These indices of biomass change were related to historical exploitable biomass estimated from the VPA. This relationship was then used to tune the population estimates for the most recent years so that the exploitable biomass showed an equivalent trend to the survey of CPUE index.

This approach was probably reasonably effective prior to 1978 when the international fishery was removing a large proportion of the stock and, hence, large year-to-year changes in the size of the biomass occurred. However, the method appears to have faltered during the period of extended jurisdiction. This may have been partly because of the slower rate of biomass change but was more likely affected by increasing levels of uncounted bycatch and systematic increases in the efficiency of the Canadian fleet — leading to an underestimate of fishing mortality and a corresponding overestimate of the rate of growth of the stock(s). Apart from the problems inherent with the data set, the bulk biomass approach has several fundamental drawbacks which have been recognized in recent years; e.g., the exploitable biomass estimated from the VPA can be distorted by using incorrect estimates of the exploitation pattern (the proportion of the full fishing mortality acting on each age of fish). This problem can be particularly difficult if this exploitation pattern changes through time. For these reasons, the method has been discouraged in working groups of the International Council for the Exploration of the Sea (ICES).

In the January 1989 CAFSAC northern cod assessment, a different approach was used to tune the VPA to the research vessel survey. The new method uses data from the research vessel survey on an age-by-age basis. The method minimizes the discrepancies between the VPA population estimates for each age and the equivalent survey age-specific indices of abundance. This more

statistical approach enables the assumptions underlying the method to be carefully questioned by CAFSAC. The approach is broadly similar to those used currently in the ICES area.

The same adaptive framework programme was also used to tune the VPA to the commercial CPUE data. However, in this case the method used within the framework was one based upon relating VPA estimates of bulk biomass with the bulk biomass trend shown by the commercial vessels. Despite the more sophisticated statistical procedure used, this approach may still suffer from the faults noted for the earlier bulk biomass method. While there are certainly some valid statistical reasons for CAFSAC's choice of this approach, these may well be outweighed by its inherent problems.

Direct comparisons between the Newfoundland case and that obtaining in respect of other countries are not always necessarily useful. For example, the characteristics of many large-scale world fisheries which are undertaken with various gear types and different national fleet components may provide for a number of independent sets of CPUE trends and hence make possible multiple estimates of populations trends and age structure data. Furthermore, environmental factors in other ocean regions may have a much smaller impact on fish behaviour than in the Newfoundland region. Hence population trends and stock enumeration in these fisheries may be more easily accomplished than in Newfoundland and the results more easily interpreted. In other cases, the species of fish whose population is being assessed may be much more predictable or much better understood in terms of behaviour than is the case with northern cod.

In the ICES area VPAs are frequently tuned using the Lowestoft VPA tuning package. This is available at DFO laboratories. This package enables a quite wide family of age-based tuning methods to be applied; but, the currently preferred approach is the Laurec/Shepherd method. In recent years, there has been much active research into methodologies for tuning VPAs. ICES has provided a focus on this research through its Methods Working Group. This working group has been regularly attended by DFO scientists and the ADAPT framework, the Lowestoft tuning package, and a number of other methods have all been subjected to its scrutiny. As yet no clearly favourite method has emerged, but the broad principles on which better methods should be based have been agreed. Chief amongst these are that age desegregated data should be used and that detailed examination of how well the data fits together should be made.

All of the methods mentioned above will give the correct answer when the data is exact but all will give answers which vary about the truth when the independent estimates of population trends are variable, which is often a fact of life.

In short, the choice of methodologies emphasized in stock assessment depends, in part, on the life history features of the fish being studied and, in part, upon the suitability of sampling and assessment schemes to particular species, and, in part, upon the availability of funds and facilities. **Although the CAFSAC methodology seems reasonable in light of the species involved and in view of the characteristics of the area and of the funds available, the independent estimates of population trends require much closer scrutiny.**

CHAPTER V

Stock Trends and Past and Current Scientific Advice

5.1.0 Possible Causes for Changes in Status of the Stocks

This is an interesting question in light of the fact that there may not have been a significant change in population biomass trends since 1984. At the outset, let us be clear that we understand the words we are using. Let us note, for example, that populations and population biomass are two quite different things. Population of itself refers simply to the number of fish with which we are concerned. Population biomass means the aggregated weight of all the fish. Thus, a population of 1000 fish weighting on average two kilograms each would constitute a population biomass of 2000 kilograms. That same biomass would exist if we had only 100 fish weighting on average 20 kilograms each. Thus, when we say that there has been no significant change in population biomass trends since 1984, we are not necessarily saying that there has been no change in the number of fish (average weight-at-age or age structure) in the population since that date. Indeed, the biomass trend alone may mask internal changes in the population age structure and thus be misleading or not very instructive about potential downstream population trends.

The DFO's current interpretation of stock status is that the northern cod stock increased between 1977 and 1984 and has subsequently stabilized and, depending on harvest strategies, may decline in the next several years. It should be noted, however, that a fisherman's perception of the state of the resource or exploitable biomass may differ from that of the scientists or from that of other competing fishermen, depending on when and where he/she takes the catch and on the abundance and distribution of different age groups in the population. That is, the overall population biomass may remain constant, but there may be sharp changes in the abundance or availability of different age groups in various geographic areas inhabited by the population.

Figure 10 graphs the population trends for the 2J3KL stock in numbers and biomass from 1976 to the present based on the DFO use of a terminal F (instantaneous mortality rate) of 0.436. As previously noted, the population biomass remains rather static between 1984 and 1988, although a slight decline is apparent. **However, a downward trend in number of fish in the population is more obvious and apparently reflects a decline in the number of younger age groups (three to five year olds) entering the population.** Both biomass and population numbers provide evidence of a healthy population growth between 1976 and 1984. The percentage of growth in the biomass, however, is greater than that for population numbers.

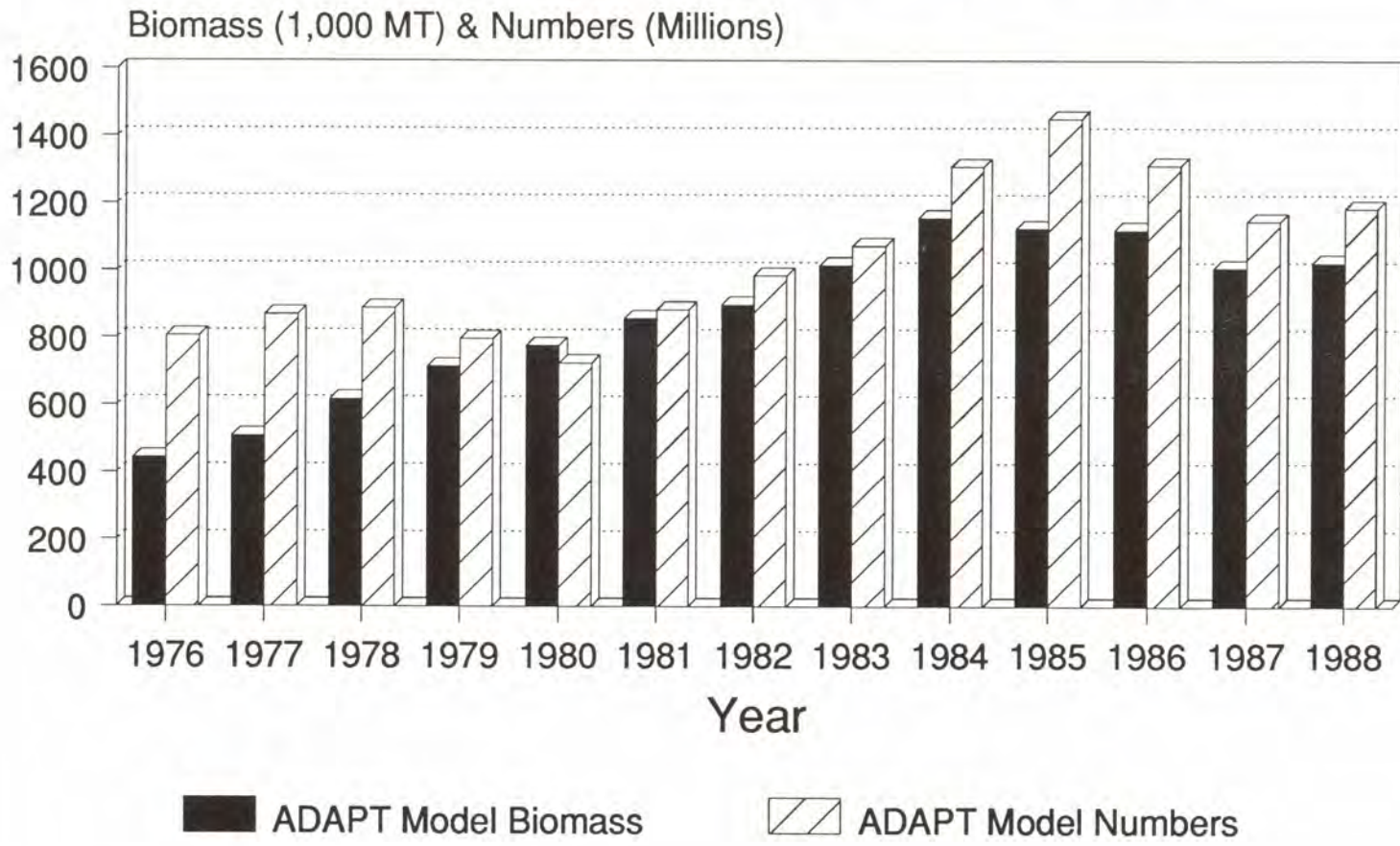
The rather stable level in the biomass since 1984 (as projected from the cohort study) is supported by the commercial catch index and the RV data (**Figure 11**). It also accords reasonably well with the trends in inshore catches during this same period. All this brings us to the view that **the state of the stock measured by the biomass trends does not support a conclusion that anything drastic or threatening has occurred to the northern cod stock to date.**

However, we are concerned that the decline in recruitment which is occurring (three to five years olds), coupled with the continued catch levels experienced during 1986, 1987 and 1988, could sharply erode the gains made in rebuilding the northern cod stock during the late 1970s and early 1980s.

Our concern is based on two observations. First, the ability of the population to maintain a rather static biomass in the past three years despite declining numbers of younger recruits is based on the relative good strength of six and seven year olds in the population during these years (**Figure 12**). The overall population numbers are down but the average age and size of the animals in the exploitable population is up. However, as the smaller year-classes become the backbone of the fishery, the population biomass (if subject to most recent catch levels) is likely to decline (**Figure 13**). Thus although the rather heavy fishing rates ($F = 0.4$) which characterized the fishery between 1984 and the present did not lead to a significant decline in population biomass, this may have been only possible because recruitment was significantly better between 1981 and 1985 than it is likely to be over the next several years (**Figure 14**). We do not believe that the 1985-1988 stock levels will be sustained if the current domestic and foreign fishing rates are maintained in the future.

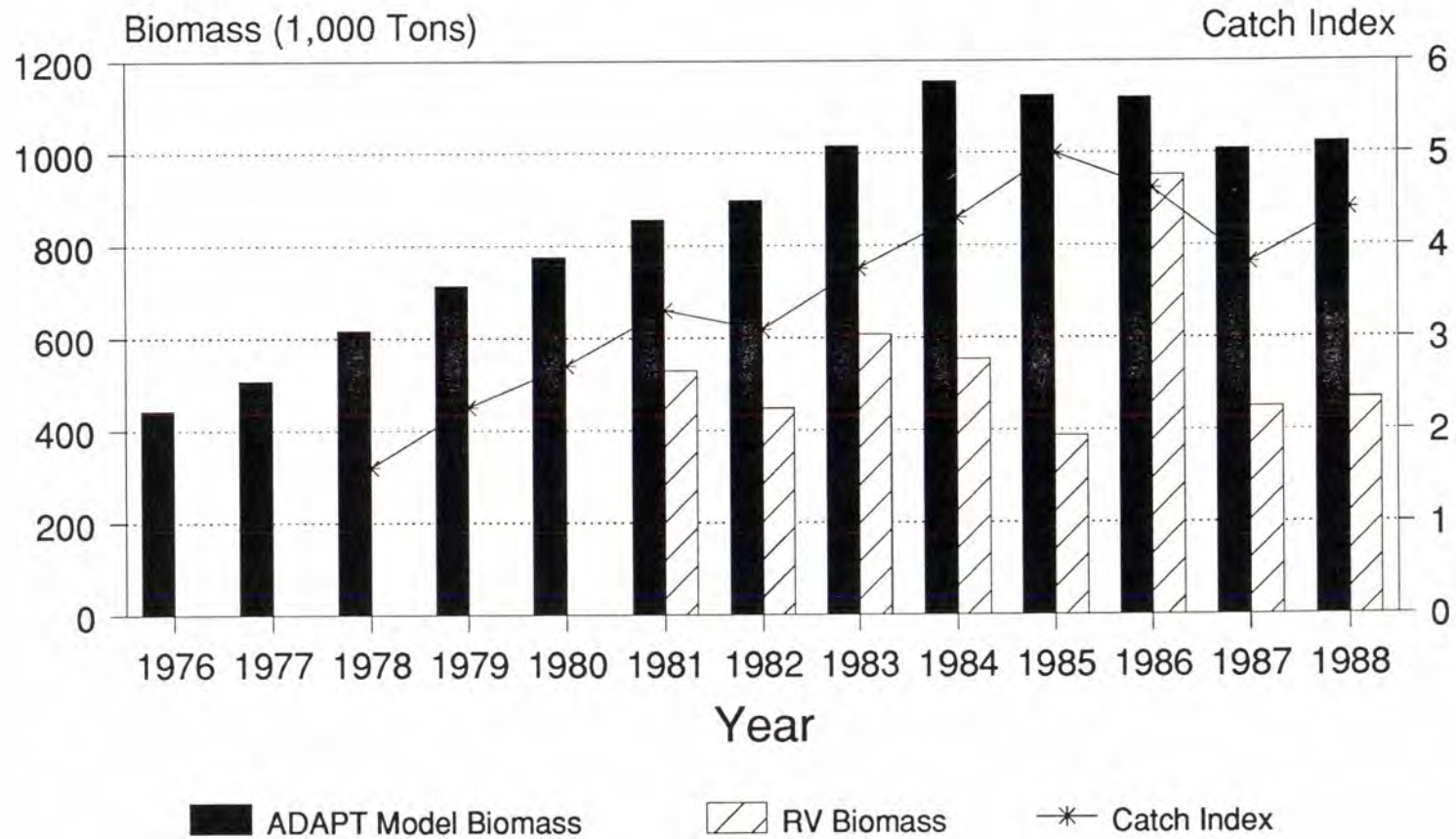
It is interesting to note that between 1984 and the present, the population biomass has been holding rather steady despite the fact that the percentage of young fish (five years and younger) in the catch has declined from 39% in 1984 to 25% in 1988. This relationship may have been affected by changes in the mesh size, the adoption by some fishermen of square mesh, etc., but the inshore catches (excluding traps) by age should not have been similarly biased. The big decline in younger fish in the catch occurs between 1986 and 1987 when the poor 1983 and 1984 year-classes entered the fishery. Looking at these data alone, we would have expected a decline in biomass but presumably the increased strength of earlier year-classes plus growth of individuals has, for the present, stabilized the biomass trend (**Figure 15**). The presumed stability of the population, of course, depends on the reliability of the recent estimate of $F=0.44$. **If the RVF value is closer to reality, then the population has probably declined in recent years.**

FIGURE 10: ADAPT MODEL BIOMASS AND ADAPT MODEL NUMBERS ESTIMATES OF AGE 3+ COD IN NAFO DIVISIONS 2J, 3K AND 3L



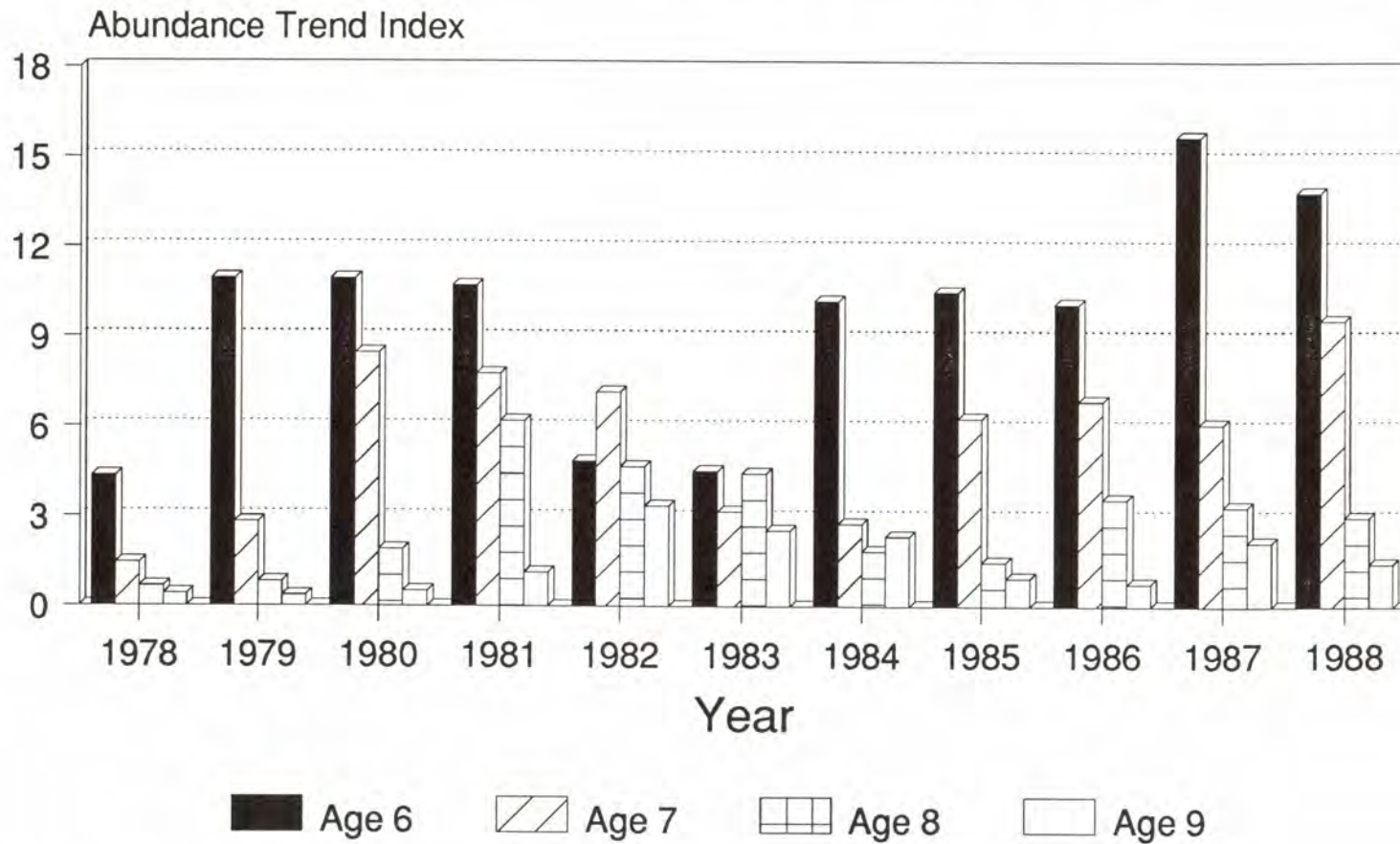
Source: Canadian Dept. of Fish. & Oceans

FIGURE 11: CATCH INDEX, RV BIOMASS, AND ADAPT MODEL BIOMASS ESTIMATES OF AGE 3+ COD IN NAFO DIVISIONS 2J,3K & 3L



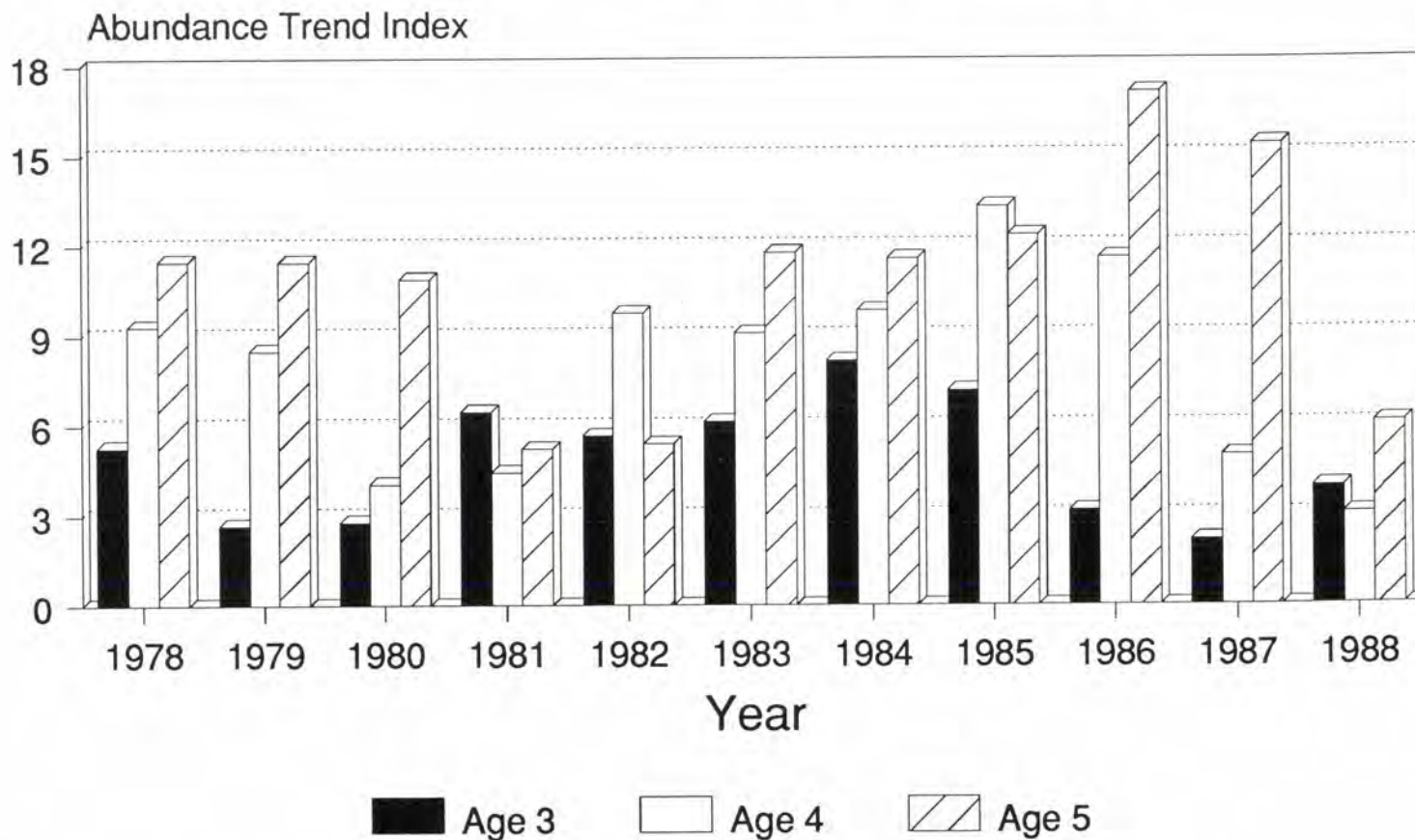
Source: Canadian Dept. of Fish. & Oceans

FIGURE 12: ABUNDANCE TRENDS OF AGE 6, 7, 8, AND 9 COD FROM NAFO DIVISIONS 2J, 3K, AND 3L



Source: Canadian Dept. of Fish. & Oceans

FIGURE 13: ABUNDANCE TRENDS OF AGE 3, 4, AND 5 COD FROM NAFO DIVISIONS 2J, 3K, AND 3L



Source: Canadian Dept. of Fish. & Oceans

FIGURE 14: OBSERVED RECRUITMENT
FROM COHORT FOR COD IN
NAFO DIVISIONS 2J, 3K, AND 3L

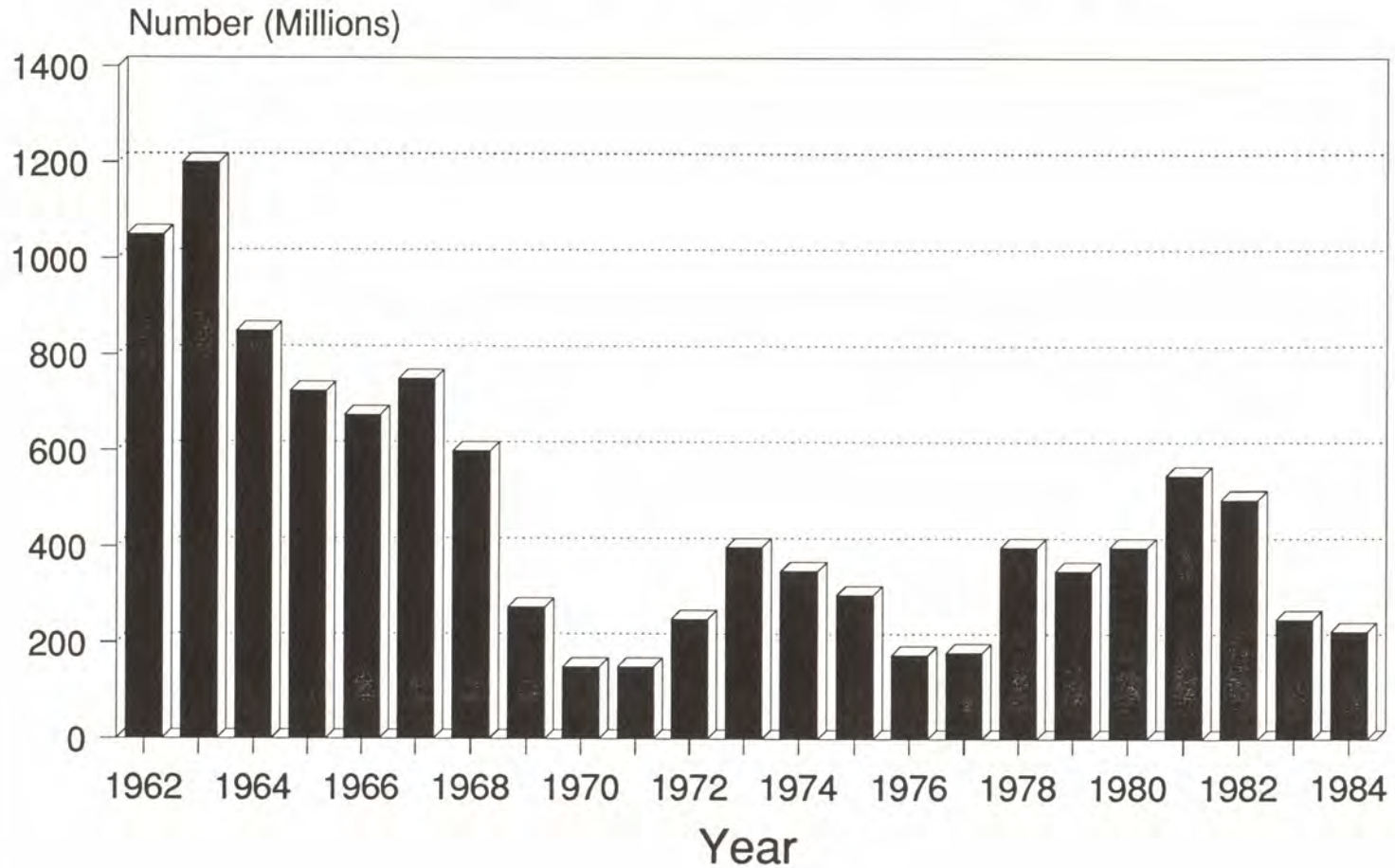
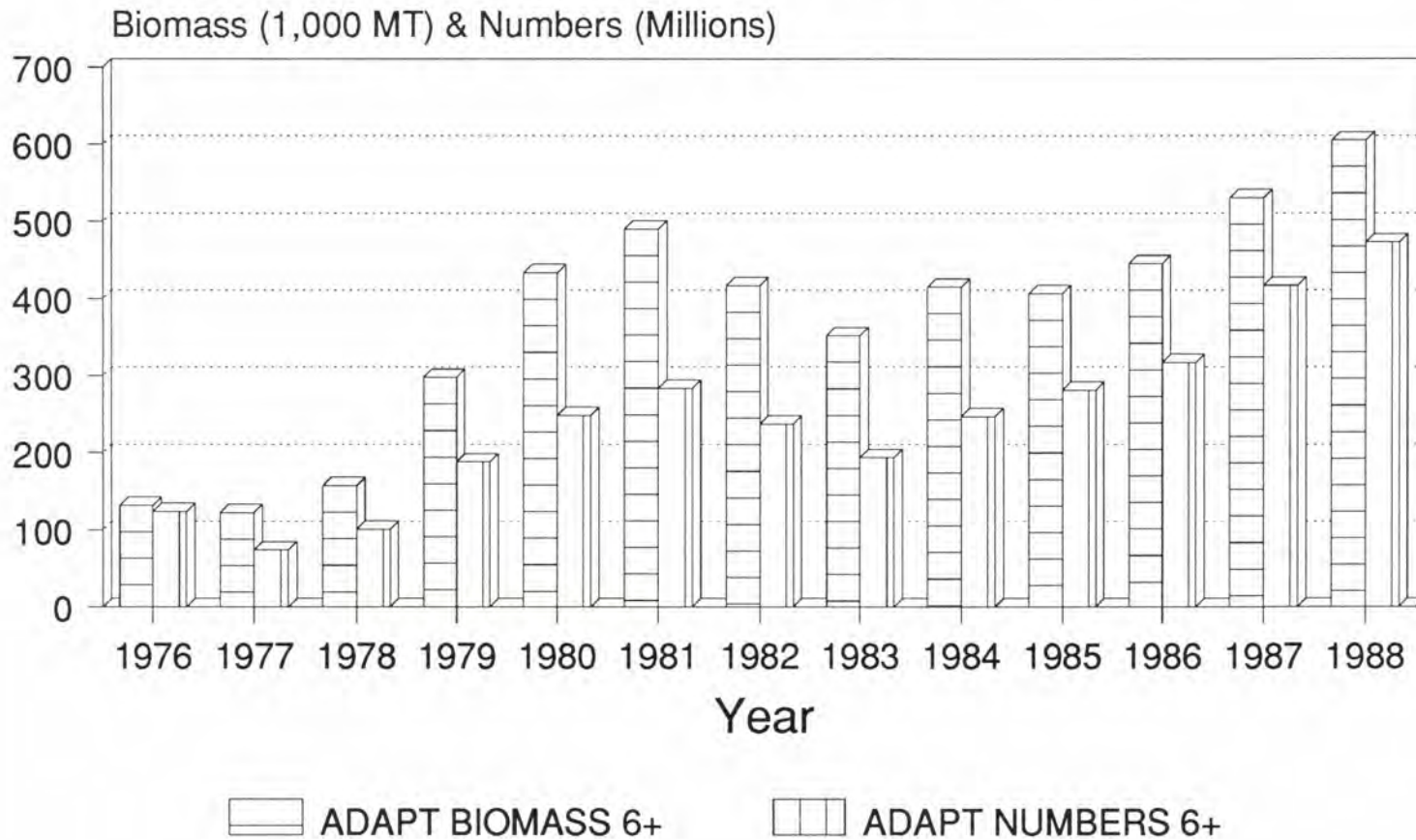


FIGURE 15: ADAPT MODEL BIOMASS AND ADAPT MODEL NUMBERS ESTIMATES OF AGE 6+ COD IN NAFO DIVISIONS 2J, 3K AND 3L



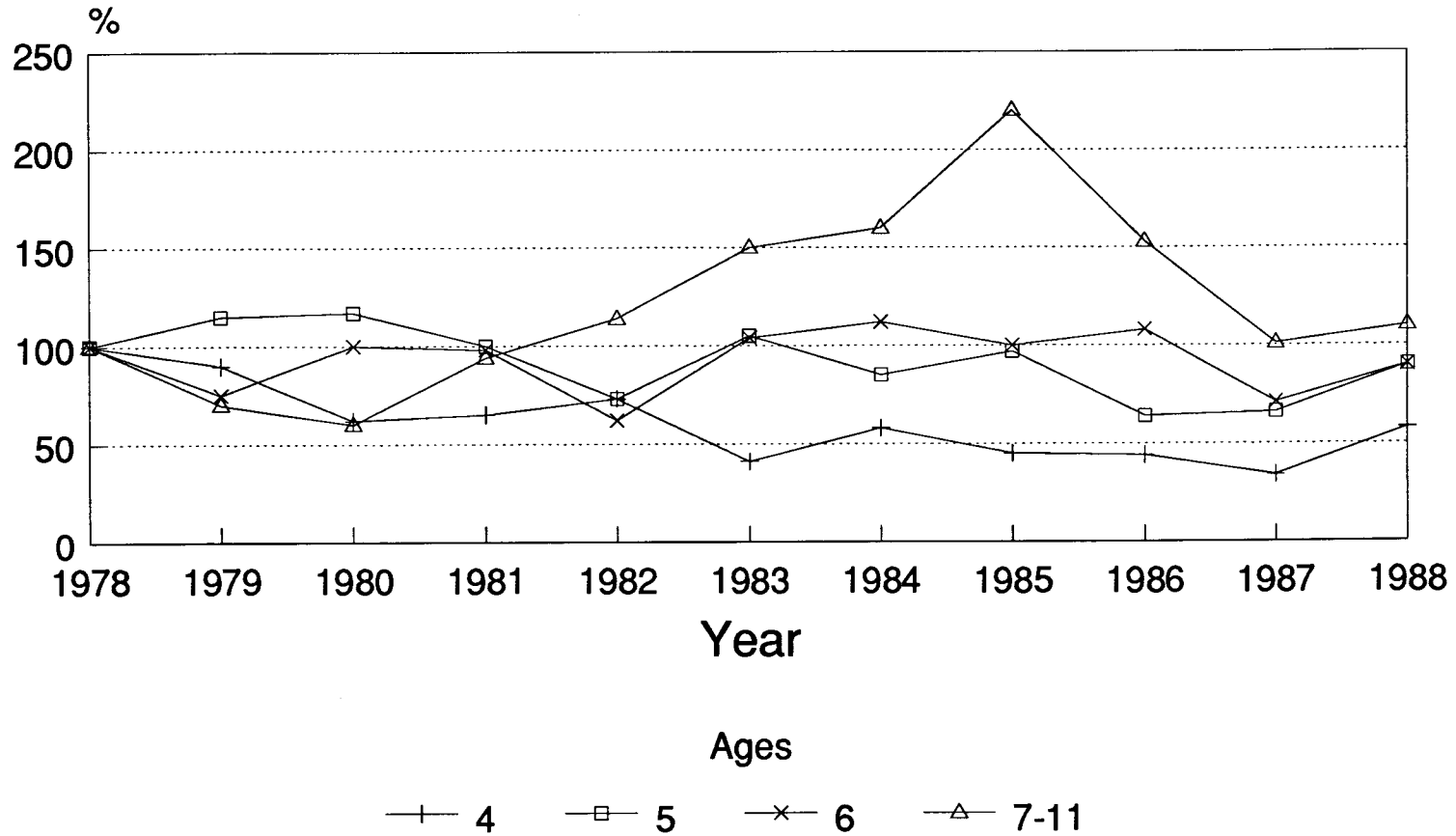
Source: Canadian Dept. of Fish. & Oceans

Changes in state of the stocks are a function of fishing levels, natural mortality, recruitment levels, and growth of the fish in the population. However, our perception of the stock's status may also be an artifact of the database and estimating procedure. For example, if a harvest of 150,000 metric tons is presumed to generate an annual mortality of 0.25, then the population estimate will be 150,000 metric tons divided by 0.25 or 600,000 metric tons. However, if the true value of the annual fishing mortality is only 0.15, then the actual population size would be 150,000 metric tons divided by 0.15 or 1,000,000 metric tons. If the current DFO assessment is correct, recruitment and growth of the fish in population during the late 1970s and early 1980s exceeded losses imposed on the stock by fishing and natural factors. Variation in the natural mortality and growth of the individuals in the population are limited by a complex set of interacting biological and physical/chemical environmental factors and ecological conditions. Although there is good qualitative evidence that these factors play an important role in the behaviour of northern cod, it is not clear to what extent they impact population trends and the data are, as yet, not very useful as an aid to adjusting stock estimates resulting from direct and indirect measurements of population trends.

In conclusion, the Panel notes that since 1976 there has been a general improved stock condition. This has occurred despite catches well in excess of the $F_{0.1}$ goal. Growth of the population appears to have been aided by recruitment levels that were considerably larger than those the stock is now experiencing. Fishing levels have obviously played a role in the exploitable population trend, and the aggregate catches taken from the stock complex in recent years has prevented growth of the stock complex since 1984. **The recent downturn in recruitment suggests that the recent catch level cannot be maintained without causing a significant decline in the exploitable and spawning biomasses.** Further, there are the unknown effects of the foreign fleets operating outside Canada's two hundred mile limit.

Up until the time Canada assumed responsibility for the two hundred mile fisheries zone, the main index of abundance of the northern cod was mostly provided by the catch per unit effort of foreign fishing vessels. From 1978 onward the CPUE series was based upon Canadian vessels. Only two years, 1978 and 1979, provided an overlap period between these two series of abundance indices. With the wisdom of hindsight, it is possible to see that the efficiency of the Canadian vessels increased quite sharply after these two earlier years. **Figure 16** shows trends in efficiency between 1978 and 1988. Taking the result of 1978 as 100%, the efficiency appears to have increased quite sharply between 1980 and 1985 but then has declined perhaps in response to the enterprise allocation regime. While the time series remained short, this increase in efficiency was interpreted as an increased stock size, and this error became apparent only as the longer time series of CPUE data became available and as the survey data series became available for use. If only the commercial CPUE data of 1978 - 1988 are used to tune the VPA then owing to the increases in efficiency, the estimate of terminal fishing mortality is lower than the final figure adopted by CAFSAC. If, however, the earlier years are progressively dropped from the VPA tuning then results compatible with the final CAFSAC estimate are obtained from the VPA tuning. The text table shows the progressive changes in estimates of fishing mortality on ages 7-11 obtained from tunings based upon shortened CPUE time series.

**FIGURE 16: CHANGES IN EFFICIENCY,
OFFSHORE EFFORT, FOR AGES 4, 5, 6 AND
AGES 7-11 COMBINED**



**Estimated Fishing Mortality Ages 7-11
from Laurec/Shepherd Tuning Based upon Year Y
Up to 1988 Commercial CPUE Data Only**

Year Y	78	79	80	81	82	83	84	85	86	87
Fishing Mortality 1988 ages 7-11	.34	.35	.38	.43	.48	.53	.55	.57	.45	.45

It is noticeable that the changes of efficiency figures (shown in **Figure 16**) bear out the contention of offshore fishermen that their catching efficiency has been reduced in the most recent years. However, despite this, the text table shows that an analysis based only upon the last two or three years of their data gives an estimate of fishing mortality in 1988 very similar to that finally adopted by CAFSAC.

5.2.0 Explanation for the Difference Between the Current and Earlier Scientific Advice as to the Overall State of the 2J3KL Stocks

The significant difference in the 1989 scientific advice from that of earlier years results in part from the addition of a new analytical method of handling the data inputs, in part from the changes in the state of stock which have occurred since 1986, and in part from a significant adjustment in the 1986 RV survey abundance estimates.

Firstly, the current method uses results of the prior year to obtain estimates of F for both commercial and RV data. The new model was employed in 1988 groundfish assessments and for the January 1989 northern cod assessment. A subsequent application of the old model to the complete data for purposes of comparison confirmed the belief that the new modelling technique was indeed the superior tool. Thus, part of the change in advice may be directly associated with the model used in the assessment analysis.

Secondly, the change in advice flows from two additional years of data which have been added to a reasonably short series of observations. **The two most recent years show a marked decline in recruitment over that observed in years prior to 1985 (re-visit Figures 12-14).**

Thirdly, the 1986 survey values which were incorporated into the earlier RV survey calibration have now been shown to be an artifact of resource availability, probably brought about by a change in the timing of the 1986 RV survey.

Finally, estimates of fish mortality during the period following Canada's developing the offshore fishery were biased by rapidly changing levels of efficiency resulting from both learning and technological change.

Although these points may seem simplistic, the Panel notes that the basis for the rather sharp change in the character of advice is rooted in recent changes in stock recruitment, an anomalous 1986 survey signal, high variability in the RV tuning data, and the abandonment of an analytical technique that proved statistically faulty in 1989. Whether or not the 1986 RV data should have been suspect and ignored or the bulk biomass model abandoned earlier is a value judgement which is easier to make in retrospect than it might have been in earlier years.

CHAPTER VI

Expanding Our Scientific Understanding

6.1.0 Introduction

In Chapters III through V, the Panel has addressed specific questions raised by the Minister in respect of the structure of the northern cod stock(s), the data and methods used by DFO and other scientists in carrying out assessments of stock abundance, factors influencing abundance trends, and the basis of past and current scientific advice given by DFO scientists. The responses to the questions posed by the Minister have, for the greater part, been based upon a review of the voluminous literature and statistics concerned with the northern cod and upon information provided in response to questions addressed to DFO and other knowledgeable scientists. Hence, they flow from and reflect the Panel's interpretation of data and information garnered from a wide variety of sources and are informed by the Panel's collective understanding of the subjects of concern.

Most of the questions raised by the Minister were concerned, directly or indirectly, with the database and methodologies used by DFO and other scientists in the formulation of scientific advice, but they also raise the more fundamental issue of the appropriate role for science in the formulation of management strategies. This is, indeed, a most important issue for, as has been frequently noted in fisheries literature, one of the important problems inhibiting effective management has been the failure of scientists and administrators to properly differentiate their respective roles of fisheries science and fisheries management. Gulland (1971), for example, makes the point that many problems arise because of "the comparison between the roles and methods of ... science and management" and goes on to explain that

"Management is a matter of making decisions and it is often as important to make a decision in time as to make precisely the best decision. Management has to resolve a wide range of political,

social or economic problems. Science has to provide evidence on the likely results, within its field of competence, of possible management actions and so enable more rational decisions to be made.... Science advances by disprove rather than prove—a succession of hypotheses are put forward capable of explaining the observed facts and have to be abandoned or revised as further observations show them to be inadequate.”

This scientific process, as Gulland describes it, is precisely what took place in the DFO northern cod stock analysis, although the question remains whether certain methodology and certain hypotheses should have been rejected sooner than, in fact, they were.

In this sense, it is important that the Panel, the scientific community, and the managers alike should acknowledge that the guidance provided did not produce the expected and desired results. It is, however, even more important from the Panel’s perspective that the scientific community and the managers should clearly identify and understand factors which may have contributed to an underestimation of fishing mortality and to the inability of science at that time to predict correctly the likely consequences of past management decisions. It is, therefore, the goal of this chapter to examine scientific databases, methodologies and operational modes, and to suggest approaches that may lead to improved scientific advice.

Perhaps at the outset, we should note another of Gulland’s dicta from the work cited above, that

“It is a fallacy to think that scientists, given time, and perhaps money, can produce the complete answers to management problems, e.g. specifically the precise value of the maximum sustainable yield from a particular stock of fish and also the exact levels of fishing and of population abundance required to produce it.”

We recognize that fish, the environment in which they live, and the fisheries that exploit them together constitute a highly complex and dynamic system consisting of a multiplicity of interactive functions producing results that may not be easily predictable and that may never be managed with absolute precision. Nevertheless, **we are convinced that greater attention to integrating information from the biological and oceanographic disciplines into the assessment process and better use of the available data sources can reduce the risk of future errors in estimating key population parameters.**

The achievement of these goals will depend in part on adequate funding and in part on the setting of appropriate priorities in the collection and analysis of needed information. We will, therefore, in the pages that follow outline and discuss areas of study and modes of operation that will, we hope, stir the imagination of the scientists responsible for the northern cod stock analysis and, perhaps, serve as a guide to the development of appropriate programmes of research. We recognize, however, the emphasis to be placed upon existing and potential new areas of study will change over time. Hence **it will be necessary to establish a process for the continual reappraisal of the importance of various work and its potential contribution to the overall scientific understanding of the population dynamics, behaviour, life history, and ecological relationships of the northern cod stock.**

6.2.0 The Management Unit

Atlantic cod between southern Labrador and southeastern Newfoundland within NAFO divisions 2J3KL have been managed more or less as a single stock complex since implementation of the total allowable catch strategy in 1973. The decision to treat the population as a single stock complex was based upon earlier information relating to distribution, migration patterns, spawning times and locations, and growth rates (Templeman 1962). However, it would appear that when the decision was taken, it was the general view that subsequent studies might identify a number of populations, stocks, or substocks within 2J3KL at which time management strategies could be appropriately modified. Nevertheless, “except that a recent attempt has been made to distribute the offshore catch in relation to biomass distribution in divisions 2J3KL, there have been no prior stock-specific management measures,” (Alverson et al. 1987) since that date. That is to say, fish within statistical divisions 2J3KL have been managed as a stock unit over a period of sixteen years; and, over that time with the single exception noted in the TGNIF Report, no modification of basic management strategy has been deemed necessary.

The concept of a stock in fisheries management is used most frequently to denote a functional relationship rather than a discrimination on the basis of genetic differences. Thus, fisheries scientists and managers generally identify a stock as a population of fish which inhabit a particular region, behave similarly, and can be managed as a unit. That is, the response to fishery removals within any part of the unit area can be attributed to the population of the described stock.

The question we must address is the degree to which the 2J3KL stocks fits such a definition. Evidence of some differential behaviour among segments of the so-called northern cod stock surfaced soon after establishment of the St. John’s laboratory. This led to the more contemporary concept that the 2J3KL population is comprised of several overlapping substocks, as described in Chapter III. Certain differential migration patterns and different wintering and feeding grounds have been described for these subgroups; however, intermingling between divisions is also apparent. Gene frequency studies also support the proposition that there is intermingling of cod in 2J and 3KL. However, differences have been found in cod taken from the shallow water of the northern Grand Banks and elsewhere. Further significant differences in meristic characteristics have been noted in fish taken from the southwestern Hamilton Bank and Funk Island Bank. Finally, returns from tagged fish released in inshore areas suggest that some part of the 2J3KL population may remain in some inshore bays throughout the year and, thus, further suggest behavioural patterns for such fish that are dissimilar to patterns observed among other components of the cod populations in the region.

It is obvious from our review of the literature that a considerable amount of work has been undertaken since the establishment of the 2J3KL northern cod management unit in an attempt to better understand the behaviour and stock relationships within these statistical divisions. Yet, from the Panel’s vantage point, no clear picture emerges, and from the information available, it is difficult to conclude that the population inhabiting the region meets either a functional or genetic concept of a “stock.” Growth rates, meristic counts, genetic studies, and behaviour patterns appear to differ — particularly at the extremes of the 2J3KL geographic zone. At the same time, we must conclude that on the basis of the literature we have studied and the information we have

been given, we are unable to say that the cod inhabiting the waters off eastern Newfoundland and Labrador can be easily differentiated into definably separate stocks.

This seeming paradox may result in part from the fragmentary character of past studies which may in turn be associated with inadequate funding levels. At the same time we must note an apparent lack of a comprehensive plan which would have addressed specific questions that would lead to a better understanding of (a) year to year behaviour of the noted subgroups, (b) the basis and origin of the recruitment to each of subgroups, and (c) the relative contribution of each group to different components of the fishery. **What is required is a comprehensive conceptual model of the recruitment mechanisms, distribution, behaviour, and the behavioral adaptations of the populations of the several subgroups to environmental changes. Expanded studies in these areas seem vital if we are to test the assumption that the 2J3KL population can be effectively managed as a stock unit; or, if we are to determine whether it is necessary or not to establish finer scale management units.**

6.3.0 Current and Alternative Measures of Abundance

The establishment of the annual TAC for northern cod has been in the past and is currently based on stock assessments rooted in VPA and/or cohort analysis adjusted or tuned to two independent measures of relative stock size. The latter as noted in Chapter III involve indices developed from RV surveys and CPUE from larger offshore trawlers. These two indices constitute the primary evidence of population trends.

Although these indices can provide important information regarding changes in population structure and trends, neither is completely reliable in that they are influenced by such variables as environmental change, operational changes in the fishery and/or surveys, and the introduction of new technology. These issues are also addressed in Chapter IV.

6.3.1 Possible Alternatives

The Panel feels strongly that **additional CPUE indices of change in abundance can and should be obtained from elements of the “inshore” fisheries such as gillnetters, small trawlers, and perhaps line trawl vessels. Further, index fishermen or highliner operators in both inshore and offshore fisheries could be used as an alternative and additional check on population CPUE trends.** This would be particularly useful if a time series covering the most recent years could be established.

Other alternatives that the Panel feels should be explored include hydroacoustic population enumeration and juvenile fish surveys. These may be useful for indexing recruitment levels but, in particular, to evaluate both the spatial and depth distribution patterns of the northern cod at several different times of the year.

6.4.0 Measurements of Fish Removals

Estimates of the rate of fishing are frequently based on a knowledge of the size of the exploitable population versus the size of the catch. The annual rate of death from fishing is calculated by dividing the exploitable biomass for a particular year by the reported catch. The accuracy of the estimated rate of fishing on the northern cod stock depends on (1) collecting accurate weights for all of the fish harvested or otherwise killed by both the inshore and offshore fisheries, and (2) how well the scientists can estimate the biomass of the exploitable population.

In the northern cod stock, estimates of the population size have (as previously discussed) relied on the VPA and/or cohort analysis which add the annual catches of various year-classes in the fishery to estimates of those dying from natural causes to develop a historical record of population trends. Errors in either the calculated total catch (or catch by year-classes) can lead to incorrect calculations of the vital parameters used to calculate population trends and thus the quality of advice given to managers.

The Panel was satisfied that recent commercial catch records from the various elements of the fishing fleets constituted a reasonably accurate record of fish caught and sold by fishermen to processors and/or caught and processed by company-owned vessels and subsequently reprocessed. What is not at all clear is the manner in which current estimates of total fish removals account for fish that are caught but not sold because of quality problems, that are discarded at sea because they are undersized, or that are discarded simply because they constitute prohibited species.

In accounting for the effects of fishing, it is clear that the reported catches of the different national and international fleets enter into the total aggregate catch figures. But, if the cohort or VPA models are to provide the most accurate answers possible, they must also properly account for non-recorded catch induced mortality including underreported catches and all discards to complete the calculation of total losses due to fishing. Although estimates of bycatch for large trawlers targeting on cod were available to the Panel, similar estimates for traps, small trawlers, gillnetters, and foreign fishing activities did not seem to be in hand. Further estimates of losses in fisheries not targeting on cod (e.g., shrimp, capelin, herring, and flatfish) were not available. Since the literature does not indicate that bycatch is accounted for in the process of cohort analysis, we have assumed that it has been ignored either because it is felt to be of little significance in the calculation of F or because it has been accounted for in the natural mortality estimate. The Panel is not persuaded that either of those justifications is adequate. In particular, if the latter is the case, we would have expected that the natural mortality estimate would have floated upward over time with the growth of the fishery complex.

During the course of meetings with elements of the fishing industry in Newfoundland and Labrador, the problem of bycatch was raised by almost every sector of the industry. Various estimates of losses of undersized fish and/or discards because of injury or loss of quality were noted for traps, gillnets, small trawlers, large trawlers, line gear, etc. Fishermen also noted cod bycatch problems in the directed shrimp, capelin, and herring fisheries. Estimates of loss of small fish in traps ranged from 2% to 10% by weight of retained catch while estimates for discards in gillnet fishing ranged from two to fifteen percent of the retained catch. In shrimp fishing, one

captain noted losses in some shrimp tows of ten pounds of cod for every one pound of shrimp taken. Others, however, reported much lower cod bycatch rates during shrimp fisheries. Fishermen also noted cod bycatch losses were often high in the capelin and herring fisheries. The total magnitude of losses due to discards in the directed cod fishery and other fisheries as well as losses resulting from the inability to handle and process catches is, of course, highly speculative, but the Panel believes that this figure could easily exceed 30,000 metric tons.

In any case, **the Panel feels that the question of all fish caught and not sold for whatever reason and of all fish caught, sold, and not reported needs further investigation.** The magnitude of discard mortality in the Canadian inshore and offshore fisheries, in foreign fisheries targeting on 2J3KL cod, and in both domestic and foreign fisheries targeting on other species, together with underreporting or illegal fishing by both domestic and foreign vessels may constitute a substantial unaccounted fishing mortality and may have contributed to recent underestimates of fishing mortality.

6.5.0 Use of Oceanographic Data and Indices in Forecasting Stock Recruitment, Behaviour, and Availability

In the course of its public hearings as well as in oral and written submissions, the Panel was repeatedly alerted to the widely held belief that water temperature was an important controlling factor in some aspects of the northern cod life cycle and in respect of the availability or otherwise of fish to gear at specific times and locations. This view was shared by fishermen and scientists alike. Unfortunately, support for this contention rests for the most part on anecdotal or intuitive evidence. That in itself does not refute its potential validity, but it does put the burden of proof on the scientist to define such a relationship, if one in fact does exist. It also points to the need for greater general understanding of the broader role that oceanographic variability plays in respect of cod availability and equally the need for improved understanding by the user community of the array of significant interactions within the marine environment that are germane to their interests.

The marine environment is often complex and unpredictable. The forces which influence the location and intensity of ocean currents, the interplay of waters with different properties, all the unpredictability of seasonal change, or the biological suitability of one area relative to another are incompletely known. Oceanographers can easily enumerate suspected mechanisms, but difficulties arise when attempts are made to link a specific force to a particular result. Sometimes correlations are possible, but they are no guarantee of a causal relationship. More often it is the interplay of several factors simultaneously or in tandem that produce observed responses. In addition, one must be aware that events in the marine environment can and do occur at a variety of time and space scales. Water mixes over distances smaller than the smallest organism, or larger than the largest ocean basin. The intervals over which these events occur range from a fraction of a second to years.

Within this dynamic and unpredictable physical environment is a diverse array of organisms who also vary in time and space. Their number and variety reflect both the quality of that environment plus their ability to adjust to a changing world. Here, one must keep in mind that each species

has unique environmental requirements so that in a group made up of several different species, a great deal of complexity exists at all stages in the food chain. Also, as with the physical processes mentioned above, delays can occur sometimes on the order of years between a particular event and the final result.

In short, the marine environment in which the northern cod exists is one which contains considerable natural variability in the biological as well as physical sense. This variability is affected by different influences which can exert themselves singly or in complex interactions. One well known manifestation of this unpredictability is the 200 to 300 year long record of northern cod catch statistics. These data show wide variations from year to year well before sophisticated modern technology would have had any influence on fishing success. It is a safe conclusion that environmental variability played some part in these differences, but it will never be known for certain whether it influenced stock recruitment, animal behaviour, or simply availability—or possibly all three.

6.5.1 The Physical Environment

The regions of primary concern to the Panel are the NAFO subdivisions 2J, 3K, and 3L, which collectively approximate one million square kilometres. The geographic extent of this area is roughly from Harrison Bank off the coast of Labrador to the northern tip of the Grand Banks in the south. Approximately 20% of the ocean in this area overlies continental shelf, upon which the various rich fishing banks are located. The topography of the shelf is marked by a distinct lack of uniformity: depths vary over a range of several hundred metres; some areas are scoured clean by icebergs while others are strewn with boulders; shelf width can vary from a few tens of kilometres to well over three hundred; and the ocean environment varies greatly across the shelves, as well as along them.

Water movement over the continental shelves of the 2J3KL region is generally southerly and occurs principally in the form of the Labrador current, which transports some of the coldest surface water in the North Atlantic. Although this current moves southward out of Baffin Bay, its origins are traceable back through a number of intermediaries to the Gulf Stream. This linkage points out that, even though far removed from the central North Atlantic, it remains subject to its large scale dynamics. Flowing southward the Labrador current separates into two distinct subunits which are identified by their positions relative to the continental shelf. Consequently, the inshore portion can be found close to the coast while the offshore component is normally near the shelf edge. The average position of each is reasonably well known, although it can vary within quite wide limits. One additional influence is the annual outflow from Hudson Bay of large quantities of fresh water derived from winter melt. The volume and timing of this outflow can influence characteristics of the Labrador Current.

Superimposed over this general southerly flow is a vertical water structure which has been described as reasonably typical of much of the east coast of North America. It is a distinct and, in a somewhat coarse sense, a predictable three-layered system which can also show considerable variability as to the exact location of each layer, their respective thicknesses, duration and perhaps

most importantly their physical characteristics at important periods during the northern cod annual cycle.

The vertical structure of the waters in 2J3KL begin with a uppermost layer which extends to a depth of approximately 40 metres. During the warmest months temperatures can reach 10-12 degrees Celsius at the surface with a sharp gradient at the lower end, which marks the boundary to the layer below. The middle or intermediate layer begins with the aforementioned transition and extends to depths of 150 to 200 metres. Although temperatures in this layer have been observed below -1 degree Celsius, it can vary over a range of several degrees. Temperature is thought to be influenced by water entrained farther north with the added impact of localized cooling in any one winter. At that time, it and the surface layer become one, through the complementary processes of intense cooling from contact with the atmosphere followed by convective mixing. An especially severe winter could then lower the temperature of the intermediate layer relative to previous milder years.

The bottom layer comes about when waters from the deeper more oceanic areas move up and onto the continental shelf in the form of irregular intrusions. The result is a layer which is warmer and saltier than the one immediately above. When it is present it results in strongly contrasting biological environments over a very short vertical distance. Cod apparently find the characteristics of this bottom layer especially hospitable, given the fact that it is in these waters, at the shelf edge, that they winter over and spawn. These inshore-directed intrusions are governed by forces which are only now beginning to be understood. For the moment there is no clear indication as to seasonal variation.

6.5.2 Biological Considerations

Northern cod have grown and flourished on the Grand Banks and along the coast of Labrador for millennia. Their normal behaviour is to spawn on the outer slopes of the continental shelf at depths of approximately 300 to 400 metres and at water temperatures around 3 degrees Celsius. When eggs have been extruded and fertilized they float to the surface where they commence the earliest stages of maturation. Subsequent to spawning, the adults begin a migration to the west and south which should eventually take them inshore. It is widely presumed that the single most important motivating factor in this move is the desire to feed. From the standpoint of the fishing industry three events of major importance occur at this time. The first deals with the recruitment of new members to the population, the second concerns their migration to the coast, while the third is related to their availability to the fishermen. The physical environment can have an impact on all three.

There is a widely held, although unproven, belief that lack of tolerance for cold water by northern cod coupled with unpredictable changes in the Intermediate Layer have contributed to the observed variability in inshore cod availability. This has come to be referred to as the "thermal barrier". Some evidence does exist showing that temperatures do vary within the Intermediate Layer, although at its core it is normal to expect readings of less than -1 degree Celsius. Cod are believed to be inhibited in their movements by temperatures colder than -0.5 degrees Celsius. More important than the core temperature is the fact that the geographic extent of the Intermediate

layer is also quite variable: it could extend well inshore or be observed far removed, it could be exceptionally thick or modestly narrow, or it could be in some extreme position for a brief period or for several months.

The practical result of such a thermal barrier, assuming from the fishery standpoint that its worst characteristics were displayed, would be to delay or even prevent inshore fish movement. The route that cod would follow might be deeper and more circuitous, as might the timing of the migration or even the final destination. Once inshore, the depth at which the fish feel comfortable might be deeper than previous years because the water overhead in the Intermediate Layer might be colder than normal. This would clearly have an impact on codtrap and gillnet fisheries which are used to fishing certain areas.

The survival of the fertilized egg and larva is decidedly a more complex matter than can be explained by the presence of a thermal barrier. It is an area of concern to all fishery biologists who readily acknowledge that physical factors play an important but as yet inadequately defined role in this process. The physical environment plays an important role in determining the success of an egg from the moment it is released on its own. But that same environment also strongly influences the myriad other organisms which coexist with the cod. Their success as either potential predators or potential sources of food is of equal importance but much less easily delimited. It should also be kept in mind that physical influences can be exerted during one year but might not show up in terms of their impact on the fishery until one or several years later. In other words, the concept of lags or delays adds a very important complicating factor to this whole issue.

6.5.3 The Use of Oceanographic Data for Forecasting

The physical characteristics of an environment are of fundamental importance to any organism attempting to grow and prosper there. Whether we consider bacteria in a laboratory dish, deer in a temperate forest, or vegetables in a summer garden plot they all require compatibility with their respective environments in order to flourish. In nature, normal variations in the physical environment include: available moisture, temperature, predators, nutrients, or any number of factors which can alter the success of the organism in question. When man vigorously intervenes, whether through agriculture, ranching or refined laboratory practice, it is with the express intention of maximizing the environment for the benefit of the organisms. This approach has been remarkably successful over the past 150 years culminating with our present enjoyment of the "Green Revolution". Without this control the present world population could not be fed with our present resources.

The approach used with fisheries today is not as devoid of environmental control as last century's buffalo hunt on the North American plains nor is it as regulated as modern ranching. Instead, modern population biologists attempt to understand how environmental factors exert their influence. **It is unlikely that this understanding will ever be translated into genuine control in the marine environment. Instead, greater understanding would be useful as a means of predicting or forecasting annual recruitment, availability or perhaps even location of animals important to the fishery. In other words this information would be extremely useful**

to manage the stocks by maximizing the available information and thereby minimizing unexpected findings which can threaten the fishery. Lack of information such as this has led to the crisis in which we are presently involved.

The question before us is whether or not it is possible under present circumstances to more accurately predict the vagaries of the fishery. It must be remembered that one's ability to predict anything is directly proportional to one's understanding of the factors which bring about change. With regard to the predictive role of oceanographic parameters in 2J3KL we have very little confidence at the present time for two reasons. Both the physical environment and the relationship between it and the organisms are insufficiently well defined to give confidence to most predictions.

In fairness to the scientists involved, attempts have been made to correlate various catch statistics with available temperature information. A positive correlation has been demonstrated between total inshore landings and water temperature during the summers of 1972-1979. This lends some support to the thermal barrier theory postulated above. However, it is hardly more than indicative since positive correlations simply demonstrate that the events being considered occurred simultaneously. Directed toward the future, the quality of the data is insufficient to give much guidance as to potential changes which might be expected from future variations in temperature.

Much of what we know about oceanographic conditions is based on hydrographic transects made over the past 50 years, current meter and thermistor moorings over the past 15 years, satellite observations, plus the output of numerical models. Although the above may sound impressive, it is a very large area to study, and consequently it has been greatly undersampled especially in terms of knowing the nuances of interannual variability. In oceanographic terms the available data provides very little in the way of spatial or temporal resolution.

An indication of some of the present needs would include a better understanding of the influence exerted on the southward flowing Labrador current and the resulting three layered structure by the following: continental shelf topography, climatic trends, local weather, Gulf Stream perturbations, cross-shelf intrusions, fresh water outflow from Hudson Bay, annual ice cover, and the possible influence of tidal forces. These are not presumed to be equally important, but at this point the rightful listing of priorities is not obvious. Ultimately, this improved understanding of the physical environment would be coupled with biological data which would in turn permit a deeper understanding of this complex system and with it possibly an improved ability to forecast.

In conclusion, it is apparent that the distribution, survival, and behaviour of the northern cod are influenced by a variety of oceanographic parameters and processes. These are, however, at present poorly understood. The above comments should not be interpreted by the reader as criticism of DFO by the Panel. It has been mentioned repeatedly that the environment occupied by the northern cod is large and exceedingly complex in oceanographic terms, and the number of scientists directed to this issue has been minimal. DFO has made staff and program changes over the past several years to attempt to come to terms with this deficiency. We believe this to be a positive sign but one unfortunately of limited value, given the magnitude of the problem. In our opinion there is a need to address the issue more directly through reorganization of personnel and altered priority setting as described in **Chapter VIII**. In addition we feel that the logistics

are so enormous that the only approach which offers a reasonable possibility of success must include the employment of more refined technology (see **Chapter VIII**) **in order to gather the necessary data to refine our present inadequate picture of this natural system.**

6.6.0 Predator/Prey Relationships

Another issue with which the Panel was repeatedly confronted in the course of its public hearings was that concerning the growth of the seal herds and the possible impacts of that phenomenon upon the abundance of cod. Clearly and quite apart from fishermen's universal belief that seals are significant predators of cod and other valuable commercial species, the Panel must consider at least two important questions concerning those mammals. First, whether increased seal predation is sufficient to alter the natural mortality figures for cod which have been used in population assessment models; or, second, whether seal predation upon common prey species such as capelin and shrimp is capable of affecting the growth rates of cod and, therefore, of modifying the weight-at-age data relationship.

Seals are but one element in the equation. Indeed, there is a steadily growing school of thought suggesting that better scientific advice could be developed if predator/prey relationships and interspecies competition in general were more fully understood and if the means were found to integrate this kind of knowledge into an appropriate multispecies fisheries management mode. But even if this multispecies "wave of the future" approach is not yet a practical consideration, we cannot ignore the reality that a major fluctuation in the numbers of certain predator or prey species must result in accommodations elsewhere in the ecosystem.

If we accept this position then it should follow that the most appropriate approach to an accurate assessment of northern cod stocks would be against a background of interspecies relationships, among such relationships that between cod and capelin, between capelin and seal, and between seal and cod are particularly important.

6.6.1 Cod/Capelin

In the long list of things that may be found in cod stomachs, a relatively few animals appear consistently to constitute the bulk of their diet. Among those, capelin is known to be the most significant, although, it will be clear that the degree of reliance upon capelin will be dependent upon the extent to which capelin and cod overlap in the water column and upon the area and time of year in which predation is taking place.

In any event, recognition of the fact that capelin are a most important prey species for cod and other fishes, for seals and other marine mammals, and for sea birds has contributed to the current conservative strategy for capelin management under which the TAC is set at 10% of the estimated spawning biomass. We should not forget, however, that in this case the cause of conservation is supported by limited markets which result in a lower rather than a higher TAC. Should additional market opportunities arise, we can surmise that industry will demand a higher rate of capelin exploitation. And yet, we are persuaded on the basis of current knowledge that a large

capelin population may be an essential precondition of a large cod population. Until we are convinced that we have an adequate understanding of cod/capelin interaction, we should err, if at all, on the side of underexploitation of capelin rather than on the other side.

In this context, recent experiences in the Barents Sea fishery are instructive. Preliminary studies there indicate that current dramatic decreases in cod growth and, indeed, the disappearance of some year-classes altogether may well be the consequence of a reduction in capelin abundance brought about by overfishing. And, even if it may be argued that the situation in the Barents Sea with its different environment, its smaller selection of alternate prey species, and its vastly higher exploitation rates cannot be properly compared with the situation in 2J3KL, we must take from the example a salutary warning **that substantially increased pressure upon the capelin stocks may produce deleterious results.**

Studies undertaken to date give no indication that cod in 2J3KL would turn in a significant way to other prey to compensate for a scarcity of capelin. We should note, however, that our data are limited both in quantity and over time. For the period prior to 1977, we must rely upon information provided by foreign countries and particularly by Russia. Furthermore, because of differences in approach it is difficult to compare such data with that collected by Canada in the 1980s.

We do know that capelin stocks declined most dramatically in the late 1970s possibly as the result of a succession of poor year-classes environmentally induced. But, at the same time and because of foreign overfishing cod populations were also very low. Subsequent to that period, both capelin and cod populations have made significant recoveries. Thus, in the brief few years of active Canadian research, there has not been an occasion to test properly the hypothesis that the growth of cod is adversely affected by low abundance of capelin.

At present capelin stocks appear to be very healthy at least in the context of the very brief time series of abundance data we possess. Fortuitously, that situation coincides with limited market demand. The result has been that there has been no great pressure to analyze the data being assembled or to address as a matter of urgency such difficult questions as relate to the competitive demands of fishermen, fish, seals, whales, and seabirds for a common prey species. But, considering the vagaries of the market and the history of wild fluctuations in the strength of year-classes of capelin, we should not permit the easy stability of the present situation to lure us into a false sense of security.

In this context, it is important to note that the Cod-Capelin Working Group, first established within the Newfoundland Region of the Department of Fisheries and Oceans in 1986, has recently appeared to have picked up the pace of its activity. And, indeed, it is important that the Group be encouraged and provided with the necessary time and resources to follow through on "reviewing potential hypotheses regarding interactions between the two species and evaluating the adequacy of existing data bases and data collection for testing these hypotheses" (Cod-Capelin Working Group - Preliminary Report, 1986). **It would be appropriate to provide the resources to permit the concurrent examination of cod-capelin interactions during an extended annual survey period.**

This implies the use of two vessels, since cod and capelin surveys cannot be simultaneously conducted from one, to track spring migration inshore of both species and, in the process, to find answers to several important behavioural questions. The simultaneous study of predator and prey species in the context of a process that is so important to our understanding of the mechanisms that affect the availability of cod at specific inshore locations could be the first of what might become a succession of multispecies approaches to research. Nor, as such studies develop should we ignore the possibility of fruitful cooperation with other nations whose interests in capelin and in capelin-cod interactions are as profound as ours must be. Recent visits to St. John's of Norwegian and Icelandic scientists seeking interaction with DFO scientists and particularly with the Cod-Capelin Working Group confirm the interest and point the way to what should be a continuing dialogue, regular exchanges of data and of ideas, and a concerted approach to the enhancement of scientific understanding. Such informal dialogue between small working groups and even individual scientists would supplement such formal processes as are represented by larger conferences such as those convened under the aegis of ICES.

6.6.2 Seal/Capelin

The scientific problem arising from predator/prey dynamics as they impact upon northern cod and capelin stocks are compounded by the role of marine mammals in general and by the particular role of the great harp seal herds. For while cod may be the most important predator of capelin, the harp seal is known also to be a significant competitor for that same source of food. While it is known that seals are opportunistic feeders and will as circumstances offer take herring, crustaceans (especially shrimp), and a broad range of other pelagic and demersal species, most authorities agree that capelin is their major prey. Unhappily, we do not have precise data concerning the weight of food that a seal will daily or annually consume. Estimates based on experiences with animals in captivity suggest figures ranging about 6% of body weight per day.

It is clearly evident that further study is required. In the meantime, it is also evident that a herd of several million animals possibly consuming 6% of its biomass daily does require fish of whatever species that must be measured in millions of tons. If, indeed, a considerable portion of this total should be capelin, the obvious question that must be asked is to what limit the herd can grow before its appetite precipitates a collapse of capelin stocks. A secondary question is whether the herd will itself decline as capelin become less abundant or will the seals in the absence or scarcity of capelin concentrate more heavily upon other prey species. And, finally, we must ask how either of those possible developments would impact upon the cod stocks.

In order that these questions and others that will occur to the thoughtful reader may be properly addressed, we might suggest that the Cod-Capelin Working Group should expand its horizons or have its mandate expanded to include seals and other significant predators of capelin. Again, a systems approach is indicated.

6.6.3 Cod/Seal

Throughout all sectors of the industry, there are strong convictions that the harp seal is a significant predator of cod. Many fishermen cite personal experiences of cutting open seal stomachs and finding whole cod and turbot. Offshore fishing captains have noted that seals target the “gut” of the cod (FPI, 1989). Inshore fishermen have observed cod in their nets with the stomachs partly torn out. Sealers make reference to having seen cod with parts of their stomachs gone lying on the ice next to seals. In light of this anecdotal evidence, it has been suggested that the practice of eating only cod stomachs may serve to mask the degree of seal predation on cod by confusing the issue of seal stomach contents. In any event, recognizing the limitations of available scientific evidence, the Panel is convinced that seal predation is a matter for concern and clearly unresolved. Thus in the view of the Panel, it is particularly important that appropriate and accurate data be assembled as soon as possible.

A question that is equally as important as what seals eat is how many seals there are. Again, we simply do not know. Fishermen have told us repeatedly that seals are now more numerous along the northeast coast than at any previous time in memory, that they are arriving in coastal waters earlier and departing later than heretofore. In short, we encounter no witnesses who did not believe that there had been a virtual explosion of numbers and none who were not convinced that the matter of cod-seal interaction demanded urgent evaluation. For, quite apart from actual predation, fishermen repeatedly informed the Panel that the appearance of seals on cod fishing grounds invariably meant the total disappearance of the cod.

The Panel agrees that we should possess accurate information including valid population statistics. Moreover, the time for a census is now opportune. Sufficient time has now elapsed for the earliest survivors of the offshore hunt that was abandoned in 1983 to have matured and whelped. A count now would not only provide the information we currently need but would permit the testing of certain hypotheses concerning such matters as fertility rates and rates of natural mortality.

Owing to the low harvest rate in recent years, population assessments based upon tag returns is not feasible and methods of directly counting pup production are likely to be more effective. The likeliest approach of all would be through direct aerial survey, a technique for which DFO appears to be very well prepared. Scientists have already examined photographic systems for those providing the best visibility of seal pups on ice, have evaluated a variety of sensor combinations, looked at the influence of flying altitudes, and studied the ice properties of seal habitats. **We strongly recommend, therefore, that funds to support the survey be approved.**

Only when we possess firm estimates of the present population size and of its rate of increase will we be able to consider the quantity of fish consumed by seals and whether or not adjustments are necessary to protect commercial fisheries. Nevertheless, to get accurate answers to such questions, we must combine population studies with dietary and feeding research as related to the behavioural patterns exhibited by the animals over the large geographic area they inhabit and throughout their seasonal migrations. In addition to recommending that **the Department of Fisheries and Oceans Collector Program be more extensive geographically and seasonally, we recommend that observers on commercial fisheries vessels be required to record seal**

sightings, to record evidence of seal attacks on cod, and to obtain samples of seals as required by scientists.

Furthermore, since rapid digestion inhibits accurate estimation from examinations of stomach contents alone, **we suggest that carefully controlled studies of animals in captivity might be commissioned or undertaken.** To this end, it should be possible to establish an appropriate programme in cooperation with a university laboratory.

In whatever way the research is organized, it is clearly imperative that our knowledge base be expanded. It is also important that we give careful consideration to the question of how long a system predicated upon an annual and controlled harvest of commercially valuable marine species can remain viable if all the major components of the system but one are subject to TACs, and that one is subject to no control at all. In any event, before any action is taken, it would be preferable to address the underlying policy concerning the management of seals and other marine mammals.

Although this discussion has centred around the harp seal, we should not ignore the fact that there are hooded seal herds as well. While these herds are not as large as those of the harps, they tend to fish in deeper water and are known to feed on larger fish including demersal species. It has been suggested that cod could very well be one of these fish and based on individual body weights, hooded seals would, in all probability, consume more food per animal than harp seals.

6.7.0 Fishing on Spawning Stocks and Groups

During the course of the Panel's public hearings, a number of questions were raised regarding the impact of offshore fishing on spawning groups and aggregations and upon the spawning grounds themselves. The often passionate protestations left no doubt of the strong convictions held by many fishermen that fishing on spawning populations is "destructive" and is the largest contributor to the decline of the northern cod stock. Such convictions are often shared by fishermen everywhere and, since the questions put to the Panel are hardy perennials among fishermen, they bear some discussion.

It is not inappropriate to note at the outset that many of the world's major fisheries are conducted just prior to or during times of spawning. These include capelin, herring, salmon and the flounder fisheries, as well as fisheries for most cod-like species. For most of these management strategies involve controlling the level of fishing to insure that an adequate spawning stock is maintained. If a spawner/recruitment correlation is clearly known then knowledge of that relationship is used to establish catch levels.

However, when the available quota of a particular species can be taken throughout the year, fishermen tend to regulate their activities to times and locations that take advantage of fish aggregations, or of other behavioural characteristics of the target species; that respond to market demands; or that merely suit their own particular convenience. In the case of northern cod, inshore fishermen catch them when they congregate inshore on their feeding migration. If the situation were reversed and cod moved inshore to spawn and offshore to feed, it is certain that the inshore

fishery would be a spawning fishery just, in fact, as is the capelin fishery. And, in a strict mathematical sense that would make no difference to the survival of the species. For, assuming a target fishing rate, it does not matter in terms of the spawner stock at what time of the year the harvest mortality is imposed. If other factors are not of concern, the goal of preserving the stock will be realized by maintaining a desired level of spawning population with the appropriate age structure within that population. The important fact is the number of fish that are killed, or rather the number that are spared, and not the date on which the killing occurs.

There are, of course, good and valid fishing regulations which prohibit certain fisheries during the spawning period, but such regulations are frequently based on other important management goals. For example, fishing salmon on their spawning grounds is generally prohibited because such activity would disrupt or damage or perhaps destroy the spawning habitat. By the same token, for species whose eggs are deposited in bottom sediments or attached to plants or adhere to rocks, shells, etc., the prohibition of fishing in areas and/or with gear types that may alter or destroy the spawning habitat is desirable. In other cases, fishing during spawning periods may be prohibited because the general biological and physiological, and/or market condition of the fish at that time may produce a poor quality product providing lower yields or lower market values. On the other hand, in the case of species like capelin, lumpfish, or sturgeon, for example, the maximum value occurs during the spawning period because the valuable product is the roe. Even in the case of salmon, though they are not fished on the spawning grounds, it is frequently argued that better management is possible if the fish are taken when they congregate to enter the spawning streams since at that time fishing effort can be more effectively distributed proportional to spawning stock size. In fact, Newfoundland fishermen take salmon just prior to spawning, intercepting them as they approach the spawning rivers. **For cod there is no recorded evidence that fishing during spawning periods affects the spawning habitat in a negative manner or that fishing in other periods of the year will result in better survival of the spawned eggs. Thus, there is little if any substantiated evidence supporting the claim that fishing by trawls during the spawning season damages survival of the spawning products or that such removals are more damaging than taking fish during other periods of the year.**

Nevertheless, we cannot leave this subject without injecting a cautionary note. The state of our current knowledge is such that we cannot easily answer the question whether intense fishing on spawning cod populations disturbs either the mating behaviour or the spawning success of the aggregate. Nor can we be sure that fishing on large spawning aggregates will not lead to localized depletions so that overfishing of particular spawning groups may lead directly, in the short term, to shortages of fish in particular inshore areas. The longer term impacts are, however, speculative because we are not sure of the year-to-year integrity of spawning aggregates or of the relative contribution such spawning groups may have to the northern cod recruitment. That is to say, we cannot give anything like a definitive answer until we know a great deal more about the nature of the spawning subgroups, their aggregational patterns from year to year, the manner in which recruitment to such groups is affected, and the nature of their feeding and spawning migrations. **Once again, further study is indicated and, in light of the strongly held public perceptions, should be treated as a matter of some urgency.**

6.8.0 Integrating Data in the Assessment Process

The assessment of population trends in fish stocks requires that we assemble information on the magnitude of catches, that we identify trends in CPUE, that we possess knowledge of fish behaviour, that we understand their recruitment patterns, and that we have access at appropriate times to independent RV surveys of stock sizes. In the assessment of most fish stocks, we seek to determine the numbers of fish at various ages in the population and to make estimates of mortalities imposed on each age class. From these data it is possible to make judgements concerning the current state of the stock relative to such management objectives as the level of fishing mortality and the proper estimation of future catches. It is clearly imperative that if there is to be effective management these stock parameters must be calculated with the greatest accuracy and precision possible given the available data.

Population estimates for past years can be made by using retrospective population analysis (virtual population analysis or cohort analysis) given only a sufficient time series of total catch-at-age data. Furthermore, such estimates are not subject to large errors. If underlying assumptions such, for example, as that identifying the level of natural mortality are correct, the only remaining concerns are subject to an usually modest lack of precision owing to catch sampling errors; the possibility of bias deriving from systematic under- or oversampling of any catch-at-age data; and other systematic error reflecting faulty estimation of the most recent estimate of the number in the equivalent year-class of fish. The magnitude of this particular error, however, converges backward through time. Thus an overestimation of the numbers of ten-year-old fish in 1988 will cause a smaller overestimation in the numbers of five-year-old fish in 1983 and a still smaller overestimation of two-year-old fish in 1980. These caveats apart, given adequate sampling of catch-at-age data in all years, it is possible using retrospective population analysis alone to acquire good estimates of absolute populations and mortality rates in years sometime in the past. Put simply, when you have caught the lot and estimated losses owing to natural mortality, you know how many there once were.

Unfortunately those methods do not in themselves provide information on the current stock size. That figure must be estimated by making use of additional data relating to the relative abundance of fish in different years or to the relative level of fishing intensity. Hence data sets such as commercial catch per unit of effort or research survey catch rates or commercial effort data are used to “tune” the retrospective population analysis. In this way, accurate estimates of absolute population and mortality rate made in the past can be used to calibrate the most recent data, and the results from these calculations can then be used to provide estimates of current stock size. Although the basic intention of all methods of tuning VPAs are essentially the same, the various methods differ in their detail. The search for the best method is an active area of research in fisheries population analysis. At present, no method is a clear favourite, but an understanding of what constitutes a reasonable method is emerging.

In the case of the northern cod the tuning methods used previous to 1988 were based upon the use of bulk biomass models. Thus, the VPA was used to estimate the exploitable biomass of the stock each year, and this was correlated with the CPUE or survey catch rate for all ages combined. The level of fishing mortality and hence of population size which gave the best correlation was then adopted. Such bulk biomass methods have in recent years become less highly regarded in

fisheries population dynamic circles because they can be subject to biases due to changing exploitation patterns and because they do not explicitly consider the age structure of the fish stock.

In the 1989 CAFSAC assessment the ADAPT method was used to assess the northern cod. This should be viewed as a tool box of methods rather than as a single method. It was used to provide an age-desegregated assessment based upon the survey catch rate data and a bulk biomass interpretation of the CPUE data. This latter choice was made because offshore catch-at-age data forms a substantial part of the total catch-at-age data in some ages. It was feared that this might cause spurious correlations to disturb the tuning process. In both cases the tuning was achieved by minimizing an objective function of the sum of squares of the difference between the natural logarithm of the observed abundance estimate and its predicted value. The use of the logarithmic transformation in the case of the age-aggregated CPUE data is the most obvious difference between this analysis and past analyses. In both analyses a careful study of the residuals was made to check for divergences from the assumed statistical model. The model was also used to make a series of alternative fits using various variations in the data sets.

Methods used by this Panel to check the CAFSAC results were the Laurec-Shepherd method, the extended survivors analysis, and the Cagean method. The former two are age-desegregated methods which fit to logarithmic transformations of the CPUE and research vessel data while the latter is an example of a fully integrated method in which both the tuning data and the catch-at-age data are fitted to a more restrictive model than the retrospective population analysis. Results from these methods bracketed the results from ADAPT.

6.8.1 Alternatives to ADAPT

A number of different methods have been developed for tuning VPAs. A recent ICES study group (Anon 1988) attempted trials of a number of these on different artificial data sets. The point of adopting artificial data sets is that it was then possible to know how well different methods managed to recover the true population structure. In these trials the ad hoc tuning methods such as the Laurec-Shepherd and extended survivors analysis performed well. Methods like ADAPT and Cagean generally performed less well, but this may have been because the trials were run to a tight time schedule and did not favour methods, such as ADAPT and Cagean that require detailed operator inspections of diagnostic material. A reasonable approach for the future would be to continue with the ADAPT method as used for the research survey (e.g., age desegregated). It would also seem reasonable to experiment with a similar approach for the CPUE data. The fear of correlation between the observed CPUE at age and the estimated values based upon catch-at-age data seems less than the risk of using an inappropriate choice of exploitation pattern for the most recent years. This, however, might well be a point worth checking with artificial data simulated to have the main features of the northern cod.

In addition to the use of the ADAPT method, we would advocate the parallel running of a simple ad hoc method such as the Laurec-Shepherd. This will be valuable as a cross-check on the results of ADAPT. Divergences between the two models would indicate the need to question with particular care the various assumptions made in the different models.

6.9.0 Optimal Use of Scientific Capabilities and Facilities

In our introduction to this chapter we noted the fallacy in assuming that given enough money scientists can provide complete, exact, and timely answers to questions important to fishery managers. The quality of the scientific advice given will, nevertheless, in part be dependent on the qualifications and skills of the scientists, the tools available to carry out their work, funds available to collect and analyze data, the working environment, and the manner in which the technical skills are organized to produce advice needed.

Over the past several decades skilled mathematicians, statisticians, and modellers have increasingly become the dominant skilled professionals involved in population dynamics. This was an essential step in moving fishery science from the descriptive and qualitative aspects of ichthyology to quantitative needs of stock assessments. In many of the world's national fishery laboratories, population dynamics has become the paramount discipline, and frequently greater emphasis is placed on improving the quality of models and mathematical handling of data than on developing an adequate understanding of the response of the population or its elements to environmental facts, life history, and behavioral aspects of the species involved or operational characteristics of the fisheries which may influence the nature of the data used in population assessment. This is unfortunate and has probably contributed to the inability to attain greater certainty in scientific advice. The Panel, of course, respects and supports the importance of mathematical skills in population assessment but encourages renewed efforts to understand the biological, environmental, and fishing operational facts which may be important in the interpretation of tuning of the models.

In the work of the TGNIF they reported that "the scientist involved demonstrated a good understanding of the technical aspects of approaches to stock assessment and the underlying assumptions of the strengths and weaknesses of various assessment models." The Panel's interviews with scientists at the St. John's Fishery Centre have led to a similar conclusion, although many Panel members questioned whether the stock assessment group was taking advantage of data and information generated by other disciplines within the centre. This concern was also apparent among the TGNIF members who noted that "the formulation of a modelling group should improve the stock assessment activities, but care should be taken to insure effective intra-centre communication between the modelling group and oceanographic and behaviour disciplines." Although some progress along these lines may have occurred over the past two years, the Panel repeats the findings of the TGNIF that **"These disciplines should be an integral part of the stock assessment process and should work from a common and shared database."**

The general laboratory facilities at the St. John's Northwest Atlantic Fisheries Centre are of excellent quality. However, the Panel was surprised to note that in many instances the scientists were unable to access computer facilities in a timely manner because of a shortage of data processing capacity. Correction of this deficiency is essential.

It was also the Panel's view that the electronic and trawl monitoring devices on board the centre's offshore research vessel were not state-of-the-art equipment. No trawl mensuration system was available and certain commonly used computer plot and navigation devices were not available.

A great deal of concern was raised by sectors of the fishing industry regarding whether or not the data collected by observers on the offshore fleet were being adequately analyzed and used by DFO scientists. Investigation of this matter made it apparent that DFO scientists did place considerable value on the observer database but indicated that analyses of the observer data were delayed because of the shortage of people to enter and analyze the data. The Panel sees the observer program as an essential new data source that can provide information on bycatch and which can be used to sample the age structure of the actual versus the landed catch, to collect life history data, and to note operational or technological changes in the various fleet elements.

The Panel believes that there is a great need to insure not only that observer data is quickly entered into the databases, but also that the use of this program to collect information on other fishing sectors is considered. Current stock assessment relies too heavily on the RV and offshore CPUE data from the larger trawlers. **Collection of CPUE data and information gained from an observer program involving smaller trawlers and gillnetters and perhaps line vessels would substantially augment the current database used in stock assessment.** This database might also be improved if there were a pooling of provincial and federal data sources.

CHAPTER VII

Management: Goals, Objectives, and Operational Modes

7.1.0 Introduction

The need to constrain the harvest of fisheries to ensure the maintenance of an adequate spawning population has been recognized by resource managers since before the birth of Christ. It has, however, been only during this century that scientists have developed means to assess population trends in quantitative terms and to suggest harvest strategies which can both maximize potential yield from fish stocks and maintain spawning populations at a level adequate to provide long-term productivity of the exploited resources.

During 1950 and 1960, most government fisheries bodies managed fisheries on the basis of achieving the “maximum sustainable yield” or MSY. The concept was based on the assumption that the exploitable population of each stock had an optimum size which, if maintained, would produce yields, surplus to that needed to maintain the optimum stock size, that were greater than would be produced at any other stock size. Although this management strategy found many advocates, empirical data suggested that MSY was easier to understand as a theoretical basis for management than it was to apply in the real world. Hence, managers frequently turned to the alternative management goal of maximizing the yield from a given number of recruits.

The latter objective is tantamount to the wise use of whatever production nature provides, the goal being to establish a fishing rate at a level which will provide the highest weight yield per given number of recruits to the fishery. In order to achieve this goal, scientists needed to document carefully the growth and natural mortality rates and age of the fish entering the fishery. Possessing this information, the manager could either adjust the age of entry of the fish into the fishery through a fish- or mesh-size limit or adjust the rate of fishing to ensure that the fishery took maximum

advantage of the increase in yield that results from the growth of the individuals in a year-class in excess of losses due to natural mortality.

During the 1970s and 1980s, the biological management goals of MSY and the maximizing of yield per recruit became intertwined with a variety of socio-economic goals and MEY (maximum economic yield) and OY (optimum yield) surfaced as alternative goals of fishery management. In reality, although biological goals and objectives have been frequently noted as the bases for setting size limits, seasons, gear limitations, and area restriction, socio-economic pressure from various elements of industries have historically played and continues to play important roles in the management processes. **Unfortunately, socio-economic goals seldom surface as specific national management options and, hence, are not subject to the normal quantitative evaluations of the consequences of such goals to the nation's overall biological, socio-economic, and ecological interests. This may be particularly true in the management of fisheries off Newfoundland and Labrador where a variety of allocation strategies already exist.**

7.2.0 Conservation: Goals and Objectives Since 1977

Since Canada's declaration of its two hundred mile limit (1977), the managers of the 2J3KL cod stock(s) off Newfoundland have been directly concerned with making effective use of the cod recruited to the fishery, while at the same time establishing a fishing rate which would provide for growth in both the exploitable and spawning population. In attempting to achieve this goal, Canadian managers had to establish a fishing level that allowed for a reasonable margin of biological safety. Hence, in consultation with their scientific advisors, they chose a level of fishing effort that would lead to an annual harvest rate of about 18% or an instantaneous rate of fishing (F) of about 0.2. This level of fishing was consistent with the frequently noted management goal of $F_{0.1}$ which implied that an additional unit of standard effort entering the fishery would increase the total catch by about one-tenth of the catch deriving from the first unit of effort to enter the fishery in its virgin state. Although the concept seems somewhat complicated, in practical terms it meant a harvest of northern cod sufficiently low as to allow the stock to increase steadily provided only that average expected recruitment levels were maintained.

It is important to notice that $F_{0.1}$ is a sensible but arbitrary biological reference point. It offers an approximate solution to the problem of how best to maximize the profitability of the fishery, without the necessity of constructing a complex and sophisticated economic model which would calculate what level of fishing effort by what types of fishing boat would achieve this objective. Such a model and the appropriate analysis associated with it would require a large study conducted over a number of years. The $F_{0.1}$ fishing level can, by way of contrast, be calculated in a few minutes.

The calculation of yields expected from a projected number of recruits is rather straightforward, provided reasonably accurate estimates are available for the growth and natural death rates of cohort populations and provided that the pattern of exploitation is known. **Table 8** shows a work sheet calculating the yield per recruit for the northern cod if the fishing mortality were 0.3 and under particular assumptions about growth and mortality rates. It also shows the calculation of

Table 8

M = .2 F = .3

Age	PR	AV. WT.	STOCK NO.	AV. STOCK	YIELD	
4	.18	.55	.10	485.71	26.23	
5	.48	.88	775.69	577.58	83.17	
6	.74	1.23	549.91	551.80	122.50	
7	1	1.66	360.60	471.05	141.32	471.05
8	1	2.12	218.71	364.38	109.46	364.88
9	1	2.64	132.66	275.59	82.68	275.59
10	1	3.18	80.46	201.35	60.40	201.35
11	1	3.73	48.80	143.25	42.97	143.25
12	1	4.15	29.60	96.67	29.00	96.67
13	1	4.71	17.95	66.54	19.96	66.54
14	1	5.54	10.89	47.47	14.24	47.47
15	1	6.11	6.60	31.76	9.53	31.76
16	1	5.03	4.01	18.38	5.51	18.38
17	1	6.44	2.43	12.31	3.69	12.31
18	1	6.07	1.47	7.04	2.11	7.04
19	1	6.61	.89	4.65	1.39	4.65
20	1	7.19	.54	7.79	2.34	7.80
Total	kg per 1000 recruits			3363.81	756.52	1748.73
	kg per recruit			3.36	.76	1.75

the spawning biomass per recruit. **Figure 17** shows the results of calculating these figures for a series of levels of fishing mortality rate. It will be seen that the curve showing the yield per recruit first increases, reaches a maximum, and then declines slowly. The spawning stock per recruit, however, decreases in a progressive fashion toward zero. This is, of course, to be expected, since as fishing increases, the chances of an individual fish being able to live long enough to spawn is bound to decline.

The yield per recruit curve provides data on total yield that can be expected at given fishing rates and ages of entry, and the spawning stock per recruit can be thought of as being equivalent to the relative number of spawnings that result from a given number of recruits subject to a range of fishing mortality rates. If, of course, a new level of fishing mortality rates is applied, the yield and the spawning stock gradually moves between the old and the new equilibrium positions as recruits are subjected to the new mortality rates. This means that if fishing effort is increased, there is a short-term increase in yield which is paid for by a reduction in stock size. This short-term gain is not sustained, however. Similarly, a decrease in fishing mortality or an increase in age of first capture leads to short-term loss while the stock size builds up to a new level. A simple analogy is a bank deposit account which pays a fixed interest rate. If you take only the interest

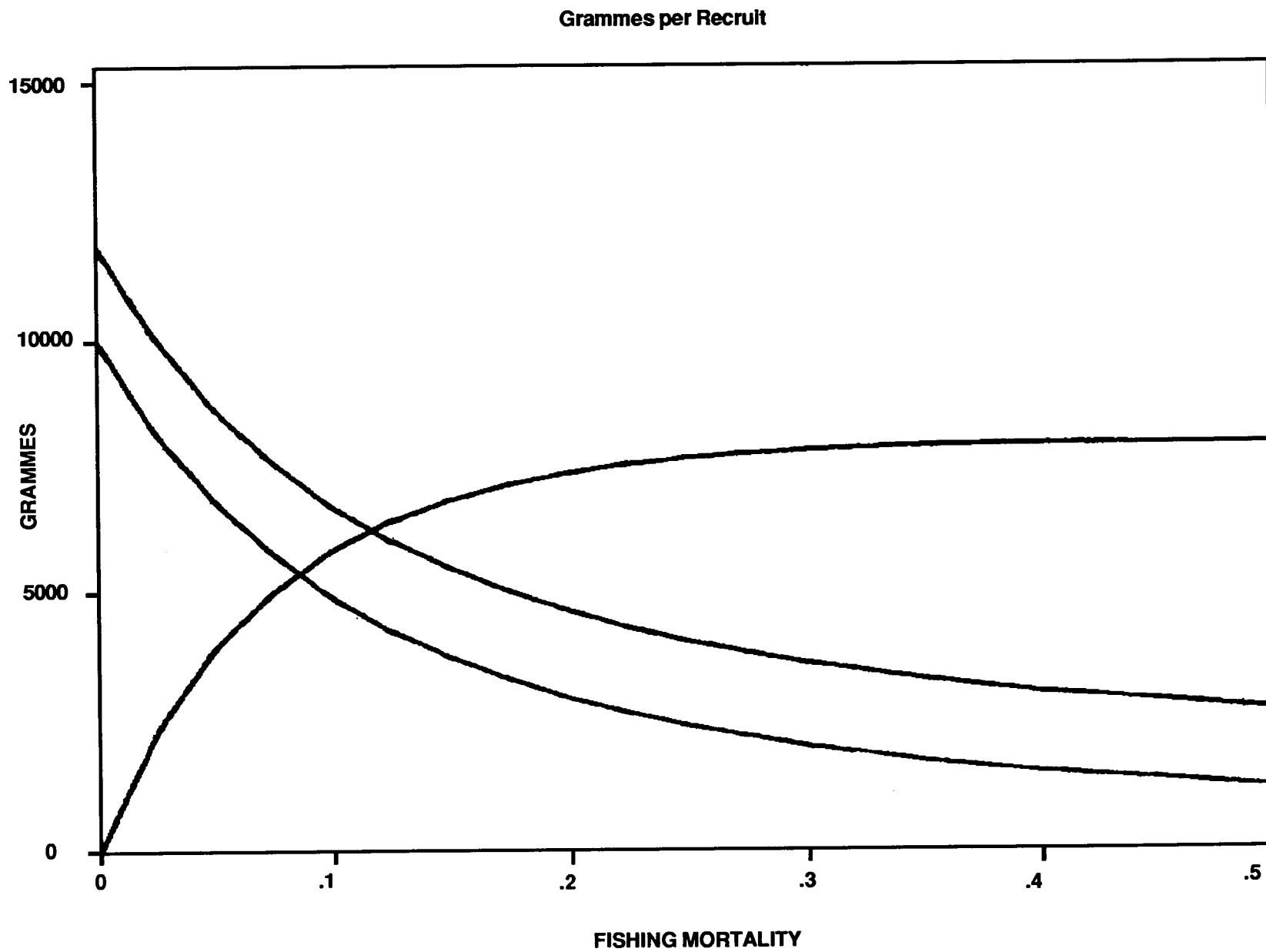


Figure 17

Ex. Biomass, SS. Biomass and Yield * 10 for 2J3KL

each year, then the capital remains untouched and the level of interest remains constant. If, however, you annually remove some of the capital as well as the interest, you are initially able to spend more money from the account, but as the capital diminishes, so does the interest. Thus, to maintain your spending power, you will be required to take each year more and more of the capital until, in the end both capital and interest are totally exhausted.

In the northern cod example we can see that the maximum yield per recruit would occur when fishing mortality was about 0.4. However, we can also see that a substantial proportion of this yield could be achieved at considerably lower levels of fishing mortality. If the costs of fishing are roughly proportional to the level of fishing mortality, then fishing at a lower level of fishing mortality should substantially increase the profitability of the fishery and also increases the size of the spawning stock and the catch rate of those fishing boats remaining in the fishery after the stock has adjusted to the new level.

The simple calculations provided in **Figure 16** and shown in **Figure 17** assume that the parameters adopted in the calculations are not subject to such biological feedback mechanisms as density-dependent growth or natural mortality rates or stock/recruitment relationships. For example, as stock sizes increase with diminishing fishing mortality, it is possible that growth rates might slow because of increased competition for food resources. This process is described as density-dependent growth. Furthermore, since cod is a fish-eating species and on occasion cannibalistic, if fishing mortality were decreased then the larger stock size of bigger fish might increase the natural mortality rate on smaller fish. This would give rise to a density-dependent natural mortality rate. Finally, as the fishing mortality increases, we have seen that the size of the spawning stock decreases, and it is possible that the number of young fish recruiting to the fishery could be altered. Such a relationship between the spawning stock size and the numbers of recruits has traditionally been referred to as a stock/recruitment relationship.

Of these three feedback mechanisms, the last is potentially the most important. This is clearly so since the stock/recruitment relationship implies the commercial loss of the fish stock if fishing continues at too high a level for the spawning stock to reproduce itself. An example of this in process may be seen in the George's Bank haddock fishery.

There are also some indications that density-dependent growth may affect the northern cod. This is the subject of study currently being conducted by DFO. If it is found to be the case, then the levels of F_{max} and $F_{0.1}$ may prove to occur at somewhat higher levels of fishing mortality than have been assumed in our calculations.

In respect of density dependent natural mortality rates, studies of the feeding behaviour of the northern cod have not so far shown any indication of heavy cannibalism. DFO scientists have, nevertheless, taken part in cooperative studies of predation mechanisms in the North Sea and elsewhere conducted in an ICES Working Group and are well aware of this feedback and how it can be modelled. They are, therefore, well prepared to take appropriate steps should it prove to be more important at some future stock state of the northern cod.

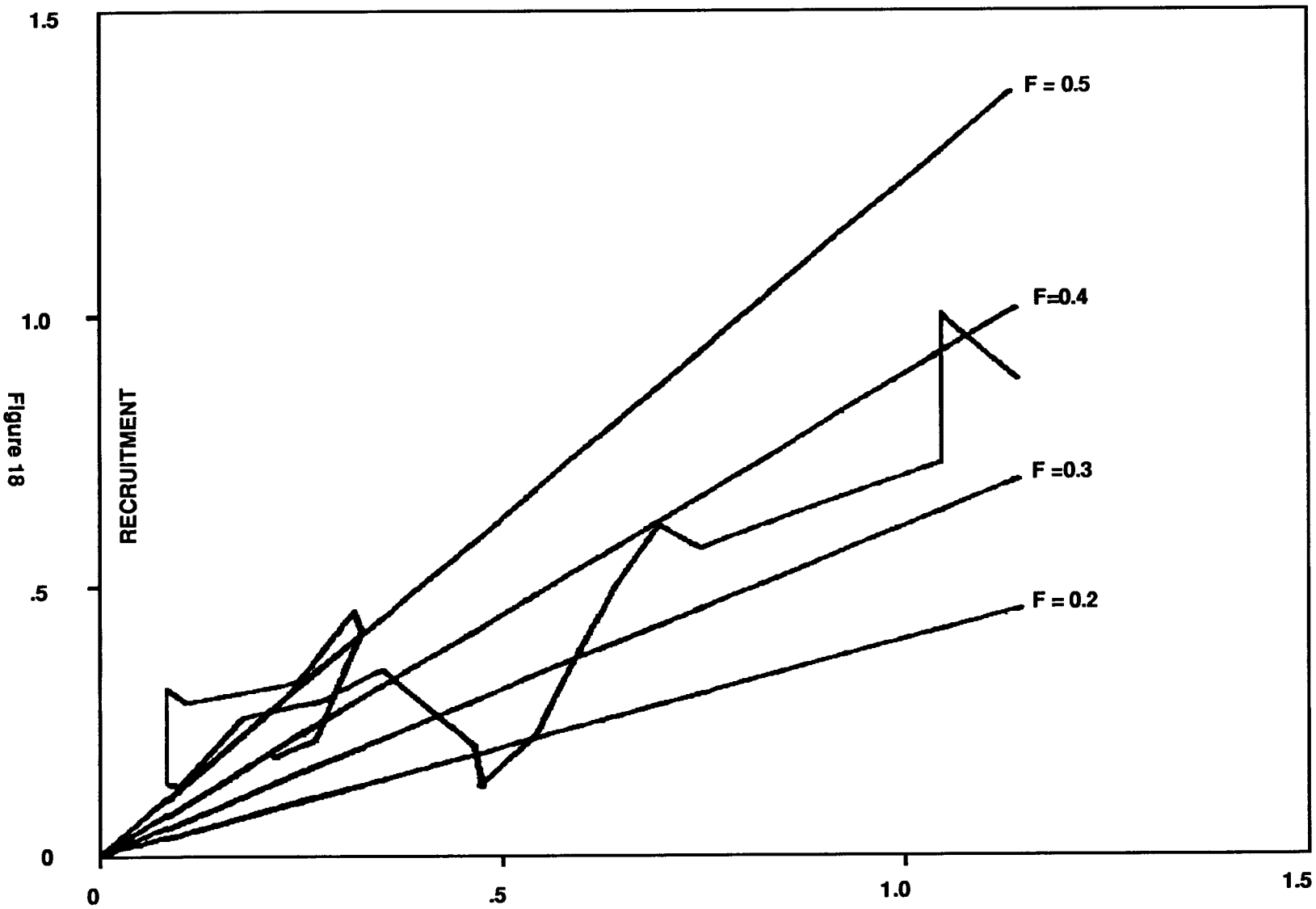
The stock/recruitment relationship of the northern cod has also been studied by DFO scientists Evans and Rice in 1988, and these studies do indicate a surprisingly strong stock/recruitment

relationship. **Figure 18** shows the plot of the number of recruits to each year-class of fish related to the size of the spawning stock from which they come. Superficially, this relationship appears to be linear, but this is not possible, since it would imply that without fishing, the Northwest Atlantic would be filled with solidly packed cod. Since neither logic nor historical evidence admits this possibility, there must be some downward curvature at higher stock sizes. Indeed, a simple log regression does indicate some such curvature. **Figure 19** shows a fitted relationship, which, while neither as sophisticated nor as appropriate as the probabilistic fitting procedure adopted by Evans and Rice, may be much simpler for the lay reader to comprehend. The picture is quite clear and shows, even though there must be finite limits to growth, that as the numbers of spawning fish increases so too does the number of young fish entering the fishery at least up to much higher spawning stock sizes than the current level.

It is, however, important to notice that the decline in spawning stock has occurred systematically through time, and it is quite possible that at least some of the apparent relationship is owing to other processes that were operating in the same time period. It is possible, for example, that recruitment figures for the earlier years when the fishery was international were artificially inflated by the overreporting of catches from the northern cod. Such overreporting might have occurred as a consequence of accident or inadvertence deriving from poor statistical systems, or it might have been done deliberately in order to establish an apparently higher historic performance prior to the allocation of quotas. Another possibility is that long-term deterioration in the environment might have reduced recruitment systematically through time. These are at least some of the reasons why the relationship as it currently appears may be misleading; but, the risks of being misled by what we see are, in this case, far less than the risks of ignoring it or of refusing to see it at all because of an assumed improbability. **In consequence and since no one has to date offered a conclusive alternative explanation, the Panel is of the firm opinion that we should accept the stock/recruitment relationship as it appears until such time as it is disproven and that the management of the northern cod should, therefore, be based upon consideration of the spawning stock size rather than on consideration of the yield-per-recruit curve.**

This is a very important point for it is our knowledge of the spawning stock/recruitment relationship that allows us to gauge the impact of various fishing mortalities on the northern cod and to assess the consequence of past exploitation levels. If we use the spawning stock-per-recruit results shown in **Figure 17** then we can examine replacement lines. These are lines that link the number of recruits to the subsequent spawning stock size, i.e., spawning stock biomass = spawning stock per recruit \times recruits. Such replacement lines are shown in **Figure 19** and indicate that a fishing mortality of 0.5 or over would probably deplete the spawning stock to levels giving low recruit numbers and, on the analogy of our banking account, would eventually exhaust the whole resource. A fishing mortality of between 0.3 and 0.4 would keep the spawning stock more or less at a constant level while lower levels of fishing mortality would eventually lead to higher spawning stock and, consequently, much higher recruitment levels than is currently the case. This in turn would lead to enhanced yield.

The Panel feels this is a more compelling reason to reduce the level of fishing mortality than the $F_{0.1}$ argument which was predicated upon the maximization of profit. We do realize, of course, that the goal of maximizing profit may not be incompatible with the goal of increasing the spawning biomass and in that way ensuring the future. We must recognize, however, that stock



Stock Recruitment for the Northern Cod

Figure 18

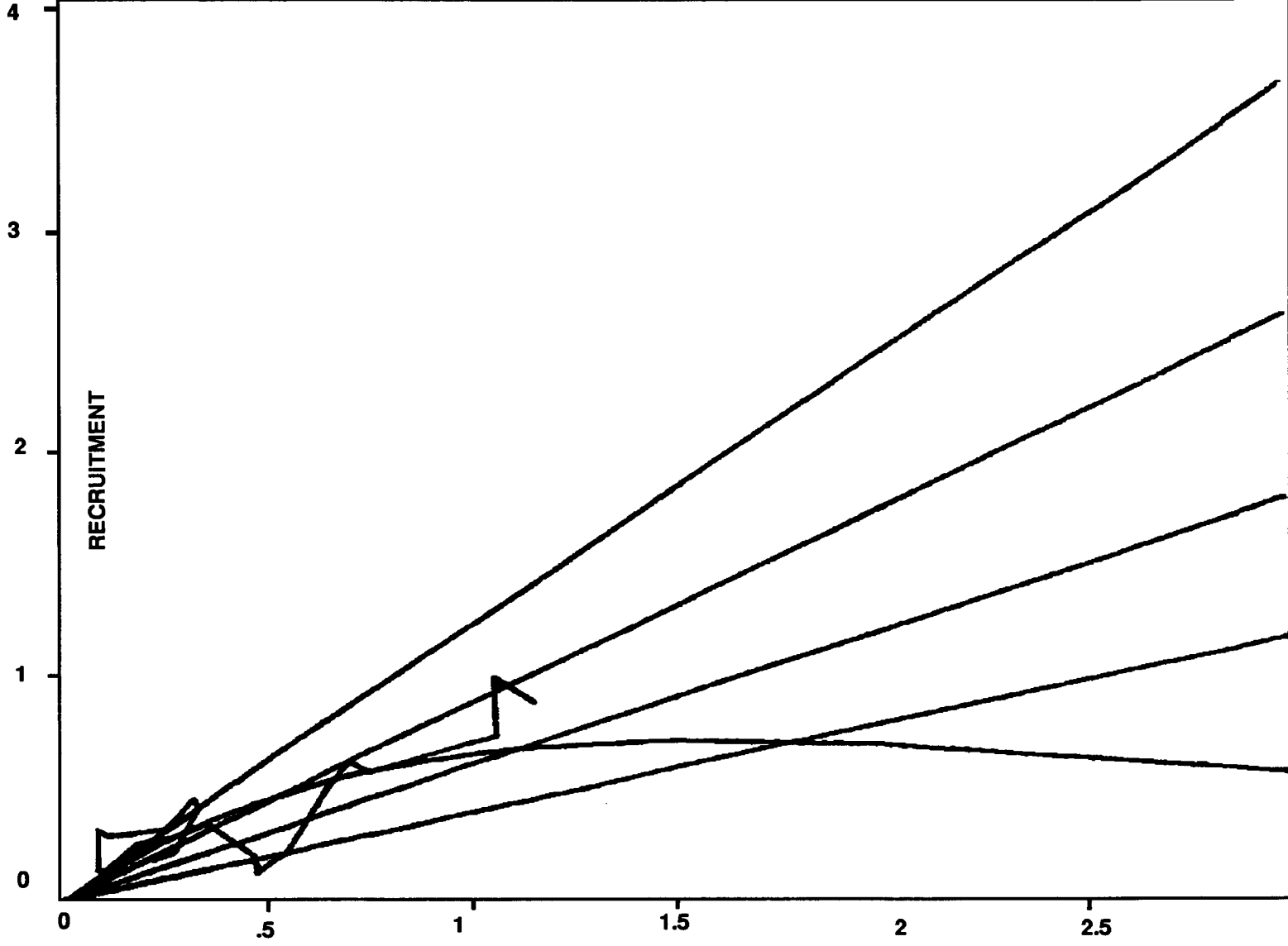


Figure 19
Stock/Recruitment for Northern Cod (Fitted)

building or rebuilding is a long term project while profit taking has a more immediately urgent connotation. Nevertheless, we do not deny that the $F_{0.1}$ strategy was a conservative one and would have led to a significant growth in northern cod stock size if its goal had been achieved. Unfortunately, we did not have the capacity to monitor with sufficient accuracy either stock size changes or fishing rate and, in consequence, were unable to provide reliable scientific advice. With management decisions based upon faulty advice, fishing rates soared to well over $F = 0.4$, or more than double the desired level, and the spawning stock failed to grow as rapidly as had been anticipated. The net result is that current yields are much lower than might have been achieved had a lower rate of fishing mortality been maintained.

In any event, since our primary objective is to increase the size of the spawning stock and since that goal can only be achieved by reducing the fishing mortality rate, **the Panel believes that the $F_{0.1}$ concept should be discarded if only because it is difficult to explain and is rarely understood by fishermen or the non-scientific community in general. It should be replaced by the simple and easily understood strategy of establishing the fishing mortality rate at 0.2, a level designed to rebuild the spawning stock to a large biomass.**

7.3.0 Resource Allocation and the Management of Northern Cod

Although explicit policies or principles that might govern allocations among gear types, regions, or communities do not appear evident in provincial or national goals, one cannot escape the conclusion that resource allocation, in one form or another, has increasingly become a fishery management tool. In the northern cod fishery the inshore allowance, the special allocation to France, and the bycatch allocation to foreign trawlers are classic examples. It is significant to note that demands from user groups for special allocations almost always stem from competition for limited resources. That is to say, there is always a potential for conflict when fishing capacity is in excess of available biological yields.

Any potential solution of the conflicts thus engendered must relate to clearly defined management objectives as expressed in biological and conservational as well as in socio-economic terms. From the biological or ecological perspective it might be sufficient to apportion the TAC among the statistical management divisions in proportion to the contributions made to the biomasses by each spawning subgroup of the total population. This would beg the question of whether catches should be taken offshore or inshore except insofar as separate inshore spawning subgroups had been identified. Indeed, in such strictly biological context, the inshore versus offshore question might have no relevance at all. Nor, we should note, would such an ecological approach be inimical to a sectoral management strategy or even to a process of enterprise allocations. This latter approach if carried to its ultimate conclusion of an allocation for every individual fisherman would, of course, be an administrative and management nightmare. Nevertheless, if practised in a limited way, it would, for example, permit a more orderly harvest and that best suited to market conditions by permitting fishermen and fishing companies to apportion their catches to suit their particular requirements. It would, as well, indirectly regulate the amount of investment in boats, gear, and processing equipment and make such investment a direct function of the available resource. On the other hand, it would encourage underreporting of catches, high grading and

other such practices, and would, in consequence, demand greatly increased surveillance and regulatory enforcement.

A strictly economic approach, that is an approach based on maximization of profit conceived in purely fiscal terms, would suggest that the harvest should be conducted in the most cost effective manner possible, that is, in the manner that would offer the lowest cost per pound of marketable product. This might mean an absolute reliance upon the codtrap, for example, which would appear to offer the highest yield per unit-of-effort at lowest cost of any gear type currently in use. That approach, however, would appear to be too superficial by far. In fact, it ignores the problem of seasonality of supply, the glut/famine syndrome, the vagaries of environmental changes that determine the availability of fish to fixed gear, the tendency to select juvenile fish, the demands of the market for regulated supply, and issues of quality. Such considerations may lead inescapably to the conclusion that an offshore fishery must be maintained if only to ensure consistency of supply of fresh product to the markets.

Indeed a variety of arguments, pro and con, may be advanced in respect of the several dominant gear types currently in use. However, inasmuch as the Panel has not analyzed in detail the relative merits of each, it is, perhaps, sufficient to note that many fishermen are disposed to see the gear they use as being superior and to see that of their competitors as detrimental to the goals of conservation or as producing fish of poor quality. Recognizing that there are significant differences among gear types, in respect of age and size selectivity, in bycatch rate, and in impact upon the environment, it is important that DFO should undertake appropriate studies to document such differences. This is particularly necessary if allocation among gear types is a strategy to be employed in the future management of the northern cod stock(s).

We have introduced those brief and to some extent superficial comments upon gear types for two reasons. First, because of strong representation made to us by fishermen and other interest groups and, second, because harvesting techniques do have implications for stock conservation and management. In the first case, the extreme position advocated by many inshore fishermen and others is a demand that there be no allocation of cod at all (other than a closely regulated bycatch) to otter trawlers. The Panel while unable to accept such an extreme demand is, nevertheless, agreed that **no reasonable effort should be spared to minimize the negative aspects of otter trawls and other gear types. Thus mesh size and configuration should be the object of careful study to determine those that minimize the capture of undersized fish.** In dealing with matters of this kind we should note that most, if not all, technological problems admit of technological solutions. The principle to be observed is that technology must not become our master. We must control technology through effective management decisions and through effective regulatory and enforcement regimes. The same argument applies *pari-passu* to all gear types. Thus, the ghost net problem may be simply obviated by the application of technology to ensure that all lost nets will be both findable and recoverable and by appropriate regulatory measures. In the case of codtraps, the problem of excess harvest of juvenile fish will be ameliorated when enough fish in the appropriate age groups survive to complete their migratory journeys to near shore waters at which time appropriate regulations of mesh size for trap bottoms and sides will give the desired result. This, of course, implies that mesh size in the "drying twine" at the back of the trap need not be changed from the traditional four inch or even from the more recently employed three and one half inch. The appropriate distribution of catch by age groups

may require allocation of quotas or fishing effort by gear type. That such distribution should occur is clearly important. Since fishermen have traditionally been able to sell three year old fish, most gear types used in the regions are selective for cod of that age. Nevertheless, the proportions of such very small fish to total landings was, until quite recently, relatively low. In changing circumstances, with that proportion steadily increasing, the matter has become one of more serious concern. In northern cod, sexual maturity does not occur until about age seven, and hence it is important in terms of the needs of the spawning stock that fishing both prior to and after maturity must allow for a sufficient number of survivors to insure the future productivity of the stock. Inasmuch as the various gear types impact differently upon the different age groups, the management process must take such differences into account and promote harvesting patterns by age in such a manner as will but ensure the conservation of the resource. In addition to the potential impact of different gear types on survival of recruits to spawning age, the issue of maximizing the yield from available recruits must also be addressed.

At the same time, harvesting patterns must conform with the nature and seasonal distribution of the component parts of the stock complex. **Fishing and/or allocation strategies must be devised that will not permit localized depletion of spawning subgroups nor disruptions of migration patterns that negatively affect specific inshore areas.**

7.3.1 Inter-Regional Allocations: Adjacency

In general and notwithstanding the fact that marine resources have been determined constitutionally to be a common property resource, the principle of adjacency has been accepted by Canada and, indeed, by the international community. That is to say, those fishermen inhabiting the shoreline adjacent to northern cod stocks should have first claim upon the resource. Only when their patently obvious needs have been addressed should surplus stock be allocated to others.

Nevertheless, historical associations cannot be completely ignored. Thus, Nova Scotian fishermen who have traditionally fished the southern Grand Banks in the management divisions now designated as 3L and 3NO cannot and should not be denied access to those stocks though the allocation to Nova Scotia as a function of the 3L TAC should not, perhaps, exceed traditional Nova Scotian landings as a function of the total landings from the area. In respect of other provinces within the region, the principles of adjacency and of "vital needs" when considered with the current state of the stocks would seem to indicate that, for the time being, no part of the 2J3KL stocks should be available to them since there obviously are no fish surplus to the needs of the coastally adjacent communities and to the satisfaction of the legitimate Nova Scotian claim.

7.3.2 Inshore/Offshore

As we have indicated in section 7.3.0. above, the designations inshore and offshore are to some extent artificial distinctions since many inshore fishermen currently generate a substantial part of their landings from offshore fishing. The current allocations stem in part from socio-economic concerns. However, there may be sound biological argument for regional allocations that attempt to equalize levels of fishing mortality upon each of the several stocks or stock components with

which management must be concerned. Similarly, there may be occasion to regulate gear types so as to apply appropriate mortalities upon the several age groupings that comprise the population. Apart from these considerations, the fundamental decisions must be predicated upon such strategies as will ensure, as a first priority, the conservation of the stock and the continuation of viable fisheries but that also address in the context of agreed social policy the “vital needs” of the community.

7.3.3 Domestic/Foreign

Given the near desperate state of the inshore fishery along the coast of Newfoundland and Labrador, the crisis of supply affecting both major offshore companies that fish 2J3KL cod, and the urgent necessity of reducing fishing mortality so as to commence the rebuilding of the stock, there should be no question of foreign allocations. Certainly, no part of the northern cod stock is surplus to Canadian requirements and just as certainly neither the primary interest nor the undoubted need of the adjacent coastal community can be disputed. In those circumstances, it is difficult to make the average Newfoundland fisherman understand what interests of state compel the Canadian Government to permit a large foreign fleet to continue fishing within the two hundred mile economic zone. For even if few units of that fleet are given a specific allocation of cod, the aggregate of the allowable bycatch alone looms very large in the eyes of Canadian trawlermen whose vessels are being tied up, of plant workers being consigned to the unemployment line, and of inshore fishermen whose nets are empty. Setting aside the issue of transborder stocks that are not appropriately discussed in this context, **the Panel believes that in the interests of consideration and of proper management and in the interest of protecting the clear rights of the coastal community, all foreign fishing within the two hundred mile zone should be terminated at the earliest possible date and that there should be an immediate reduction in the level of foreign fishing.**

7.3.4 Federal/Provincial Conflicting Goals

The foregoing discussion of foreign fishing within the Canadian zone is one example of conflicting Federal/Provincial goals. In this case, the goal of the province to maximize the economic value of the available resource represented by northern cod and other commercial species of fish is clearly in conflict with the Federal goal of using fishing concessions to further certain external relations objectives. Other potential sources of conflict derive from the fact that the Federal authority manages the resource and licences fishermen while the province licences processing facilities and processors and plays a critically important role in respect of the acquisition by fishermen of vessels and gear. Without appropriate coordination, it is not difficult to envision plants constructed or vessels financed to achieve certain political objectives without adequate reference to the availability of resources to justify the investment.

Other possible conflicts may arise when conservational goals are set by a Federal authority which has not consulted and which may not support the social goals identified by the province. Thus, the interests of one jurisdiction may be to maximize employment, those of the other to reduce the number of fishermen; the interests of one to decentralize processing in small plants supplied

primarily by inshore fishermen, those of the other to promote the interests of large vertically integrated corporations. Whether or not such conflicts emerge as realities or remain as hypothetical possibilities, they clearly carry with them the potential to place intolerable pressures upon fish stocks inadequate to support them. **What should never be forgotten is that every fisherman issued with a fishing licence expects, as a right, access to sufficient fish to provide a livelihood; every processor who is given a plant licence expects access to sufficient fish to make the enterprise profitable; every new vessel built and every loan advanced for the purchase of fishing gear demands an increase in fish landings to justify the investments. The temptations to grant the licences or to approve the loans may be nearly irresistible. But, so may be the pressures subsequently generated to allocate the resources to justify the earlier decisions. The repercussions may be disastrous for the stocks.**

7.3.5 Further Entry into the Fishery of Additional Fishermen, Gear and Vessels

The forgoing discussion leads us directly to consideration of an issue raised with the Panel on many occasions both in public hearings and elsewhere; the issue of whether there are already too many fishermen, too many fishing vessels, too much fishing gear and too much processing capacity; and, if so, how this excess may be reduced to an appropriate level and maintained at that level. There can be no doubt that given the current state of the fish stocks, the first question, in all its parts, must be answered affirmatively.

This situation has arisen, in part, because of unrealistic forecasting of increasing stock abundance, in part, from a temporarily favourable combination of market conditions that encouraged unwarranted optimism for the future, and, in part, from the sad fact that fishing is the employment of last resort for a substantial number of individuals who would otherwise be unemployed. The other consideration is the socio-political reality that Newfoundland came into being as a fishing community and grew as such and that there is deeply ingrained in the psyche of every native born Newfoundlander, the belief that the right to fish is inalienable.

Nevertheless, we cannot escape the conclusion that a TAC that is finitely limited will be able to support a finite number of fishermen and employ a finite number of plant workers. It is true, of course, that a great deal depends upon social policy objectives and, for example, the kinds of income support programmes that governments are prepared to establish. Still the fact remains that there must come a time when, in the interest of conserving the fish stocks and eliminating biological waste, if for no other reason, no further fishing licences can be issued.

We believe, therefore, the further development of licensing policy should involve both levels of government acting in consultation with fishermen, and we would urge the view that objectives deriving from such a process should grow out of consideration of the following elements:

- the conservation of fish stocks
- the capability and economic viability of the commercial fishery
- the principle of equity in respect of access to the resource

- the need for sound administration, good data collection and proper law enforcement
- the concept of professional status for fishermen
- the orderly development of the fishing fleet
- the development of criteria for the establishment of priorities for the granting of licences
- the role of part-time fishermen
- the use of fishing gear compatible with orderly and efficient harvesting and with the principles of conservation.

7.3.6 Clarification of Goals for Future Management of Northern Cod

Frequently both fisheries managers and fisheries scientists suffer from ill-defined and often conflicting sets of management goals. This problem may, moreover, be compounded when more than one political jurisdiction is involved. In such cases, not only may objectives differ but even established goals may take on different meanings when seen from different perspectives. Thus, a national goal of improving the competitive position of the fishing industry may conflict with a provincial or regional goal designed to achieve a social objective such as enhanced job opportunities. All too often allocations among user groups are made on the basis of political expediency rather than on a clear understanding of established biological, ecological, social, or economic goals and objectives. Such ad hoc management decisions frequently destabilize the commercial fishery and scientific efforts to conserve the resource and to collect the data needed to assist government in making rational management decisions.

The current federal and provincial goals that relate to conservation of the nation's living ocean resources seem reasonably clear. However, those concerned with social and economic issues are vague, unclear, and seemingly in conflict. Such important policy issues as effort limitations, enterprise versus community allocations, and others of a like nature appear to be adrift in a sea of indecision.

Management goals must be clearly defined and they must be goals, moreover, to which both levels of government subscribe. Furthermore, they must be goals in the implementation of which Federal/Provincial collaboration is the accepted standard mode of procedure and not a sometime thing invoked only in the face of impending crisis. Only in the light of such clearly conceived and enunciated objectives will it be possible to establish the kind of fisheries management policies that are so critically important. This implies clear recognition by both sides of the powers, responsibilities, and interests of the other. It also implies the creation of a permanent Federal-Provincial board or commission in the context of which information can be shared, management objectives clarified and coordinated, policy directions set, and strategies developed.

7.4.0 New Management Alternatives — Introduction

In considering future management strategies, the Department of Fisheries and Oceans must take as its first and preeminent objective an increase of substantial proportion in the spawning stock size. The most obvious approach to achievement of this objective is through an overall reduction in the level of fishing mortality which implies a significant reduction in the TAC. At the same time, it will be important to so regulate and manage harvesting processes that more younger fish may survive to spawn and that the economic yield per recruit of harvested fish may be enhanced. Further, it will be necessary to impose stringent measures to control the problem of discards, to distribute the fishing effort so as to obviate the possibility of localized depletions, and to reduce or eliminate foreign fishing pressures upon northern cod.

7.4.1 Rebuilding the Spawning Stock

There can be no “quick fix” solution to the problem of rebuilding the spawning stock. That is to say, the prize of higher recruitment and a healthier fishery can only be won if we are prepared to allow more of the existing population to live and reproduce to increase the number of new recruits and more of those recruits to live to full maturity to further increase the spawning stock, and so on, until optimum spawning stock size has been attained.

This process will necessarily be a lengthy one as will be obvious if we reflect upon the simple fact that a northern cod takes seven years to mature and probably does not attain its maximum reproductive capacity for several years thereafter. Thus, even if it were possible to impose a total closure of the fishery, the miracle of recovery would not occur overnight. As it is, with a continuing fishery the time for recovery will be prolonged for a period whose duration will be dependent *inter alia* upon the rates of fishing mortality imposed both overall and upon the individual age groups.

In face of this situation and taking into account the social and economic as well as the biological exigencies of the case, it is not at all a simple proposition to establish the most appropriate management strategy. Modern theories of the economic management of fisheries (cf. Clark...Horwood, and Whittle) suggest that when a transition to a higher stock level is desirable, the transition should be made as rapidly as possible. This can imply that a particular fishery should be completely closed for a number of years until the biomass has attained the desired level. If we were discussing the eel fishery, the lump fishery, or even the salmon fishery, this might be a viable proposition. But, we are rather discussing northern cod, and the social and economic consequences of a closure of that fishery would entail such enormous costs as would appear to totally invalidate the suggestion. For in Newfoundland there are simply no alternative resources to which fishermen might turn while they awaited recovery of cod stocks. On the other hand, if we maintain catch levels at or near present rates, we know that, at best, the process of recovery will be indefinitely prolonged; at worst, the stock will continue to decline.

Clearly, a compromise position must be attained. The stocks must be permitted to grow while catch levels are sufficient to prevent major social and economic dislocations. In short, we must get fishing mortality rates down to 0.2, and we must do so in stages if absolutely necessary but,

in any case, as quickly as possible. Following the argument we have made above, even a sudden drop of 0.2 would mean a recovery period extending over a decade; a staged reduction, following the 50% or some analogous rule, would entail a proportionately larger recovery period.

7.4.2 Harvesting by Age Group

At the same time, there may be measures worth consideration as supplementary to a general reduction in fishing effort. These would include measures to increase the age of first capture by both inshore and offshore fishing gear.

Northern cod grows slowly, particularly in the more northerly parts of its range, and does not attain sexual maturity until about age seven. Since it is clear that there are not currently enough cod in the 7+ age groups to ensure an adequate level of recruitment for the future, we must act quickly to enhance that number. This implies that we must take all reasonable measures to reduce the mortality imposed upon younger fish so that more may survive to spawn.

In the recent Department of Fisheries and Oceans publication “The Science of Cod,” the growth rates of fish from various grounds adjacent to the east coast of Newfoundland and Labrador are depicted in an instructive chart shown here as **Figure 20**. This figure shows not only that there are considerable differences in growth rate within the 2J3KL management area but, as well, that in all areas a substantial increase in growth occurs with age. Taking into account both growth rates and natural mortality, we are able to calculate the optimal time of harvest, though we should note that if our knowledge were precise, that optimal time might not be the same in all parts of the range. Setting aside that particular complication, **Figure 21** plots the expected biomass from a group of one thousand recruits entering the 2J3KL stock at age two.

The graph, based on a composite size at age for all 2J3KL harvested cod and on a 0.2 instantaneous mortality rate, shows that the growth of the individuals from a particular age group is in excess of losses owing to natural mortality until about age ten. For example, we may note that a particular group of fish if harvested at age five would constitute a catch 100% greater than if an equivalent mortality had been applied at age two. The economic gain would, of course, be far greater in consideration of the much higher monetary value of the larger fish. The total gain would, in fact, amount to several hundred percent.

Theoretically, the highest yield for a given number of cod would be achieved if they were all harvested at about ages seven to ten. We realize, of course, that current fishing methodologies do not allow for the harvest of a few age groups and that the effort required to achieve such a result would demand an increase in fleet size and significantly increased harvesting costs. Furthermore, it would significantly alter the nature of the fishing and would virtually eliminate much of the inshore fixed gear enterprise and a considerable portion of the catch currently taken by both inshore and offshore otter trawlers. Thus, as a matter of plain practicality, the fishery must begin by harvesting younger age groups and extend beyond age ten over the whole of the cod's life span. Nevertheless, insofar as it is practicable to do so, we must seek to maximize weight yield and economic benefit from the available harvest, and to do so we must be able to increase the age of cod entering the fishery.

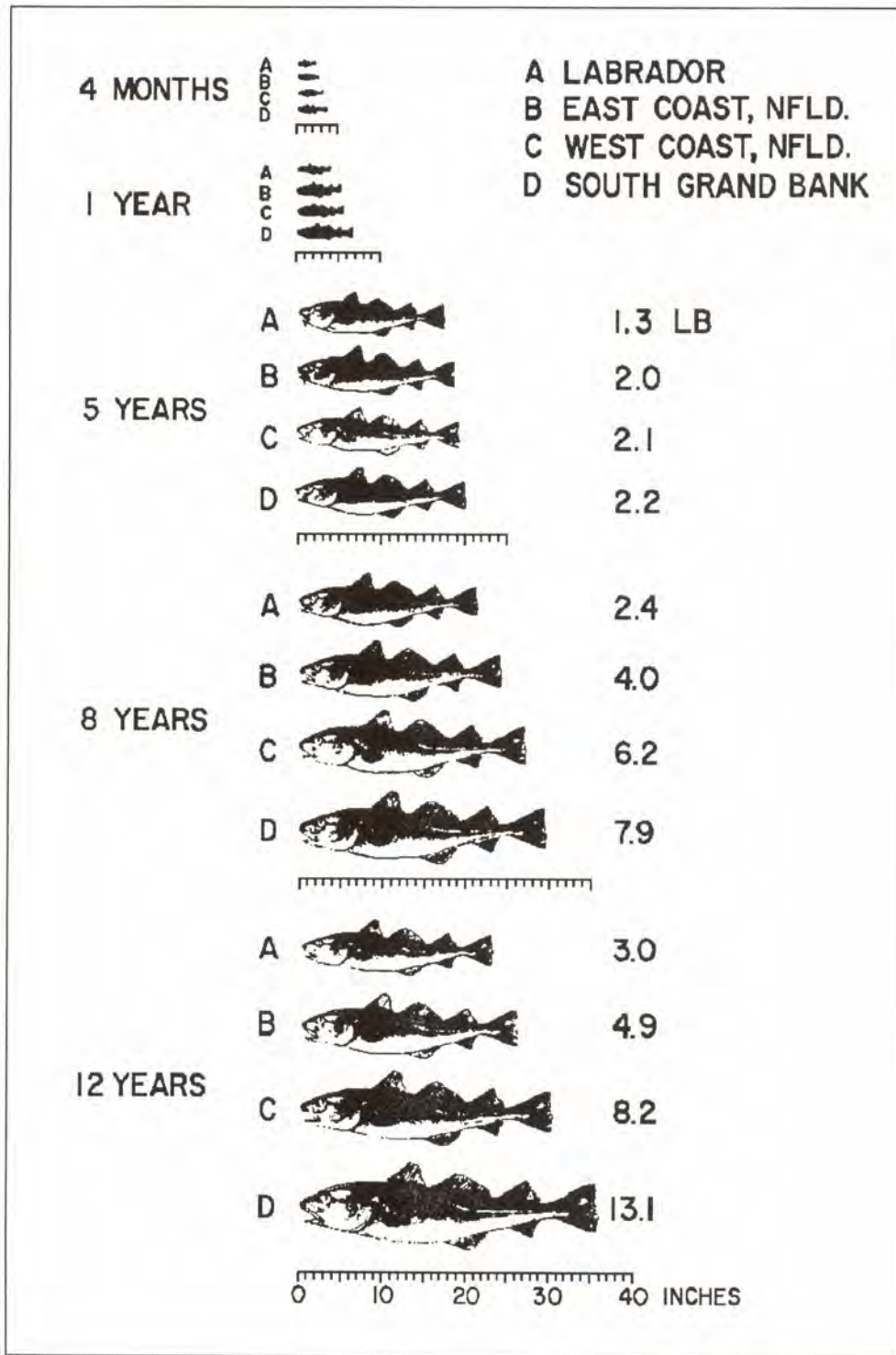
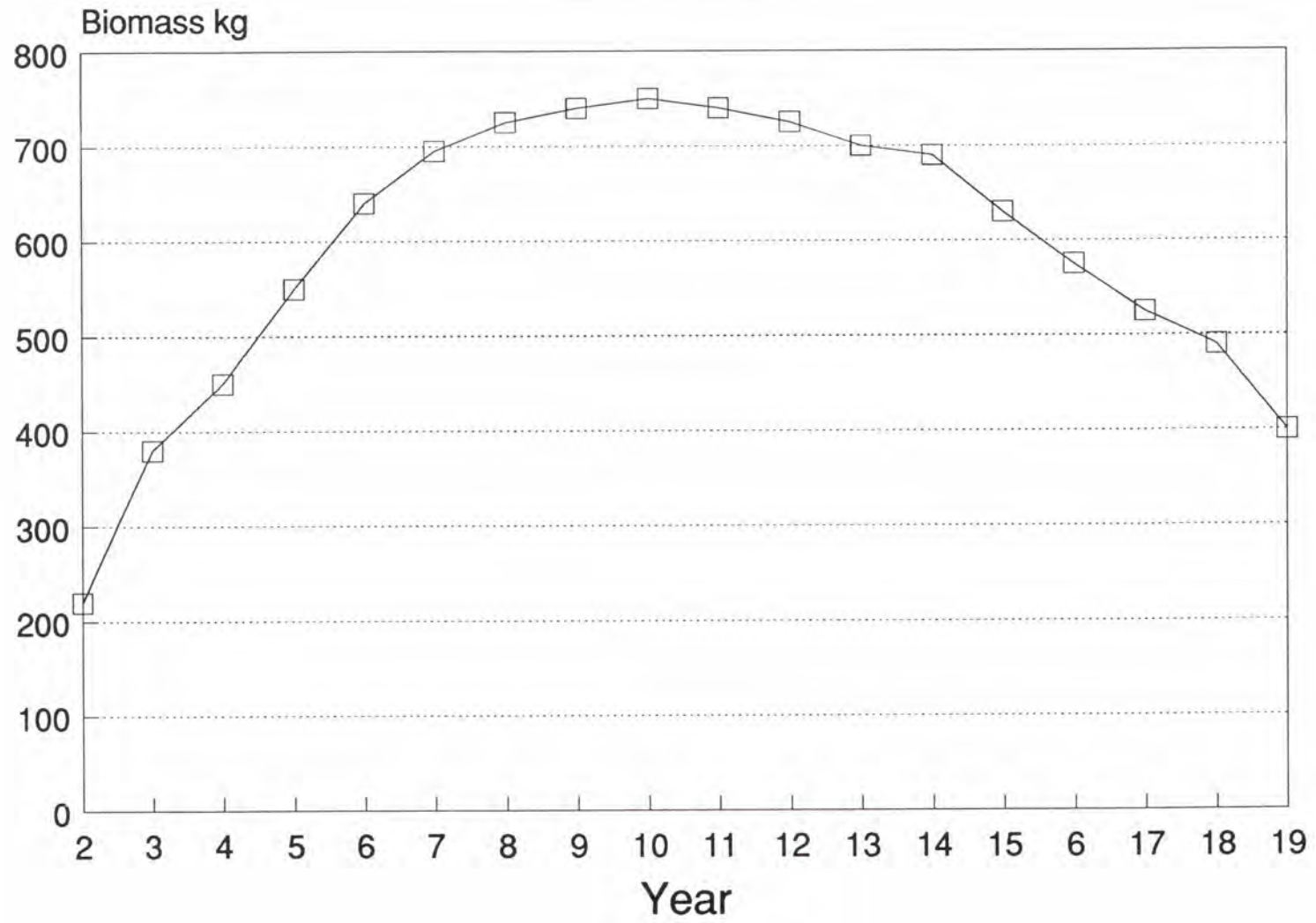


Figure 20

Graph Showing Cod Weights

FIGURE 21



The fact remains, however, that reduction in the mortality imposed upon three, four, and five year olds could not only encourage growth of the spawning biomass but could, as well, improve the overall yield through reduction in waste and through a subsequent increase in the biomass of these age groups at the time of harvest and the average value of the harvest. In this context, we cannot fail to note the repeated representations made to the Panel concerning the disproportionately high catch of three, four, and five year old fish taken by codtraps, by inshore draggers, by inshore hook and line fishermen, and by offshore otter trawlers.

In an ideal world, we might limit our harvest to a single age group. In the real world, we must at least work towards the goal of allowing all young cod up to age five to escape capture. This implies the regulation of mesh size and gear type and configuration to achieve such a purpose. The Panel is, of course, aware that in making such a suggestion it is presenting DFO with an array of problems that will be difficult of solution and that have far reaching implications. Nevertheless, it is possible to make fishing gear size selective. **And, given the overriding objective of permitting the most rapid possible growth of the spawning stocks, of maintaining economic yield at the highest levels consistent with that goal, and of ensuring the continued viability of an inshore fishery, it is important that guidelines respecting the desirable catch by age groups be established and that regulations be developed to satisfy the requirements of such guidelines.**

7.4.3 Discards and Bycatch

The Panel has, from the outset of its deliberations, been concerned that levels of both bycatch and discards have been insufficiently documented for assessment purposes. Certainly, the anecdotal evidence presented to the Panel suggests strongly that both bycatch and discard rates are higher than have been allowed in the calculations. In the face of the current situation the problem is all the more serious.

Nevertheless, the Panel is persuaded that such mortalities can and must be reduced. Appropriate strategies to achieve this purpose would include adaptations of gear technology, time and area fishing strategies, appropriate surveillance and enforcement, and, above all, the will to eliminate the problem. In this context, the critical issues must be resolutely addressed by both DFO and the fishing industry. The final objective should be the elimination of all discards. At the very least, they should be properly factored into all assessment equations and be accounted for as part of the established TAC.

7.4.4 Distribution of Fishing Mortality

We have already indicated our belief that sectoral allocation is a valuable management tool. However, it would appear that current sectoral divisions are rather crudely determined, being predicated upon inadequate knowledge of the nature, structure, and behavioural patterns of the stocks. As our knowledge and understanding of these matters grow, so should our sectoral management strategies be refined with the objective of applying appropriate fishing pressure in direct proportion with the capacity of the several stock groups or subgroups to bear such pressures.

Furthermore, in accord with the proposal made in section 7.4.2. above, fishing pressure should theoretically and practically where possible be applied appropriately by age group within sectors. The obvious consequence of failing to do so might well be localized stock depletion.

7.4.5 Foreign Fishing

Where Canada has the full authority to impose and enforce its conservational law and regulations, that is within the two hundred mile zone, there must be a determined effort to ensure full compliance by foreign vessels fishing under Canadian licence. This implies the strictest possible controls upon discards and bycatches as monitored by an effective observer corps and as enforced by an upgraded patrol and enforcement section fully supported by the courts. Ideally, given the current status of cod stocks, no bycatch of cod at all should be permitted, and if this is not deemed to be a viable proposition, it might conceivably be agreed that the need to conserve cod stocks outweigh our obligations to the international community to make underutilized stocks available to fishermen from other jurisdictions.

Perhaps we should emulate the judgement of Portia who ruled that Shylock, in execution of his bond, could indeed cut a pound of flesh from Antonio's breast provided that he did not spill one drop of blood. On that analogy, we might agree that foreign vessels could indeed take their silver hake or their grenadier provided that they took not a single cod in the process. And if that position is seen to be too extreme, we might, at the very least, order that any bycatch of cod taken by foreign vessels should be landed in Canadian ports.

With regard to foreign fleets fishing beyond the two hundred mile limit, Canada should and must redouble its efforts to gain through diplomacy, if possible, effective management rights over the entire northern cod stock complex. If diplomatic efforts should fail, other options should be considered including the unilateral declaration of management rights predicated upon the principle of adjacency. In the meantime, serious thought should be given to the possibility of participating in the rape of the "Nose" and "Tail" of the Bank. This would be to admit that the unwillingness of the European Community to behave in a responsible fashion has rendered NAFO useless as a regulatory agency. It might, however, if we were sufficiently aggressive in our approach, convince the European Community that the game was no longer worth the candle and that their best interests might be served by giving NAFO teeth. In any case, since European Community countries already take every fish they can possibly catch on the "Nose" and "Tail", a Canadian fishery on those zones could not possibly harm the stocks more than they are already being harmed and would have the salutary effect of reducing the profitability of the European enterprise and, perhaps, sufficiently to make them repent of their intransigence.

CHAPTER VIII

Optimal Use of Scientific Facilities and Technical Capabilities

8.1.0 DFO Objectives

The Panel has repeatedly asked itself whether DFO has made the best use of its existing scientific facilities and capabilities in the conduct of its studies and management of northern cod. In addition, the Panel has wondered whether there were any evidence that with different objectives the present state of northern cod stocks might have been avoided.

Perhaps it would be instructive to review current objectives which are stated as follows in the Department's 1987-1988 Annual Report:

“to undertake policies and programs in support of Canada's economic, ecological and scientific interests in the oceans and inland waters, and to provide for the conservation, development and sustained economic utilization of Canada's fisheries resources in marine and inland waters for those who derive their livelihood or benefit from these resources; and to coordinate the policies and programs of the government of Canada respecting oceans.”

It should be noted that these objectives relate to the broad range of activities undertaken by DFO including science, resources management, and enforcement.

A further narrowing of the scientific objective is stated in the DFO management document entitled **Program Review and Evaluation (1988)** under the heading of “PURPOSE.” It indicates that the Annual Program Review and Evaluation (PRE) exercises undertaken by the Science Branch (Newfoundland Region) are centred on the following:

- (a) effectiveness, relevance, priority and effects of scientific projects and activities, taking into account governmental and departmental objectives and client needs;
- (b) identification of changes to improve programme design and delivery, operational planning, and administrative effectiveness; and
- (c) preliminary work planning for the new year.

Narrowing even further, the PRE document presents the mandate for the Groundfish Division of the Science Branch:

“The Groundfish Division has a mandate to provide biological advice to support sound management of commercially and potentially commercially important groundfish species in the Newfoundland-Labrador area so as to yield maximum social and economic benefits for Canada. Such advice is provided to both national and international managers.”

It would appear that all of the major concerns and issues felt by the Panel to be important plus many of those voiced at public hearings are embodied in these statements of purpose, although we have not been privy to any reports produced by the Newfoundland Branch dealing with maximising the social and economic benefits of the Newfoundland and Labrador fisheries.

8.1.1 Structure

The Science Branch, Newfoundland Region, consisted of 204 continuing full-time (CFT) positions in 1988. These are spread over the following divisions:

- Groundfish (60)
- Pelagic Fish, Shellfish, and Marine Mammals (40)
- Freshwater and Anadromous Fish (30)
- Experimental Sciences (29)
- Oceanography, Hydrography, and Toxicology (25)
- Miscellaneous Others (21)

Within the Groundfish Division the 60 CFTs above were arrayed as follows:

- Division Head (3)
- Gadoids (16)

- Flatfish (13)
- Redfish (7)
- Canadian Port Sampling (7)
- Observer Programme Sampling (4)
- Fisheries Ecology (10)

Within the entire Science Branch, Newfoundland Region, resource assessment and related research constitute about 75% of research activities. The Groundfish Division is responsible for the provision of scientific advice on 24 stocks including northern cod.

8.1.2 The Planning Process

As we understand it, the planning process when developing the annual research programme employs the following sequential steps:

- national priorities are provided by Ottawa each year, usually in late October;
- specific research needs arising from recommendations initiated by CAFSAC and NAFO subcommittees or by the steering committee are added to the list of priorities;
- priorities and research recommendations are provided to line managers and individual scientists prior to each scientist/biologist developing, usually in late November, his/her specific research objectives for the coming year;
- an internal management committee then reviews work plans in December with two types of crosschecks employed:
 - 1) are all national priorities and research recommendations relevant to this region addressed in a meaningful way?
 - 2) are the specific objectives of different individuals, which should be complementary, clearly integrated (the same objectives would be expected to appear in two or more projects, indicating potential collaboration); and
- budgeting is carried out when the management committee is satisfied with the work plan integration for the entire research unit.

8.1.3 Apparent Shortcomings

The planning process outlined above provides a reasonably clear process for the articulation of national and regional goals and priorities into a coherently structured work plan for needed scientific research and for the provision of the fiscal and human resources required for its conduct. But, despite the clear description of the programme planning process, persistent questions remain. Why, for example, are there still such enormous gaps in our knowledge of the northern cod which is widely acknowledged to be fundamental to the economy of both Labrador and Newfoundland, which has been fished by us for five hundred years and which scientists have been studying for a century. Repeatedly in our public hearings and in private discussion with fishermen as well as with scientists, fundamental questions concerning the biology, the history, and the behaviour of the cod were raised and repeatedly we heard the response “we simply do not know.” And, yet we also heard repeatedly, the assertion that only in the context of an improved understanding of the basic biology of the northern cod and of its physiological and behavioural responses to various environmental stimuli could we expect to generate the best possible scientific advice upon which sound management practices could be based.

Despite the broad lacunae in our data and in our comprehension of the Northwest Atlantic ecosystem, DFO scientists must still provide to the managers the best advice of which they are capable. The world will simply not stand still while we await more perfect knowledge. But, knowing that our science is, in consequence, found to be inexact, we must be all the more careful in using the tools we do possess and the knowledge we do command to the best advantage and always with a determination to err, if err we must, on the side of prudent caution. Even though we have suggested elsewhere that the miscalculations of DFO scientists in respect of the growth of the northern cod stock up to 1988 might have been committed by any other scientific group given similar circumstances, we might also suggest that the problem might have been sooner identified had there been a greater appreciation of the weakness of our science and a greater commitment to caution.

We are, of course, not unappreciative of the fact that the gadoid section of the DFO Newfoundland Groundfish Division consists of only 16 scientists whose territory covers perhaps 150,000 square kilometres of ocean and that 75% of their effort must be directly concentrated upon stock assessment. There is little doubt that even if there were many more, the task of developing the data bases needed to improve significantly the quality of scientific advice would still be a formidable task. Furthermore, though the physical facilities at the White Hills are superb, the capacity to take scientists to sea where much of the biological and environmental research must be done is still limited; as is the capacity to process on shore in a timely fashion all the data that are currently accessible to say nothing of that which might be assembled.

These conditions obviously impose limitations upon what may be done. Nevertheless, the Panel is concerned with what might be described as the management of the scientific effort rather than with the quality of the science being done. That effort must, in the Panel’s view, be increasingly concerned with the following significant issues:

- the development of such major research thrusts as must be initiated if the shortcomings of current data sets are to be evaluated and overcome;

- the evolution of models that integrate biological, environmental, and behavioural elements into the assessment process;
- the encouragement of career advancement through contributions to the fisheries management process as well as through publications of scientific papers focused upon narrowly specialized disciplinary studies;
- the development of a process of peer review involving scientists external to the Department and prepared to provide an unequivocally independent perspective and to inject into the assessment process that healthy scepticism that is essential to scientific progress;
- the development among client groups of a high level of confidence in the DFO scientific establishment;
- the encouragement of the kinds of collaborative research that might bring to bear upon problems amenable to such an approach, the coordinated expertise of several different scientific disciplines.

This is a formidable list but one that the Panel believes to be worthy of serious consideration. In particular, attention might be directed to those approaches designed to obviate a situation in which research programmes properly focused and coordinated may, over time, drift into more or less segregated sets of disjointed studies that are, perhaps, driven more by the needs of individual scientists than by the necessity of serving the overall objective of the institution. It is true that such individual research programmes often interconnect and overlap, but this is not at all the same as if they were conceived as collaborative exercises in which the special possibilities of two or more disciplines were brought to bear upon different aspects of the same question.

This point is all the more important because the Panel believes that the proper exercise of the ministerial function in relation to northern cod involves more than simple assessment of population numbers, the establishment of a TAC, and appropriate enforcement. Management implies ongoing research of a nature determined by careful and sensitive assessment of the objectives of a fishery followed by careful and collective establishment of priorities. Furthermore, we believe that inasmuch as the northern cod is a resource of fundamental importance to the whole community, the entire applicable resources of the community should be mobilized to supplement the special capabilities of DFO science. The broad resources available within DFO itself can be drawn upon to develop collaborative teams to address significant problems from a multi-disciplinary perspective. Further, such teams can be augmented and supported by drawing upon particular expertise accessible at regional universities, Memorial University of Newfoundland and Dalhousie University, for example, or at other institutions, public or private, and including the corporate world. Such involvement must be deliberately sought since we can ill afford to miss any possibility of expanding our knowledge and of improving our chances of managing wisely.

We are not, of course, so naive as to assume that the significant advance in scientific knowledge will be attained except by true scientists, curiosity driven, and not by any means immune to the

lure of high reputation that comes from personal achievement. The scientist as a team player is not an impossible concept, but the development of team approaches to problem solving that yet leaves space for individual recognition demands management of a high order. And, that is the kind of management to which we must aspire.

Perhaps it would be true to say that over the years our somewhat spotty knowledge of cod and of the system in which it exists is not so much the result of scientific failure as of failure to provide a clear management focus that would provide the necessary resources to researchers and at the same time promote the optimal utilization of those resources both human and material.

In this way, we can begin the process of restoring the high credibility of the science that must underlie proper management and which is a sine qua non to the ultimate success of our mission. At present, the basic client community, that is to say the fishermen, appear not only to distrust science but fail to understand its nature and its rationale, fail to see the relevance of particular research initiatives to their immediate problems, and fail to appreciate why their vast store of accumulated knowledge based on experience is not taken into account. To address this issue, means must be found to make them feel that they are both stake holders and participants in the process. There is clearly occasion for a community education programme and for the consideration of ways in which the inclusion of fishermen in the planning process can be made more effective.

In brief, the Panel is not disposed to denigrate in any way the high level of competence and of dedication displayed by DFO scientists. We are well aware of the limitations upon their resources and of the many constraints under which they seek to address a monumentally difficult set of problems. But, we do believe that there is room for major improvement in the planning process, in the need for greater measures of openness, in the development of improved educational programmes, in the establishment of better communications with client groups, and in the development of new science management techniques. In this context, we strongly recommend that DFO

1. Establish mechanisms for the external, independent scientific peer review throughout the scientific and stock management process;
2. Review its management structures and approaches with the end of establishing a more focused and coordinated approach to the management of the northern cod stocks;
3. Develop an ongoing programme that will open lines of communication through which appropriate information concerning the scientific process and management discussions may be communicated more effectively to client groups throughout the region and through which client groups may have more effective input.

8.2.0 Technology — Introduction

It is not the intention of the Panel to attempt a comprehensive discussion of the many technologies that are or may be applied to northern cod stock assessment or to the management of the fishery.

Rather, we propose a somewhat superficial identification of some of the significant ways in which technology, which has to a degree contributed to the problems we face, may be harnessed to redress the problems.

8.2.1 The Need for a More Technological Approach

There is no question that improved technology has reduced the risks associated with fishing and greatly improved the efficiency of the fishing fleets. It could be argued that these improvements in the detection and harvesting of northern cod have contributed to the present problem. During the period when trawling technology was going through vast improvement, the technology associated with management improved only marginally. To be sure, oceanographic and fisheries science has improved over time with better monitoring devices and new intellectual paradigms. However, the changes within the harvesting sector have by comparison been extraordinary.

Oceanographers and fishery scientists recognize that their discipline is observational rather than experimental and in such a dynamic environment the isolation of causative influences are often masked by the considerable background “noise.”

Discrimination of important causative factors can be accomplished in several ways. Sophisticated mathematical models can be employed which permit a more incisive evaluation of existing data. Alternatively, more refined observation using the best available technology would greatly improve the possibility of identifying the essential variables. The most desirable approach would be one which employed both refined sensing capabilities as well as highly specialized software to help unravel the linkages hidden in very complex information.

The Panel believes that in order to more fully understand and manage the northern cod, it is imperative to explore fully the available technological alternatives. Advances appear daily in many related fields which have the potential for adaption to fishery-related problems, where a very pronounced need exists to monitor a particular species and its relationship with both its physical environment and other species. There is an overwhelming need to reduce the ambiguity and to improve our understanding of casual relationships. Coupled with a clearly defined and sharply focused management strategy, improvement in this area could reap some important benefits.

There is little evidence that the Department of Fisheries and Oceans, Science Branch in St. John’s, has made a systematic effort to apply state-of-the-art technologies to either the annual assessment process or to ongoing management activities. This is not to say that new technologies are not in evidence. Rather, their use appears to be a random process resulting from independent, individual effort, rather than from any concerted effort.

The Panel is well aware that technology is not a panacea. Rather, it represents a more refined observational capability that limits the margin of error. For this reason, if for no other, the Panel believes that DFO has a requirement for a well defined policy, perhaps in venture with other departments, focused on the pursuit of new technologies as a means to extending and refining its fisheries management capabilities.

Technology will always be changing and improving within any scientific discipline simply as a reflection of the nuclei out of which that science emerged. However, gradual and sometimes undirected improvements are a far cry from the overt recognition of technological improvement as a cornerstone of a sophisticated management policy.

Some examples of potential new approaches are provided. No judgement is implied as to their relative usefulness, rather the following items demonstrate potential.

8.2.2 Fishing Gear Technology

The need to develop more selective fishing gear which minimize bycatch of undersized commercial species and the harvest of non-target species including marine mammals and sea birds has long been recognized as a desirable goal by fisheries managers, commercial fishing interests, and conservation groups.

Bycatch is not, of course, a problem that is unique to the fisheries of Canada's East Coast but rather is pervasive throughout the fisheries of the world. Nor can we doubt that solution of the problem would bring very significant gains in terms of conservation, the elimination of biological waste, and the more effective use of available fishing resources. In this context, it is somewhat surprising that Canada and other prominent fishing nations, with the possible exception of Japan, should have heretofore directed so little attention to the matter.

The issue must now, however, be addressed; and, if one contemplates traditional approaches we must anticipate, because of the growing intensity, complexity, and diversity of Canada's coastal fisheries, the commitment of substantial management resources and substantially increased costs for user groups. It may be possible, however, to consider technological solutions as more attractive and more cost effective alternatives.

Thus, the Panel urges the Government of Canada to establish a technology group whose focus should be to eliminate biological waste in directed fisheries and to minimize bycatch of non-targeted species. Such an operation could be contracted out to industry or developed as a component of DFO or other government laboratories. Two obvious projects for early attention might be the improvement of trawls, traps, and other gear types to eliminate entrapment of juvenile fish and the development of systems to locate lost gillnets or to prevent their continued fishing.

8.2.3 Fisheries Surveillance

An integral part of any overall fisheries management policy is the monitoring and policing of the harvesting process to ensure that conservation driven total allowable catch limits are maintained.

This surveillance becomes particularly difficult for the offshore fishery when considering the enormous area to be monitored and the prohibitive cost of one hundred percent coverage when utilizing conventional air and surface methods. A potential approach could be through the

utilization of remote sensing techniques, including ground wave over the horizon high frequency radar and on-board transducers tracked by upcoming satellites such as Radarsat and M-Sat.

Early results from ongoing HF Radar experiments indicate that a sufficiently high resolution at three hundred kilometres distance may be obtainable, allowing for the continual monitoring of all vessel movements within Canada's territorial limits.

The launch of Radarsat will provide the first non-cloud restricted satellite images of the east coast of Canada and may well allow an ongoing cyclic monitoring of vessel traffic in the area.

It is also possible that M-Sat could be utilized to monitor with great accuracy the location and movements of all vessels engaged in the fishing process in the region. This would imply the installation of transducers on all such vessels and their integration with nonrational systems. In respect of vessels operating within the Canadian management zone such a regime could be improved by regulation and as a condition of licensing. For vessels operating outside the two hundred mile limit, international agreement would be necessary nor do we conceive that such agreement could be reasonably denied. Furthermore, it would be but a small step to add catch statistics to the transmissions so that Department of Fisheries and Oceans monitors could be provided with real-time catch results coupled with precise locational information. The scientific value of such data is obvious.

8.2.4 Stock Assessment

We have elsewhere in this report noted the relatively wide disparity between estimates of abundance as derived from commercial catch data and from the research vessel surveys. In fact, that disparity can on occasion approach one hundred percent. We have suggested that this disparity may, in part at least, result from an underestimate of the significance of improved technology among the commercial fleet and, in part, from the effects of commercial fishing preponderantly upon spawning concentrations which may in itself have influenced the effectiveness of the technology. Even if those reasons are valid, they probably do not comprise a complete explanation for the disparity which, however, must be accurately and fully explained if we are to arrive at an accurate calculation of F.

The single annual scientific assessment cruise of the research vessel may be adequate to the case through there is no proof to support that assertion. But that consideration apart, it is clearly important that DFO scientific personnel, whether restricted to one annual cruise or not, must have accessible to them the most technologically sophisticated equipment available. Apart from the obvious necessity to ensure as nearly as possible in respect of both the vessel and the fishing gear precisely similar conditions from experimental tow to experimental tow, it should be possible to use state-of-the-art hydroacoustic and net monitoring devices to improve both the quantity and quality of the data gathering exercise. Further, it should be possible to involve at least some of the commercial fleet in the scientific assessment activity. The Panel has been assured that commercial operators would not object to equipping some vessels with appropriate equipment, of taking scientists to sea, and of cooperating in the appropriate intercalibration of sampling equipment. **In short, given the paucity of ship resources available to DFO scientists, there**

would appear to be logic in the proposition of using commercial vessels, through agreement with their owners for scientific purposes.

In respect of stock discrimination, a problem which has been identified as an important one, a new approach, as yet untried with northern cod, is the application of DNA fingerprinting techniques as a means of unequivocal identification of an individual's stock affiliation. This approach, which is presently under development as part of the Ocean Production Enhancement Network (OPEN) Centre of Excellence, offers the possibility of reducing the ambiguity of stock discreteness plus the added advantage of providing some insight into stock migrations.

Some improvement is also warranted in the commercial side of stock assessment. The observer program is generally acknowledged as a very useful device, albeit one which appears to be underutilized. Greater use might be made of the accumulated data if the observers were to employ electronic logbooks which had the capability of telemetering the data to shore. In that way a "real time" assessment of commercial catch activity, CPUE information, and average fish size would be available to stock managers for inclusion into their models.

8.2.5 Environmental Observations

As indicated above, a major problem faced by fishery biologists is their inability to define convincingly the environmental factors which contribute to the observed changes in fish populations. Understanding relationships such as these would contribute greatly toward a better understanding of stock abundance and variability. Ultimately, it would put management on a much more secure footing and reduce the potential for unexpected oscillations. But most importantly, it might offer the possibility of eventual human intervention in order to protect and sustain these stocks for future generations.

Once again we draw attention to advanced technological approach which is in its earliest stage of development within the OPEN Centre of Excellence. The goals of that programme's participants would include the development, wherever possible, of a synoptic view of the organisms and their environment. This is expected to be accomplished through the use of remote data collection, using buoys, drifters, moored instrument packages, and both aircraft and satellites.

Once these data have been collected it will be transmitted back to shore where it will be processed immediately in computers equipped with specially written programmes specific for the site where the data was collected. In this way, a broad "real time" view of the environment can be created which can be related to the animals. Real-time measurements of water motion would be essential to continuously update the sampling strategy of vessels attempting to tract a particular assemblage of animals. Also, immediate analysis of results permits the design of future field work to proceed immediately.

8.2.6 Physiology and Behaviour

So much of what influences the behaviour of animals is tied to their genetically programmed ability to adapt to their physical environment. Animals are normally found in locations where they are the most comfortable or, conversely, they avoid inhospitable conditions. A better understanding of their actual preferences and aversions would permit greater insight into their distributional motivations.

Catching and releasing fish to which a “smart sensor” had been attached would permit a sophisticated tracking of the animal relative to, for example, temperature or depth. Smart sensors are very small packages which can contain devices capable of measuring some environmental variables and storing that information on a silicon chip. When the fish has been recovered, it would be possible to infer its migration route (from which it was tagged to where it was subsequently caught) and the kind of environment which it chose for itself. Information such as this would be extremely revealing and it could be useful.

8.2.7 Summary

This by no means comprehensive list of technologies has been presented solely as examples of existing hardware which could be employed as one component of an integrated and comprehensive programme to monitor and subsequently manage northern cod. The advisability of applying any or all of the above must, of course, await the establishment of clear goals and the careful choice of the most appropriate technology to best advance the possibility of success in each particular case.

What appears to be absent from the current DFO master plan is a generally acknowledged recognition that new, more efficient ways must be found to observe in appropriate detail a very large territory of great environmental complexity and to do so speedily enough to enable relevant conclusion to be drawn. The Panel believes that only by fully utilizing sophisticated modern technology can such a goal be obtained. We recognize that this suggestion is being advanced during a period of reduced government spending and limited manpower. But this is all the more reason why there is little choice but to find more efficient ways of doing things if improved management is a real goal. Surely a single four to five week cruise each year can no longer be considered to be adequate to serve the needs of the case. In short, **the Panel strongly recommends that DFO should mount a dedicated systematic effort to improve or expand relevant technologies for use in the annual assessment process and in ongoing management activities.**

8.3.0 Monitoring and Enforcing Laws and Regulations

We should not forget that neither good science, good laws, nor good regulations will achieve their objectives of ensuring the wise use of our marine resources unless they go hand in hand with the proper monitoring, surveillance, and control of the stocks and of those who exploit them. Thus, if the northern cod is truly the backbone of Canada’s Atlantic Coast fishery, we must ask whether the resources allocated for its protection are adequate in consideration of the importance of the

stock and the vast area in which the stock is found. In addressing this question, the Panel is aware that, in recent years, the role of management has become much more complicated as the fishery has been subjected to significant changes. For example, the geographical expansion of the inshore fishery far beyond its traditional sphere of operation has major implications for DFO monitoring. In particular, many inshore vessels now fishing 60-70 miles offshore are far beyond the range of the inshore patrol fleet whose small patrol vessels were designed as "day" boats with a limited range of approximately thirty miles from shore.

Nor is it merely in respect of range that the inshore fleet has changed. Other advances in applied technology have increased the abilities of the fleet to pursue fish to areas hitherto inaccessible, to find them, and to catch them more effectively. Meanwhile, the regulatory authority, while it is able to establish levels of horsepower for vessels of different classes, has no involvement with nor control over other technologies that are involved.

Furthermore, with changing expectations since 1977, more and more people have sought access to the fishery. The consequence has been the division of the quota into smaller and smaller units and among a variety of fleets. All of this has made policing more difficult. In addition, the level of effort has increased substantially not only in respect of the amount of gear deployed but in terms of time as well so that a fishery, once conducted during a portion of the year, has now been extended to occupy the entire year. All of these developments have tended to make the tasks of monitoring and controlling more difficult.

In another context, the fishery has changed to reflect a greater dependency on species other than the traditional groundfish. Thus, the multi-million dollar shrimp fishery in the north, while it might not be as visible as the crab fishery, for example, does put additional strain on the capabilities of the monitoring system. Then there is the capelin fishery which has become extremely important to certain sections of the industry and which, under its present industry directed marketing TAC, required an extraordinary amount of enforcement and places great demands upon fisheries staff demanding nearly all their attention during peak periods which last for at least two weeks each year.

Added to the foregoing is the presence of a large foreign fishing fleet, those fishing legally under restricted species licences inside the two hundred mile limit and those fishing outside the line and often tempted to cross it. The latter group offer particular frustrations for scientists attempting to make an accurate stock assessment of northern cod and as well for managers whose purpose is to keep unlicensed vessels outside the Canadian zone.

In short, it has become obvious to the Panel that resources for surveillance have not matched the changes that have taken place in the fishery over the years. One of the most evident examples of this is the lack of vessels to patrol the offshore.

Currently, there are only two patrol vessels, or one and one half if refitting time is considered to cover the offshore from Burgeo, along the south and east coasts of Newfoundland and as far north as Baffin Island including the NAFO area outside the two hundred mile limit. One of those vessels has to be dedicated to the "Nose" and "Tail" of the Banks since that area demands constant surveillance. Even so, the degree of visibility represented by this continuing patrol does not

prevent all cases of foreign intrusion, and for the rest, a single vessel to patrol the whole of the northern cod area is little more than a token and, some might argue, a joke. However, taking into account the new fisheries in the north, the movement offshore of units of the inshore fleet, the Canadian inshore fleet itself, the foreign vessels legally fishing in the Canadian zone, and foreign vessels illegally inside the zone, the Panel sees an urgent need for additional vessels.

It is, of course, true that aircraft equipped with state of the art radar systems are enormously useful in locating and identifying vessels and must be considered one of our best deterrents to illegal activities. Nevertheless, aircraft crews are incapable of taking the kinds of actions that should follow from identification of illegal pursuits. They cannot, for example, board or arrest a vessel. In consequence, it is necessary that aircraft be supported by surface patrol vessels. Thus, while the Panel is supportive of the aircraft surveillance programme and would strongly encourage the use of additional new technologies that could be adopted to the purposes of electronic surveillance, we rather believe that increased surveillance will make even more necessary the deployment of additional offshore patrol vessels. Aircraft and particularly the helicopter have also demonstrated their usefulness in respect of inshore surveillance. Indeed, we can conceive of no more efficient means of maintaining a general surveillance over a large area and of directing the inshore patrol boats to specific situations needing on site investigation. The Panel would urge DFO to continue this valuable service and, indeed, to enhance it.

Apart from the shortage of physical resources to maintain proper surveillance and enforcement of regulations, the Panel is also concerned that the Department lacks personnel to implement in proper fashion programmes that have been well conceived. We have already referred to the need for people, time, and equipment to utilize more fully the data gathered for the purpose of scientific analyses through the observer programme. But this does not represent the full extent of the deficiency. It is, for example, not in our view appropriate that a new observer, after only a brief period of basic training, should be sent to sea unless accompanied, for a few days at least, by an experienced observer. Furthermore, experienced observers should be available to conduct regular audits or "spot checks" in the field. Again, additional personnel should be available on shore to check and analyze observers' written logs and so to identify developing trends that might indicate where additional patrols are required. In such ways, we believe the full potential of the observer programme might be realized and a well-conceived initiative made more cost-effective than it appears to be at present.

In the end, of course, not even the best surveillance and the most effective observer programme will obviate the necessity for other punitive forms of deterrence. When such situations do arise, there should be no doubt that the penalties imposed are sufficiently painful as to discourage repeat offenses. In this regard, we do not find the record of our courts impressive.

The penalties provided by law are not insubstantial. A maximum fine of \$500,000 is provided for illegal entry by a foreign vessel into the Canadian zone and a maximum fine of \$750,000 for illegal fishing in the zone. Additionally, fish and gear may be forfeited. In practice, penalties have not even approached those levels. We cannot escape the feeling that the violations of fishery regulations, the poaching of fish within the Canadian zone, and such like activities are regarded as mere peccadilloes; as if the whole matter of enforcement were a game in which a few tons of illicitly taken fish were of no greater significance than the crabapples stolen by naughty boys from

a neighbour's tree. In the opinion of the Panel such attitudes must change. Canada must convince both her own fishermen and the international community that conservation and proper management are matters of vital concern. In no cases should the potential gain from defiance of regulations exceed the penalty for being apprehended in violation of them.

For the domestic fleet, maximum fines for violations such as incorrect mesh size, fishing in the wrong areas, exceeding the allowable discard limits, misreporting or underreporting catches, and the like are set at \$5,000, though repeat offenders could have licences suspended and/or catch, gear, etc. forfeited. In practice, however, the tendency is definitely towards leniency. The message conveyed is that such offenses lack significance and are to be regarded as mere misdemeanours. That attitude must change. We must be convinced that the proper management of our marine resources is a vitally important matter demanding strict adherence to rules designed to ensure that a resource upon which we have depended for so long will survive our capacity to destroy it.

In this context, we are prone to support a proposition enunciated in a Fisheries and Oceans Research Advisory Council (FORAC) report in 1987 to the effect that "The economic consequences of dishonest reporting need to be greater than the economic gains of misreporting;" and, we are further of the opinion that the same argument should apply in regard to many of the more common offenses of which fishermen are guilty. There should be no doubt in anyone's mind that the privilege of receiving a commercial or sports licence carries with it an obligation to behave in a manner consistent with appropriate conservational strategies as defined in law and regulations.

By the same token, we are persuaded that managers who have for their guidance a set of admirably conceived goals and objectives should neither in the devising of regulations nor in their enforcement permit social, economic and political pressures that may be brought to bear upon them to be the occasions for deviation from the chosen path. The law, the agent of enforcement, and the giver of laws must all be equally credible in the eyes of the fishing community. It is obvious that any perceived movement away from our stated goals will, to the extent of that movement, diminish credibility. In short, we must clearly convey the message that we are seriously committed to our own rules and regulations. Thus, it is essential then that we adopt internal monitoring procedures to guarantee adherence to policy in order that any deviation from policy will be clearly documented to establish "a clear audit trail" for any who would question our accountability.

CHAPTER IX

Summary and Conclusions

An examination of the historical evidence for exploitation of the northern cod stocks, including both the 2J3KL stock(s) and those transboundary components found in 2GH and 3NO, indicate that prior to 1959 annual landings did not in peak years reach 350,000 tons and on average were not in excess of 250,000 tons. While it is clearly not possible on the basis of these data to reach firm conclusions in respect of a sustainable yield of northern cod, it would certainly appear reasonable to suppose that between 1902 and 1958, for example, a sustainable harvest of 300,000 tons was possible. It is equally clear from examinations of the record for the decades of the 1960s and 1970s that annual harvest in excess of 600,000 tons could not be sustained and precipitated a rapid decline in both catches and estimated stock size.

There are, obviously, limits to growth implicit in every natural system whose life sustaining capacity must of necessity be finite. In attempting to assess the capacity of any such system to sustain a relatively stable yield of a particular species such as northern cod, we must clearly contemplate not only the variability of naturally incurring phenomena on yield but, as well, the effect of human intrusions through, for example, the exploitation of other species. At present our knowledge is deficient in both respects. We neither comprehend fully the complexities of the natural world that northern cod inhabit nor realize the full impact of natural adjustments to human activities

While it is clearly imperative that we should expand our knowledge base as a matter of urgency; and that we should move to develop our management strategies in the context of a better understanding of cod within the Northwest Atlantic ecosystem, it is also clear that in the interim we must set harvesting goals that appear, in the light of historical experience, to be realistic.

In doing so we can, perhaps, take comfort from the proposition to be inferred from the historical record that the system is not a notably fragile one and that the northern cod appears to possess remarkable resilience. Thus, the gross overexploitation of the late 1960s and early 1970s did not result in the final collapse of the stock. Rather, following implementation of the new management regime in 1977, it demonstrated a reasonable growth pattern so that the exploitable biomass doubled during the decade following 1976, the year in which the stocks reached the lowest level of abundance of which we are aware.

Nevertheless since 1984 even though there has been no marked downturn in biomass, it would appear that growth has stopped and that weaker recruitment in more recent years may suggest population decline in years ahead. That is to say, losses from the current biomass as a result of fishing and natural mortality are exceeding gains made through recruitment and the growth within the population. While this does not suggest that a biological catastrophe has yet occurred, it does imply that current catch levels, if maintained, will place us on the road to stock depletion.

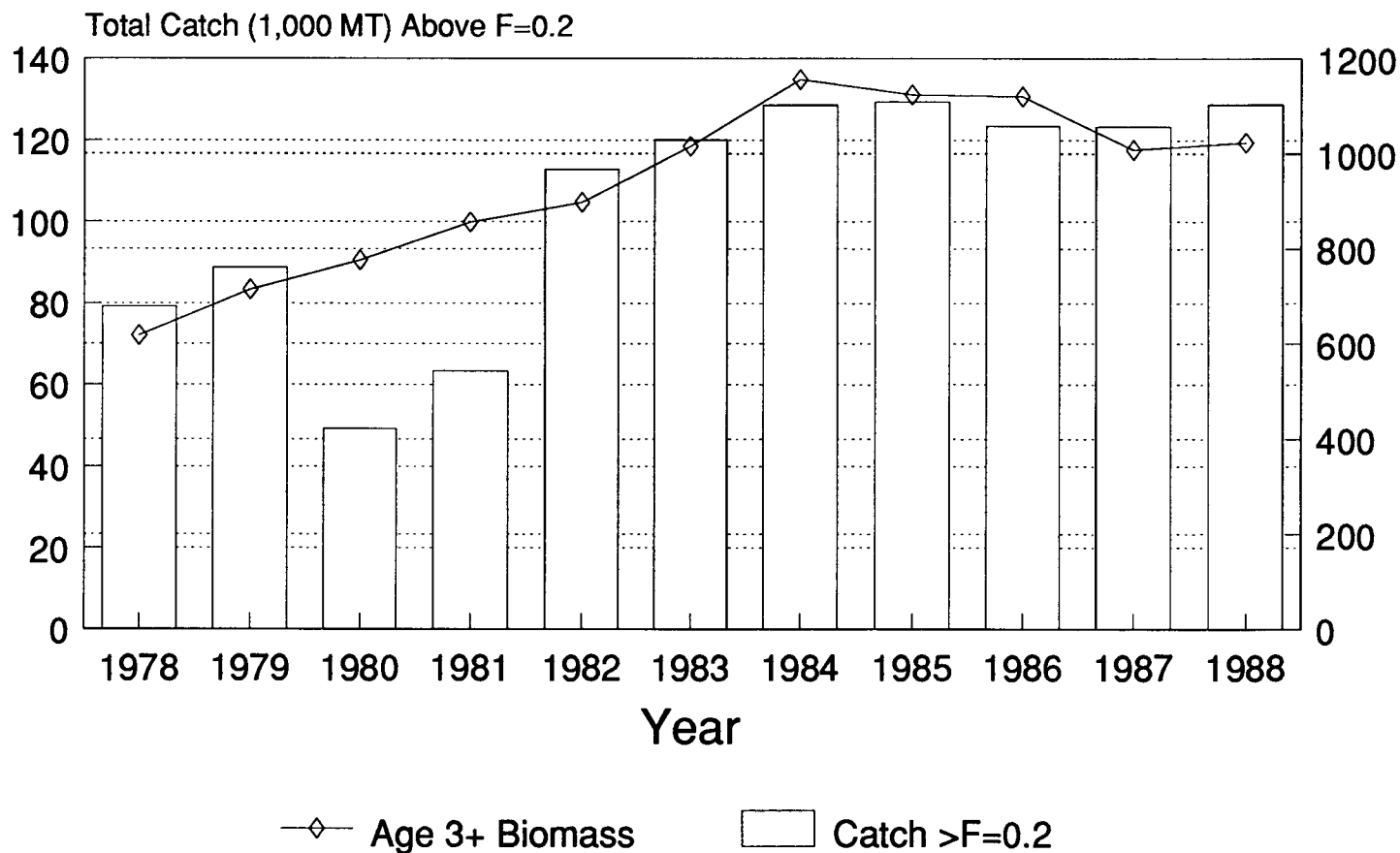
From this it will appear that in recent years the fisheries have taken a much larger percentage of the biomass than had been anticipated. That is to say, the fishing mortality imposed upon the exploitable biomass has been much greater than planned. The management strategy adopted in 1977 was that designated as $F_{0.1}$ which would have meant fishing at an instantaneous mortality rate of about 0.18. Instead fishing mortality was maintained at a level of at least 0.4 and possibly higher. At the same time, catches by foreign fleets outside the management zone consistently exceeded established quotas. Furthermore, the Panel believes that high discard rates and even high-grading of catches was a regular concomitant of the trawler fishery particularly in the earlier years of Canadian management and that underreporting of cod bycatches by both foreign and domestic fleets was a widely acknowledged practice. Furthermore, the Panel believes that fisheries such as those for shrimp and capelin destroy substantial and unreported numbers of juvenile cod and that the aggregate of these unreported losses may have elevated the deaths indirectly resulting from fishing.

Despite large harvest overruns and the additional sources of unrecorded mortality to which we have referred, the population continued to grow until 1984 as a result of several previous years of good recruitment. Unfortunately, such happily fortuitous circumstances no longer obtain. The evidence indicates that recent year-classes have been much smaller and further that, unless the spawning biomass can be rebuilt, they will continue to decline at an accelerating rate.

The magnitude of catch overruns in the years between 1976 and 1988 are shown in **Figure 22** where they are plotted against the population trend. As will be clear, the fish that ought to have lived to constitute an increasing spawning biomass for enhanced recruitment were instead caught, processed and sold.

In those circumstances, it is easy to point the finger of blame at DFO scientists. Infected like so many others by the post-1977 euphoria, they do not appear to have appreciated the full implications for cod mortality of new technologies and new fishing practices employed by both domestic and foreign fishermen. Confident of their belief that their database and analytical methods were sound and, hence, that the $F_{0.1}$ management strategy was indeed a functional reality they were prepared to accept the results of their assessment techniques and to set aside as

FIGURE 22: TOTAL CATCH ABOVE F=0.2 AND AGE 3+ BIOMASS OF COD IN NAFO DIVISIONS 2J, 3K, AND 3L



aberrational certain signs that might have been interpreted as pointing in another direction. Without benefit of hindsight they were predisposed to accept even when optional data interpretations were possible, those tending to support the validity of their mathematical models.

In fairness, of course, we must recognize that fisheries population dynamics is by nature a complex matter influenced by a wide variability in environmental, behavioural, and general ecological elements that together constitute the ecological system. By analogy, we might conceive of a vast jigsaw puzzle made up of thousands of pieces each of which is likely to change its shape as we try to make it fit into a picture that also changes as we move along. In the view of the Panel, the methods used by DFO scientists to make the pieces fit were not notably faulty in concept but were based on tenuous conclusions and skimpy data sets. Simply put, the Department of Fisheries and Oceans population and estimates of stock trends could not be expected to have been more reliable than in fact they were, given the quality and quantity of available data and given the capacity of the system they were using to analyze the data they did possess.

This is but another way of saying that whereas cohort analysis (VPA) is a relatively accurate method only if the turning techniques are based upon reliable estimates of abundance and if all the catch components are identified. That is to say, the estimates are only as valid as the data sets used in the analysis.

In light of these considerations, it is clearly imperative that every effort be made to improve the quality and scope of data collected and that a rigorous regime be established for the checking and testing of data to uncover errors that will, if undetected, bias the assessment process. To this end, it is important that both the data and the conclusions derived from them be submitted to external peer review.

We are pleased to note that the ADAPT method used by CAFSAC is suited to inspections of data quality and that in most recent assessment exercises it has been used exhaustively to check the combined data sets used in the tuning. It has also been used to calculate the likely impact of such possible error sources as misreported discard rates.

Nevertheless, we cannot say that the Panel is entirely happy with the current situation. Certainly, the ADAPT model is an improvement upon the model used in previous years, but we are somewhat concerned that while the analytical process is being emphasized, insufficient attention is given to the quality of data inputs. Perhaps it is easier and, therefore, more tempting to seek answers through mathematical manipulations, whereas, the true solution may only become apparent when we have a more comprehensive knowledge of the biology and behavioural characteristics of the species with which we are particularly concerned and of the ecosystem in which it functions. In any event, the principal issue currently before us is the reliability of the tuning indices that are being employed, and it would appear that neither the unadjusted RV data nor the commercial CPUE data are completely reliable. **We would, therefore, urge Department of Fisheries and Oceans scientists to make every reasonable effort to ensure that their commercial and RV data are producing reliable inputs and to make it a matter of priority to develop alternate independent estimates of stock trends.** We are convinced that with appropriate and accurate data in hand, there is no shortage of acceptable models to which the data can be submitted.

With regard to 1990 and subsequent years, the Panel is convinced that Canadian scientists must go well beyond this relatively simple prescription. A determined effort must be mounted not only to generate additional indices of abundance against which the RV and CPUE indices may be checked and challenged but, as well, to come to a more complete knowledge and understanding of the biological and behavioural characteristics of the cod and of other animals with which it interacts and of the physical environment whose dynamic characteristics comprise some of the missing pieces of our jigsaw puzzle.

In the context of these general research and development objectives, the Panel has identified a number of specific areas of concern to which early attention should be directed. These include:

1. Stock Definition. Developing a better understanding of the stock components and the relationship of the major spawning aggregations to the inshore fishing grounds is an important area for further research. Such information could be most helpful in developing management strategies which more effectively distribute fishing mortality among the stock components thus reducing the possibility of localized depletion. Furthermore, since there are known wide variances in the weight-at-age data over the range of northern cod, it would appear that better definition of stock elements would lead to better stock assessment and management concepts related to maximizing the yield from available recruits.

2. Data. Current DFO stock assessment relies heavily upon tuning the VPA model using CPUE data from the offshore fleet and RV data. The Panel is strongly convinced that additional indices of abundance should be developed. Appropriate measures might include an index based upon bycatch rates, another based upon CPUE data from the small boat inshore fleet, and acoustical surveys. Further, an expansion of the observer programme to collect biological and bycatch data would seem highly desirable.

3. Discards and Misreporting Bycatches. Discards and misreported bycatches are not only significant in terms of natural mortality but may also, as has been indicated above, distort calculations of population and of fishing mortality. The Panel heard repeated testimony that foreign vessel bycatch figures were almost invariably under-reported by as much as 25% and that discard rates, particularly by small domestic otter trawlers, to a lesser extent by deep-sea trawlers, and by inshore fishermen were far more significant than Department of Fisheries and Oceans calculations considered them to be. Not only is it imperative to reduce such waste to the absolute minimum that wise regulations and rigorous enforcement will permit, but we must also ensure that the information we record and use is as accurate as can be achieved.

4. Foreign Fishing. Foreign fishing both within and outside the Canadian management zone clearly affects the level of fishing mortality to which northern cod is subject, for we can by no means suppose that the drawing of an arbitrary line on a map in any way alters either the general biology or the behaviour of animals whose territory it bisects. Thus any proper management of the northern cod stock(s) must embrace all components of the stock(s). By the same token, the setting of a TAC and other management decisions ought, in logic, to be the responsibility of a single regulatory

authority which, in the instant case, should be the Canadian Government. While we do not advocate lawlessness nor maintain that Canada should depart from the ways of negotiations, it is not, in the view of the Panel, at all unreasonable that Canada should vigorously pursue management rights that, at least in the morally prescriptive sense, are established both by adjacency and by the utter dependence of the coastal community upon the resource in question. The current Canadian strategy of confining its fishing activity to those portions of the shelf falling within the two hundred mile zone gives tacit consent to the proposition that the transborder stocks are in some degree different, that they fall exclusively under foreign jurisdiction, or even that they are subgroups of the stock in which Canadian fishermen have no legitimate interest.

On the other hand, it is the opinion of the Panel that Canada has an **overriding** interest in them and should pursue every possible means of asserting that interest. Thus, in establishing the appropriate harvesting strategy the “Nose” and “Tail” of the Bank should be treated no differently than, for example, the Funk Island Bank. In short, the catching effort should be distributed proportionately in accord with the manner in which the stock itself is distributed throughout its range. Such an approach would be proper in biological terms but would also strengthen Canada’s bargaining position *vis a vis* the international community.

In respect of foreign vessels fishing under Canadian licence within the two hundred mile zone, no bycatch of cod, whether for processing or for discard should be permitted and violations of that proscription should be followed by cancellation of the licences in question.

The clear implication of the foregoing observations is that for the years 1990 and beyond, Canada must reevaluate both its management strategies and its tactics and must replace management through political expediency with management founded upon a solid scientific base. This suggests a substantially enhanced research effort. In the meantime, however, we must be absolutely clear **that failure to take appropriate steps to reduce current levels of fishing mortality will most probably lead to a significant continuing decline in the spawning population.** Thus, whatever management action is taken, the Panel recommends, in the strongest possible terms, **that the guiding principle must be the imperative necessity for an increase in the size of the spawning population.**

The achievement of this objective will, we believe, be a slow and difficult process and one that will regrettably continue to be fraught with uncertainties. For we must confess that we are not able to offer any absolutely firm categorical prescription. Nevertheless, the evidence before us strongly supports our belief that if the spawning population is to grow at a desirable rate, fishing mortality must be reduced to a value of 0.2 and should be continued at that level until such time as indisputable scientific evidence supports the application of a different rate. Under such a management regime, we believe that the exploitable biomass will increase to permit an optimal sustainable harvest that should not be less than 300,000 tons per year and might conceivably be higher. That we cannot presume to offer a firm figure is a function of the great complexity of the system with which we are dealing and, as well, of the fact that it is a system in flux. Nevertheless,

the historical evidence alone provides a reasonably comfortable base for the number we have suggested.

If such a desirable situation is to be attained, the first and foremost consideration must be to reduce fishing mortality from its current level. We have already indicated that we accept the current CAFSAC estimate of fishing mortality at 0.44 as being most probably in the right domain. Still we are constrained to admit that higher or lower values are within the realm of possibility.

Table 9 shows various values of F as derived from several different analytical approaches. As will appear these values range from a low of 0.35 to a high of 0.62. We clearly incline rather towards the higher end of the range than toward the lower, but we cannot be so certain that we would offer only one course of action for consideration. Thus we have examined the Table 9 consequences for the spawning stock and for annual TACs that would arise from various possible management decisions establishing different catch levels under assumed fishing mortality levels of 0.35, 0.45, and 0.55. Nevertheless, though we have acknowledged a range of possible F value, we believe the true value to be at least 0.45.

Table 9
F Values Predicted Using Various Analytical Approaches (average F 7-12)

CAFSAC ADAPT	0.44	
Methods using survey and offshore CPUE:		
Laurec/Sheppard	0.53	} 0.47
XSA	0.41	
Methods using survey only:		
Laurec/Shepard	0.62	} 0.56
XSA	0.48	
CAGEAN	0.57	
Method using offshore only:		
Laurec/Sheppard	0.43	} 0.39
XSA	0.35	
Average 1981-1988	0.46	
Inshore	0.50	

We have examined twelve possible management options using the different levels of fishing mortality as indicated. The first three of those (Figures 23 through 25) project the consequences of holding the assumed fishing mortality for 1988 constant over the next five years. Figures 26 through 31 examine the spawning biomass and catch trends under various assumed reductions in the fishing mortality rate. The last three options (Figures 32 through 34) hold the catch constant at 200,000 metric tons and allow the fishing mortality rate to vary over time. In all those cases, and in any other that might be developed in similar fashion, it should be carefully noted that projections beyond three years are necessarily unreliable because of the uncertainties associated with year-class recruitment which cannot be anticipated.

From the Panel's perspective, none of the first three options which consider the consequences of continuing to fish at current rates will lead to the desired goal of increasing the size of the spawning biomass. Options B2 through C3 all lead to improved spawning stock levels but with the exception of option B1 which, perhaps unrealistically, assumes a current F value of 0.35, require that the catch be reduced significantly below the level set for 1989. Options C1 and option C3 also lead to significant increases in the spawning biomass but also require a substantial initial reduction in catch. If the final options, D1 through D3, which hold the catch constant at 200,000 metric tons, the only acceptable solution is that which assumes an F of 0.35 which is not an assumption we are prepared to accept as realistic.

Thus, the range of options presented in our interim report still stand. They should, however, be reexamined in the light of data collected in 1989. With that in mind, it should be noted that a 1990 TAC of 190,000 metric tons, as depicted in the C3 option (Figure 31) may not serve to reverse the trend of a declining spawning stock but may rather contribute to further decline. And yet, we cannot be unaware that the sudden reduction of catch levels designed to reduce F immediately to the desired value of 0.2 would precipitate social and economic repercussions of a particularly drastic nature. In consequence, we are still disposed to stand by the suggestion that the mortality be reduced to 0.3 as a staging point on the way to the lower figure that should be achieved at the earliest feasible date. The Panel would, of course, be very happy if its gloomy predictions were to be discounted by the results of the autumn 1989 survey. But in the likely event that the survey should confirm a continuing F value of 0.4 or higher, the Panel is strongly of the opinion that a lower TAC for 1991 will be imperative. In short, the decline in the spawning biomass cannot be permitted to continue, and it is our considered view that the decline will not be checked until the mortality rate has dropped below 0.3. Thus, as painful as it may be, the TAC should be reassessed annually with a view to further reductions if there is not good evidence of spawning stock recovery. For it should be clear that the longer the delay in facing the brutal reality, the harder and longer will be the road back.

But if the socio-economic imperatives appear to dictate somewhat higher TACs than biological necessities would indicate is desirable, there are certain management tactics that may serve as ameliorative. These include the strictest possible control upon cod discards by either domestic or foreign fleets; the close regulation of bycatches of cod and, indeed, the prohibition of such bycatch by foreign vessels within the Canadian management zone; the regulation of gear types to reduce mortality of juvenile cod; the strict enforcement of regulation through an expanded observer programme and close surveillance of domestic as well as foreign activities; and, the

FIGURE 23: OPTION A1--ESTIMATED CATCH & SPAWNING BIOMASS FOR COD IN NAFO DIVISIONS 2J, 3K, AND 3L

F=0.35 in 1988-1994.

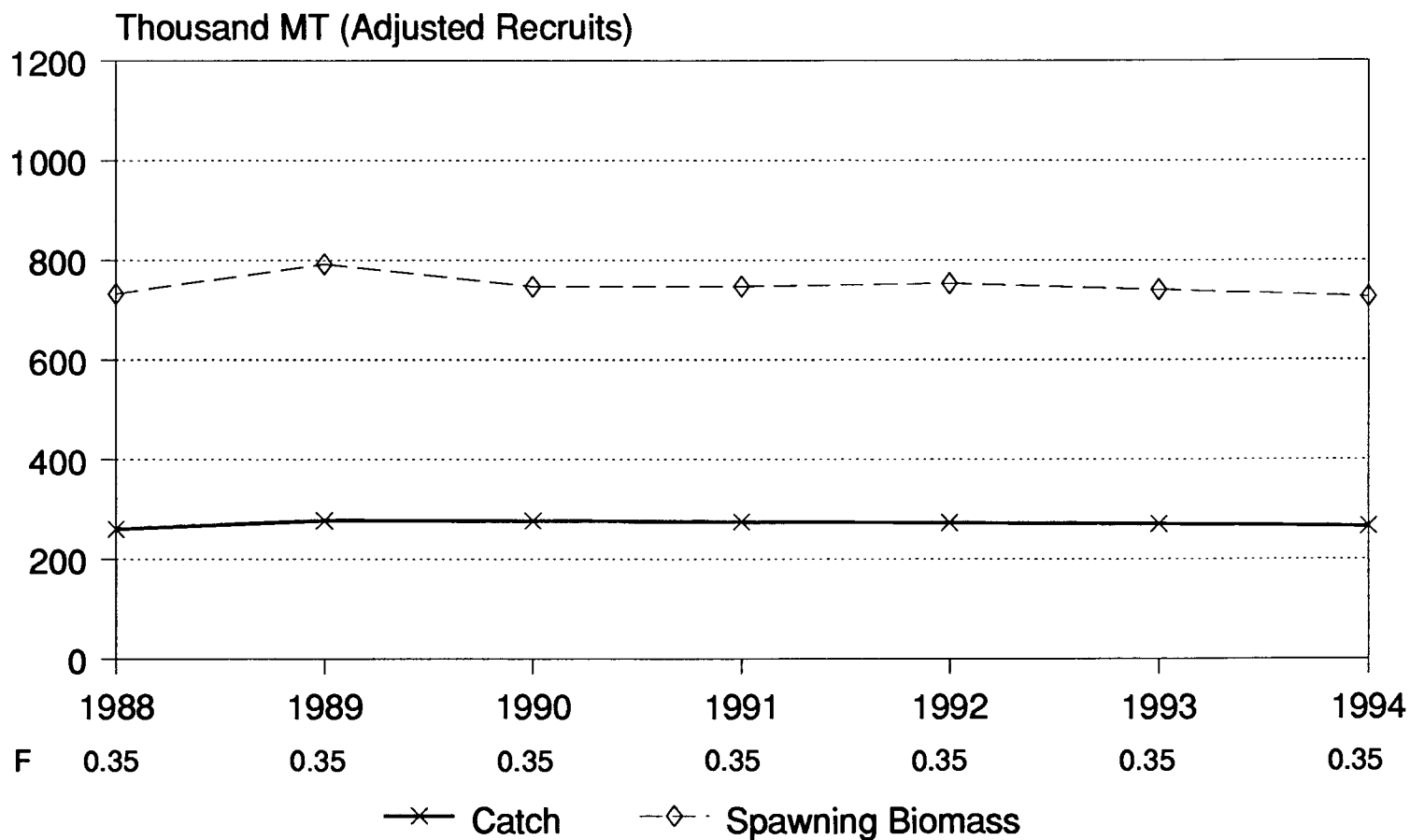


FIGURE 24: OPTION A2--ESTIMATED CATCH & SPAWNING BIOMASS FOR COD IN NAFO DIVISIONS 2J, 3K, AND 3L

F=0.45 in 1988-1994.

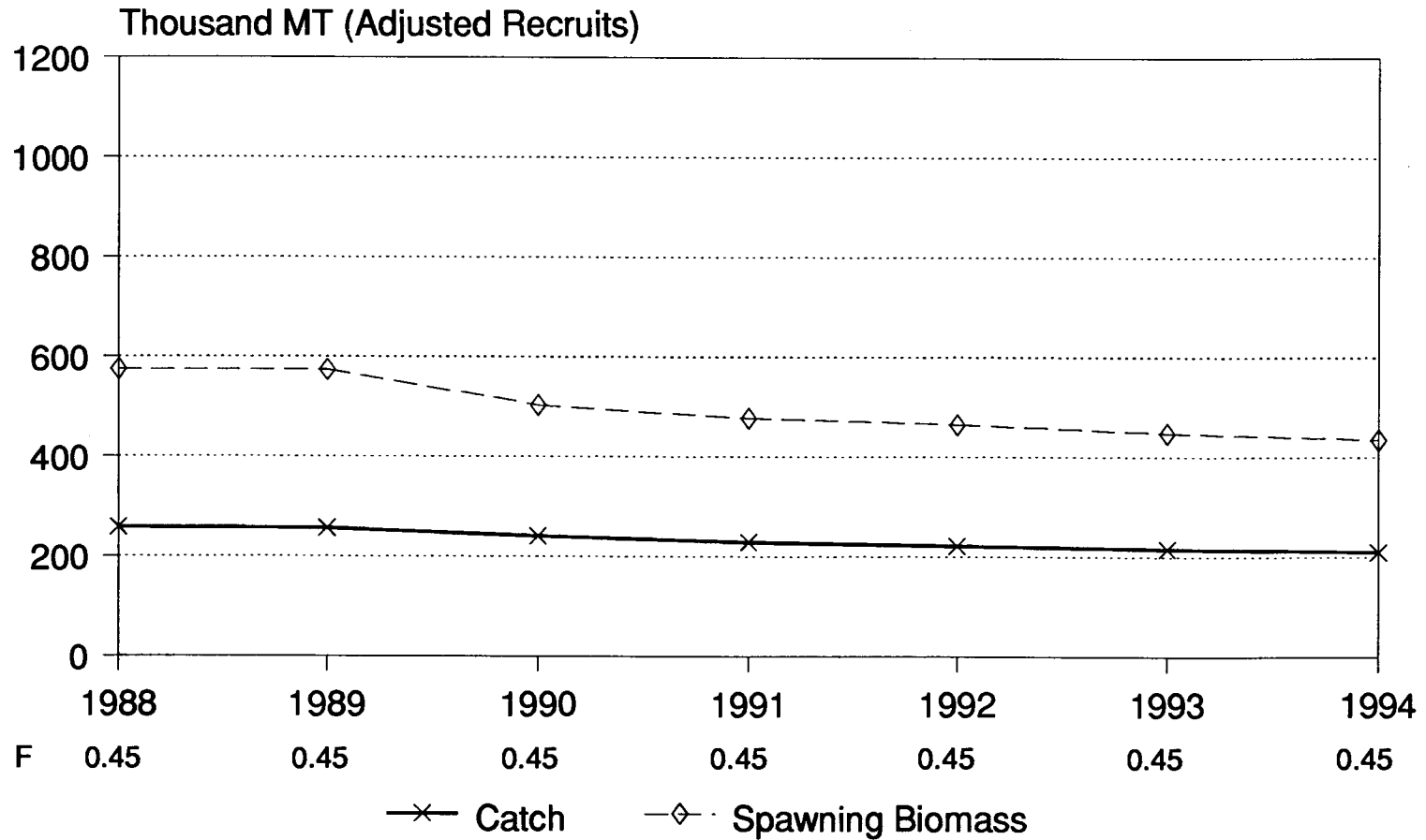


FIGURE 25: OPTION A3--ESTIMATED CATCH & SPAWNING BIOMASS FOR COD IN NAFO DIVISIONS 2J, 3K, AND 3L

F=0.55 in 1988-1994.

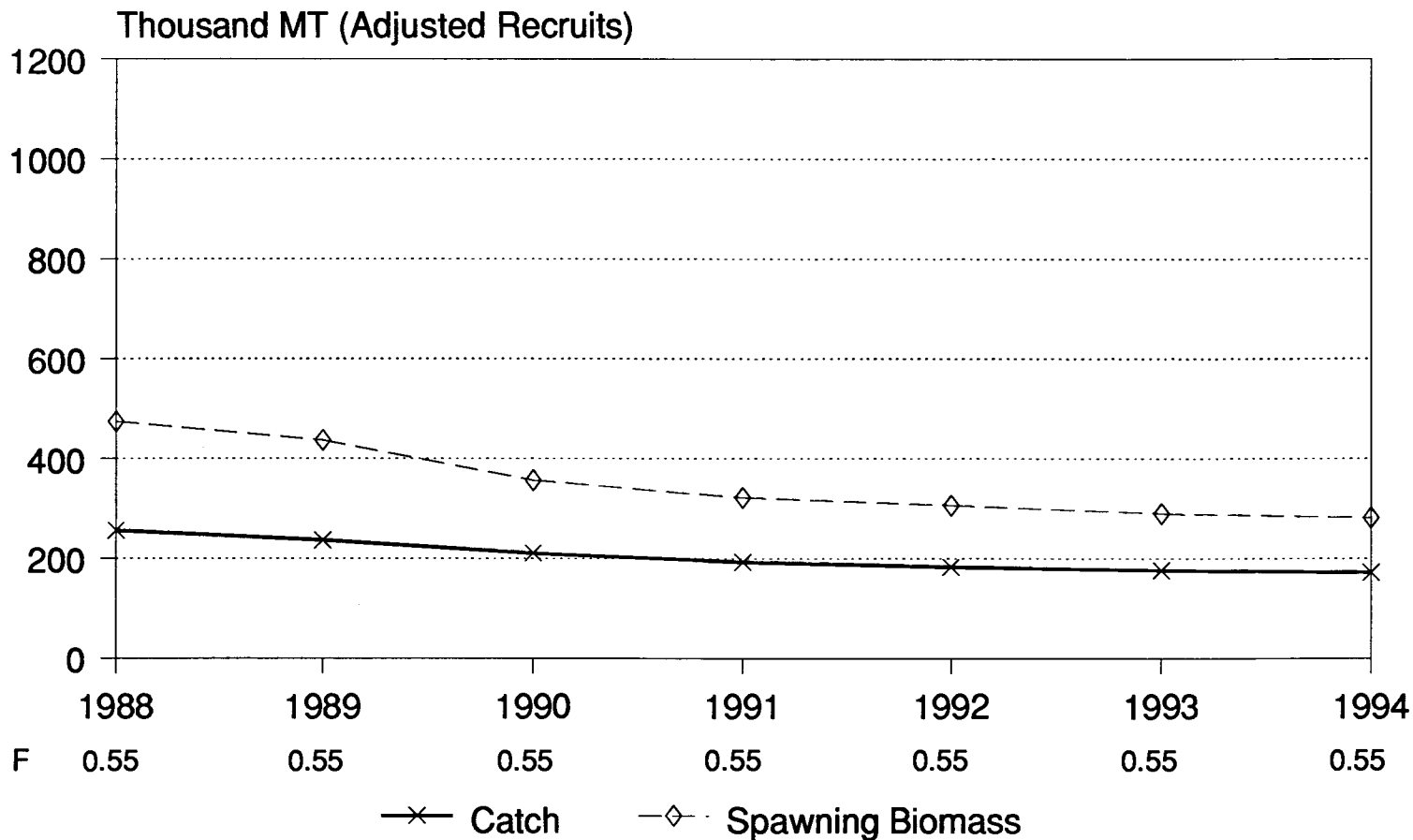


FIGURE 26: OPTION B1--ESTIMATED CATCH & SPAWNING BIOMASS FOR COD IN NAFO DIVISIONS 2J, 3K, AND 3L

F=0.35 in 1988, 0.235 in 1989, and 0.20 in 1990-1994.

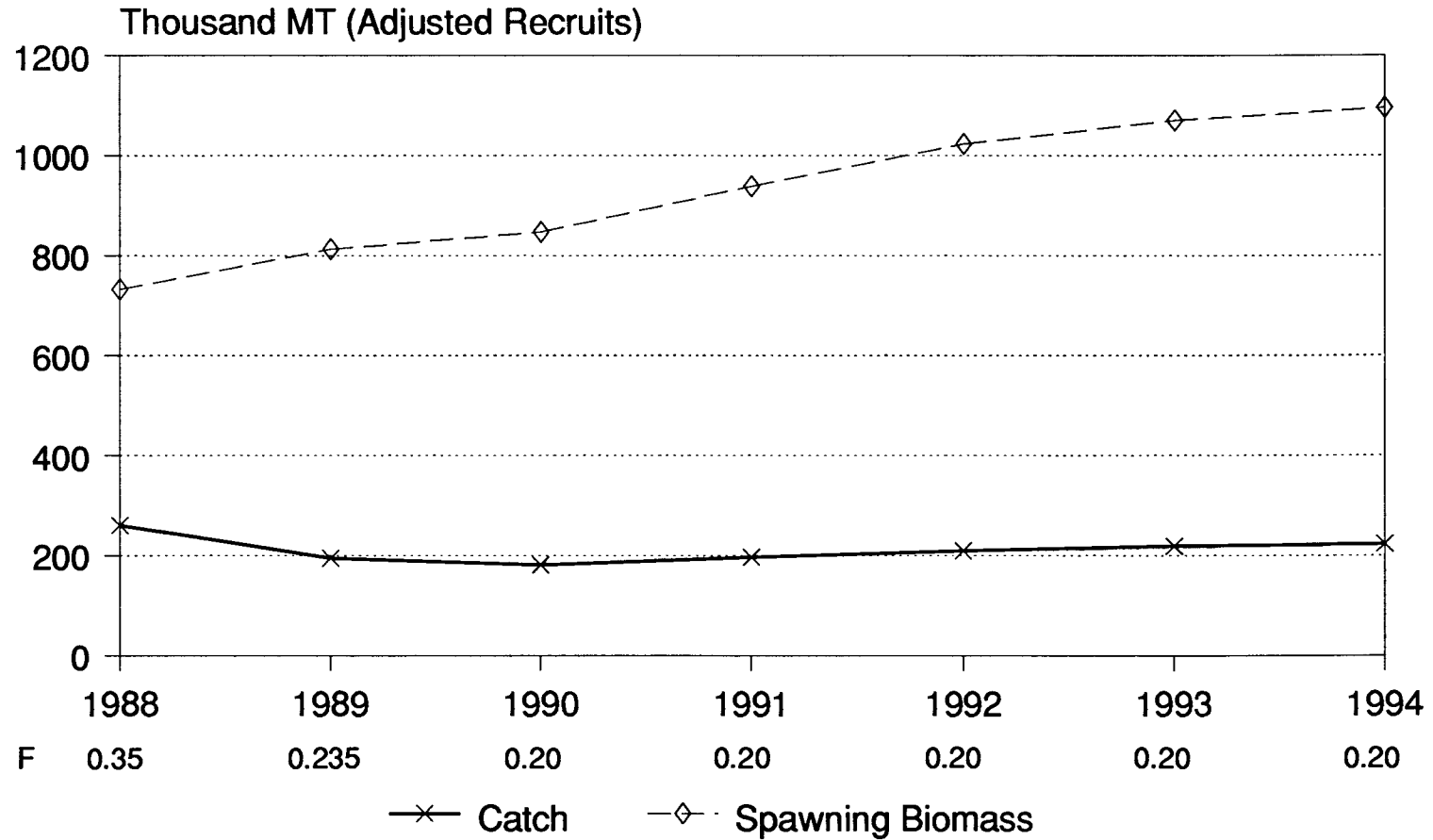


FIGURE 27: OPTION B2--ESTIMATED CATCH & SPAWNING BIOMASS FOR COD IN NAFO DIVISIONS 2J, 3K, AND 3L

F=0.45 in 1988, 0.32 in 1989, 0.26 in 1990, 0.23 in 1991, and 0.20 in 1992-1994.

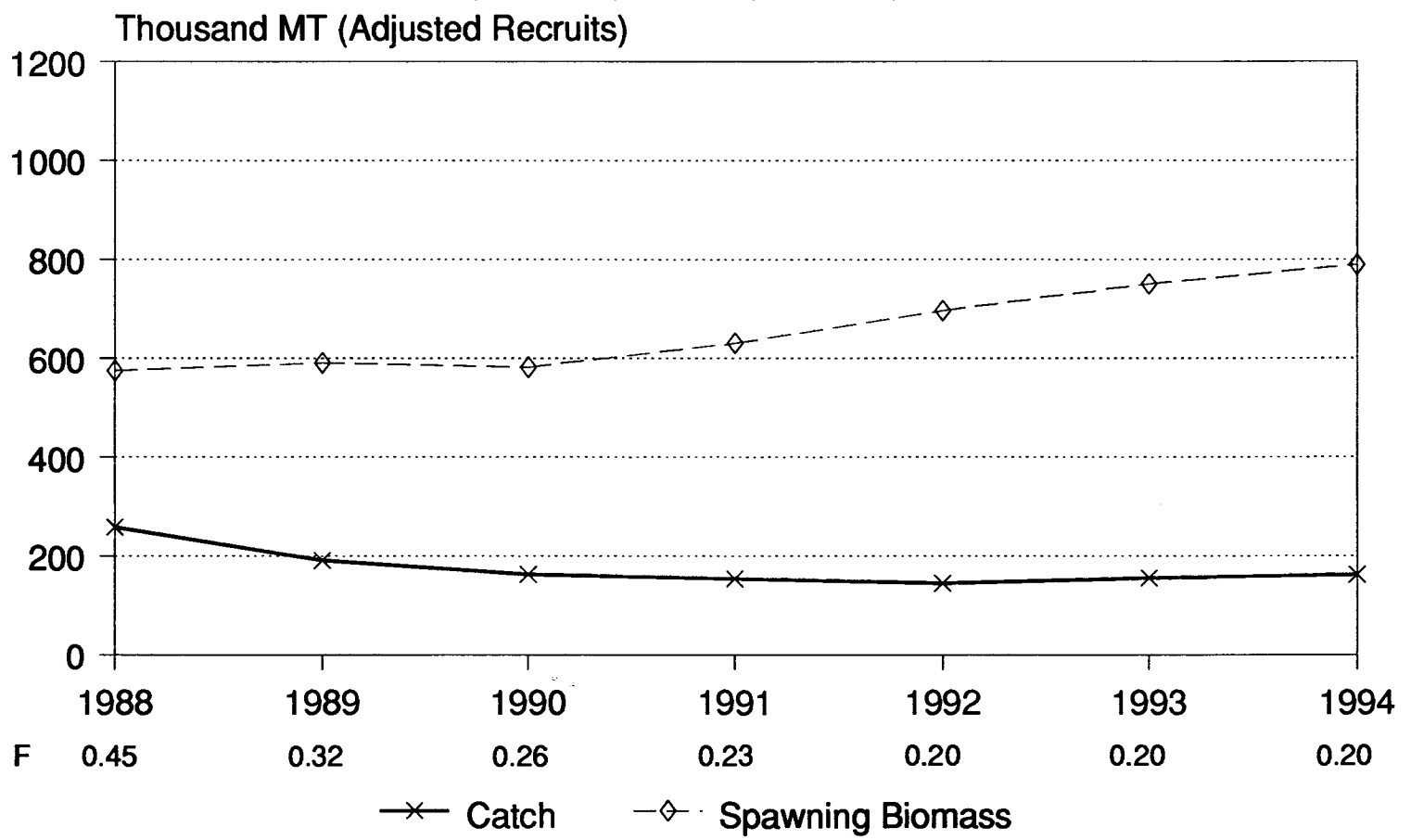


FIGURE 28: OPTION B3--ESTIMATED CATCH & SPAWNING BIOMASS FOR COD IN NAFO DIVISIONS 2J, 3K, AND 3L

F=0.55 in 1988, 0.415 in 1989, 0.32 in 1990, 0.26 in 1991, 0.23 in 1992, and 0.20 in 1993 and 1994.

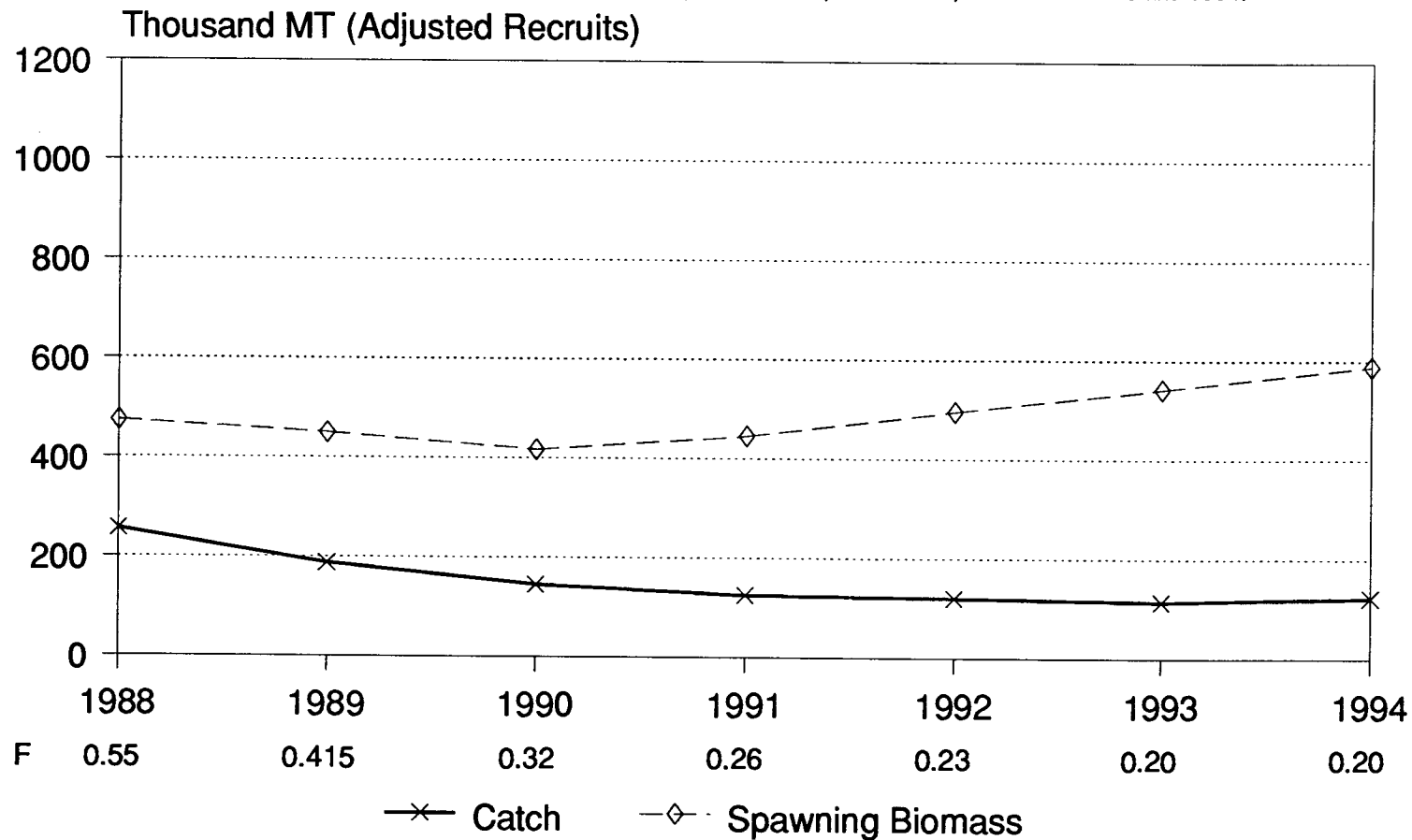


FIGURE 29: OPTION C1--ESTIMATED CATCH & SPAWNING BIOMASS FOR COD IN NAFO DIVISIONS 2J, 3K, AND 3L

F=0.35 in 1988 and 0.235 in 1989-1994.

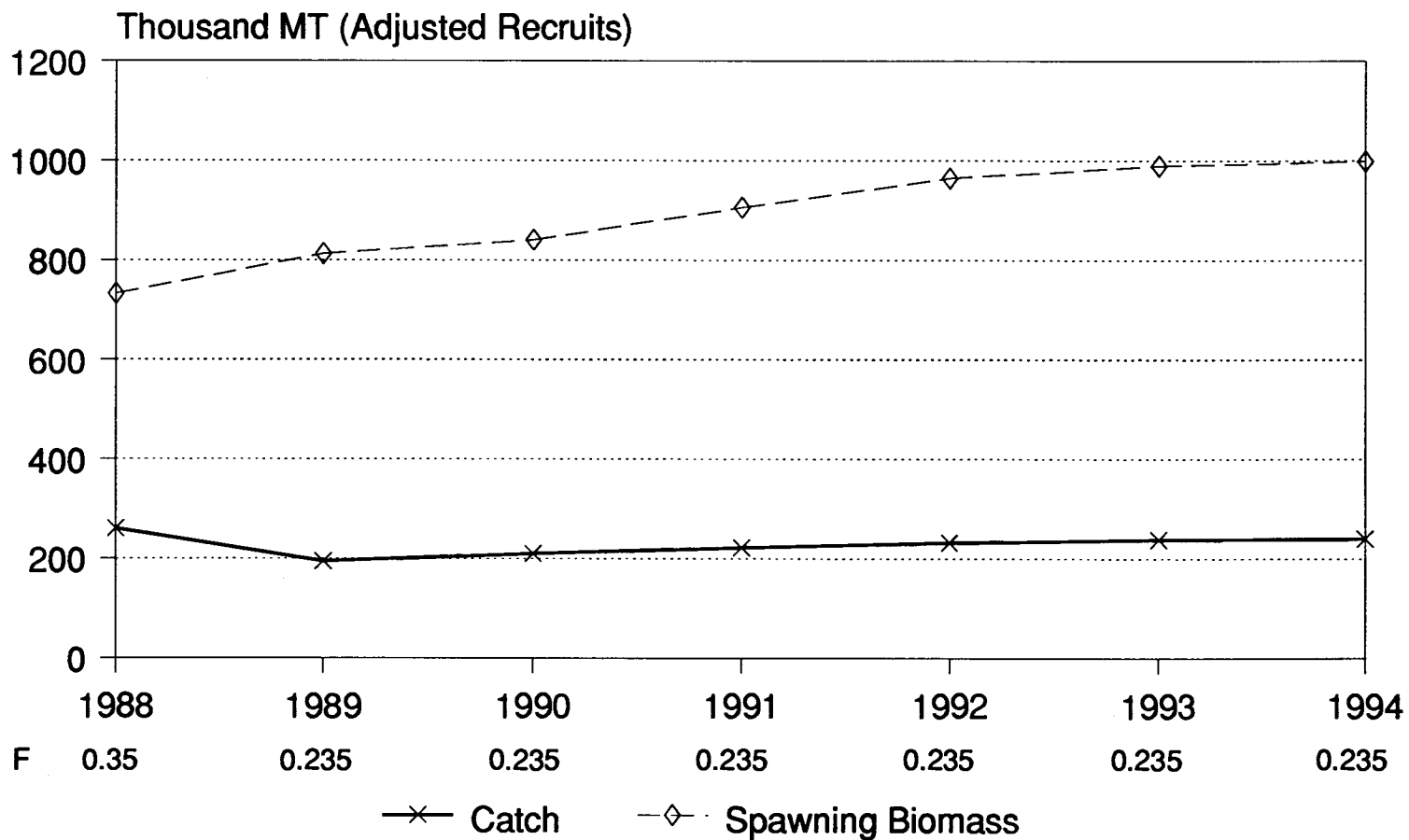


FIGURE 30: OPTION C2--ESTIMATED CATCH & SPAWNING BIOMASS FOR COD IN NAFO DIVISIONS 2J, 3K, AND 3L

F=0.45 in 1988 and 0.32 in 1989-1994.

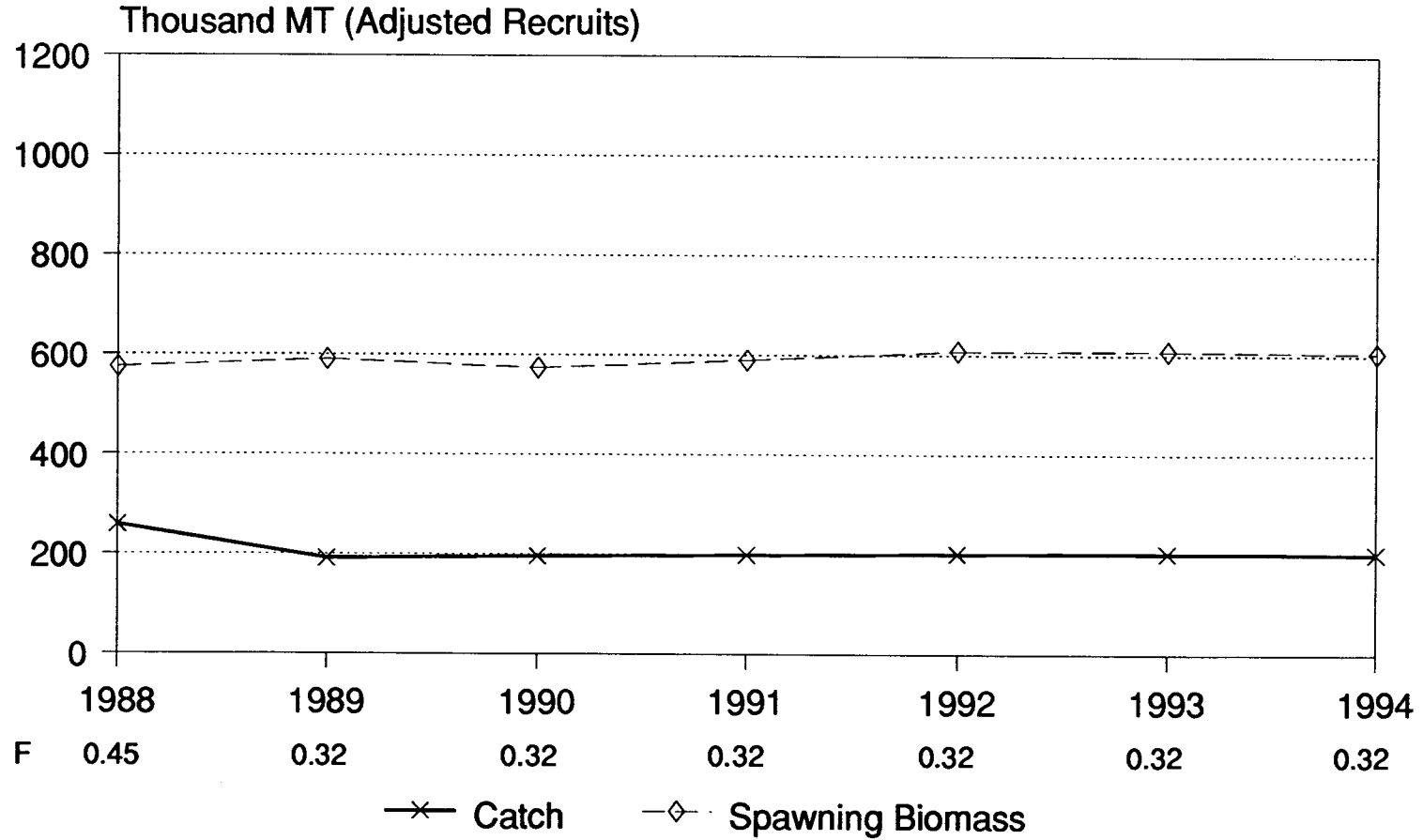


FIGURE 31: OPTION C3--ESTIMATED CATCH & SPAWNING BIOMASS FOR COD IN NAFO DIVISIONS 2J, 3K, AND 3L

F=0.55 in 1988 and 0.415 in 1989-1994.

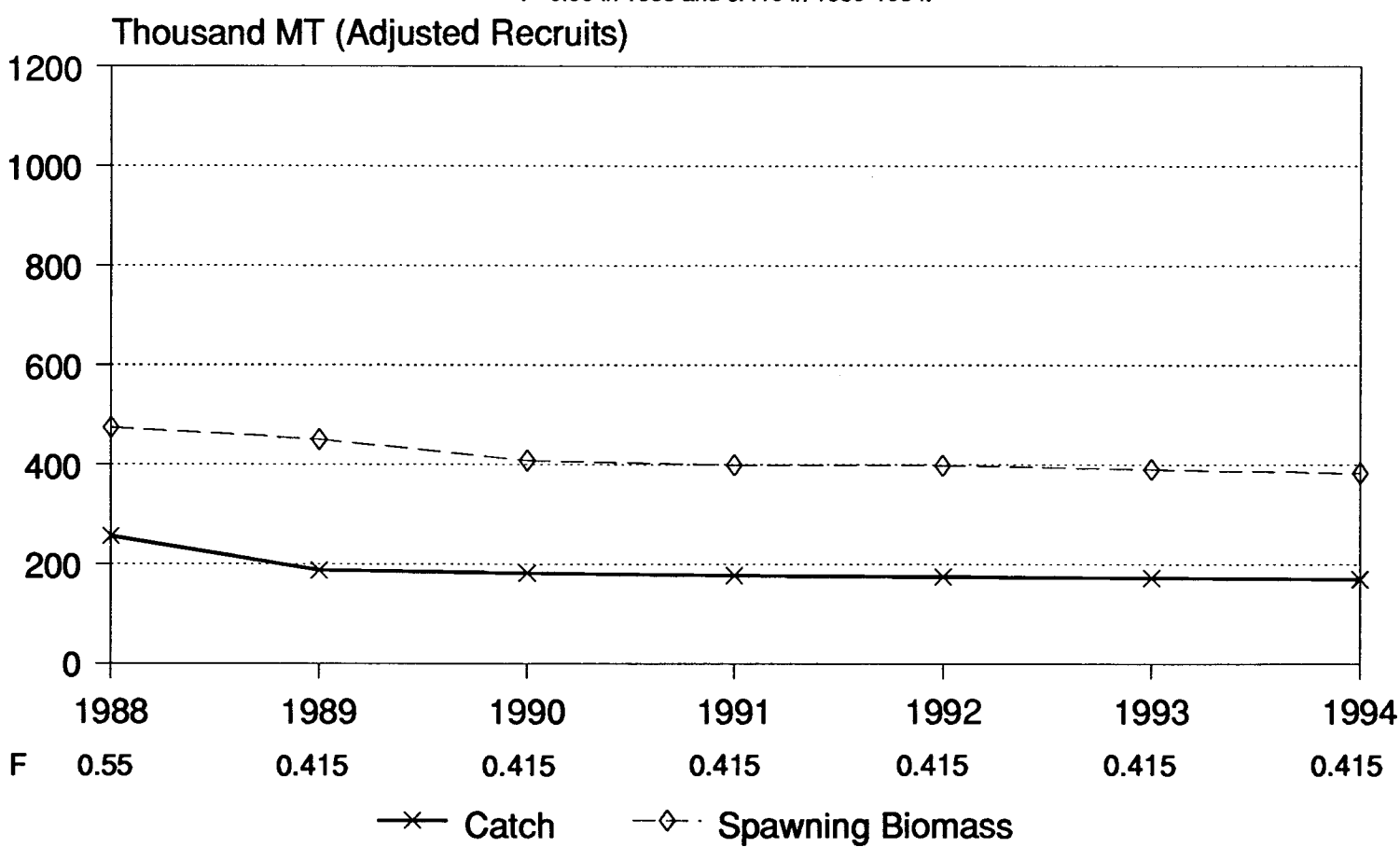


FIGURE 32: OPTION D1--ESTIMATED CATCH & SPAWNING BIOMASS FOR COD IN NAFO DIVISION 2J, 3K, AND 3L

F=0.35 in 1988, 0.245 in 1989, 0.225 in 1990, 0.21 in 1991, 0.195 in 1992, 0.185 in 1993, 0.18 in 1994.

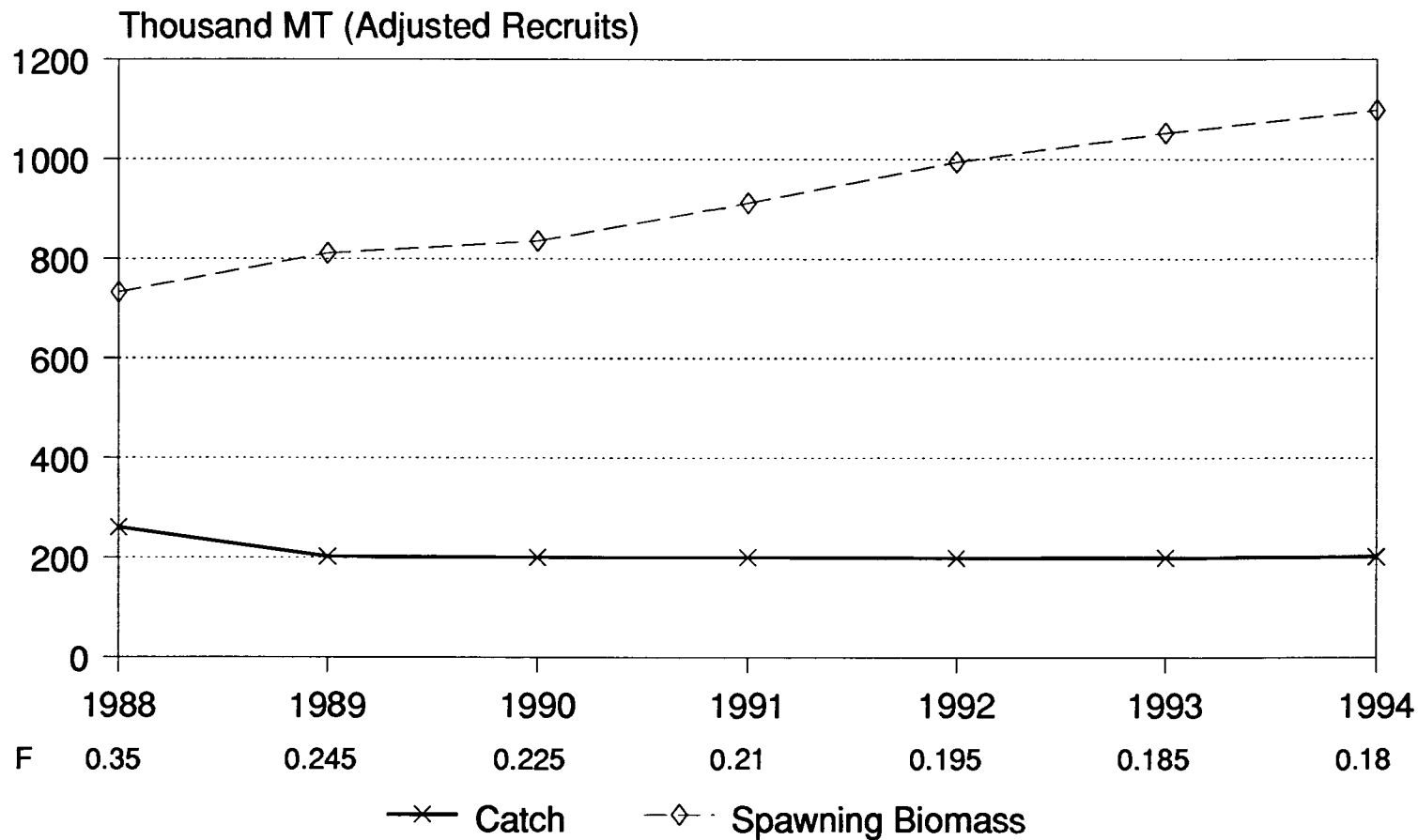


FIGURE 33: OPTION D2--ESTIMATED CATCH & SPAWNING BIOMASS FOR COD IN NAFO DIVISIONS 2J, 3K, AND 3L

F=0.45 in 1988, 0.34 in 1989, 0.335 in 1990, 0.33 in 1991, and 0.32 in 1992-1994.

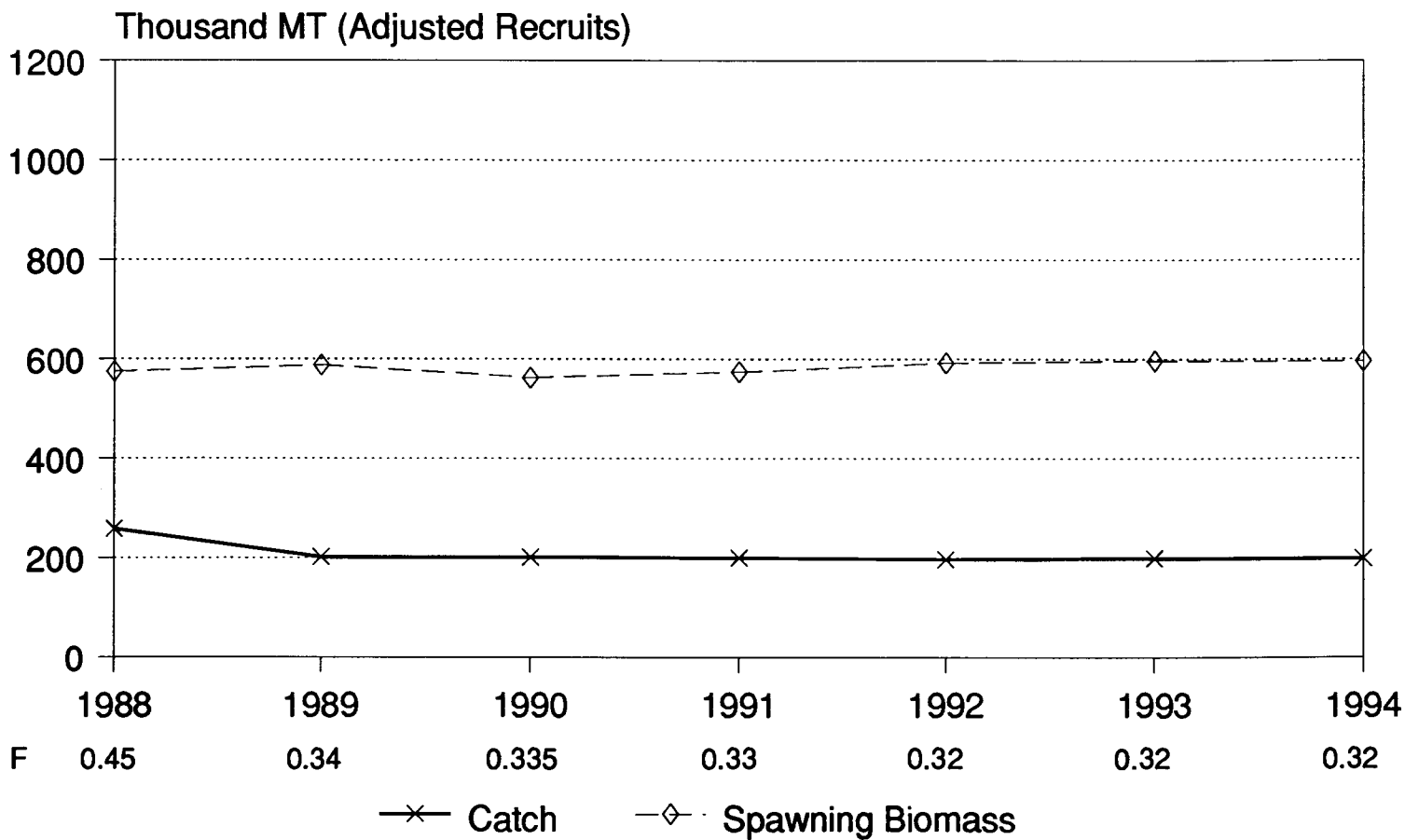
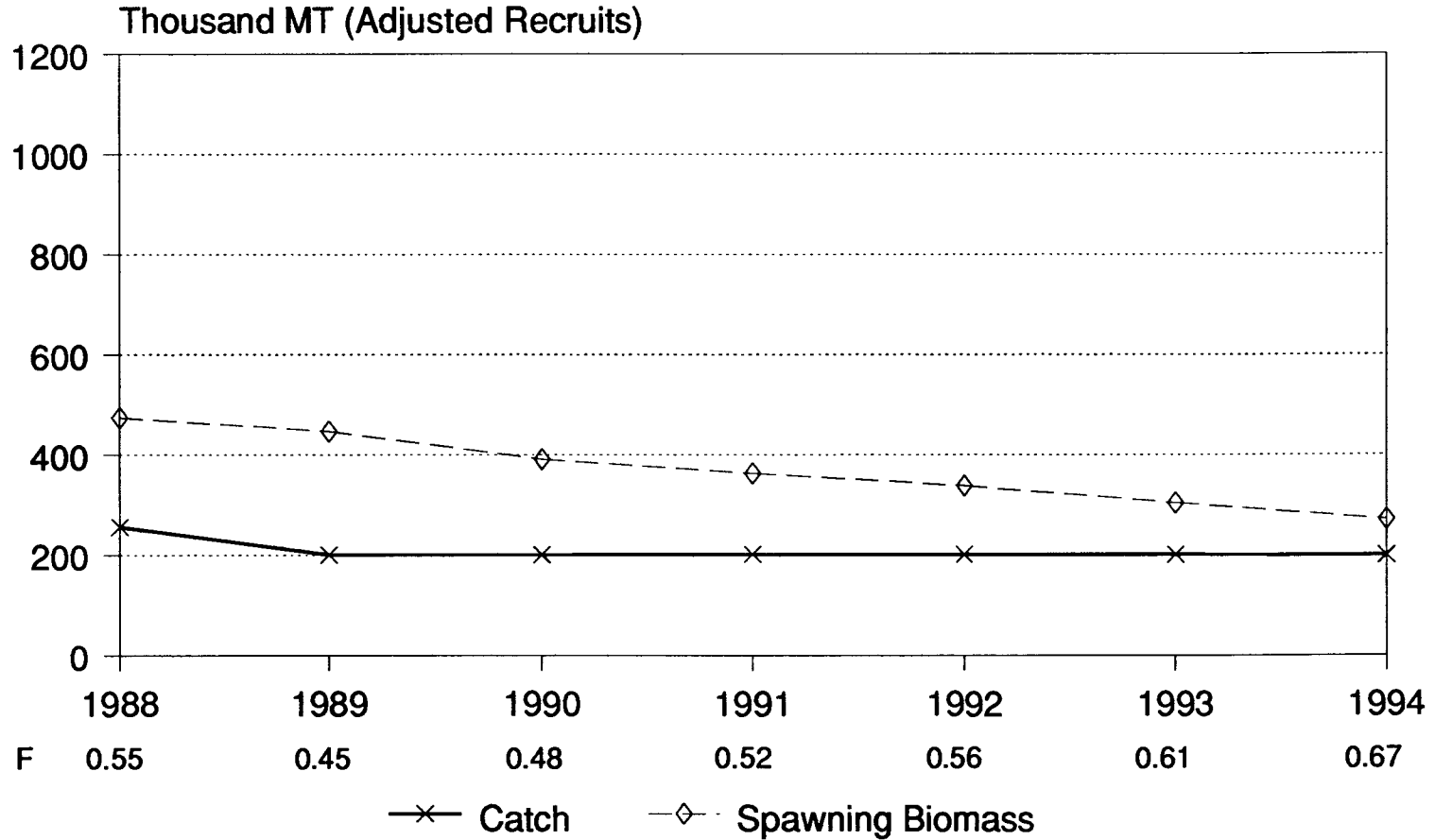


FIGURE 34: OPTION D3--ESTIMATED CATCH & SPAWNING BIOMASS FOR COD IN NAFO DIVISIONS 2J, 3K, AND 3L

F=0.55 in 1988, 0.45 in 1989, 0.48 in 1990, 0.52 in 1991, 0.56 in 1992, 0.61 in 1993, 0.67 in 1994.



requirement that domestic trawlers take some portion of the TAC in competition with foreign vessels on the “Nose” and “Tail” of the Bank.

Furthermore, the rate of growth of the spawning stock may be enhanced by appropriate distribution of the catch among age groups in order that the best combination of economic yield with biological growth may be attained. The Panel urges DFO scientists to pursue this goal with the utmost vigour. Furthermore, because the Panel is uncertain of the effects upon mating behaviour and spawning success of intense fishing during the spawning season, it proposes that there be a limit upon mortalities imposed during the spawning period proportionally with the general reduction in total fishing mortality. Whether this can best be achieved through a straight reduction in the winter catch (i.e. during the spawning period) or through a combination of seasonal closure coupled with a catch reduction proportional to the reduction of the TAC during the remainder of the spawning period is a matter that DFO should explore at the earliest possible date with affected sectors of the fishing industry. Nevertheless, in determining the most effective means of implementing such a policy, consideration should be given to the size of the various spawning aggregations and reduction in effort in respect of those aggregations should be proportional to their size.

In the end, though, we can but reiterate the central theme of this report. The conservation of the northern cod stock(s) and their management as an infinitely renewable resource is a matter of the most vital interest to the coastal communities of Atlantic Canada who have traditionally depended upon them and whose future well-being is inextricably tied to their vitality. Furthermore, it is the constitutional responsibility of the Government of Canada to ensure the survival of the stocks and to provide for their proper management and for their protection. For reasons that have been advanced elsewhere in this report, the management of the resource since 1977 has been less effective than is desirable. In consequence, though stocks did grow significantly in years immediately following the establishment of the Canadian economic zone, that pattern of growth has now been reversed and stocks are in decline. In the meantime, heavy capital investment in boats and gear and in processing facilities have placed heavier demands upon the stocks than they can currently bear. At the same time, the development of scientific understanding of the ecosystem has lagged behind our technological capacities to seek, to find and to kill. Nor have we been altogether successful in enunciating clear management objectives that recognize both the biological imperatives and the socio-economic requirements of the coastal community. This combination of circumstances has precipitated not only a crisis in respect of the continued health of the fish stocks but also in respect of the level of confidence that must be reposed in our scientists, our managers, and our political systems.

In this context, the time is ripe for a fresh start. Confidence must be restored: confidence in science which must remain the only sound basis for good advice; confidence in the political process which must establish social and economic objectives concomitant with scientific realities; and, confidence in the managers who direct the scientific programmes and implement proper functional strategies designed to achieve clearly established objectives.

But over and above all, we must exhibit both the will and the capacity to create conditions that will permit and encourage recovery of cod populations. This is not an impossible task though it is one that must entail some degree of hardship; for there is no alternative to a reduction of fishing

mortality as the only prescription that will achieve growth of the spawning stock. Furthermore, it must entail a realistic assessment of the level to which the stock(s) can be rebuilt and of the sustainable yield that can be harvested. This in turn implies a realistic assessment of the numbers of fishermen and of fish processors who can be supported by the sustainable harvest and of the amount of capital investment that can be economically justified. We leave as an open question and one that demands a political answer the issue of whether the fishing should become the preserve of professional fishermen and plant workers, all of whom can earn from it an adequate living; or whether it should continue as at present a social relief mechanism, offering some measure of gainful employment and hence of dignity to a large number of participants most of whom will continue to require income supplementation.

We do not envy the politicians who must make such difficult choices. We do, however, insist that such choices must be made and that appropriate objectives must be clearly established. We also insist, that quite apart from social and economic concerns which understandably assume a dominant role, the Government of Canada has the unequivocal obligation of conserving one of the great living natural resources of the nation.

CHAPTER X

Recommendations

Management Actions

1. That the Panel strongly recommends that in respect of the northern cod stock(s) and as a matter of urgency there should be an immediate reduction of fishing mortality to the level of at least 0.3 and, at the earliest feasible date, to the level of 0.2.
2. That DFO must establish regulations to limit fishing mortalities imposed during the spawning period proportionally with the general reduction in total fishing mortality and should explore with the affected sectors of the fishing industry whether this objective can be best achieved through a straight reduction in the winter catch (i.e. during the spawning period) or through a combination of seasonal closure coupled with a catch reduction proportional to the reduction of the TAC during the remainder of the spawning period.
3. That DFO should for both biological and economic reasons examine immediately the selectivity of traps, small and large trawlers, gillnetters and other gear types with the intent of improving the yield in cod fisheries; the goal should be to eliminate harvest of two, three, four and five year olds and to reduce the bycatch of these year classes.
4. That DFO should reexamine current regulations requiring equal levels of effort in each of statistical divisions 2J, 3K and 3L with the objective of distributing fishing effort by large trawlers throughout the statistical divisions in the manner that is to the greatest degree possible relative to the distribution of the exploitable biomass.

International Issues

5. That Canada should seek international agreement to permit its management of all fish stocks indigenous to the Canadian Continental Shelf, and that extend beyond the two hundred mile economic zone; and, that failing achievement of this objective, Canada should take unilateral action to acquire management rights in accordance with provisions of the Law of the Sea Convention.
6. That the Government of Canada should reexamine its policies regarding the authorization of foreign fisheries within the Canadian economic management zone with the clear intention of eliminating any catch or bycatch of cod.
7. That Canada officially adopt a policy analogous to the Hague Preferences that would take into account in respect of stock allocations both the principle of contiguity and the "vital needs" of particular communities particularly dependent upon fishing and industries allied thereto.

Scientific Research

8. That DFO should develop means to estimate stock or relative stock trends beyond current RV and large trawler CPUE data and should place particular emphasis on establishing a CPUE index for elements of the inshore fishery, e.g. small trawlers, gillnetters, etc.
9. That DFO should expand scientific efforts to understand the integrity and interrelationship of spawning aggregations as they relate to recruitment and the distribution of spawning fish to feeding grounds and their availability to inshore fisheries. The goal should be to attain a clearer understanding of the effectiveness of current area management strategies as they relate to rebuilding the spawning stocks and potential gear/area or other allocational goals.
10. That DFO should examine in detail current and past stock recruitment relationships.
11. That DFO should undertake an in-depth analysis of cod bycatch losses in inshore and offshore target fisheries, as well as in other fisheries taking cod as a bycatch, including fish caught and not sold because of quality and/or operational problems; and estimate bycatch losses for each component of the Canadian and foreign directed cod fisheries, shrimp, capelin, and herring fisheries, and ground fisheries not targeting on cod.
12. That DFO should increase the RV sampling level in order to improve the level of precision of the estimate of minimum stock size and should, also, give consideration to RV surveys during other times of the year.
13. That DFO arrange, as a matter of urgency, for a harp and hooded seal census commencing with an aerial survey of pup production in the spring of 1990.

14. That DFO scientists should pay greater attention to the integration of information from the biological and oceanographic disciplines into the assessment process so that all available data may be employed to reduce the risk of future errors in estimating key population parameters.
15. That research be undertaken or commissioned to establish seal feeding patterns and consumption rates throughout the year.
16. That every reasonable effort be made to understand the cod-capelin-seal interactions and to incorporate appropriate data into cod population assessments.
17. That DFO should expand data collections to improve the knowledge of effort levels and factors influencing quality of data on inshore fisheries and landing records.

Technology

18. That DFO institute a dedicated systematic effort to improve and expand relevant technologies in the annual assessment process and in management activities; and that the Government of Canada investigate the use of satellite or other advanced technologies for purposes of surveillance; and that arrangements be imposed or negotiated as appropriate for fitting all vessels involved in the Canadian shelf fisheries with transducers for ease of monitoring their movements and location.

Goals

19. That the Government of Canada should carefully reexamine its biological, ecological, and socio-economic goals in respect of the fisheries to ensure that they are clearly defined, internally consistent, and attainable.

Institutional Arrangements and Procedures

20. That DFO review its management structures and approaches with the end of establishing a more focused and coordinated approach to the management of the northern cod stocks.
21. That DFO should expand the observer programme to include observation on the inshore sector of the fleet and to expand support services for analyzing observer data.
22. That the Government of Canada undertake the provision of additional patrol vessels for offshore surveillance to provide adequate on-site action in respect of violations reported by aircraft or by observers; and that helicopters be employed in conjunction with smaller patrol boats for inshore surveillance.
23. That the Government of Canada and the Government of Newfoundland and Labrador should jointly establish a Board or Commission in the context of which information can be shared, management objectives clarified and coordinated, policy directions set, and strategies developed.

24. That the Government of Canada should urge the appropriate authorities to treat violations of fisheries regulations aimed at conservation as serious offenses and to ensure that penalties imposed upon convicted violaters be sufficiently onerous as to fully offset any potential gain from violations.
25. That DFO should develop an educational programme and improve lines of communication through which appropriate information concerning the scientific process and management decisions may be communicated more effectively to client groups.
26. That DFO should establish a process for the regular reappraisal of various research activities and their potential contribution to the overall scientific understanding of the population dynamics, behaviour, life history, and ecological relationships of the northern cod stocks.
27. That DFO should ensure that when enterprise allocations are made, adequate surveillance must be maintained to guarantee accurate reporting of catches.
28. That DFO should review the process and methods by which scientific advice is developed within the Research Centre to ensure that the spectrum of scientific disciplines and skills available and applicable to state-of-stock analysis and interpretations are being utilized.
29. That DFO should resolve the ambiguities involved in the current designations of inshore and offshore and provide for the proper evaluation of the impact of various management strategies upon different harvesting areas and sectors of the industry by
 - (a) categorizing fishermen in terms of gear types employed;
 - (b) identifying catches taken by various elements of the fishing fleets by coding in terms of areas or subareas of capture.

Appendix A

Public Hearings:

Clareville, June 21, 1989

Marystown, June 22, 1989

Gander, June 23, 1989

St. Anthony, June 24, 1989

Makkovik, September 25, 1989

Cartwright, September 26, 1989

Port Hope Simpson, September 26, 1989

La Scie, September 27, 1989

Twillingate, September 28, 1989

Fogo, September 29, 1989

Bonavista, September 30, 1989

Halifax, October 2, 1989

St. John's, October 3 and 4, 1989

Presentations to the Panel (Oral and Written)**Clareville**

June 21, 1989:

Mr. Earl Johnson
Chairman, Inshore Fishermen's Improvement Committee of Placentia,
Bonavista and Trinity Bays

Dr. D.H. Steele
Biologist

Mr. Colin Cheater
Mayor, Town of Trepassey

Mr. Cabot Martin
President, Newfoundland Inshore Fisherman's Association

Mr. Keith Halleran
Trawlerman and Union Representation, Trepassey

Mr. Basis Croscup
Trepassey

Marystown

June 22, 1989:

Mr. Bernard Dooley
Deep Sea Trawlerman

Mr. Rex Matthews
Mayor, Town of Grand Bank

Mr. Ches Cribb
Vice-President, Deep Sea Sector, FFAW

Mr. Bernard Adams
Inshore Fisherman

Captain Bill Kelfoil
Fishery Products International Ltd.

Mr. Jerome Walsh
Mayor, Town of Marystown

Mr. Guy Hackett
Trawlerman, National Sea Products Ltd.

Mr. J.L. Edwards
Fisherman's Committee, Lawn

Mr. Cabot Martin
President, Newfoundland Inshore Fisherman's Association

Mr. Roger Simmons,
Member of Parliament, Burin-St. George's

Gander

June 23, 1989:

Mr. Calvin Buglar
Mayor, Town of Harbour Breton

Mr. John Windsor
Town Council, Gaultois

Mr. George Baker
Member of Parliament, Gander-Grand Falls

Mr. Wilfred Bartlett
Fishermen's Committee, Brighton, Green Bay

St. Anthony

June 24, 1989:

Mr. Trevor Taylor
2nd Vice-President, White Bay North Development Association

Ms. Maisie Groves
Co-ordinator, Southern Labrador Development Association

Mr. Charles Reardon
Plant Worker and Member, FFAW

Mr. Patrick J. Cabot
President, Newfoundland and Labrador Fixed Gear Fishermen's Association

Mr. Pierce Cull
Inshore Fisherman, St. Anthony Bight

Mr. Ray Elliott
Inshore Fisherman, St. Anthony

Dr. Peter Roberts
St. Anthony

Mr. Ralph Carrol
Director, White Bay Central Development Association

Mr. Samuel Caines and Ms. Janet Butt
On behalf of Inshore Fixed Gear Fishermen Trout River - Hawkes Bay

Makkovik

September 25, 1989:

Mr. Toby Andersen
Land Claims Director, Labrador Inuit Association

Ms. Kate Mitchell
Torngat Fish Co-op

Mr. Rupert McNeil
Chairman, Fishermen's Committee, Makkovik

Mr. William Andersen Sr.

Mr. Bert Winters

Mr. Ted Watkins

Mr. Wilfred Bartlett

Mr. Chesley Andersen

Mr. Ted Watkins

Cartwright

September 26, 1989:

Ms. Jessie Bird
Mayor, Cartwright Community Council

Mr. Mercer Davis
Senior Fisherman

Mr. Larry Parsons

Mr. John Martin
Fisherman

Ms. Patti Way
Fisherman's Wife

Mr. Max Mullins
Mr. Cylar Dyson
Gillnet Fisherman

Ms. Joanne Martin
Member, Cartwright Community Council

Mr. Bart Higgins

J.W. Hiscock Ltd.

Port Hope Simpson

September 26, 1989:

Mr. Danny Dumaresque
M.H.A. Eagle River

Mr. Don Simpson
Mayor, Port Hope Simpson

Mr. Roy Mangrove
Fisherman, St. Lewis

Mr. Earl Parr

Mr. Lloyd Hicks

Mr. Angus Moss

La Scie

September 27, 1989:

Mr. Job Halfyard
Fisheries Action Committee

Twillingate

September 28, 1989:

Mr. John Noel
Chairman, Regional Fisheries Committee

Mr. Cyril Dalley
Inshore Council, FFAW

Mr. Cabot Martin
President, Newfoundland Inshore Fisherman's Association

Mr. Michael Dwyer
Former River Guardian

Mr. Anstay
Fishermen's Committee

Mr. Winston Jennings
Co-ordinator, Twillingate - New World Island Development Association

Fogo

September 29, 1989:

Mr. Aubrey Cull
Fogo Island Co-op

Mr. Perry Collins
Fisherman

Mr. Peter Kane
Fogo Island Co-op

Mr. Gordon Waterman
Fishermen's Committee

Mr. Dorman Brown

Bonavista

September 30, 1989:

Dr. Chris Randell
Mr. Douglas Whiffen

Mr. Aubrey Gover
M.H.A., Bonavista South

Mr. John Rendell

Halifax

October 2, 1989:

Mr. Murray Coolican
Vice-President, Government Relations,
National Sea Products Ltd.

Mr. Owen Myers
Fisheries Information Services

St. John's

October 3, 1989:

Mr. Paul Moriarty
Mayor, Town of Harbour Grace

Mr. Victor L. Young
Chairman and Chief Executive Officer,
Fishery Products International Ltd.

Mr. John Robinson
NewPro Limited

Mr. Murray Coolican
Vice-President, Government Relations,
National Sea Products Ltd.

Trawler Captains
Fishery Products International Ltd.

St. John's

October 4, 1989:

Mr. Richard Cashin
President, Fishermen, Food and Allied Workers Union

Mr. Frank Chopin
Director of Fishing Technology,
Institute of Fisheries and Marine Technology

Mr. Shane Mahoney
Biologist

Mr. Tom Best
Petty Harbour Fishermen's Producers Co-operative Limited

Dr. D.H. Steele
Biologist

Mr. George Chafe
Inshore Fisherman

Mr. Charles Roberts
Longliner Operator

Mr. W.R. Moyse
President, Canadian Saltfish Corporation

Other Submissions to the Panel

February 20, 1989
Mr. Bernhard Nygaard
Carino Company Limited

March 20, 1989
Mr. H.M. Clarke
Executive Vice President, Harvesting and Marketing
Fishery Products International Limited

May 4, 1989
Mr. Murray Coolican
Vice-President Government Relations
National Sea Products Limited

June 8, 1989
Mr. David Connolly
Springdale

June 12, 1989
Mr. James E. McVicka
St. John's

October 4, 1989
Mr. Fred G. Earle
Earle Brothers Fisheries Ltd.

October 11, 1989
P.J. Murray
Portugal Cove

October 13, 1989
Independent Fish Producers Association

October 20, 1989
Mr. Michael Earle
Seals/Fishery Interactions Coordinator
Greenpeace International

October 23, 1989
Mr. Harry G. Benson
President, Beothuk Data Systems Ltd.,
Seawatch Division

October 24, 1989
Mr. Victor L. Young
Chairman and Chief Executive Officer
Fishery Products International Ltd.

November 6, 1989
Mr. Walter Carter, M.H.A.
Minister of Fisheries
Government of Newfoundland and Labrador

November 20, 1989
Seafood Producers Association of Nova Scotia

November 29, 1989
Dr. W.A. Montevecchi and Dr. D. Renouf
Department of Psychology
Memorial University of Newfoundland

Glossary of Technical Terms

1. **Age Length.** The length of a fish at a known age.
2. **Age Weight.** The weight of a fish at a known age.
3. **Background Noise.** Variations in environmental or biological parameters which bring about unexpected or abnormal value in a parameter and hence mask cause-and-effect relationships.
4. **Biomass.** The weight of a stock, stock complex, or population.
5. **Bycatch.** A catch of undersized fish, a species prohibited for retention, or undesirable and unwanted.
6. **Catch Per Unit Effort (CPUE).** The weight of the fish removed by a definable fishing gear over a specified time period.
7. **Cohort.** A group of animals born during the same year and general time period which are the young of a stock, stock complex, or population.
8. **Cohort Analysis:** A simplified form of retrospective analysis (see VPA).
9. **Disaggregated Data.** Data that has been selected on the basis of areas, age, length, or other defined criteria.
10. **DNA Fingerprinting.** A mechanism of detecting genetic differences through analysis of the complex protein structures within deoxyribonucleic acid material present in living tissue.
11. **Exclusive Economic Zone - EEZ.** The zone extending two hundred miles seaward from the Canadian coastal baseline which is under the jurisdiction of Canada.

12. **Exploitable Biomass.** The size of the population susceptible to fishing which, for northern cod, normally excludes a decreasing proportion of the younger age groups, e.g. 3, 4, and 5 year olds which are not fully recruited to the fishery.
13. **Exploitation.** Removals from fishery.
14. **F_{0.1}** As used in this paper constitutes an annual fishing mortality of about 20% of the exploitable biomass.
15. **Fishing Mortality.** The mortality imposed on a stock, stock complex or population as a result of fishing. The value may be expressed as annual rate or compound interest rate (instantaneous rate).
16. **Green Revolution.** The recent success in agriculture which has over the past several decades greatly increased world crop production.
17. **HF Radar.** High frequency radar.
18. **Meristic Counts.** Count of numbers of fin rays, gill rakers, etc., which may differ between stocks, species, etc.
19. **Natural Mortality.** Death resulting from causes other than fishing. Normally expressed as the percentage of a population dying each year or a compound interest rate (instantaneous rate).
20. **Northern Cod Population.** The stock(s) of cod generally inhabiting NAFO Statistical Division 2J3KL, portions of which may extend beyond the two hundred mile fisheries zone of Canada and which are generally managed as a unit.
21. **Nose and Tail of the Banks.** Regions of the Grand Banks which extend seaward off the Canadian EEZ.
22. **Perturbation.** Variations in a parameter beyond that which might normally be expected.
23. **Population.** The aggregate of individuals of a stock or stock complex which inhabit a definable region.
24. **Population Index.** A measure of relative population size which is expected to vary proportionately to the true population size or which can be mathematically equated to the true population size.
25. **Recruitment.** The young of a population species entering into a population or fishery at a particular age. In the northern cod fishery, most recruitment occurs at ages 3, 4, and 5.
26. **Retrospective Analysis.** An analysis that bases its conclusions on known historical data.

27. **RV.** Research Vessel.
28. **Spawning Group.** A concentration of fish that spawns in definable area at known times of the year.
29. **Spawning Population.** The population of cod involved which are sexually mature and are involved in spawning.
30. **Stock.** A group of fish that have a common genetic make-up which inhabit a particular region and generally behave in a similar manner from year-to-year.
31. **Stock Complex.** Subgroups of a stock or multiple stocks that may comprise a population.
32. **Stock Status.** The size of a population in numbers or weight related to the historical levels and trends.
33. **Swept Area.** The area of seabed swept by the mouth of a trawl and generally measured from wing tip to wing tip.
34. **TAC.** Total allowable catch.
35. **Terminal Fishing Mortality.** The annual mortality rate acting on a year class in the last year for which catch-at-age data is available. It is the value used to indicate a VPA of cohort analysis.
36. **Thermal Barriers.** Areas in the ocean where temperature changes are rapid over short distances and, hence, which may constitute a barrier to the movement of some species.
37. **Tuning.** A collective name for a family of techniques in which known data such as historical population levels, age structure, etc. are used in conjunction with trends appearing in the indexes derived independently from the RV surveys and the commercial CPUE, to establish an estimate of the current population size. Essentially, they use good estimates of absolute population size that VPA provides for the past years to calibrate survey and CPUE indexes of relative abundance. The calibrated (to absolute population size) indexes of abundance for current years are then used to replace the guesstimates of current population size in the VPA. Of course, such estimates of recent populations and size are only as good as the trends indicated by the survey and CPUE data.
38. **VPA (Virtual Population Analysis).** A method of converting the total catch-at-age data into estimates of absolute population size and fishing mortality (see tuning).

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Tables showing historical catches of cod from NAFO Divisions 2J3KL for the period 1959-1987.

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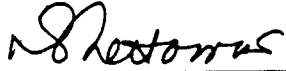
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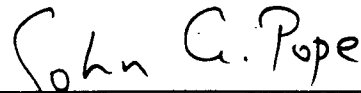
NORTHERN COD REVIEW PANEL



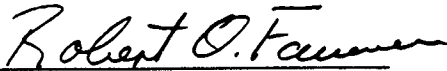
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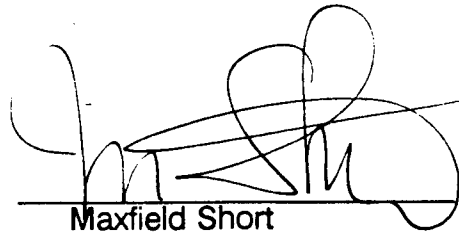
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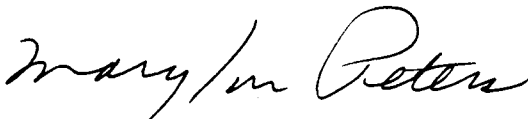
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FISHERIES

MANAGEMENT

A Proposal

for Reforming

Licensing,

Allocation and

Sanctions

Systems



Fisheries
and Oceans

Pêches
et Océans

Canada

FISHERIES
MANAGEMENT

A Proposal for
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MINISTER'S FOREWORD

In November 1991, I launched a proposal to reform licensing and allocation in Canada's commercial fisheries. Industry working groups on both the Atlantic and Pacific coasts were formed to consult with departmental officials in developing the proposals into a concrete plan. This document describes the results of their work. It represents the beginning of the next stage in implementing the initiative.

My objective in proceeding with the initiative is to create a more understandable decision-making system, one that is more open to public view, that gives a more direct voice to those involved in the fishing industry. The plan described in the following pages meets this objective. The new system calls for the establishment, through legislation, of two independent Boards, one for the Atlantic and one for the Pacific, that would license fishermen, allocate fish and apply sanctions. Panels of the Boards which could be organized along the lines of DFO regions in the Atlantic and by fish species on the Pacific, will make recommendations on allocations. The Boards would operate at arm's length from the government and would take over responsibility for what are now ministerial decisions on licensing and allocation as well as decisions on violations that are now made by the courts. The Department and the Minister would still set fisheries policies, taking into account the principles in the legislation; applying this policy in individual decisions would be done by the Boards.

This reform of fisheries management is one part of a larger initiative that will result in the redesign of the relationship between government and the fishing industry. Reform will affect all aspects of fisheries management, from stock assessment to enforcement. It is clear to me from my discussions with provincial governments, fishermen's organizations, unions and processors that there is strong support for achieving adjustment, recovery and long-term stability in the fisheries. This requires major changes in the way fisheries management decisions are taken and in the role of those involved in the fisheries in those decisions.

Two principles are guiding this redesign: openness and shared responsibility. For example, in the area of resource conservation on the Atlantic coast, I intend to increase industry involvement and to open up the process of setting science and conservation priorities by establishing a Fisheries Resource Conservation Council, composed of members from both industry and the scientific community, to hold public hearings on resource assessments and conservation measures and to provide

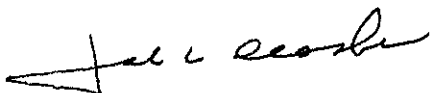
public written advice to me on proposed harvest levels, e.g., total allowable catches and other conservation measures. A similar institutional framework could be considered for the other coastal fisheries.

In the area of licensing policy, there will be an overhaul of the Atlantic coast licensing system designed to limit entry and continued employment in the fisheries to serious, committed fishermen. We must begin the process of bringing about a balance between the resource and fishing capacity. This will allow for full utilization of the resource, without the pressures to over-harvest created by excess capacity. It also holds the prospect of adequate and stable incomes for those earning their livelihood from the fisheries.

The federal government has responsibility for resources and harvesting. Provincial and territorial governments have responsibility for processing. To meet the challenges in the fisheries, governments need to work together, toward common goals, with co-ordinated policies and programs. I want to arrive at agreements with other governments to do this. We all have a stake in planning the fishery of the future.

These changes and others when taken together will create a more participatory process for decision making. People will have a more direct say in how the fisheries are managed. Because of this they will also carry a greater share of the responsibility for those decisions.

When these reforms are complete, we will have effected a profound change in the relationship between DFO and the fishing industry, and better co-ordination between federal and provincial or territorial governments. I believe that these changes are a necessary ingredient to building a newly competitive and sustainable fishing industry.



John C. Crosbie

INTRODUCTION

Over the past several years, Canada's commercial fishing industry has tackled major changes. New technologies have been introduced, and competition has become global. As the resource has come under increasing pressure, industry members on both the Atlantic and Pacific coasts have responded to the challenge of managing for a sustainable harvest. Yet even in this climate of change, the way many fundamental fisheries management decisions are made has stayed the same: the Minister of Fisheries and Oceans and departmental staff make the critical decisions about who gets to fish -- the licensing decision -- and how much -- the allocation decision -- behind closed doors. Lack of information about how and on what basis these decisions are made sometimes makes them seem arbitrary and unfair. Many observers and participants in the fisheries have observed this over the years.

They have noted, for example, that there is no guarantee to those who are affected by allocation decisions of a right to be heard before decisions are made. Nor is there any requirement for decisions to be based on an explicit policy. The Task Force on Atlantic Fisheries in 1983 stated that "the Department of Fisheries and Oceans is sometimes accused of being secretive and arbitrary and of taking decisions without adequate knowledge or advice from knowledgeable sources, that is, processors and fishermen". The Task Force went on to observe that "DFO appears to adopt a paternalistic approach and attempts to do for fishermen what they cannot do for themselves -- that is, represent their own interests. The result is occasionally commendable, sometimes pathetic, and always awkward, if not inappropriate."

While there have been provisions for consultation, in general these have not satisfied the fishing industry. The Commission on Pacific Fisheries Policy in 1982 noted that, "Most commentators are distressingly critical of the consultative process, describing it in such terms as an 'exercise in frustration', 'window dressing' and a 'dialogue of the deaf'."

Recognizing the need for change, an elaborate system of advisory committees has evolved to consult and offer advice on licences, allocations and general fishery management. This consultative system has been designed to give the industry more systematic influence in fisheries management. Yet it is still not known how and why final decisions are made. Many industry members suspect that the

system is somehow failing them and that some groups have gained unfair advantage over others.

Many participants in the industry also argue that the system for enforcing fisheries rules has let them down. Handling fisheries violations -- breaches of the *Fisheries Act*, its regulations and licence terms and conditions -- through the criminal courts has proved slow, time-consuming and expensive. The courts know little about the fisheries, and tend to underrate the seriousness of fisheries violations. The low fines handed down by the courts generally do little to discourage illegal fishing -- in fact, the fines are often viewed as little more than a cost of doing business.

Moreover, the system today gives industry only a small role in enforcement. Fishermen need more say in setting the penalties for failing to respect the rules that govern their fishery. They also need assurances that illegal fishing will be dealt with swiftly and fairly and that the penalties handed down will reflect the severity of the violation.

How can these problems be solved? One part of the solution is to change the way decisions are made -- change that eliminates the appearance of unfair decision making and gives better service to clients on an impartial and equal basis.

Why a Fisheries Board?

The independent quasi-judicial board offers a tested and accepted model. It provides opportunities for users to present their views directly to decision makers. It allows them to obtain consistent decisions that respond to their needs. It provides a formal public structure that enables all users of the resource to be heard in an open forum, under clear and impartial rules. And it provides a mechanism for determining and imposing sanctions in an effective and timely manner.

A fisheries board, made up of individuals knowledgeable about and with experience related to the industry, would hear industry views, make public decisions on allocations and licensing, and apply sanctions. To take account of regional and coastal differences, there would be two boards, one for the Atlantic coast and one for the Pacific coast. The boards would be based in the regions in which they will operate rather than in Ottawa, to increase both the sensitivity and the accessibility of decision makers.

A fisheries board offers advantages that should satisfy industry and government alike:

Openness. A board would hold public hearings, under clear rules of procedure. Decisions, and the reasons for them, would be documented and widely distributed. All policies and other key documents would be open to public view at board and DFO offices.

Fairness. As a quasi-judicial body, a board would be an even-handed arbiter. It could not act in an arbitrary or capricious manner, given its mandate and the fact that it would also face the checks of close public scrutiny.

Consistency. A board would make decisions according to a written and publicly available policy framework. The existence of the formal framework would ensure more consistency in decision making. Over time, the board and the public would be able to refer to the board's own public records of decisions to ensure further continuity.

More effective penalties. Penalties would be levied objectively and consistently by board members who know the fishery and who understand the seriousness of the violation.

In summary, the establishment of a fisheries board should lead to a more open and more effective partnership between the government, as steward of the resource on behalf of all users, and the industry, as the major producer and beneficiary of the economic value flowing from that resource.

WHO WOULD DO WHAT

Overall, the system would work as follows:

The framework would be set by law; thus the mandate and decision-making structure of the boards would be constant over time.

The Minister would guide by setting policy but would have no direct say in specific decisions.

The Boards would decide, within the policy framework set by the Minister, who would get the licences and allocations.

DFO would carry out the Boards' decisions through the day-to-day management of the fishery and routine licence administration.

The Boards would hear appeals on licence decisions taken by DFO staff. There would be no subsequent appeal to the Minister.

The Boards would penalize Canadian commercial fisheries violators brought before it by departmental enforcement personnel.

A. Role and Organization of the Boards

The new boards would take over some key powers currently exercised by the Minister and DFO under the *Fisheries Act*, namely, licensing and allocation of the marine commercial fisheries. The boards would also take over from the criminal courts the application of sanctions for fisheries violations by commercial licence holders.

The Minister of Fisheries and Oceans would remain responsible for conservation and would set the overall levels of harvest for the marine commercial fisheries. The Minister would also retain responsibility for recreational and international fisheries. The Department under the Minister's direction would continue its role of managing the aboriginal food fishery, resolving the fisheries components of land claims, and negotiating and administering co-management agreements with aboriginal groups under the Aboriginal Fisheries Strategy. Where special

management structures are being set up under land-claim settlements to manage fisheries (e.g., under the Tungavik Federation of Nunavut Final Agreement), the boards would have no jurisdiction.

Within the marine commercial fisheries, the Minister would still set the broad policy framework with input from industry and other governments. But the Minister would permanently give up the power to decide *individual* cases. The boards, operating under ministerial policy and conservation directions, and within the limits of the overall harvest would decide exactly who gets the fish and how much. The boards would also assess penalties for breaking the rules. The boards' decisions could not be appealed to the Minister. A judicial review of board decisions by the Federal Court would always be possible, although such a review would not look at the substance of the board decisions: it would consider whether a board had exceeded its jurisdiction or ignored some fundamental principle of natural justice (e.g., procedural fairness).

There would be seven members on the Atlantic Coast Board. The Pacific Coast Board would have five members. Members of both Boards would be knowledgeable about the fisheries but could have no direct or indirect financial stake in it. The Minister of Fisheries and Oceans would be responsible for recommending to the Governor in Council (i.e., the Cabinet) the appointment or reappointment of board members. Members would be appointed for a fixed period. The five or seven members of the board would constitute an Executive Board. Provision would also be made for appointing additional members to a board; they would be appointed on the recommendation of the Minister by the Governor in Council for a fixed period of probably three years. The purpose of having additional members would be to assist the Executive Board in coping with its workload of allocation, licensing and sanctions hearings. These additional members would not be decision makers for allocation and licensing. But they would hold hearings and make recommendations on allocation and licensing to the Executive Board. The additional members would be decision makers on licence appeals or sanctions cases.

To give the boards flexibility in dealing with their workload, the legislation would authorize the creation, in regulations or by the Chair, of panels of the board. Panels would be chaired by a member of the Executive Board and made up of additional members assigned by the Chair. These panels could be organized along the lines of DFO regions in the Atlantic and by fish species on the Pacific coast. Some Pacific industry leaders have suggested that industry should be able to deal directly, through well-established bodies such as the Commercial Fishing Industry Council, with the decision makers on the Board and that a separate tier of panels is not required. The legislation provides this flexibility to both boards.

The panels would hold hearings with interested parties and develop recommendations to the Executive Board on allocations or new licences in each fishery assigned to them. These recommendations would be public. The panel hearings would replace the advisory committee process for reviewing allocation issues every year. The Executive Board alone would make decisions on allocations and new licences.

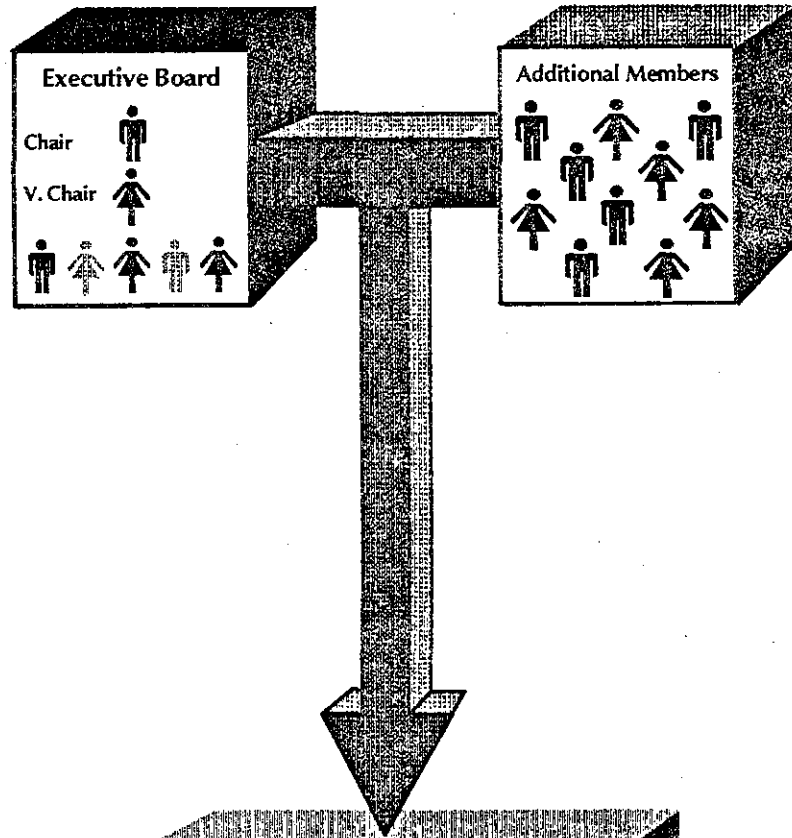
The Atlantic Fisheries Licence Appeal Board and the Pacific Region Licence Appeal Board would disappear. Instead, licence appeals would likely be heard by one or two board members, either executive or additional, depending on their availability. Sanctions cases could also be heard by one or two members. The Chair of the board would assign the caseload.

Northern interests in licensing and allocation issues in the offshore waters of the Eastern Arctic would be addressed by a special northern panel of the Atlantic Fisheries Board, to be established by regulation. The "additional members" chosen for the northern panel would be residents of the North. The panel would make recommendations, to the Executive Board on the awarding of new licences, the allocation of the harvest and the application of sanctions in commercial fisheries in these offshore waters. The northern panel would be a forum for northern residents and their organizations to have input to board decisions on commercial fisheries beyond the direct jurisdiction of the future Nunavut Wildlife Management Board. The panel and the Nunavut Wildlife Management Board would interact closely, following the obligations imposed by the TFN Settlement Agreement.

The board and panel structure is set out in a chart on page 7.

Board and Panel Structure

- Executive Board will consist of a Chair and Vice Chair and 3/5 members
- Executive Board would take decisions on allocations and award new licences
- Executive members would have knowledge and experience related to the fishing industry but no direct or indirect financial stake
- Executive members appointed for up to five years with the possibility of reappointment
- Executive members would serve on a full-time basis
- Executive members chair panels that hold hearings on allocations and licence awards



- Additional members would have knowledge and experience related to the fishing industry but no direct or indirect financial stake
- Additional members appointed for up to three years with the possibility of reappointment
- Additional members would serve on a part-time or full-time basis, as decided at the time of appointment

- Chaired by a member of the Executive Board
- Additional members may be assigned by Board chair to sit on panels
- Panels hold public hearings and
 - recommend allocations
 - recommend the awarding of licences

- Sanctions cases and licence appeals could be heard by one or two members
- Members could be either Executive or additional
- Those accused of a violation would have the right to an oral hearing

B. The Role of the Department - Conservation, Policy, Operations

Departmental staff would continue to assess stock abundance and give advice on appropriate harvest levels. The Department and Minister would continue to set the overall harvest (but not its allocation among commercial groups) and make general rules about how, when, and where the fishery would take place, through regulations establishing gear controls, closed times, and closed areas. On the Atlantic coast, the recently formed Fisheries Resource Conservation Council (FRCC) will review scientific analyses provided by the Department, conduct public hearings and make formal recommendations to the Minister on total allowable catches and conservation measures. The FRCC will focus initially on Atlantic groundfish, and, over time, respond to other species.

Under administrative arrangements with the Boards, the Department would be authorized to issue licences and attach licence terms and conditions. DFO would carry out day-to-day management of the fishery by conducting season openings and closings and monitoring catch levels and quotas.

The Department would continue its roles of managing the Aboriginal food fishery, resolving the fisheries components of land claims, negotiating and administering co-management agreements with Aboriginal groups under the Aboriginal Fisheries Strategy.

The Department would retain its current responsibilities for managing the recreational and international fisheries, negotiating international treaties, regulating foreign fishing under the *Coastal Fisheries Protection Act*, and allocations to foreign fleets. All aspects of recreational fisheries management (licensing, conservation restrictions, enforcement) would remain as is; recreational fishing violations and violations by foreign vessels would continue to be dealt with through the courts.

Departmental staff would continue to develop licensing and allocation policy. The Department would therefore continue consultations on policy issues, conservation and management measures such as gear selectivity and harvesting practices. The existing advisory committees could contribute to policy reviews and conservation matters, such as use of appropriate fishing gear and technology, promotion of underutilized species and the development of aquaculture. Alternatively, industry groups could organize themselves to provide policy advice on an ongoing basis to the Department. The shape of future advisory groups will evolve undoubtedly over time under the new structure.

HOW THE SYSTEM WOULD WORK IN PRACTICE

A. The Policy Framework: Principles and Ministerial Direction

Policy direction to the Boards would be provided in two basic ways:

- through permanent policy principles for allocation, written directly into the legislation setting up the Boards;
- through the written and formal policy framework and directions set by the Minister of Fisheries and Oceans and conveyed to the Boards through ministerial policy directives.

Principles

The allocation principles written into the legislation would be important in giving focus to Board deliberations. They would provide assurance to those affected by allocation decisions that the Boards would make their decisions with a common set of factors in mind. Principles would shape and focus the debate in Board proceedings, in Board decisions, and in the reasons given for those decisions. The following principles have been identified for inclusion in the legislation as being of greatest importance to industry:

- the provision to resource users of a reasonably secure access to the fisheries resources;
- the needs of resource users who are adjacent to a particular fishery resource;
- the relative mobility of fleet sectors and the relative dependence of resource users on a particular fishery resource; and
- the economic viability of users of fishery resources.

Policy Framework

A formal policy framework is needed to serve as the context for Board decisions. Although there are currently many specific departmental rules for licence holders, e.g., vessel replacement rules, there are few clear statements of framework policies for the marine commercial fisheries. Examples of framework policies currently in place would include the limited entry policy for most fisheries; another framework policy example is the individual transferable quota policy. Before the Boards are established, DFO must articulate and codify its policies on marine commercial fisheries. In many instances, particularly in the area of licensing, this could entail developing general statements of policy where none exists today.

The process of codification would involve clarifying existing policies, documenting current informal policies, reviewing the rationale for these policies, and identifying areas where new policies may need to be developed. The codification of policy would not be a cover for major change to the existing policies. However, with a clearer policy framework, the areas requiring change would become evident. Industry would be involved in the exercise of reviewing the policy framework, particularly in the key area of licensing.

Ministerial Directives

The policy framework would be transmitted to the Boards through ministerial policy directives. The Minister would also have the power to issue general policy directives to set or alter the management framework, e.g., licence transferability. The Minister could direct more specifically that the number of licences in a fishery be increased or that an exploratory fishery be opened. These policy directives would be binding on the Boards. But the legislation would restrict the Minister's ability to intervene by policy directive in Board decisions. The Minister could not determine individual cases or intervene on cases already before the Boards for decision. And all policy directives would have regard to the allocation principles set out in legislation.

The Minister would set specific harvesting targets annually, through the use of such tools as the setting of harvest levels, e.g., escapement targets or total allowable catch and would provide these to the Boards through a directive. The Minister would also have the power to issue binding conservation directives to the Boards, to ensure the conservation and protection of fisheries resources. For example, it may become necessary to change an allocation after the Board has ordered it because of a decrease in the resource. The Board would be compelled to make this change.

B. Awarding and Issuing Licences:

At present, the Minister and Department set the licensing rules, issue the licences and attach terms and conditions, enforce compliance with the terms and conditions, and keep all the records. Licensing decision appeals (for vessels under 65 feet only) are heard by the Atlantic Fisheries Licence Appeal Board in the Atlantic. In the Pacific, appeals are heard by the Pacific Region Licence Appeal Board. Both appeal boards have a provision for final appeal to the Minister.

In future, under the Minister's policy framework, which would be clear and accessible to all, the Boards would have authority to issue licences in established fisheries; to award new and additional licences; to set and amend licensing rules; to attach terms and conditions; to amend, suspend, or cancel licences for cause; and to hear appeals, with no provision for further appeal to the Minister.

A large part of licensing is routine, day-to-day administration: overseeing the administration of the more than 200,000 licences of various types now issued in Canadian fisheries. Since DFO has a well-developed system of administration and personnel already in place, there would be no reason for the Boards to set up a new structure. Administrative arrangements between the Boards and DFO would authorize departmental officials to continue to process annual licences in established fisheries, to process routine re-issuances under rules set by the Boards, to issue licence documents to new entrants, to collect fees and so on, on behalf of the Boards. As a result, the industry would see very little change in licence administration. If difficulties arose in individual cases, there would be a specific process of appeal within the Boards' organization, replacing the existing Atlantic Fisheries Licence Appeal Board and the Pacific Region Licence Appeal Board.

Besides issuing and processing licences on behalf of the Boards, the Department would enforce their terms and conditions, document their use, and maintain licensing records.

Licensing policy itself would continue to be made by the Minister. The Minister would establish the policy framework for Board licensing decisions, i.e., the general directions and goals for commercial licensing, through the policy directives.

Under the transitional provisions for starting up the Boards, the current licensing rules would be "rolled over" to the Boards. The Boards would then be free to amend these licensing rules, if necessary, based on public consultations and subject to the proviso that rules must remain consistent with the Minister's policy

framework. Substantive changes to the rules would be made on the basis of public hearings, likely held by the Board panels. Consistency across regions would be ensured by the requirement that the Boards make the orders that enshrine any amendments.

Some examples

These examples, without defining specific policy, demonstrate how the Boards and DFO would work together in future under various circumstances.

Licences in an existing, limited-entry fishery: Little would change in this fishery unless there is a policy change. The individual fisherman or enterprise would receive licences from the Department as before, under the Board's authority. Any specific disputes about access to a licence would go to the Board. The Board would have the responsibility for developing and updating licensing rules but these would have to be consistent with the Minister's broad licensing policies.

New licences in an existing fishery: The Minister would make the basic decision to create new licences or to introduce a new licensing regime in an existing fishery, on economic, social and conservation grounds. Recent examples are the new bluefin tuna licences on the Atlantic coast and the new limited-entry categories introduced on the Pacific coast to limit effort for existing fisheries such as crab, sea cucumber, sea urchin, prawns, rockfish and euphausiids.

In awarding the licences, the Board could seek advice from the industry, probably through panel hearings. It would then consider requests to obtain a licence and make decisions accordingly. While the Board would make the final decision on who gets a licence, the Minister would provide conservation and policy directives to the Board to guide that decision. The actual issuing of the licence document would be done by DFO.

New licenses in an exploratory fishery: Again, the Minister would make the decision to pursue a developmental or exploratory fishery and would set the policy from which specific performance and eligibility criteria would be developed by the Board. The Board, following public hearings, would make decisions as to who gets a licence, based on eligibility criteria and performance requirements developed by the Board.

C. Allocations

While licences specify "who gets a chance to fish", allocations specify "how much fish you can take". Allocations -- what each group or gear type or vessel

class gets to fish -- are an important feature of the Fishing Plan for various stocks.

The Minister would set the harvest levels, e.g., a total allowable catch or escapement targets as appropriate for each fishery. The Minister could also provide broad policy direction consistent with the principles on the allocation of the resource. The Board would then specify the shares going to the various users in the marine commercial fishery, whether by fleet, gear type, vessel size, area, or individual enterprise. For migratory stocks such as salmon, the Board, in conjunction with DFO, could develop decision rules for achieving allocation outcomes under a variety of scenarios.

The cycle would be as follows:

As before, the Department would gather data on catches, landings and stock abundance. In relevant fisheries on the Atlantic coast, the Fisheries Resource Conservation Council, the industry/science management body, would provide its public, written advice to the Minister. In other fisheries, departmental scientists would continue to provide stock assessment advice. The Minister would then set the harvest level. The Department would provide an analysis of its data to the Board to assist it in making the allocation decisions.

Taking account of harvest levels, allocation principles set out in legislation, and ministerial policies, the panels of the Board would hold hearings with the fishing industry at the beginning of the cycle.

Typically, hearings would take place well before fisheries open. The panel would make a recommendation as to what licence holders get what share of the fish or what decision rules would be used to manage the allocations during the season. All panel hearings would be open, and the rationale for their advice would be publicly available. Panel allocation recommendations would have to respect the Department's conservation decisions, including such things as closed times and seasons. The Board would then make a final decision before the fishing season opened and publish its decisions.

In fisheries where stocks were declining or expanding, or in new fisheries, the panels would recommend how the allocations would change. Where stocks are stable, with shares already fixed, there would be no change in patterns of allocations.

For examples, please refer to Annex A.

D. Administering Sanctions

Traditionally, fisheries violations (breaches of the *Fisheries Act*, its regulations, and licence terms and conditions) have been handled through the criminal courts. This has been unsatisfactory for DFO and the industry alike. The courts are often slow and know little about the fishery.

The new Boards could address the shortcomings of the criminal justice system. Appropriate penalties, providing an effective deterrent to illegal fishing, would be handed down swiftly and fairly by a knowledgeable "fisheries court". In particular, retention of a licence would now be linked with the individual fisherman's willingness to abide by the rules of the fishery. Industry would help set these more effective penalties.

Under the proposed system:

- The *Fisheries Act* would be amended so that breaches of conditions of licence and regulations by licensed commercial fishermen would be taken out of the criminal courts and handled by the Boards as administrative matters. [Note: other "true crimes" under the Act (e.g., obstruction, habitat destruction) and *Criminal Code* offences (e.g., fraud, assault) would still be dealt with through the courts, as would unlicensed fishing].
- The Boards would apply a range of administrative sanctions. These would include one or more of: forfeiture of fish, gear and vessel used in the violation; quota reduction; licence suspension, non-renewal or cancellation; or financial penalties of up to \$10,000.
- Persons accused of an infraction would have the right to an oral hearing before a Board.
- The burden of proof would be lower than in criminal cases. In criminal cases, proof must be established beyond a reasonable doubt. Under the Boards, proof would be established on the balance of probabilities.
- Minor violations would be made ticketable violations. Tickets would result in financial penalties to a maximum of \$2,000. Contested tickets would lead to a hearing before a Board. More serious violations would be brought directly before the Board, which could impose more serious sanctions (e.g., larger financial penalties, loss of licence).

The proposed system is set out in the chart on page 16.

E. Licence Appeals

Every year, thousands of licensing decisions are made: routine licence issuance and re-issuances, issuance of licences to new licence holders, vessel replacements, and categorization of fishermen. These decisions are currently made according to departmental licensing rules covering such matters as eligibility requirements for current licence holders and new participants, categorization of fishermen, vessel replacement criteria, and special employment or participation requirements.

There are times, however, when disputes arise in the application of the licensing rules, so a licensing appeal mechanism is needed. The existing Atlantic appeal system has two levels, and the Pacific system has one. At its final stage, the current appeal system provides an opportunity to appeal to the Minister.

Under the proposed system, routine licensing activities would be carried out on behalf of the Boards by DFO staff, within an established set of licensing policies. Appeals against these decisions would be made to a Board. An appeal would probably be heard by one or two members of a Board.

If necessary there could still be a judicial review, by the Federal Court, of Board licence appeal decisions; this provision for judicial review, which is guaranteed under the *Federal Court Act*, would apply as well to allocation decisions and sanction decisions. There would be no appeal to the Minister.

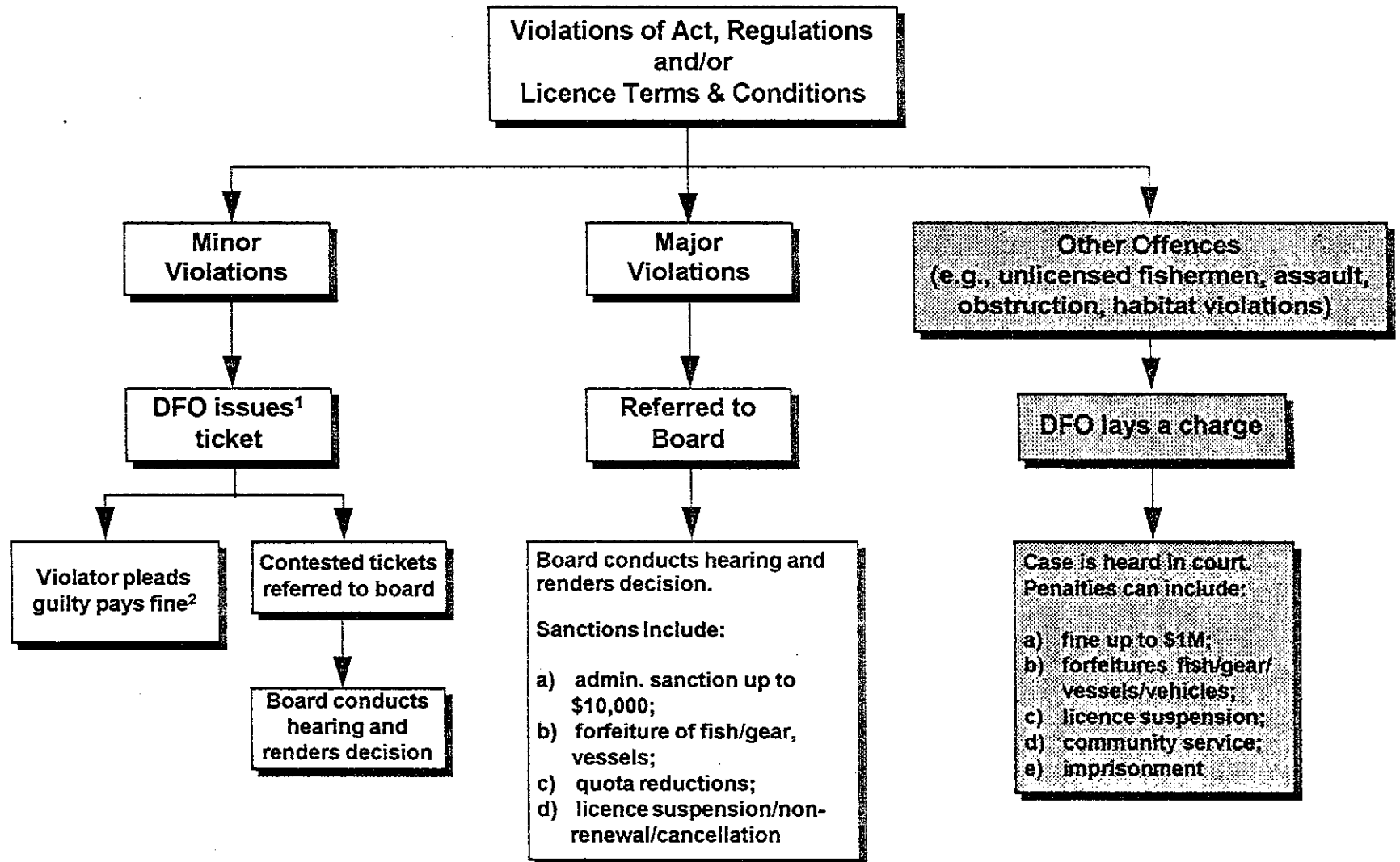
To check documentation and assemble the case files required by a Board to hear an appeal, there would be an Appeals Branch within the Board secretariat. The appellant would submit an appeal to the Board. The licensing officer who made the decision under appeal would submit the case documentation to the Board Appeals Branch. That documentation would be placed before the Board and could result in:

A positive or negative decision by the Board, following consideration of the appeal case.

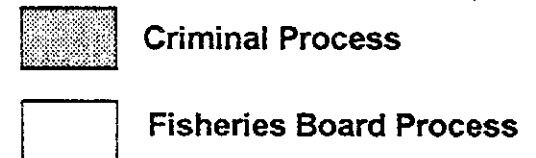
Withdrawal of the appeal. In some cases, the appellant may decide to abandon the appeal on the basis of facts collected in the detailed review.

DFO REFORM: SANCTION PROPOSAL

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1. Tickets for minor offences would be up to \$2,000.
The sanctions for ticketable offences would be laid out in regulations.
2. Could include forfeiture of fish.



STARTING UP THE NEW SYSTEM

Consultation Process

The consultation process began with the release of the document entitled "A Proposal for Reforming Licensing and Allocation Systems" in November of 1991. This document introduced the concept of creating an administrative agency to make licensing and allocation decisions in a fair and open manner. DFO formed two working groups, one on the Atlantic and one on the Pacific coast, made up of knowledgeable industry people who provided advice as the details of the proposal were developed. The release of this second public document is the culmination of many months of discussions with these working groups, provincial governments and other knowledgeable people in the industry. In the next phase, this document and the legislation will form the basis of a broader consultation exercise with industry and the provinces.

The Legislation

The new system must be established through legislation. A bill establishing the organization and mandate of the two new Boards would be brought forward to Parliament by the Minister. Along with enabling legislation establishing the Boards, some consequential amendments to the *Fisheries Act* and regulations would be required. If Parliament approves the legislation, the Department would begin the work of codifying the policy framework, writing necessary new regulations, and planning for transition to the new system.

Clarifying and Codifying the Policies

Throughout 1993, the Department will work on producing a written or codified policy framework for the marine commercial fisheries, which will form a context for subsequent decisions by the Boards. This process will involve identifying and articulating existing policies and documenting current informal policies. By 1994, a detailed registry of all policies and practices will be available in Board and DFO offices.

Appointment of the Boards

The Boards could not begin operations until legislation has been proclaimed and transition planning has been completed. The Governor in Council could appoint a Chair for each Board to assist in the transition planning, but Board members would likely not be appointed until the Boards are ready to undertake their mandate. The Minister of Fisheries and Oceans would invite industry, provincial and territorial governments' suggestions on Board appointments prior to making a recommendation to the Governor in Council. For appointments to the Executive Board, the Act would specifically authorize provincial governments to submit lists of names.

Transitional Phase

If legislation is passed there will be a transition period before the bill is proclaimed law. DFO has extensive field staff and offices along both coasts, and their work in respect of licences, allocations, and sanctions needs to be coordinated with the work of the Boards. The operational linkages between the Boards and DFO will take shape in close consultation with industry. During this period details will be finalized on how DFO will carry out its operational responsibilities under the new system. There will also be a need to allocate resources, announce appointments, finalize staffing, train DFO's current staff for new roles, and familiarize the public with the new process.

Commercial fishing licences, quotas, annual or multi-year fishing plans or allocations in effect at the time of the Boards' inception would continue to the end of their terms. (These licences could be amended, however, on conservation grounds or suspended or revoked in the manner provided in the Boards' new legislation.) Any licensing proceedings pending when the Boards start operating would be continued by DFO.

Changing Over

A formal policy framework will be provided to serve as the context for Board decisions. The Minister will issue transitional directions to the Boards, to continue the existing rules on licensing and allocations. These will remain in effect until the Boards, in the course of performing their duties, make decisions that vary them.

ANNEX A

Examples

These examples, without defining specific policy, show future operations under the proposed Boards.

Atlantic Groundfish

For illustration, the process of managing the 4VsW cod fishery is described.

DFO scientists would conduct stock assessments and present their preliminary scientific advice to the Fisheries Resource Conservation Council (FRCC) in the early spring. The FRCC could hold public hearings on non-allocative management measures (such as gear restrictions, size limits, closed times and areas). The FRCC would then make its written recommendations to the Minister.

Having considered the FRCC recommendations, the Minister would give direction on the harvest level:

- the overall harvest level (Total Allowable Catch) for cod in 4VsW; and
- all conservation decisions (i.e., mesh size, closed areas and times) and management measures.

The Board Chair would assign an Executive member and additional members to a regional panel at the beginning of the summer. This panel would have a number of stocks to consider, including 4VsW cod. The panel would divide the harvest on the basis of the Minister's conservation decisions and relevant policy directives. Throughout late summer and early fall, the panel would hold public hearings on the proposed allocations. Panel advice to the Executive Board would include such provisions as fleet quotas, access to specific areas/stocks, vessel restrictions and overall allocations to IQ and EA fisheries.

In the specific case of 4VsW cod, where a TAC reduction has been decided by the Minister, the panel would, subject to ministerial policy directions, provide advice to the Board on how that TAC reduction should be shared by the fleet sectors fishing the 4VsW stock.

The panel would prepare its advice and submit findings and recommendations to the Board in the fall; these would be made public. The panel would normally provide an explanatory rationale for its recommendations, particularly in cases where divergent industry views are presented to the panel.

The Board would review the panel's allocation advice. The Board might, in unusual circumstances, decide to hold further public hearings. The Board would make the final decision on how the TAC (or any TAC reduction) in the 4VsW cod fishery would be shared among the various fleet sectors in that fishery.

The Board's allocation decisions for the next year's fishery would be released, with reasons for decisions, at the end of the year to industry and the public, through Board offices, DFO and the media. Industry would receive a record of the Board's 4VsW allocation decisions from the Board, but DFO would also have copies available.

The Board's allocation decisions would be implemented by DFO. Fishermen would continue to receive their licences through DFO offices; DFO would monitor quotas and administer the season openings and closings. Fishermen could contact these offices for information on fleet quotas and season openings and closings.

The Department would enforce the *Fisheries Act*, regulations, and licence terms and conditions. The Board would deal with sanctions for breaches of these rules. Once the management plan is in place, fishermen would deal with DFO on the day-to-day aspects of the fishery, as they do now.

Pacific Salmon

Some Pacific industry leaders have suggested that a separate tier of panels is not required. However, for illustrative purposes, the process of managing the Barkley Sound sockeye fishery under a panel scenario is described.

In January, the job of predicting run strength and identifying the harvestable surplus for Barkley Sound sockeye by studying salinity and temperature levels during smolt migration and completing sibling age-class analyses would begin.

Initial stock projections for Great Central, Sproat and Henderson Lakes would be sent to all sectors of the fishing industry. In early May, a management plan for Barkley Sound would be drafted setting out conservation measures and allocations for the Aboriginal, recreational and commercial sectors.

The Board would then take the commercial allocation and divide it among the various gear types. The Board's eventual decision would take into account previous sector allocations, traditional fishing patterns, strength or weakness of various stocks and other relevant factors, as reflected in legislated principles, the policy framework, and policy directives.

During this period, a panel of the Board could be assigned responsibility for allocating the commercial catch for Barkley Sound sockeye. The panel would hold public hearings to which interested parties would contribute.

In May and June, DFO, the panel and industry would consider decision rules for in-season management of the Barkley Sound sockeye fishery, stating criteria for decisions and how those criteria would be applied as run strengths, timings, migration routes or other factors change, to provide as much guidance as possible to fisheries management. The more that can be achieved through pre-season determination of in-season management actions, the more conflict over access to the resource can be avoided. The panel could hold hearings to develop "catch-up/make-up" provisions for situations where commercial allocations could not be met through in-season adjustments.

The panel would make public recommendations to the Board. The Executive Board would be responsible for reviewing the panel's recommendations and integrating the proposed allocations for the Barkley Sound fishery with those made for other areas. The Board would then make a final decision on commercial allocations for Barkley Sound sockeye. In June, the Board would forward the allocation decisions to DFO. They would then be released to industry and the public, through Board offices, DFO, and the media.

DFO would continue to issue licences through its Vancouver and Prince Rupert offices. During the season, the DFO's Barkley Sound Working Group would meet weekly to verify its forecasts through a variety of methods, including Barkley Sound test fisheries, commercial catch monitoring and escapement enumeration of Henderson, Sproat and Central Lakes. Pre-season expectations would continue to guide management actions until updated forecasts were prepared in early July. It is not statistically valid to reforecast run strengths prior to early July or until half of the returns have arrived in the terminal area of Barkley Sound. DFO staff would continue to use age, tissue and parasite analyses to determine stock composition. If actual run size varied from

projections, DFO could adjust the management framework, using predetermined decision rules and traditional means such as changes to area and timing of fisheries. DFO would strive to achieve allocation targets but, when prevented from doing so by conservation or unusual fishery conditions, would rely on catch-up/make-up provisions. Panel activity would be minimal once the season was in full swing.

The Department would enforce the Act, its regulations, and licence terms and conditions. The Board would deal with sanctions for breaches of these rules.

The Department would monitor runs, catches, and escapement of Barkley Sound sockeye stocks. At the end of the season, it would compile the final data and hold public meetings, usually in mid to late November, to evaluate the Barkley Sound fishery in the light of past experience and begin preparing assessments and advice for the coming year. The Board would be involved in reviewing variations from pre-season allocation targets and any required changes to decision rules for the following season.

QUESTIONS AND ANSWERS

These questions and answers deal with setting up the system and how it would work.

Setting up the System

- Q. How different will the Pacific and Atlantic systems be?
- A. The concept is the same: an impartial Board to provide more openness, fairness, consistency and proper penalties. In practice, the legislation will provide a good deal of flexibility. For example, Board Chairs will have flexibility in setting up panels and in assigning the workload to members and panels.
- Q. If the panels are to hold hearings with industry, what happens to the existing DFO advisory committees?
- A. There is likely to be a significant change in the role of Advisory Committees. While allocation decisions will now be made by the Boards, Advisory Committees established by DFO, or those that are industry led, could continue to contribute to policy reviews and conservation matters, such as use of appropriate gear technology, economic development of the industry, and so on. Alternatively, industry groups could organize themselves to provide policy advice on an ongoing basis to the Minister. The shape of future advisory groups will evolve over time under the new structure.
- Q. Are the Boards going to be phased in?
- A. Instead of assuming all of their new responsibilities on one day, the Boards could take on new activities over a prescribed period of time. Different sections of the legislation (e.g., sanctions, allocations) could be proclaimed at different times for a smooth transition.
- Q. What happens to existing licences and allocations in the year that the Boards start their operations?
- A. Commercial fishing licences, quotas, annual or multi-year fishing plans in effect at the time of the Boards' inception will continue to the end of their terms. (These licences could be amended, however, on conservation

grounds or suspended or revoked in the manner provided in the Boards' new legislation.) Any licensing proceedings pending when the Boards start operating will be continued by DFO.

- Q. Who will be consulted on Board appointments?
- A. The Minister would invite industry, provincial and territorial governments' suggestions on Board appointments prior to making a recommendation to the Governor in Council. For appointments to the Executive Board, the Act would specifically authorize provincial governments to submit lists of names.

General Operations

- Q. When would I as a fisherman deal directly with the Board?
- A. Most likely, your direct dealings with the Board would be on questions affecting you as an individual, such as a licence appeal or a sanctions case. If you are making an appeal or facing a sanction, you would be dealing directly with a panel (possibly a one-person panel) set up to hear your case.

The Board or its allocation panels would hold public hearings on allocations and make public the results. You would be free to attend these hearings, if you wish, and to appear before it, or have your views presented for you by an association or spokesperson.

- Q. When would I make representations to the Minister?
- A. You can write to the Minister about anything at any time. But if you wrote to the Minister regarding a specific decision to be taken in the area of licence award or allocations, your representation would be referred to the Board.
- Q. Could DFO advisory committees present themselves to the panels?
- A. Boards and their panels will determine the eligibility of interested parties for participation in a given public hearing.
- Q. Could DFO officials make recommendations to a Board and panels on a licensing or allocation question?
- A. DFO officials could be called to testify publicly before a Board or a panel and to produce relevant documentation on a licensing or allocation matter. The participation of DFO officials in a Board's decision making will be limited to this public process.

- Q. Suppose the industry at panel hearings is totally divided on an issue. What happens?
- A. The panel will present its recommendations to the Executive Board, which will take into account the differences in public views expressed at the panel hearings as reflected in the panel report. The Board could also hear directly from industry. Any such interventions would be made public. The Board would then make a final decision.
- Q. Would the Boards give policy advice to the Minister?
- A. No. Boards will apply policy as set by the Minister.
- Q. What if a Board decision on licences or allocations meant putting a major plant or community out of business?
- A. The Board's job is to ensure fair and just application of policy *under legislated principles and ministerial policies*. In doing so, a Board may indeed help or hurt a particular plant or community, without in any way showing prejudice against it. But the Minister would be unable to intervene with the Board to make an exception for a particular plant or community; the Minister's actions would be limited to changing the larger policy framework.
- Q. Could the Board make licensing or allocation decisions that involved more costs or more work for the Department? Could these costs be passed back to the industry?
- A. The Boards and the Department would work co-operatively to identify the operational implications, e.g., the practicability or enforceability of licensing and allocation decisions that DFO must implement in the field. Thus, the cost impact of decisions would be taken into account.
- Q. How formal will the process be? Will I need a lawyer if I want to appear before the Board or a panel?
- A. The objective is to achieve a balance between accessibility to the public and a process that will protect the individual's rights. No one will be obliged to hire a lawyer. However, where personal interests are at stake, e.g., a sanctions hearing, the individual would always have the right to representation by counsel.
- Q. How can we be sure that the Board and panel structure will not be so rigid that the management of the fisheries will be made less efficient or less timely?
- A. It is possible for the Board to act immediately on allocation decisions if conservation concerns are a factor. The Board, in performing its functions,

will have to take the cycles of fisheries management into account. Timely decisions will ensure that fisheries can operate as efficiently as possible.

- Q. Where do the provinces/territories fit into the new system?
- A. Jurisdiction over sea coast and inland fisheries resides with the federal government. In Ontario, parts of Quebec, B.C. and Yukon, and the prairie provinces, the provincial/territorial governments administer freshwater fisheries under authority of the federal *Fisheries Act*. In all provinces, the provincial government rather than the federal government licenses on-shore processing facilities.

The Boards would deal with key aspects of federal fisheries management on the coasts, taking decisions under policy direction. There will continue to be co-operation on policy-setting for these fisheries between federal and provincial/territorial governments through such bodies as the Atlantic Council of Fisheries Ministers and other mechanisms such as Memoranda of Understanding and General Fisheries Agreements.

- Q. How will Northern interests in Atlantic fishery resources be protected under an Atlantic Fisheries Board?
- A. The Tungavik Federation of Nunavut land claim settlement agreement, already ratified by Eastern Arctic residents, gives substantive management authority over inshore stocks, i.e., within the 12-mile territorial seas. Beyond this zone in offshore waters, the agreement creates further specific guarantees, e.g., respecting consultation with the Nunavut Wildlife Management Board. As well, residents adjacent to the resource are guaranteed special consideration for new licences and allocations. Once passed into legislation, this agreement will be constitutionally entrenched and therefore binding on all federal bodies.

While the bulk of the Atlantic Board's work will deal with fisheries in southern waters, a special voice will be given to northern concerns by creating a northern panel, to be established by regulation. This panel, on which northern residents will sit, would recommend licences and harvest allocations; it could also hear licence appeals and apply sanctions in the eastern Arctic offshore commercial fisheries.

- Q. Will the northern panel established under the Atlantic Fisheries Board deal with fishing in the western Arctic?
- A. No. The Atlantic Fisheries Board will not deal with any western Arctic fisheries. The Inuvialuit settlement agreement and the fisheries management responsibilities of the Department in the western Arctic are unaltered.

- Q. What stocks or species will be assigned to the northern panel?
- A. The regulation establishing the northern panel would probably assign to the panel all offshore commercial fisheries in sub-area 0. At present the only commercial species fished in this sub-area are shrimp and Greenland halibut.
- Q. Will the creation of the Boards add to the overall cost of fisheries management?
- A. No additional funds will be required, since funding for the Boards will be found from existing departmental resources.

Licensing

- Q. How do I get my licence under this new system?
- A. Through departmental offices as usual, which will act on behalf of the Boards in this function. You would deal with the Board mainly when you as an individual have a licensing problem (either an infraction or an appeal against an administrative decision).
- Q. Will Aboriginal commercial fishing licences (e.g., reduced fee licences on the Pacific coast) be issued by the Board?
- A. Yes, the Board will be responsible for issuing all marine commercial fishing licences. Communal licences provided to bands under the Aboriginal Fisheries Strategy will be issued by DFO.
- Q. I have to carry three types of documentation: fisherman's registration, vessel registration, and limited entry fishery licence. Can the Board simplify this?
- A. The Board cannot combine or discontinue or otherwise adjust the different types of licences unless the Minister directs such a change.
- Q. Would the Board be able to force a sudden change by licensing only one particular gear type or technology?
- A. Any such change would come through a policy change, and such a change would involve public discussion and ample notice. Furthermore, the principles of the legislation will provide protection for existing interests.
- Q. Could the Board radically restructure the licensing in a given fishery?
- A. No. The Minister will control the direction and pace of change through policy directives that establish the licensing policy framework. Existing licensing rules will be rolled over to the Board.

Q. Does this mean that the new system will actually hold back progressive change?

A. No, the Minister and the Department will be evaluating and making policy changes on a continuing basis to adapt to a changing industry environment.

The intent is to allow for a reasonable balance of continuity and change. A greater degree of openness, fairness, and consistency in the system should make a better foundation for progressive change over time.

Q. How can I be sure the individual hearing my licence appeal is familiar with the fishery and well-versed on the appropriate rules and regulations?

A. Both Executive and additional members will be knowledgeable and have experience related to the fishery. Furthermore, members who develop an expertise in licensing appeals and sanctions panels will likely be allowed to concentrate on this function, to maintain a consistency in these key decisions.

Q. Who will establish licence terms and conditions?

A. The Minister maintains responsibility for conservation and for operations and enforcement. Therefore, the Minister can order the Board to attach terms and conditions required for conservation and protection of the resource and proper management of the fishery, e.g., trip limits, gear restrictions. The Board can attach terms and conditions of an allocative nature, e.g., individual quotas.

Allocations

Q. Under this new system, where do I get information about allocations?

A. The final announcements of decisions on allocations will come from the Board. Through Department offices, its own offices, and the media, the Board will publish its decisions on particular allocations, the details of those allocations, and the reasons for its decisions.

Q. Where can I see all the policies and rules about allocations?

A. In the Board's public registry, available at Department or Board offices.

Q. How will an annual decision-making framework fit in with a multi-year allocation?

A. Where multi-year plans are developed, in second and subsequent years the Board will review the plan to determine whether there is a valid reason for

departing from the allocations set out in the multi-year plan. If not, the plan will be implemented for that year.

- Q. How will the Board make meaningful allocation decisions for the commercial salmon fishery, which is a species prone to wide annual variations in stock size, migration routes, etc.?
- A. Wherever possible, pre-season plans should be made more detailed and precise through the development of decision rules. These decision rules, or "clockwork" provisions, would establish commercial allocations under a variety of run sizes. Also, they would specify the management actions that will be taken to achieve conservation requirements and allocations to other users in response to varying run strengths, timing, migration routes or any other relevant factor, in order to provide as much guidance as possible to managers. The Board could also develop "catch-up/make-up" provisions for situations where allocations could not be met through in-season adjustments of fishing plans.

Sanctions

- Q. Will I continue to have the same protections as I currently have before the courts?
- A. Everyone brought before the Board has the right to be represented by counsel and the right to a hearing where sworn evidence is taken, with a right to cross examine. There are, however, important differences between an administrative law system of the type proposed here and the criminal courts. For example, the burden of proof is less under the administrative law system, and administrative penalties are less severe because they are intended to be remedial rather than punitive.

DETAILS OF LEGISLATION

Board Organization

- The Atlantic Coast Fisheries Board would consist of a Chair, a Vice-Chair and not more than five other full-time members ordinarily resident in the Atlantic region. These would constitute the Executive Board. The Board would offer services in both official languages. Its head office would be in the Atlantic region.
- The Pacific Coast Fisheries Board would consist of a Chair, a Vice-Chair and not more than three other full-time members ordinarily resident in the Pacific region. These would constitute the Executive Board. The head office would be in British Columbia.
- Additional members would be appointed, principally to serve on Board panels. Panels developing recommendations on licensing and allocations would be chaired by a member of the Executive Board.
- Members of both Boards, to be appointed by Governor in Council on the recommendation of the Minister, will be persons knowledgeable about and with experience related to the fishing industry.
- Members would be appointed for a term not exceeding five years (three years for additional members) but could be removed at any time for cause. Members would be eligible for reappointment.
- The Chair would be the Chief Executive Officer of the Board, with full power over its internal affairs.
- A member could not, directly or indirectly, be engaged in a fisheries business.
- Employees of the Board would be appointed in accordance with the *Public Service Employment Act* and be accorded all applicable rights.

Administrative Procedures

- Boards would be given the full procedural powers necessary for their quasi-judicial function.
- Boards could hold a public hearing in respect of any matter, and the Chair could direct the holding of a hearing by a panel. Where a hearing was held, the Board or panel would be empowered to hear interested parties.
- All ministerial directions, decisions or orders of a Board and all licences would be made available for free public examination. Boards would maintain a registry to facilitate public access.

Ministerial Powers

- The Minister would have the power to issue binding directives to the Boards respecting the conservation and protection of fisheries resources.
- The Minister would also have the power to issue broad policy directives on licensing and allocation that would be binding on the Boards.

Policy Principles

- Policy principles in the legislation will provide a framework for the licensing and allocation decisions made by the Boards. Principles would provide stability, certainty and continuity with current patterns of fisheries licensing and allocation. These principles would ensure that decisions of the Boards respect the fishing industry's historical values and objectives.
- The legislation will specify that allocation orders of the Boards shall take into account:
 - the provision to resource users of reasonably secure access to fisheries resources;
 - the needs of resource users who are adjacent to a particular fishery resource;

- the relative mobility of fleet sectors and the relative dependence of resource users on a particular fishery resource; and
- the economic viability of users of fishery resources.

Licensing

- Subject to the regulations and any policy or conservation directives of the Minister, the Boards would issue or authorize to be issued licences for fisheries or fishing.
- The Boards would assign to DFO routine day-to-day licence administration and the collection of fees.
- The Boards would develop licensing rules and eligibility criteria on the basis of the Minister's broad licensing policy directives and the regulations.
- The Minister could direct the Boards to attach to those licences such terms and conditions as are required for the conservation and protection of the resource and the management of the fishery.

Appeals

- Decisions made by DFO licensing staff charged with applying the licensing rules (e.g., refusal to issue fishing licence or registration of vessels or fishermen) would be appealable to the Boards.
- The process for appeals of such decisions would be as follows:

The appellant would submit an appeal to the Board following a decision by licensing staff. The officer who made the decision would submit the case documentation to the Appeals Branch of the Board. Following consideration of the case, the Board would render its decision.
- Decisions of the Boards (for both licence awards and allocations) could be reconsidered by the Board but would not be appealable, outside of normal judicial review.

Allocation

- The Boards would be required, for each fishing season, to develop allocations in advance, in consultation with affected parties, for commercial fisheries under their jurisdiction.
- Panels of the Boards could be established by regulations or by the Chair to hold public hearings as a basis for developing these allocations.
- Panels would make recommendations on allocations to the Executive Board, which would take the final decision.

Sanctions

- Breaches of conditions of licences and regulations under the new Act by licensed commercial fishermen would be handled by the Boards rather than the criminal court system.
- Other crimes under the *Fisheries Act* (e.g., habitat destruction) and *Criminal Code* offences (e.g., fraud, assault) would continue to be handled by the criminal courts, as would unlicensed fishing.
- A range of administrative sanctions could be applied by the Boards. These include forfeiture, quota reduction, suspension, non-renewal, cancellation of a licence or financial penalties.
- The onus of proof would become the balance of probabilities, instead of the criminal law requirement for proof beyond a reasonable doubt.
- Minor violations would be made ticketable offences under the new Act. Tickets would lead to the imposition of financial penalties. Contested tickets could lead to an oral or a paper hearing at the option of the violator. More serious offences would be brought directly before the Boards, which could impose more serious sanctions, e.g., larger financial penalties, loss of licence.

Transitional Provisions

- Every commercial fishing licence, quota, fishing plan or allocation in effect at the time of the Boards' inception would continue to the end of its term.
- Licences could be amended, however, on conservation grounds or suspended or revoked for cause, in the manner provided in the Boards' new legislation.
- Any licensing proceedings pending when the Boards start operating would be continued by DFO.
- The Minister would transmit the current policy framework to the Boards in the form of a policy directive to ensure that existing policies remain in force during the transitional phase. Current policies would continue until such time as the Boards received new policy direction from the Minister.
- Current licensing rules would also be "rolled over" to the Boards by being deemed to have been made by the Boards.
- The *Fisheries Act* will have to be amended to reflect the transfer of functions to the new Boards.

GLOSSARY OF TERMS

Advisory Committees - Consultative committees, usually fishery-specific, that provide advice on fisheries policy and fishing plans. Committees comprise fishing industry representatives, fishing union and association representatives, and federal and provincial fisheries department representatives.

Allocation (quota) - That portion of the Total Allowable Catch (TAC) allocated to a particular individual, fleet, company, or area for harvesting purposes.

Individual Quota - The assigned catch level for an individual licence holder expressed in tonnes or as a percentage of the TAC and included as a licence condition.

Fleet Quota - The assigned catch level for a fleet based on defined vessel and/or gear characteristics.

Enterprise Allocation - The assigned catch level for an individual enterprise expressed in tonnes or as a percentage of the TAC and included as a licence condition.

Geographic Quota - The assigned catch level defined by geographic boundaries but not specific to any particular fleet.

Closed Time - A period when fishing is not permitted; usually closed times are established for conservation and protection of fish stocks (e.g., closed times for protection of soft-shelled or moulting lobster and crab).

Closed Area - A defined area where fishing is not permitted, usually for conservation and protection of fish stocks (e.g., closure of haddock nursery areas on Scotian Shelf).

Conservation - That aspect of renewable resource management that ensures that use is sustainable and safeguards ecological processes and genetic diversity for the maintenance of the resource concerned. Conservation ensures that the fullest sustainable advantage is derived from the living resource base and that facilities are so located and conducted that the resource base is maintained. (Note: This definition was developed in 1980 by the United Nations Environment Program)

and is based on the United Nations World Conservation Strategy. The definition was reviewed and adopted by Canada in 1981.)

Decision Rules - Decision rules define what actions will be taken under a given set of conditions, e.g., run strengths, migration routes. Specifically, these rules would fix user allocations and management actions to be taken in response to conservation requirements determined by DFO and varying relevant factors. For example, a decision rule for the Barkley Sound sockeye fishery may be that a commercial fishery will occur if total run size is greater than a predetermined number of pieces.

Eligibility Criteria - In limited-entry fisheries, criteria (e.g., commercial fisherman status, employment status, etc.) determine whether an individual or enterprise is eligible to acquire an existing commercial fishing licence upon withdrawal of the current licence holder. For exploratory fisheries, eligibility criteria to gain access to the fishery may be broader and could include performance commitments. Such additional provisions could include the ability to market the product, a commitment to a specific percentage of Canadian processing, or a commitment to generate a specific level of employment.

Escapement Target - The number of spawning fish required to escape capture in all fisheries and reach the spawning grounds to ensure a minimum egg deposition density for reproduction in a river system.

Exploratory Fishery - A fishery for a species/stock of known or unknown quantities that has the potential to be exploited more fully by Canadians. Where quantities, location, and technologies are known, exploratory fisheries are conducted to allow Canadian enterprises to exploit their commercial and marketable potential more fully. Where quantities, location, or technologies are unknown, exploratory fishing operations can establish whether there are commercially harvestable and marketable quantities and whether there are impacts on other species.

Fish Stock - Within one species, a population of fish that is genetically distinct. For biological and management purposes, stocks may also be distinguished on the basis of their migration patterns and morphological characteristics.

Harvesting Rate - The percentage of a stock removed by the fisher.

Licence Terms and Conditions - Specific conditions attached to commercial fishing licence for the administration of catch and effort controls. Licence conditions may include the species and quantity to be fished, fishing area and time, gear and vessel specifications, and reporting and unloading requirements.

Licence Sanction - Under the proposed administrative penalty system, a penalty applied for breaches of licence conditions or general rules by commercial licence holder. Licences may be suspended, cancelled, revoked or amended (i.e., individual quotas or enterprise allocations adjusted) under a licence sanction program.

Limited-Entry Fishery - A fishery where the total number of licences is limited. Most commercial fisheries on the east and west coasts are limited-entry fisheries.

Policy - A principle or course of action adopted by the government to guide present and future decisions in the commercial fishery. Policies are broad in scope and embrace the overall directions and goals for the commercial fishery.

Regulation - A federal law authorized by an Act of Parliament and enacted by the Governor in Council.

Rule - Administrative guideline, by-law, or specific standard controlling procedure or conduct, consistent with the policies set down by the government.

Season - A period of fishing time.

Total Allowable Catch (TAC) - The annual target level for catch mortality in the commercial harvest set by fish stock area; the portion of the available biomass that may be harvested in a commercial fishery.



Royal Commission on Renewing and Strengthening Our Place in Canada

New Arrangements for Fisheries Management in Newfoundland and Labrador

By:
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March 2003

The views expressed herein are solely those of the author and do not necessarily reflect those of the Royal Commission on Renewing and Strengthening Our Place in Canada.

Abstract

This report develops a statement of objectives for fisheries policy concerning the use of, and benefits from, the fishery resources adjacent to the province of Newfoundland and Labrador along with the recommended mechanisms to enable the province to realize these objectives through adequate participation in management regimes. The consultants began by examining the fisheries management system before Union with Canada and the changes that took place subsequently within the context of management actions taken by two governments operating independently. The consultants undertook a survey of the objectives that the two levels of government appear to have adopted over three broad post-Union periods. This survey documents a serious disconnect, leading to widespread failure of fisheries policy in the context of the collapse of groundfish and other stocks and the precarious present dependence of the province's fishing industry upon two shellfish species, one of which is abundant (shrimp) but whose contributions to margins are low, while the other (snow crab) is declining in abundance but whose better margins have created a high measure of dependence.

The strengths and weaknesses of the existing management regime and division of powers have been assessed, leading to the conclusion that major changes are required to integrate policy decisions and to achieve policy coordination. The consultants conclude that the climate currently is not favourable for constitutional change, notwithstanding the compelling case for a realignment of fisheries management powers. Instead, they recommend firstly that a joint, federal-provincial policy board be established which would examine the current state of fisheries management and establish stock rebuilding goals for all major stocks, along with measures for restoration of the fisheries habitat and eco-system to the level which prevailed before massive overfishing of major groundfish stocks took place. The consultants recommend to the Royal Commission a major restructuring of fisheries management, with the creation of a federal Atlantic Fisheries Management Commission, a joint Canada/Newfoundland and Labrador Licensing and Allocations Authority, along with a joint federal-provincial policy board.

The report also proposes a new set of policy objectives for management of the fishing industry. These would place first priority on conservation while also providing for a balanced and viable industry that respects the rights of First Nations and the claim to priority of access by people in adjacent fishing communities. They provide a greater place for the values and aspirations of women participants. This industry would have a level of overall participation that provides for competitive enterprises producing reasonable levels of incomes and overall returns. It would not be a rent maximizing industry but one that provides for specific socially desired values without ongoing operating or capital subsidies. It would allow for greater private sector decision-making through continued evolution toward market-based approaches, which will allow self-rationalization in the processing and harvesting sectors.

The report recommends that measures be taken to rebuild depleted stocks, including predator reduction, a moratorium on capelin harvesting and pilot projects to explore the benefit of recolonization of depleted groundfish stocks.

This report also recommends institutional changes within the province to build a strong conservation ethic and an informed awareness of fishery management issues. These recommendations call for action to be taken by the House of Assembly, the highest deliberative body in the province, by the primary and secondary school system, by the University, by the

provincial Department of Fisheries and Aquaculture and by fishing industry participants. The consultants recommend that women be given a greater voice in all fisheries management functions, in recognition of their commitment to the industry and the potential contribution that they can make to policy development and industry management.

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Executive Summary and Recommendations

The purpose of this paper is to examine the place of the province of Newfoundland and Labrador in the management of the fishing industry of the province. This examination addressed the adequacy of the powers exercised by the province in the management of the industry and concluded that there is a strong case for changes in management arrangements to provide for a higher measure of participation through a sharing of functions with the federal government. It also calls for societal change within the province to build the strong conservation ethic that is required to rebuild the resources which were our legacy and which we have allowed to be degraded. Unless we make this commitment the legacy we will pass on to future generations will be but a pale shadow of what was bequeathed to us. In this chapter, the conclusions and recommendations of the report are brought together in summary form.

Division of Powers

Before Confederation, Newfoundland had virtually full control over its fishery, except for the involvement of the Government of Great Britain in international relations during the period of Responsible Government. Upon Union with Canada, the provincial government assumed relatively modest powers compared with those of the federal government. The Constitution Act of 1867 assigned exclusive legislative powers to the Parliament of Canada with respect to “sea coast and inland fisheries”, and to the provinces with respect to “property and civil rights”. The federal government’s powers to regulate have been interpreted by the courts to cover management for social and economic matters as well as conservation.

To discharge these functions, the Department of Fisheries and Oceans carries out the core functions of stock assessment and fisheries science, licensing of vessels and fish harvesters and allocation of the resource, along with fisheries enforcement and international negotiations. The federal government also regulates international and interprovincial trade in fish products. Other ancillary functions include the inspection of fish, marine safety, and search and rescue. The federal government is responsible for establishing policies with respect to the management of highly migratory species and for stocks that straddle the 200-mile fishing zone. The federal government deals with other countries and participates in international organizations such as the Northwest Atlantic Fisheries Organization (NAFO) to place conservation limits on foreign fishing activity.

Canadian provinces have regulatory powers with respect to the processing sector, covering, *inter alia*, the licensing of plants, processing requirements and quality control. The general laws of the provinces, such as those relating to occupational health and safety, also apply to the fishing industry, as do specific laws such as the Fishing Industry Collective Bargaining Act in the province of Newfoundland and Labrador. This province manages the development of the aquaculture industry, along with the licensing of sports fishing in rivers and ponds. The province also discharges a broad fisheries development mandate to diversify the fishery and to strengthen its economic role as part of the overall economic development strategies of the provincial government. In light of its economic and social responsibilities, the province also

participates in a wide range of federal-provincial consultative mechanisms to advocate on behalf of provincial stakeholders and the broad provincial public interest.

Fisheries Management Since Union with Canada

Since Union with Canada, the management of the fishery has undergone dramatic change. In the 1950s and early 1960s, conservation activities tended to be limited to the nearshore area and much of the attention was focussed on marketing, quality control and fisheries development. In the late 1960s the resource came under intensive pressure from overfishing, leading to the introduction of quotas, controls upon fishing effort and to the 200 mile limit in 1977. Removal of foreign fishing and the introduction of TAC controls also came to the fore in the 1970s. In 1992, with the Northern Cod and other groundfish moratoria, the policy focus shifted even more heavily toward conservation, to rebuilding of stocks, and fisheries adjustment programs to reduce the number of participants. Fishing activities shifted from groundfish to shellfish with the blooming of the snow crab and shrimp resource, as their principal predators experienced a dramatic reduction in abundance. Reductions in both harvesting and processing capacity became a dominant policy concern for both federal and provincial governments.

Apparent Policy Objectives

In the first two decades or so after Union with Canada, there was a high level of agreement on fisheries policy objectives between the two levels of government. At that time, the resource was seen as highly abundant and resilient. Governments focused their attention on modernization, quality control and marketing. There also seemed to be a willingness to increase economic viability through measures to develop year-round offshore harvesting and processing operations as well as strategically placed regional plants. Policy objectives became more divergent as extension of jurisdiction proceeded, with the province encouraging expansion of fishing fleets and processing capacity and the federal Minister cautioning a more gradual pace.

During the 1974 to 1992 period, a high level of tension developed between the province and the federal government, initially focussed upon provincial aspirations for rapid development of harvesting capacity. The federal refusal to agree to this led to demands for increased provincial powers in several rounds of constitutional discussions starting in the late 1970s. By the late 1980s, the euphoria had disappeared, and concerns shifted to the precarious state of the resource. Conflict arose with respect to allocations in the early 1990s, centring upon declining quotas, particularly for Northern cod.

In the period from 1992 to the present, there has been a reduced level of conflict with respect to conservation issues. Notwithstanding federal and provincial concurrence to limit financial support, licensing and access policies at both levels have led to a rapid escalation in capacity and a precarious dependence upon crab and shrimp. Allocation policies continued to be controversial, with the focus shifting from Northern cod to Northern shrimp. In the late 1970s, the province had contended this resource was adjacent to Newfoundland and Labrador

and that all 11 original Northern shrimp licences should be awarded to provincial stakeholders. In recent years, an allocation of 1,500 tons of shrimp from 3L to PEI interests led to a high level of acrimony and to the appointment of the Independent Panel on Access Criteria. The recommendations of that Panel were deemed less than felicitous by the province, in light of the perceived diminution in the weighting it recommended be given to the adjacency principle.

The current (unranked) objectives of the fisheries management policy of the Government of Newfoundland and Labrador appear to be as follows:

- To create regional balance between harvesting and processing capacity;
- To maximize employment in the fishing industry;
- To sustain rural communities and regional economies on the basis of incomes and employment from the fishery and to modulate necessary adjustments;
- To reject the notion of strategic regional plants in favour of a multiplicity of plants in many communities;
- To advance the claim of fishers in adjacent communities to be the principal beneficiary of adjacent fish stocks;
- To maximize the share of adjacent resources harvested and processed in the province and, thereby, the benefits accruing to the province from the industry;
- To establish stable industrial relations and equitable sharing of the benefits between processors and harvesters from the sale of products from the fishery;
- To achieve a greater voice in the management of the fishery through changes in the province's relationship with the Government of Canada.

The corresponding (unranked) apparent objectives of fishery policy for the federal government appear to be as follows:

- To maximize employment in the industry, subject to the constraint of reasonable earnings;
- To build and maintain an ecologically sustainable resource base;
- To build the scientific capability to minimize the uncertainty attached to scientific estimates along with the management skills to operationalize scientific estimates of risk and uncertainty;
- To allocate fish resources on an equitable basis to various competing user groups;
- To minimize the impact of resource and market changes upon fishing people and communities;
- To maintain Canadian control and to maximize the benefits to Canadians of fish harvesting and processing; and
- To reduce capacity and facilitate adjustment out of the fishing industry.

The lack of congruence or consistency in fishery management objectives between the two levels of government has led, predictably, to a general failure in fishery policy. The overall result of fisheries policies since Union with Canada, combined with the activities of industry, has been a sharp decline in bio-diversity. Groundfish stocks now comprise a much smaller share of the resource base and there is mounting evidence that capelin stocks have greatly

declined. Crab stocks have been placed under so much pressure that they also are in decline in some areas; only the Northern shrimp resource still appears to be healthy.

Alternative Policy Objectives

The considerable body of literature on objectives of fisheries policy encompasses a wide range of diverse perspectives that defies any attempt to distil what might be identified as a consensus of expert opinion. Governments may choose to place social objectives at the top of their agenda or they may elect to manage the fishery for economic objectives. Governments normally face financial constraints that force them to examine the trade-offs among policy objectives and to measure the economic cost of achieving social policy objectives. Usually, the choice of economic and social objectives is mutually exclusive. It is unrealistic to expect governments to use the fishery to maintain a large number of stable communities and keep employment levels high, while at the same time achieving an economically viable industry that maintains a high level of reinvestment and can compete internationally. Before a rational choice is made governments need to know the price to be paid for achieving social objectives, a price measured both in terms of cost to the Treasury and in lost economic returns to the industry.

It is our view that the linkages between income support measures, particularly employment insurance, and fishery management should be subject to further review to ensure that the success of the fishery is not compromised by the unintended consequences of a well-meaning and firmly established program that injects new funds into the province. This review should examine the unintended consequences of Employment Insurance, including growth in, or even maintenance of, capacity. It should also examine the impact on the education of the young school-age people of the province who could still be drawn out of school by the lure of qualifying for benefits. It should recognize the positive contribution that employment insurance makes to the economy of the province and that, in its absence, and in the absence of a successful program of economic diversification, the level of incomes in the province would be significantly curtailed.

The report also proposes a new set of policy objectives for management of the fishing industry. These would place first priority on conservation while also providing for a balanced and viable industry that respects the rights of First Nations and of people in adjacent fishing communities. They provide a greater place for the values and aspirations of women participants. This industry would have a level of overall participation that provides for competitive enterprises producing reasonable levels of incomes and overall returns. It would not be a rent-maximizing industry but one that provides for a wider range of socially desired values without ongoing operating or capital subsidies.

The decision as to the weights to be assigned to conservation, economic efficiency and social factors is the prerogative of government. Any views we might express must be understood to reflect our personal values. However, conservation is both an objective and an overriding principle. We would not see conservation compromised in any way to promote economic or social objectives. We believe that the fishery can make its greatest contribution if government intervention is kept to the minimum that is required to mitigate the social impact of necessary

economic adjustments. Only in this way can governments expect the fishing industry to make the most suitable contribution to society.

There has been an evolution toward a rights-based system in the fishery of Newfoundland and Labrador. This has the potential to allow for more self-regulation and reduced reliance on government intervention. Full and immediate adoption of an individual transferable quota (ITQ) system is not recommended but it is recommended that transferable quotas be pursued both in the harvesting and processing sectors, subject to appropriate safeguards to avoid undue concentration and to protect against other adverse effects. The next step in the evolutionary process in the harvesting sector would be enhanced ability to combine enterprises within management areas, along with greater flexibility in vessel replacement. There should be a high level of consultation and participation by all stakeholders to enable further evolution in the current system of individual quota holdings through vessel combination and vessel replacement.

Strengths and Weaknesses

These objectives were used to examine the strengths and weaknesses of, and to provide a framework for examination of alternatives to, the current management regime and the existing division of powers for fisheries adjacent to Newfoundland and Labrador.

The existing system has certain strengths. One is the much greater ability of the federal government to pay for such expensive functions as fisheries science, conservation and protection, enforcement, search and rescue and marine safety. The federal government, also, is best placed to manage international fisheries matters and to resolve interprovincial conflict. The federal government is further removed from immediate political pressures than is the provincial government. Some argue that the province lacks a vision for the fishery or does not have the fortitude to make tough decisions that bring negative political consequences. The federal government's control of the major policy instruments is a strength of the present highly centralized fishery management system.

The existing system suffers from the following major shortcomings:

- There is no mechanism to achieve policy coordination and to integrate decision-making affecting the processing and harvesting sectors.
- The Constitution of Canada makes provision for provincial ownership of natural resources only where such resources are on land. The Atlantic Accord of 1985 provides certain powers to the province with respect to hydrocarbon resources on the continental shelf. For sea coast fisheries, this principle of natural resource ownership and/or management does not apply.
- Stakeholders generally have a large amount of influence and the public interest at large is not well represented in the management process. The harvesters' union and the fish processing industry have greater influence with the federal government than provincial authorities.
- There is too much ministerial discretion at both levels.

- There is inadequate involvement at the community level, where much of the impact of fisheries decisions is felt.
- Women have an inadequate voice in the management of the fishery and of the fishing industry generally.

Delivery of Central Functions

We assessed alternative arrangements for the central fisheries management functions in the context of the proposed objectives. While we recommend the functions of fisheries science and fisheries enforcement remain with the federal government, we have concerns about the level of funding for fisheries science, stock assessment in particular, as well as overall fisheries enforcement. While the level of funding for the federal fisheries operations does not appear to have declined in total, there are fewer resources in real terms to carry out core fisheries management functions because of internal re-allocation to new initiatives and annual inflation.

We have examined various mechanisms to strengthen the powers of the province in the management of the fishery. Our conclusion is that constitutional amendment does not offer a realistic prospect for change in the short or medium term. New arrangements to strengthen the province's place in the management of the fishery are needed to achieve the proposed policy objectives. These arrangements should promote participation in conservation decisions for rebuilding depleted stocks and the restoration of bio-diversity and of the fishery habitat. These arrangements, to be acceptable, must either be neutral in their impact on other provinces or, preferably, be seen to be advantageous to all.

The first step should be the creation of a joint federal-provincial fisheries policy board that would report publicly to both fisheries ministers. This board would provide policy advice as requested by either the federal or provincial governments or else on the motion of the board itself. The initial tasking of this board should be to formulate the policy framework for the creation of a joint licensing and allocations authority, as recommended below, because such an authority can work only if there is congruence of policy, covering both the harvesting and processing sectors.

The province should press the federal government for the creation of a quasi-judicial commission to set TACs and manage interprovincial access and allocations. The commission would be similar to the Canadian Radio-Television and Telecommunications Commission (CRTC) and the National Energy Board (NEB). This commission, acting at arms-length, would make major conservation (TAC) decisions based upon a transparent process of receiving evidence from a variety of sources and rendering decisions in the public view. The mandate of this independent board would also apply to new interprovincial allocation decisions caused by such factors as changes beyond pre-specified thresholds of change in a TAC, a quota for a new species fishery or the re-opening of a long-closed fishery. Existing sharing arrangements would otherwise remain in place on a permanent basis.

A third proposed institutional change is the creation of a joint Canada-Newfoundland and Labrador licensing and allocations authority, whose mandate would encompass the harvesting and processing sectors through delegated administrative powers from the province and the

federal government. This authority would report to both fisheries ministers and operate under a policy framework agreed between both governments. There would be a provision for joint decisions by both ministers in pre-determined circumstances. Intraprovincial access and licensing decisions would be made based upon interprovincial allocations decided by the federally-appointed fisheries management commission.

Appointments to these three agencies should reflect gender balance, comprising knowledgeable and independent people. The policy board and the allocations and licensing authority will be appointed by both governments, with an equal number appointed by each of the two ministers and with the selection of the chair by mutual agreement.

There is widespread acknowledgement that improved mechanisms are needed to promote greater provincial participation in the major decisions that will shape the fishery of the future. We have just described some of these possible federal-provincial mechanisms. However, other deep-seated societal issues also must be addressed. These issues relate to what we perceive as a deficit in the conservation ethic in this province. This is a deficit shared by stakeholders in the fishing industry, the public and the government of Newfoundland and Labrador. There are too few exceptions to the prevalence of this conservation deficit. For example, we are encouraged by the local actions taken by lobster harvesters in the Eastport area to maintain a sustainable resource for future generations through good husbandry. However, it is all too often the case that when reduced harvests are advised, widespread questioning of the science immediately takes place to rationalize maintaining harvest levels.

We offer some suggestions to address the questions posed by this conservation deficit in a number of ways but believe this issue deserves more attention than we have been able to give it. The public policy issues surrounding the fishery and the collapse of major components of it have not attracted sufficient, if any, informed and objective debate. Such a debate requires a populace much better informed concerning fishery issues.

In addition to this, Memorial University has a vital role to play in fisheries management. The province should support the University in building upon its existing research capacity in fisheries management. This capacity includes the Chair in Fisheries Conservation at the Marine Institute of Memorial University, which is presently supported by the Province. The aim should be to build a strong interdisciplinary group at Memorial University that includes fisheries science but embraces other disciplines as well, including social sciences, education, business and engineering.

The provincial Department of Fisheries and Aquaculture has an important policy role in building a vision of the fishery of the future. Our suggestion is that the role of the Department be reassessed to ensure that it is sufficiently empowered and staffed to advise on important public policy issues and to commission research in anticipation of major issues that are likely to arise.

It is our considered opinion that “the mechanisms that would allow Newfoundland and Labrador adequate participation in the management regimes of fisheries resources adjacent to Newfoundland and Labrador” go beyond federal-provincial arrangements and, indeed, beyond fisheries management, *per se*. These mechanisms include fundamental elements of the society of the province and its institutions.

In this regard, our suggestion is that the House of Assembly play a role in shaping the fishery policy of the future. This could be accomplished by mandating an all-party select

committee to examine the fishery from a number of perspectives. The scope of such an all-party committee might include the following issues:

- What lessons should be learned from the collapse of Northern cod and of other major groundfish stocks?
- What innovative techniques can be introduced to resolve conflict in fisheries management?
- How can a stronger conservation ethic be promoted?
- What role can women play in building this conservation ethic?
- How can the schools play a more effective role in educating the general public on the past and future of the fishing industry?
- How can the University play a more prominent role in undertaking applied and objective public policy research in defining the policy options for rebuilding stocks, restoring biodiversity and fisheries habitat and other key components of fisheries management?
- What other societal changes will support a stronger conservation ethic to promote decisions that will benefit present and future generations?

Summary of Recommendations

The following is a summary of the recommendations contained in this report. Further detail on these recommendations is to be found earlier in this summary as well as in the main report. In this summary, we will first list the proposed fishery policy objectives, the new mechanisms whose recommended roles bear directly upon fisheries management functions and then the recommendations that pertain to existing provincial institutions and society.

Alternative Fisheries Policy Objectives

1. Resource conservation must be the dominant objective, including the restoration of bio-diversity and fishery habitat. Management should be highly precautionary; with TAC levels set at the lower end of the range advised by scientists and include a buffer to allow additional assurance against overexploitation. Ecological sustainability cannot be built upon the ecosystem that currently exists, with its degraded biodiversity and a precarious dependence upon historically exceptional levels of shellfish abundance. Concrete objectives for stock rebuilding need to be established for all major demersal, pelagic, estuarial and shellfish stocks. These objectives should include target levels of fishable biomass for stocks such as Northern cod (i.e., 2J3KL), cod on the southern Grand Banks (3NO) and on the St. Pierre Bank (3Ps), cod in the Northern Gulf (4RS3Pn), American plaice and yellowtail, redfish, turbot and capelin. It is not sufficient to establish annual management plans for major species. There should be medium and long-term management plans aiming toward specific levels of stock restoration. One approach for consideration by the Royal Commission is to rebuild the

- species diversity and abundance that existed at the time of Union with Canada or else restore the situation that existed prior to massive overfishing.
2. The rights of aboriginal people must be respected in all allocation decisions.
 3. Fishery resources must be managed and allocated so that those closest to them derive the maximum benefits. Allocation decisions must recognize the resource-use aspirations of adjacent coastal communities.
 4. The industry must generate a competitive return including a premium for the high level of risk involved in fishing. Harvesting and processing enterprises should be allowed sufficient returns to make them viable, allowing a return to labour and capital comparable with returns in other industries where risk is similar.
 5. Within the preceding objectives, the level of employment should be optimized, not maximized. This means the aim should not be to maximize employment, nor to achieve the level of employment that would result from maximizing the economic rent. However, employment levels should allow enterprises to be globally competitive and should not impair the viability of harvesting and processing enterprises. When regulatory decisions are taken to add capacity and employment, governments should attempt to measure the impact of such decisions on the viability of existing enterprises. The economic data to allow such measurement should be compiled by government and such data should be readily accessible from harvesting and processing enterprises, on a confidential basis, as necessary information to facilitate the management of a public resource. The federal government has used this type of approach from time to time when evaluating the wisdom of issuing a new licence to prosecute the Northern shrimp resource.
 6. Rights-based management systems should continue to evolve for both the harvesting and processing sectors, with appropriate safeguards to ensure that transferability of production and harvesting quotas does not create undue concentration or compromise other objectives of fisheries management. Measures should be taken to improve the ability of enterprises to combine quotas and to allow greater flexibility in vessel replacement.
 7. We are proposing the promotion of a multi-species eco-system approach through increasing emphasis on the factoring in of species interactions, predator-prey relationships and habitat considerations in future management measures. This would also echo the Canada *Oceans Act* approaches of *sustainable development* of the oceans and their resources; conservation, based on an *ecosystem approach* and the wider application of the *precautionary approach* to the conservation, management and exploitation of marine resources in order to protect these resources and preserve the marine environment.
 8. Measures to promote restoration of depleted stocks must be considered, including a planned reduction in the number of predators, particularly seals, a moratorium on capelin harvesting, and experiments to determine the impact of enhancement and recolonization.

Fisheries Management Mechanisms

1. A federal-provincial fisheries policy board should be established. This board would advise both governments on policy upon the request of either, as well as upon its own motion. This board would recommend as well on management plans for major species and on the allocations that should be made to the province's fleets. It would be the first agency to be established and it would be assigned the task of preparing a plan for the creation of a federal-provincial licensing and allocations authority.
2. The federal government should establish an Atlantic Canada Fisheries Conservation Commission (ACFCC) for making major conservation decisions. This would be a federal commission whose policy direction would come from the federal minister. It would receive conservation advice from the Fisheries Resource Conservation Council and allocation advice from the federal-provincial fisheries policy board. It would make decisions on interprovincial access and allocations.
3. The province and the federal government should establish a Canada-Newfoundland and Labrador Fisheries Management Authority (CNLFMA), within an agreed policy framework. This authority would be given delegated powers from both the federal and provincial governments and its mandate would, in essence, be coordinated management of the harvesting and processing sectors. It would make allocation decisions within the framework of provincial fleet shares set by the federally appointed fisheries management commission.

Appointments to these agencies should be gender balanced, comprised of knowledgeable and independent people.

Provincial Institutions, Public Policy and the Conservation Ethic

1. The province should review the curriculum of primary and secondary schools to ensure that the history and future prospects of the fishery, along with fisheries biology and basic fishery management, are core components.
2. The province should support the creation of a stronger applied and objective multi-disciplinary public policy research capacity at Memorial University, covering all aspects of fisheries science and fisheries management.
3. The province should review the role of the Department of Fisheries and Aquaculture to determine whether its policy role and capability is commensurate with the magnitude of the province's long-term interest in the fishery as a core component of the provincial economy and social structure.
4. The Department, working with DFO and the University should convene an international conference on the rebuilding of cod and other groundfish stocks, with full participation by women.
5. The House of Assembly should create a select committee to examine central aspects of the fishery in Provincial society, including management issues and the role of provincial institutions in enhancing a stronger conservation ethic.

6. The Professional Fish Harvesters' Certification Board should examine measures, including more local availability of training opportunities, to promote the accreditation and professionalization of fish harvesters who are women.

Other

1. It is our recommendation to the Commission that the linkages between income support measures, particularly Employment Insurance, and fishery management be subject to further review to ensure that the success of the fishery is not compromised by the unintended consequences of a well-meaning and firmly established program that injects new funds into the province.

Introduction

This report is structured in accordance with the terms of reference provided to the consultants. In preparing the report the consultants reviewed relevant academic research and government publications. We also held personal discussions with a number of industry representatives, university professors and government officials, including the Minister of Fisheries and Aquaculture for the province. We also met with a number of individuals who had previously been involved in the fishery, either in industry or in government, including a former Minister of the Department of Fisheries and Oceans.

The terms of reference given to the consultants are as follows. The chapter of the report that addresses each component is identified.

Terms of Reference

Purpose

The purpose of this project is to develop options and make recommendations on (1) the objectives that should define fisheries policy governing the use and benefits of fisheries resources adjacent to Newfoundland and Labrador and on (2) the mechanisms that would allow Newfoundland and Labrador adequate participation in the management regimes associated with realizing such objectives. To this end, the paper should:

- Document the fishery management system in place in Newfoundland and Labrador prior to Confederation and how it changed when Newfoundland and Labrador became a province, outlining the existing scope and nature of federal, provincial and international (e.g., through Northwest Atlantic Fisheries Organization (NAFO)) jurisdiction and responsibility for key aspects of resource management. (Chapter 2)
- Provide a brief summary assessment of the apparent policy objectives applied to the management of fisheries resources and of policies applied to the broader industry by the federal and provincial governments since the entry of Newfoundland and Labrador into Confederation, describing broad trends, without covering every successive administration. This is to cover the principal fishery resource management functions of scientific advice, allocations, quota management and enforcement (i.e., the resource management functions currently exercised by the Department of Fisheries and Oceans) as well as processing sector management policies. The treatment of secondary processing, marketing arrangements, fisheries development, labour relations, occupational health and safety (on sea and on land) and port market price determination will be much more cursory. (Chapter 3)
- Discuss and outline the chief alternative approaches to setting policy objectives for the fisheries in the future (e.g., maximizing economic rent, maximizing employment, maintaining an inshore fishery) with reference to real world experience and to the fisheries economics and other resource management literature. (Chapter 4)

- Provide a brief summary assessment of the strengths and weaknesses of the current management regime and division of powers for the fisheries adjacent to Newfoundland and Labrador, based upon the principal policy objectives arising from the fisheries economics and other resource management literature. (Chapter 5)
- Examine the central functions of scientific assessments and setting of catch limits as well as resource, access and allocation management, and assess whether they can best be conducted at the federal or provincial level or through some shared process; also, similarly review other related fishery management functions (broadly defined to include functions that may not be exercised by either federal or provincial fisheries departments but rather by other federal agencies such as Transport Canada (marine safety) or the provincial Department of Labour (collective bargaining and labour standards). (Chapter 6)
- Outline and discuss potential alternatives to the current management regime in terms of the division of fisheries management functions and the policy framework for undertaking those responsibilities, including joint arrangements, concurrent powers and asymmetrical federalism. (Chapters 6 and 7)
- Where appropriate and available, the analysis should take into consideration the perspectives of both women and men on the policy framework for fisheries. (All)
- Draw conclusions and make specific recommendations among the policy and management regime options for the consideration of the Royal Commission. (Executive Summary and Recommendations and Chapters 6, 7 and 8)

Past and Present Canada/Newfoundland Fishery Management Systems

In this chapter, we examine the fisheries management system that has existed for the Newfoundland fisheries from the time before Confederation until the present. We will document the fishery management system in place in Newfoundland and Labrador prior to Confederation and how it changed when Newfoundland and Labrador became a province and outline the existing scope and nature of federal, provincial and international (e.g., through NAFO) jurisdiction and responsibility for key aspects of resource management.

A brief examination of what is encompassed by the term “Fisheries Management” would be useful before documenting and describing the fisheries management system that has evolved from the time of Newfoundland’s Confederation with Canada. It is used by many interests in a variety of ways to cover almost anything pertaining to the fishing industry on a local or national basis. In its broadest sense, it is used to include all aspects of fisheries policy, whether the subject of discussion is harvesting, processing or marketing of fish and fish products. In its narrower sense it refers to the control and direction of the factors of production engaged in the actual catching of an individual species or the totality of species harvested by a specific fishing fleet or in a certain geographic area. In that case it can also be used as diversely as the term “fishery” itself, which is often used to signify the total fishing activity in a country or the operation of a specific vessel class in a given geographical area and every activity in between.

In this paper, we shall endeavour to distinguish, when required, whether it is the management of fishing activities or the management of the complete fishing industry that is under reference. Sometimes we will use that term to refer to the regulation of the harvesting sector, and in that context, we will distinguish the “Core” or “Central” fisheries management functions from those we consider of a more ancillary nature. We will refer to the Core or Central functions as the ones most directly connected to the management of the primary fishing or harvesting operations. These primary functions are those of, directly or indirectly, setting the level of annual harvest (conservation); determining who, as individuals or groups, are permitted to participate in the annual harvest in some specified or authorized manner (access) and establishing the extent or level of shares of the annual catch (allocation). These are the primary functions performed by the central fisheries management authority or shared to some degree with other levels of authority. In the Canadian case, except for the determination of who participates in inland sports fishing activities, these functions are vested in the federal government. In the case of marine fisheries, these primary functions have been those invariably at the centre of disputes between levels of government and between the central management authority and industry participants.

Similar confusion exists around the term “fisheries policy” or “policies”. This is often used as a generic term encompassing all matters pertaining to the government’s involvement with the industry. In reality, several levels of policy can be specified: from broad and general governmental aims or intentions for the overall industry to detailed approaches to the operation of a single specified fishery. The latter can range from a national or regional level activity (e.g., the Atlantic groundfish fishery) to one that is confined to a small group in a restricted geographic

area (e.g., cod gillnet fishery by under 35 ft. vessels in NAFO Unit Area 3Ka). In the later section on the objectives of fisheries management, “policy objectives” will normally be used to refer to the highest-level initiatives or intentions of the management authority. It is not possible in the space permitted here even to mention all the myriad statements of a policy nature for all the individually managed fisheries or activities that now exist. The recent DFO publication “Fisheries Management Policies on Canada’s Atlantic Coast” uses the term “policy” 13 times in a listing of 24 “policies, acts and agreements in effect on September 30, 2001...”¹. We will indicate later that these detailed statements of policy or objectives for individual fisheries are now largely the consensus results of continuous consultations with license holders and other industry interest groups, including provincial governments.

The Newfoundland Fishery Management System

The Pre-Confederation Period

During the Responsible Government period, a (Newfoundland) Fisheries Royal Commission in 1888 proposed a centralized bureau devoted to fisheries research and assistance to address problems it identified in the area of “uncoordinated resource planning and development”.² An independent Fisheries Commission, established in 1889 with a small administrative and scientific staff, was the start of Newfoundland’s statutory regulation of the fishery.³ (Acts of the British Parliament were passed for the regulation or control of the Newfoundland fishery at least as early as 1788.)⁴ Mr A. Nielsen became the first Superintendent of Fisheries under the Fisheries Commission. Before he returned to Norway in 1897, he had established a fish hatchery, proposed rules and regulations for the proper management of the fishery, prepared reports and suggestions for the proper curing of fish and established a Bait Intelligence Service.⁵ The first separate department devoted to fisheries matters, the Department of Marine and Fisheries, was established in 1898. This was something Nova Scotia and New Brunswick would not do until the 1960’s.⁶ The government established the first fisheries research station at Bay Bulls in 1931. This was the predecessor of the Fisheries Research Board of Canada activities in Newfoundland.

In 1934, Commission of Government took over the colony and fisheries administration became part of the Department of Natural Resources along with mining, forestry and agriculture. In 1936, the Newfoundland Fisheries Board was established to oversee all aspects of the catching, processing and marketing of fish and fish products.⁷ The Board reported to the Commissioner of Natural Resources but was in effect a separate fisheries administration. On Newfoundland’s entry into Confederation, a provision in the Terms of Union provided for the remaining in force of all orders, rules and regulations made under Newfoundland Fisheries Laws for at least five years or until altered by the Parliament of Canada.⁸

In the half-century or so leading up to Confederation, the primary concerns and activities of the various fisheries administrative bodies involved the control and/or development of production and marketing in the salt fish industry. There were no catch quotas or other conservation-directed measures except for some purely local fishing rules. The main focus centred on the fluctuating, and often low, levels of export earnings from the un-disciplined

marketing of usually poor and inconsistent quality salt fish. Indeed, the general intention of government over much of this period (and even into post-Confederation years) was to maximize export earnings from the fishery so that surplus labour could be thereby accommodated.⁹ Other fisheries initiatives were undertaken to develop new processing activities (fish freezing), improve the quality of products from other species such as herring and modernize fishing vessels and gears. Regulations were developed over the 1900-49 period to control local cod and salmon fishing through a series of measures that eventually included minimum mesh sizes, rules to conduct random berth draws, minimum mesh sizes for cod traps and cod nets, spacing from previously set gear, and closed areas for specified gears.¹⁰ While some of these regulations had the indirect effect of limiting access on a localized basis, there was no consideration given to limiting the total numbers participating in the overall fishery or to directly limiting catches of any species. Nor were there any attempts to restrict harvesting or processing capacity. Lobster regulations were also developed that included closed seasons, minimum lath spacing and carapace size, as well as licensing requirements for processors and exporters for the purpose of quality control and improved marketing.¹¹ There is a reference to “developing local cod fishing regulations” in the Board’s 1937 Annual Report and to “hopes of instituting an efficient system of lobster conservation” in its 1938 Annual Report. However, there is nothing else in these 13 annual accountings of the Newfoundland Fisheries Board from 1937 to 1949 to indicate any ongoing priority of regulating the fish catching activities of the colony.¹² These annual reports are primarily accounts of the year’s salt fish production and market results as well as data on the final product quantities and values of other fishery production such as pickled and cured herring, pickled turbot, canned and fresh salmon, fresh and canned lobster and frozen groundfish fillets.

The array of fisheries legislation enacted by the Commission of Government reveals an involvement with a wide range of fisheries matters, primarily in the areas of processing and marketing. The following, while not necessarily a complete list of the various fisheries acts in force during the 1934-49 period, indicates the extent of this involvement: the Natural Resources Act, Export of Herring Act, Salt Codfish Act, Newfoundland Fisheries Board Act, Whaling Industry (Regulations) Act, Bank Fishermen Protection Act, Game and Inland Fisheries Act, Fish Oil and Meal Act, and the Shipbuilding Assistance Act. There were also numerous sets of specific regulations related to the processing, culling, packaging and export of salted cod; canning of cod and other species; production and export of pickled turbot, dried squid, pickled and cured herring.

In the Responsible Government period, Newfoundland could legislate to manage or control any aspect of its domestic fishery activities. There do not appear to have been any problems with the British Government’s disallowing any Newfoundland legislation in this area. However, in the case of its efforts to control certain foreign fishing activities it was less independent of London. The Bait Acts of 1886 and 1887 were disallowed as passed by the Newfoundland Legislature because of objections from Canada and France, and those of 1904-05 because of complaints from the United States. In the latter case the British Government also refused to ratify the Bond-Hay Convention of 1902¹³ and reached its own understanding (on trade and fishing arrangements in respect of Newfoundland) with the Americans.¹⁴

Under Commission of Government, London was directly in charge of all Newfoundland’s international affairs or diplomatic initiatives. In such a situation, it is unlikely that any fishery legislative proposal considered inimical to British interests (or those of its major allies) would

have succeeded. Throughout much of that period, actions similar to the Bait Acts, that had been aimed at reducing fishing competition by foreign countries, did not seem to have been considered necessary; American and Canadian fisheries (especially during the War years) were seen to be less of a threat to Newfoundland's overseas markets and even less to its small North American outlets. At that juncture in history, the types of territorial seas and fishing zone extensions that would develop some three decades later were not even contemplated.

By the end of, indeed for most of, the Commission of Government period Newfoundland had in its Fisheries Board "one of the best fisheries services of that time".¹⁵ However, as will also become evident from the ensuing section on the Canadian fisheries management system, measures to ensure conservation of ocean resources still were not considered necessary. The later issues of overcapacity and overcapitalisation were still not recognised as requiring the application of specific fisheries management measures. Such conservation-oriented measures as were implemented were directed at coastal fishing activities, sedentary species or those that had a sport fishing usage such as salmon. In the first of these cases, the various rules and regulations were really "rules of the road", more related to orderly fishing than to conservation or control of total fishing effort and catches. The main preoccupation of government was industry modernization and development to ameliorate the economic difficulties that always seemed to characterize its saltfish-dominated industry. That was largely where the colony still found itself on the eve of becoming a province of Canada, where it would no longer have the wide range of powers of an independent Dominion (except for international matters) to legislate for all aspects of its fishing industry.

Post-Confederation

Within months of Newfoundland's becoming a province of Canada, the government re-established a separate fisheries department with the creation of the Department of Fisheries and Cooperatives in December 1949. Section 9 of the Department of Fisheries and Cooperatives Act states: "The duties, powers and functions of the Minister shall extend to and include all matters relating to the management generally of fisheries and cooperatives and fishing and cooperative development in Newfoundland, over which the Legislature of Newfoundland has jurisdiction"¹⁶ Around the same time the Fisheries Loan Act provided for the establishment of a body (Fisheries Loan Board) to make loans directly to fishermen, cooperatives or companies engaged in the general fish business.¹⁷ By 1951, most of the major pieces of fisheries legislation that were then considered necessary at the provincial level were in place. These included activities over which the province had the right to legislate,¹⁸ including fish inspection, payment of a bounty on repair and rebuilding of fishing vessels, sale and distribution of salt, production of oil and meal and general fisheries development.¹⁹

The provincial government embarked on initiatives to develop and modernize the fishery during the 1950s, 1960s and most of the 1970s. Some of the early activities included the setting up of a Fisheries Development Authority within the Department of Fisheries and Cooperatives. It would have a higher profile than the department for the next two decades. A Division of Fisheries Education was also established early on and was followed in 1958 by travelling schools for fisheries training. These fisheries educational program initiatives culminated in the formation of the College of Fisheries, Navigation, Marine Engineering and Electronics in 1964. Some of the specific fisheries development initiatives undertaken included bounties

for construction of fishing vessels, financial assistance to establish freezing plants and acquire offshore trawlers, construction of new government-owned processing plants and assistance to local shipyards.²⁰

The government also initiated a series of Royal Commissions, Committees and special Conferences that were designed to provide solutions to various problems in the fisheries. These included the Fishermen's Convention of 1951 that resulted in the formation of the Newfoundland Federation of Fishermen, the Walsh Commission (the joint federal-provincial Newfoundland Fisheries Development Committee) of 1953, the South Coast Commission of 1957, the provincial National Fisheries Development Proposal of 1963 and the 1967 Royal Commission on the Economic State and Prospects of Newfoundland and Labrador.²¹ All these called for a variety of measures, including marketing boards and revitalisation of the inshore fisheries, most of which were not adopted. In spite of its own similar initiatives, many of these efforts were aimed at changing federal policies considered anti-inshore/saltfish and in favour of capital-intensive freezing operations supplied by year-round offshore vessels.²²

The inclination to expansion of the fisheries continued unabated into the 1970s and early 1980, especially after extension of Canadian fisheries jurisdiction in 1977. The provincial government continued assistance in the form of loan guarantees to processing operations and actively supported increases in the number of larger fishing vessels. In addition, the first federal/provincial general development agreement was signed in 1975, ushering in a new era of joint funding (usually 90 per cent Federal) of fisheries development activities. The establishment of the Canadian 200 mile limit spawned a combined (Nova Scotia, Newfoundland and Prince Edward Island) provincial fleet expansion proposal to the federal government.²³ The federal rejection of this proposal led to a campaign by Newfoundland and Labrador to acquire increased fisheries jurisdiction, which will be detailed in later pages.

In 1971, the province took one significant step in exercising powers within its jurisdiction when it gave Newfoundland fish harvesters the right to unionize and to bargain collectively with fish buyers through passage of The Fishing Industry Collective Bargaining Act. This put Newfoundland well in front of other Atlantic Provinces in giving such rights to fish harvesters. The late 1970s and the 1980s saw a redevelopment and enlargement of the provincial fisheries department and the adoption of a more proactive role in defining positions on fisheries policies. This period saw the province produce "a very considerable number of well researched and articulate White Papers, Policy Statements and special studies.... Most of these documents were aimed at economic development questions".²⁴

In the middle of these developments came the collapse of most major fish processing companies in the Atlantic Provinces and the subsequent restructuring of the offshore sector of the industry. In Newfoundland, this resulted in the formation of Fishery Products International from the remnants of Fishery Products Ltd, the Lake Group and the Newfoundland holdings of H. B. Nickerson. This was accomplished at a cost to governments of some \$200 million: a cash infusion of \$167.6 million over four years (1984-87) by the federal government and a conversion of debt to equity of \$31.5 million by the Newfoundland government.²⁵

The ensuing years of the 1980s and the 1990s would see the province take an increasingly proactive role in managing the size and shape of its processing sector. Licensing policies were developed, and reflected in regulations passed under the Provincial Fish Inspection Act of 1954 (and amended), to control entry to the processing sector by requiring licences for different types of processing activities. Processing plant licences were first required in 1975 and became

limited by main species in 1979. A general freeze on numbers of licences and imposition of capacity controls followed in 1981. This policy was modified in 1997 to take account of the new raw material situation by adding a concept of Core and Non-Core licences.²⁶ By the end of the 1990s, this had resulted in direct control by provincial authorities of the number and types of fish plants permitted to operate.

The provincial government also intervened in the processing sector through its various quality enhancement initiatives in the latter half of the 1990s. Standards for handling, storage and transport of raw material were instituted as well as mandatory grading systems for crab, shrimp and cod. These were incorporated in Collective Agreements for those species.²⁷

The approach to fisheries development, which had long been the major provincial activity, changed in several ways over these last two decades as well. The early attempts at regional development tended to be a series of individual initiatives or programs under the Fund for Rural Economic Development (FRED) and then the Agricultural and Regional Development Administration (ARDA). The formation of the federal Department of Regional and Industrial Expansion (DRIE) resulted in the beginning of the general development agreement (GDA) approach which involved formal cost-shared agreements delivered jointly by the two levels of government. Initially these were between DRIE and the province directly, but soon involved the federal fisheries department as the co-deliverer on the federal side. However, by the mid-1980s, direct operational and capital subsidization would also go by the wayside, as would development of additional catching capability for traditional species. By the end of the 1990s, fisheries development would be aimed more at conservation enhancing fishing activities and increased utilisation of a reduced raw material base.

Although the provincial initiatives to obtain an increased role in marine fisheries jurisdiction failed, the two levels of government did reach an agreement on management of aquaculture. The Canada/Newfoundland Memorandum of Understanding (MOU) on Aquaculture, signed in 1988, put aside the question of jurisdiction over this activity and provided for a provincial lead on the licensing of such operations. The provincial department processes aquaculture licence applications and aquaculture licenses are issued by it after all other regulatory agencies certify that the operation meets their requirements. While this may not be the sort of fisheries management authority the province originally sought, it is a form of shared legislative activity. The other, of more long standing, is that of inland sports fishing where the authority to legislate for conservation is federal and the right to issue fishing licences is provincial. The federal authority determines the conservation measures required through its scientific assessment and consultative activities, the province sets the licence fee and issues the licences and both now conduct enforcement activities.

While the Newfoundland provincial role in management of commercial marine fisheries has not changed much in legal terms since Confederation, more and more of its efforts now complement federal activities. The province, as well as the federal side, no longer directly subsidises the acquisition of vessels, plants or equipment; while boat-building subsidies, guaranteeing of loans to the processing sector and the granting of loans directly to fishermen have all ended. Operationally, the province conducts fisheries development activities in concert with the federal authorities through formal cost-shared agreements that reflect mutually agreed current fisheries management priorities or problems. The province takes part in the extensive federal fisheries consultative arrangements in place provincially and at the Atlantic and national levels. It is a signatory to the 1999 Agreement on Interjurisdictional

Cooperation (See p. 12 below). Its role in respect of the processing sector has gone from one of wholesale encouragement of expansion to one of restricted entry licensing and capacity control. The sections of the Report of the Special Panel on Corporate Concentration dealing with the evolution of processing licensing and associated policies is almost a mirror image of commentary on federal fisheries licensing activities over the past 30 years.

The province passed legislation in 1996 providing for a Certification Board to administer the Professionalization of Fishermen program that is essential to the federal authority's new Core Licensing system. In 1998, the province authorized a pilot project on the use of interest-based bargaining using final offer selection under its Fishing Industry Collective Bargaining Act. The use of this approach was confirmed by an amendment to that Act in 2000.

These initiatives have put the province in much the same situation in respect of its area of jurisdiction, as is the federal government. Both have moved from a development and expansion mode to one that is more concerned with overcapacity and overcapitalization and the consequent effect on social and economic conditions of those engaged in the fishing industry. Both levels of government now seem more intent on achieving some improved measure of economic efficiency in the industry while still accommodating some of the other conflicting wishes of industry proponents.

The Canadian Fishery Management System

The Division of Powers

The division of powers of the federal and provincial governments to legislate for management of the fishing industry is such a critical element of the Canadian management system that a review is warranted before describing the federal system of the past 50 years or so. This is basic to a fuller understanding of why the fishing industries in Canada are managed as they are.

The management of commercial fisheries in the Dominion of Canada commenced with passage of the first Dominion Fisheries Act in 1868. (The first comprehensive fisheries legislation in British North America had been passed by Upper Canada in 1858).²⁸ The authority for the extensive federal powers encompassed in this legislation came from the Constitution Act (BNA) of 1867, Section 91 (12) of which gave the Parliament of Canada exclusive legislative authority over sea coast and inland fisheries. Provinces, on the other hand, were given authority over natural resources within their boundaries, property and civil rights and provincial public lands. The Dominion Fisheries Act of 1868 authorized the Minister to issue (or authorize to be issued) licences or leases for fisheries and fishing anywhere that an exclusive right of fishing did not already exist by law. While "for more than 30 years following Confederation the federal government exercised unchallenged authority in fishery matters",²⁹ the courts would render several judgements that further delineated and clarified the scope of federal versus provincial powers over fisheries.

Parsons³⁰ gives an excellent review of the development of distinctions between federal and provincial powers, which is the basis of much of what immediately follows, unless otherwise noted. The Supreme Court, in the case of *The Queen v. Robertson*, in 1882 ruled that the

federal Minister did not have the power to issue fishing licences or leases for non-tidal portions of rivers. It also concluded that there existed an exclusive right to fish in such waters that belonged to the provinces. The Privy Council decision in the Ontario Fisheries Reference of 1898, while upholding the authority of the province to legislate on matters of property and civil rights in fisheries, did confirm the exclusive federal power to regulate the fisheries, both coastal and inland, as to the type of fishing gears, catch limits, closed seasons and species and size of fish. In 1914, the Privy Council ruled in the B. C. Fisheries Reference that the province had no jurisdiction over any aspect of fisheries in tidal waters. The Privy Council, in the Quebec Fisheries Reference of 1921, concluded that the federal Parliament had exclusive jurisdiction over fishing in all navigable waters, even when non-tidal, but that fishing with gear attached to the soil did not constitute a public right to fishing and hence was not exclusive federal jurisdiction.

The first delegation of administrative control over inland fisheries occurred in 1898 when the federal government transferred this power to Ontario for both sport and commercial fishing in its waters. At that time, it transferred only control of inland sport fishing to Quebec because of the dispute over management in tidal waters that led to the Quebec Reference of 1920. Following the 1921 decision in that case, and because all fishing in mainland Quebec at that time was by fixed gear, the federal government delegated powers to Quebec in 1922 to administer all fisheries in tidal waters subject to regulation by the federal government as to the conditions under which such fishing is carried out. The fisheries around the Magdalen Islands were not covered by this delegation because of the ways in which they were prosecuted; this delegation did take place in 1943. In 1984 the federal government, rather quietly, re-assumed administration of commercial fisheries management in Quebec.

In its 1930 decision on the (B.C.) Fish Canneries Reference, the Privy Council decided that the federal government had no authority to license canneries as these were within the provincial right to legislate on property and civil rights. Fish caught in tidal waters remain under federal control until landed on provincial territory or taken out of Canadian fishing zones. Fish processed for export are subject to the requirements of the federal Fish Inspection Act. This decision was the final determination of the division of powers in respect of British Columbia and the other coastal provinces. Essentially, the federal authority controlled all fish catching activity while the province could manage non-export processing activities and licence access to sport fishing.

In 1929 and 1930, the Government of Canada entered into agreements with Manitoba, Saskatchewan and Alberta regarding natural resources that provided for the rights of provinces to administer all the rights of fishery subject to the federal legislative jurisdiction over seacoast and inland fisheries, i.e. conservation. When Newfoundland joined Canada the provisions of the British North America Act (BNA) were made applicable and the federal government's exclusive power of legislating for inland and coastal fisheries became effective in the new province. The Terms of Union did provide for all Newfoundland fisheries laws to remain in effect for a period of at least five years or until changed by the Parliament of Canada. The division of powers that had developed to that time came to apply in Newfoundland as well. While the province retained control over inland sports fishing, in 1954 it passed administration of this to the federal government, while retaining the right to issue sports fishing licences. In that case, the situation today is largely unchanged; the federal government sets the fishing rules

as to times, methods and quantities, the province issues the angling licences and both now carry out surveillance and enforcement.

The federal power to legislate for fisheries in tidal and non-tidal waters was initially interpreted to apply to measures intended only for the regulation, preservation and conservation of fish and fisheries. The courts, at the Trial Division level, confirmed this view as late as 1978 in the case of the *Interprovincial Cooperatives v. the Queen*. Again, the 1984 decision in the *Gulf Trollers Association v. the Minister of Fisheries and Shinners* case rejected the federal claim to manage for social and economic purposes. As a consequence, the Fisheries Act was amended to give the minister sunset powers to allocate for economic and social benefits. However, before that sunset period ran out at the end of 1987, the Federal Appeal Court had overturned the 1984 trial Judge's decision in 1986. This decision was later upheld in the *McKinnon v. Canada* case of 1987. The federal government was now clearly empowered to continue the management of fisheries for social and economic reasons as well as conservation that it had begun in the early 1970s.

From the late 1970s and until the early 1990s, a series of proposals were made by Newfoundland to change the division of fisheries legislative or jurisdictional powers. Much of this debate took place as part of the Constitutional discussions of those times. The Newfoundland position was initially a call for concurrency with provincial paramountcy over such matters as allocation of federally set quotas, harvesting plans and licensing of vessels and fishermen. This failed to make it through the various constitutional negotiations that led to the repatriation of the Constitution in 1982 and fared no better in later constitutional negotiations that produced the Meech Lake Accord.³¹ During the ratification period for that agreement, the provincial position changed with a new government to one of joint management along the lines of the Canada/Newfoundland Offshore Petroleum Board. However, this proposal died when the Meech Lake Accord was not ratified, and no progress was made on changing fisheries jurisdiction in the Charlottetown Accord negotiations. When Canadians rejected that Accord in October, 1992, the fisheries jurisdiction issue had already been overtaken by other imperatives such as the groundfish moratoria and subsequent efforts to rebuild stocks and transform the fisheries.

Since that time this has not been a frequent federal/provincial discussion topic. The provinces and the federal government signed an Agreement on Interjurisdictional Cooperation in 1999 that commits all parties to consult on major initiatives or actions and give each other prior notice on changes to policies affecting fisheries, habitat and aquaculture. It also established the Canadian Council of Fisheries and Aquaculture Ministers (CCFAM), supported by a Committee of Deputy Ministers and an Interjurisdictional Working Group of officials. Recently, however, the provincial Special Panel on Corporate Concentration in its report recommended: "A Canada/Newfoundland and Labrador Fisheries Policy Co-ordination Council be established to make recommendations to governments on major public policies relative to the harvesting sector, the processing sector, marketing, quality enhancement and fisheries development opportunities and strategies".³²

The Pre-1949 System

The first Canadian fisheries management administration, the Fisheries Branch of the Department of Marine and Fisheries, was established in 1867. A separate Department of

Fisheries was set up in 1884; but administration of fisheries was again carried out by a Fisheries Branch; first of the Department of Marine and Fisheries from 1892 to 1914, of the Naval Services Department from 1914 to 1920 and again as part of the Department of Marine and Fisheries until 1930. A separate Department of Fisheries again existed from 1930 until 1960 when a Forestry component was added to make it the Department of Fisheries and Forestry. Fisheries management was handled by a Fisheries and Marine Service in the Department of the Environment starting in 1969, and in the Department of Fisheries and Environment from 1976 to 1979 when the current Department of Fisheries and Oceans (DFO) was established.³³

As was true of the Dominion of Newfoundland, the Canadian fisheries management system in the pre-1949 period focused largely on conservation of coastal and sedentary species or those with a sport fishing usage. There are probably two reasons for this: one was the prevalent view that resources of the oceans were plentiful; and the other was that, in any event, countries then could only control fishing activities in a narrow three mile zone. The primary purpose of early fishing regulation was to protect those species considered most vulnerable to fishing pressure, i.e. the fish and shellfish caught close to shore and the freshwater and anadromous species. These were regulated with a variety of measures such as fishing districts, seasons and minimum size limits.³⁴

There was no real regulation of the cod and other groundfish fisheries, other than local fishing rules, before the 1940s, except for a limitation on the number of trawlers permitted in the 1920s and 30s.³⁵ However, this changed by the end of World War II when government concentrated on developing a trawler-supplied frozen fish industry in preference to the salt fish sector.

The Post-1949 System

In the post-war years, fisheries management was really development, expansion and modernization. This thrust continued well into the early 1970s both as a means of expanding the Canadian fleet's operations into other species and as well as competing with the increasing foreign fleets now fishing in the Northwest Atlantic. "This age of innocence"³⁶ would end with the groundfish resource crises of the late 1960s and early 1970s.

The first groundfish catch quotas were established by the International Commission for the Northwest Atlantic Fisheries (ICNAF) in 1970, followed by herring quotas in 1972. By 1974 all major groundfish in the ICNAF area were under quotas established at the MSY or F_{\max} level³⁷ and divided amongst members. While these first tentative steps were taken to control catches, Canada was introducing limits on entry to various Atlantic Coast fisheries, including groundfish and major shellfish and pelagics. In addition, restrictions were imposed on the replacement of fishing vessels, starting with the offshore fleet in 1974. This was the start of what would become a very extensive and continuing set of controls on the numbers of fishermen permitted in different fisheries, the size of vessel they could operate as well as the type and/or amount of fishing gear they were authorized to use.

Before the first industry crisis of the late 1960s, Canada had extended her fishing zone to 12 miles by adding a nine-mile fishing zone beyond the three-mile territorial sea in 1964. A further step in this extending of Canadian fisheries jurisdiction took place in 1972 when a general 12-mile Territorial Sea and Fisheries Closing Lines in the Gulf of St. Lawrence (and Juan de Fuca Strait) were established. These two areas thus became Canadian Fisheries Waters. In 1977,

Canada declared a 200-mile limit in accordance with the new internationally accepted Law of the Sea. NAFO would replace ICNAF in 1978 to assume responsibility for management of groundfish (and latterly shrimp) stocks that straddled or were completely outside Canada's 200-mile limit. NAFO would suffer much the same fate as ICNAF in terms of its ability to effectively manage fish stocks in a multi-lateral setting. Newfoundland fishery interests would subject it to much the same criticisms as its predecessor for ignoring scientific advice in setting quotas and having no effective enforcement capability other than that provided by its more conscientious Contracting Parties.

By 1977, as Canada was preparing to manage a much enlarged fishing zone, measures to control domestic fishing continued to be imposed. All entry to the groundfish fishery was closed except for under 35 ft. vessels; offshore licences had been frozen in 1974 when the size of replacement offshore vessels had also been set; licences for the 35-65 mobile gear fleet were frozen in 1976 and vessel replacement rules introduced for them as well. By this point also, entry to the Newfoundland lobster and crab fisheries was made limited. By the mid-1980s, licences for the fishing of all individual species (except 2J3KL cod by under 35 ft. vessels) would be limited entry.

The first Groundfish Management Plan was established in 1977 to manage the setting and allocation of groundfish quotas among Atlantic fishing fleets. This was the initiation of what would become a complex and often controversial annual process of providing the Minister with advice on Total Allowable Catches (TACs), the sharing of them and a host of other management measures. Coincident with this was the establishment of the Canadian Atlantic Fisheries Scientific Advisory Committee (CAFSAC) to provide scientific advice on management of fisheries in the newly expanded Canadian Fishing Zone. The Atlantic Groundfish Advisory Committee (AGAC) was formed in 1979 to replace the Offshore Groundfish Advisory Committee (OGAC) that had been set up in 1974 when offshore licensing became limited entry. AGAC was the forum for annual consultations on the setting of groundfish TACs and the allocation of them amongst competing fleets across the Atlantic area after identification of surpluses for foreign allocations. This committee, together with the Northern Cod Seminar of 1979 and the Gulf Groundfish Seminar of 1980, would be the vehicles that developed a complex array of groundfish allocations and fishing rules through the 1980s and, indeed, right up to the first groundfish moratorium in 1992. Scientific advice was debated at AGAC, allocations vied for and often conflicting positions remained that had to be decided by the federal Minister. By the late 1980s, this annual process involved follow-up Deputy Minister level discussions of outstanding quota or allocation issues through the Federal-Provincial Fisheries Advisory Committee (FPAFC) and ministerial consultation through the Atlantic Council of Fisheries Ministers (ACFM).

The annual Groundfish Management Plan became the model for development of similar arrangements for all major species across the Atlantic region. The Groundfish Management Plan led the way in developing a multitude of management measures that would eventually be applied to the fishing of most major commercial species. These included sub-allocation of quotas by areas, vessel size classes, gear types, directed and non-directed fisheries, fishing seasons and time-period catch limits and by any combination of the above. A series of important criteria for priority of quota access also grew out of the fishing plan process, including some of the first examples of the principle of adjacency and priority to the inshore fleets in most coastal stocks. Interestingly, at first inshore groundfish fisheries were managed by an allowance

system³⁸ within the overall Canadian quota.³⁹ This changed for all stocks in 1981 except for Northern cod where the allowance approach continued to be applied up to 1991.

By 1981, with another groundfish industry crisis looming, the department adopted the $F_{0.1}$ standard⁴⁰ for the setting of TACs for all groundfish stocks where data availability made such assessment methods possible. In fact, the reference point for setting the Northern cod TAC was adopted as less than $F_{0.1}$ to permit faster rebuilding. As part of the ongoing measures to curtail increases in groundfish catching capacity, entry for all inshore (<65 ft.) vessels was frozen, except for fixed gear operations in 2J3KL by fulltime fishermen. This would continue until 1990 when this last remnant of open entry to a commercial fishery was eliminated.

In 1979 the “Fleet Separation Policy” was introduced under which processing companies were prevented from owning any more fishing licences, for under 65 ft. vessels, than those held in 1979. (Despite several attacks and reviews this policy has survived to the present day.) In 1981, the Full-time/Part-time Categorisation of fishermen was introduced because of the recommendation of the Levelton Report on Atlantic Commercial Fisheries Licensing and the wide support for this concept amongst Newfoundland fishermen. This would be the cornerstone of inshore licensing policy for almost a quarter of a century, until replaced by the concept of Core licensing in 1996.

It was becoming clear that, even with limitation of entry, excess fishing effort could still exist, or be quickly created, to produce disastrous “races to the fish”. The next steps in the evolution of effort control measures would be the adoption of Sector Management for under 65 ft. groundfish vessels and the start of non-transferable Enterprise Allocations (EAs) in the offshore groundfish fleets in 1982. The Sector Management policy prevented under 65 ft. groundfish vessels from roaming beyond their homeport DFO region and allowed management of the activities of these fleets to be tailored to local regional resource conditions.⁴¹ It effectively meant that the only Atlantic-wide groundfish licences and allocations would be those held by vessels over 65 ft. This EA approach for such vessels over 65 ft. was based on controlling outputs instead of inputs, thus allowing operators to tailor their fishing activities as they desire by removing the necessity to compete with others. Eventually these offshore EAs gave each offshore company a fixed percentage share of each groundfish quota based on their past fishing history. This measure, together with restructuring of the offshore companies in 1983 and the subsequent groundfish declines of the 1990s, completely eliminated the concept (and the necessity) of individual vessel licensing for offshore trawlers. The offshore trawler fleets have been rationalized by these factors to only a fraction of their numbers before the adoption of EAs.

Other Atlantic fleets would also adopt this approach of individual shares, with the next Newfoundland fleet to do so being the 4R Under 65 ft. Mobile Gear fleet in 1983. While no other inshore fleet would adopt these arrangements before the groundfish moratoria it has since become the preferred approach in virtually all licensed fisheries managed by catch quotas.

Even though this has proven to be a method that produces immediately improved fishing operations management, authorities remain un-convinced of the conservation incentive proponents claim individual shares give to the holders. As a result, these schemes are voluntary on the part of licence holders who must work out sharing formulas and pay for the costs of monitoring such arrangements. To date there are no transferable individual share arrangements in any Newfoundland fishery (except for the cod allocation of the 4R mobile gear fleet), primarily because inshore licence holders are fearful of the possible consequences

(concentration of quota holdings and corporate control of inshore fishing licences). For all these reasons, and a continuing concern, in some quarters, of latent groundfish catching capacity, replacement rules continue for under 65 ft. vessels. For those in the 35–65 ft. category this is now based on a volumetric measure approach that restricts the replacement vessel to a specified maximum overall length and cubic number limit. While a slightly more flexible set of these rules was authorized in 1997 (Supplementary Vessel Replacement Rules) because of the more distant fishing operations in the crab and shrimp fisheries, there is likely no short-term end in sight for such measures. Although, as this is written, DFO has released a discussion document on proposals to revise these rules.

With the imposition of the groundfish moratoria and then the lack of any real recovery in most stocks, the 1990s became a period of adjustment to a new set of realities. It became more and more obvious that the numbers engaged in the pre-1992 groundfish fisheries could not be sustained in a fishing sector that is now almost completely based on shellfish, mainly crab and shrimp. An inshore groundfish licence retirement program began as part of the Northern Cod Recovery and Adjustment Program (NCARP). This was intensified under The Atlantic Groundfish Strategy (TAGS) and the sequels to it. By its termination in 2000 about 50 per cent of the pre-1992 inshore groundfish licences had been removed as well as significant numbers of other licences held by those departing the industry. While this has improved the lot of those remaining, in those areas where cod was the mainstay (parts of southern 3L, northern 3K and Labrador), small boat operators now rely, mainly or solely, on small allocations of inshore crab for their fishery earnings.

In 1992, the department established its Aboriginal Fisheries Strategy (AFS) that was designed to handle the implementation of the Sparrow Decision and the direction of the Supreme Court to consult with Aboriginal groups who might be affected. The Marshall Decision of 1999 would expand the treaty rights of certain First Nations to include earning a “moderate livelihood” from fishing. This caused the department to undertake a new series of negotiations with the affected groups to establish arrangements to accommodate their fishing interests.⁴²

In 1993, the Fisheries Resource Conservation Council (FRCC) was established to broaden the scientific base of stock assessments and to provide the Minister with public advice on the management of groundfish stocks developed in a multi-disciplinary and integrated fashion. This was to remove the perceptions that the Minister often ignored advice of the fishery scientists or was given other private advice that was not disclosed to the industry. The advice of FRCC is made publicly to the Minister who then must similarly accept or reject the advice. This process has been in place for almost a decade. The recommendation of the Independent Panel on Access Criteria⁴³ to expand the mandate of FRCC to other species was deferred on November 8, 2002 by the minister of DFO, as a separate internal review of that mandate is under way.⁴⁴

In addition, in 1993, the minister of the day released a discussion paper on a proposal to establish an independent Atlantic licensing and allocation board. Again, the purpose was two-fold: to remove the thankless burden from the minister of deciding numerous licensing and allocation cases and to put the decision-making on these matters in the public view. The independent board would make licensing and allocation decisions within stated policies established by the Minister. The overall industry reaction was luke-warm and the proposal

died with the change of government. Some additional detail on this proposal appears in the next chapter.

A central part of the post-1992 adjustment measures was the introduction of Core licensing of inshore fishing enterprises in 1996, based on a recommendation of the Cashin Task Force report of 1993. Under this approach, the eligibility to retain and receive licences has moved from a solely individual to a fishing enterprise basis. A fixed group of Core licence holders was created at the enterprise head level from those who met specified fishing history requirements. A person desiring to become a Core licence holder can only do so by acquiring an existing qualified enterprise from someone exiting the fishery. The route to becoming a Core licence holder requires participants to progress through a Professionalization and Certification system that included a combination of sea time and specified educational courses. A certification board created under provincial legislation, and of which almost all members are qualified licence holders, manages this part of the process. The Core enterprises are the only ones who now can receive a licence on transfer from another holder, or on issuance, if new licences are made available.

The Canada Oceans Act entered into force in 1997, expanding the responsibilities of the department and the minister to include management of Canada's oceans as well as the fish in them. This new initiative did not receive incremental funding but is being implemented by the department through internal re-allocation. The objectives of this Act, in addition to addressing social, economic and environmental objectives in the three oceans, involve codifying principles of conservation and sustainable development through an ecosystem and precautionary approach and integrated management. The department is still developing a system of integrated oceans management to coordinate decisions about the many competing uses of the oceans.⁴⁵

In 2000, the Department began its Atlantic Fisheries Policy Review exercise. It has now finished the stage of consultations on a discussion paper for possible future management approaches. The next step is the release of a paper on more definitive new approaches for future management. Because this has been discussed only with the External Advisory Group to date, there is nothing definitive enough to warrant further attention here.

On December 11, 2001, the United Nations Fish Agreement (UNFA) came into effect with the obligatory 30 nations having signed. This Agreement requires nations to cooperate in the management of straddling and highly migratory fish stocks. Canada is obliged to ensure that the 12 principles of the Agreement are enshrined in its own fisheries management system. It also calls for high seas enforcement through Regional Fisheries Management Organizations (RFMOs), e.g. NAFO, and a binding dispute mechanism for members of RFMOs. It calls for compatibility between measures to conserve stocks that straddle national zones such as Canada's.⁴⁶

In March 2002, the report of The Independent Panel On Access Criteria was completed.⁴⁷ This Panel had been formed primarily because of the furor that arose in this province over the allocation of Northern shrimp to PEI interests. In essence, the Panel proposed a series of access criteria for stocks with significant increases in abundance and newly emerging fisheries that are little more than a sanctioning of almost all practices to date. (See page 67 below). In recognising the sometimes impossibility of reaching a consensus on access to fish resources it recommended an Atlantic allocation and access advisory committee instead of a decision-making board that was dropped as an option almost a decade ago. On November 8, 2002 the DFO minister did not accept this recommendation for an advisory board, but did accept the

criteria for deciding on allocation of access.⁴⁸ This leaves the issue of allocation of incremental access, still one of the most controversial fishery management matters, in the hands of the federal minister, where it has been since 1867.

In summary, the Canadian fisheries system has developed from one that did not focus much on management of fishing activities in the first 105 years of Confederation, except for some coastal fisheries and freshwater species. The post-World War II years to the early 1970s were a period of modernization, development and expansion. In the early 1970s, attention turned more to conservation and direct management of fishing activities. From a relatively laissez-faire system has developed a complex of management arrangements that now focus on stock conservation and the social/economic state of those engaged in the harvesting sector. The latter is reflected in the many measures and special policies that now exist to control or reduce fishing capacity and protect the resource. The system for management of the fishery is anachronistic in many ways, particularly the enormous discretionary power that is vested in the minister, with respect to the establishment of quotas, fishery allocations and licences.

Current federal activities in the whole area of fisheries management are much broader than they were a few decades ago. While available data do not indicate a decline in funding levels for DFO in the last four years, neither do they show any real total increase in basic operating expenditures when Grants and Contributions are removed. In that timeframe, the department has received some increased funding for specific purposes but it also has assumed certain new responsibilities, such as Oceans Act administration, without incremental funding. We feel safe in concluding that the effective capacity of the department to conduct its core fisheries management activities has eroded in recent years from this combination of unfunded new initiatives, internal re-allocations and general inflationary pressures. We cannot quantify the absolute extent of it.

The Apparent Objectives of Fishery Management

In this section, we will describe the major trends in the fishery objectives of both the federal and provincial governments since Confederation with Canada. We will conclude with an assessment of the apparent objectives of contemporary fishery policy as they exist in 2002. The policies that apply at any point in history are a product both of policy evolution and of current circumstances forged by market forces, the natural environment and human fishing activity. The historical record of past fishery policies is found in various sources including federal and provincial commissions and task force reports and sometimes in official government documents.

No attempt will be made to inventory the policy objectives of each successive government administration but broad trends will be outlined. It is clear that policy objectives have altered remarkably over the past 52 years, and their evolution reflects a shift from resource abundance to severe resource depletion, as well as from incomplete market development to mature marketing systems. Most frequently, the objectives have not been clearly identified. While there have been many reports recommending policy changes, and many of them quite dramatic revisions, governments have not always endorsed these documents nor stated clearly the actual policy direction they have adopted as a result. Fisheries management embraces objectives that relate to science, conservation and enforcement, fisheries allocation, occupational safety, collective bargaining, regional economic development and community preservation. These objectives are often conflicting, adding to the complexity of fisheries management. Over the last five decades, this complexity has been exacerbated by a serious decline in the groundfish sector that, until recently, had been the dominant component of the fishery in the province of Newfoundland and Labrador.

This discussion of fishery policy objectives will be organized around three time periods. The first is from Union with Canada up to 1974, when the inshore catch of Northern cod reached its historical low point of 35,000 tons. The second time period is from 1974 to 1992, when the Northern cod moratorium was declared. The third period is from 1992 until the present (December 2002). We will discuss the implicit or explicit policy objectives of, first, the provincial government and then the federal government, in each of these three periods.

Provincial Fishery Policy 1949-74

In the post World War II period, the Newfoundland fishery was relatively strong, dominated by the salt fish industry but with a movement toward frozen groundfish production, mostly for the American marketplace. The Commission of Government encouraged the transition from production by household enterprises drying and salting cod to industrial firms producing frozen groundfish products. The Commission had encouraged improved marketing and better quality of all fish products through the Newfoundland Fisheries Board that controlled licenses for the export of fish products. The NORDCO Report of 1981 states “the centralization of onshore processing was a prime objective for fisheries development.”⁴⁹ The Commission wanted to

concentrate new processing facilities in about 15 centres. This was seen as an instrument to influence the dispersed settlement pattern and thereby reduce the cost of providing public services.

After 1949, the newly created provincial government was not disposed to overturn this policy direction. The province continued the policy thrust in favour of private sector production of frozen groundfish to be marketed within North America. Government was prepared to support this direction by lending money to Newfoundland firms and viewed the federal government as a source of financing for this reorganization and revitalization of the fishery. The Walsh Commission report envisaged a greater concentration of the fishery into fewer communities. The improvements in efficiency that came with modernization would create the need for alternative employment for people leaving the fishery. Increased capital investment would be needed from industry and from governments to provide the necessary port and plant facilities, along with the development of larger fishing vessels. The provincial government appeared willing to support this new direction.

However, the Federal Government was not prepared to support such a large-scale public investment in the fishery. Miriam Wright concluded that “Although the Canadian government was becoming more involved in the economy in the postwar years, the 1953 Walsh Report proposed a much greater degree of intervention than Ottawa was prepared to undertake....The Canadian state of the 1950s was not as interventionist as it would become in the 1960s and 1970s.”⁵⁰ In the absence of the recommended investment program, the inshore fishery stagnated while fishery policy appeared to favour the newly emerging offshore sector, with its vertically integrated structure of deep-sea fleets and modern freezing plants.

Wright also documents the extent of provincial financial involvement with the processing sector, including the offer of provincial loans to Fishery Products to build and operate plants at five communities on the Northeast Coast.⁵¹ Fishery Products was not the only company to receive support. Between 1950 and 1964, the number of frozen-fish plants doubled and the number of fish-plant workers increased from 1,107 to 7,427. By 1957, three firms (Fishery Products Limited, Bonavista Cold Storage, and Gaultois Fisheries Limited) accounted for 60 per cent of Newfoundland’s frozen-fish exports, with Fishery Products Limited producing slightly over half of that total.”⁵²

In addition to the support of large integrated companies in their efforts to build plant and trawler capacity, the Province built a number of plants and leased them to private operators. These plants included those located at La Scie, Rose Blanche and Harbour Breton. The Newfoundland Fisheries Development Authority also built and operated a shipyard at Marystown to service the trawlers owned by the Newfoundland processing companies.⁵³ This period when the government promoted and assisted the move to freezing plants and offshore trawlers was also a time when other major operators appeared from outside the province, such as Atlantic Sugar Refineries in Marystown, Booth Fisheries in Fortune, B.C. Packers in Hr. Breton, Ross-Steers in St. John’s and Birdseye in Hr. Grace. The 1960s also saw the introduction of the Community Stage program under which many future inshore freezing or filleting plants were built under federal winter works programs.

A number of other policy documents were developed subsequent to the Walsh Report. The Report of the South Coast Commission⁵⁴ questioned the viability of communities based on inshore fishing and salt-fish production. The Commission recommended that only certain areas be selected for fishing investment. This lent impetus to the policy of resettlement.

The Royal Commission on the Economic State and Prospects of Newfoundland and Labrador of 1967⁵⁵ encouraged the offshore fishery and stressed the need to plan for economic decline in inshore communities. It welcomed the trend toward greater centralization and suggested that a select number of communities be chosen for large-scale development. “The policy for declining areas was to reduce the number of people dependent upon the inshore fishery and increase the specialization and productivity of those remaining. Surplus labour would be encouraged to move under group resettlement programmes to the offshore sector, other sectors of the Newfoundland economy or labour-short areas in other parts of Canada.”⁵⁶

The Moores administration undertook a review of fisheries policy in 1972-73. A fisheries task force prepared a planning document that recommended that the province establish a greater capability to harvest Northern cod. It argued that the Government of Canada should allocate resources based upon the demonstrated or planned capacity of Canadian fleets to harvest them. The objective was to obtain an increased share of the TACs within the ICNAF area for the Province. The Task Force recommended that a trawler fleet be designed with the capability of harvesting a wide range of groundfish resources, including Northern cod. In addition, it recommended that the inshore longliner fleet be modernized to take new species, with greater mobility to extend the season of operation. The number of inshore fishermen should be reduced.⁵⁷

The primary policy objective during this period was the modernization of the fresh and frozen fish sector. The apparent overall policy objective was to increase harvesting and processing capacity. Resettlement was a means of reducing the number of people in the inshore fishery and to encourage the growth of the offshore sector. The effort to industrialize during the Smallwood administrations also reflected a policy to provide employment outside the fishery. During this period, the offshore sector grew but the inshore fishery, particularly for Northern cod, went into deep decline with the lowest level of landings on record occurring in 1974.

Federal Policies 1949-1974

While the Federal Government was not prepared to subscribe to the large scale infusion of capital recommended by the Walsh Report, they did promote “industry expansion through a variety of subsidy and assistance programs to help fishermen modernize and upgrade their equipment” (Crowley et al 1993).⁵⁸ This was done on an Atlantic-wide basis because Ottawa did not want to be seen to offer support to one province which was not available to others.⁵⁹ However, in the view of Raymond Blake, the Federal Government was taking the easy way out, failing to address the problems in the Newfoundland fishery. He claims that, even in the early days after Union with Canada, Ottawa assigned a large weight to social policy objectives. He went on to say that, “Despite its development strategy, Ottawa refused to venture outside normal government services to rehabilitate the industry. Nor was it able to administer the medicine that might have put the fishery on the road to recovery. It lacked the political will to implement the Walsh recommendations, and it allowed political considerations in the Maritime Provinces to limit its actions.”⁶⁰

Parsons states that “Canada officially subscribed to MSY in the ICNAF context during the 1950s and 1960s. Domestically, however, it pursued modernization and fleet upgrading. This

was intended to improve incomes of fishermen, to provide the groundfish processing industry with year-round fish supplies through expansion of the Canadian offshore fishing effort, and to compete with the foreign fleets. Small and medium-sized firms consolidated into a few large, vertically integrated companies.”⁶¹ Federal and provincial governments were encouraging expansion of Canada’s offshore, midshore, nearshore fleets, and the development of new fisheries for scallops, shrimp and crab.

The Federal Government was now confronted with a growing problem that would impact massively on the Atlantic groundfish fishery and remains even today. Foreign fleets appeared in the Northwest Atlantic in the early 1950s. “Total catches increased from about 2 million tons to a peak of 4.6 million tons in 1968 and remained at about this level through 1973. Groundfish catches peaked in 1965 at 2.8 million tons and declined steadily from 1968 to 1974.”⁶² The explosion of fishing effort by distant water fleets in Canadian waters took place in spite of the creation of the International Commission for the Northwest Atlantic Fisheries (ICNAF) in 1951, based upon a Convention signed in 1949. The conservation efforts of ICNAF began in the early 1950s with mesh size controls. “The management objective embodied in the ICNAF Convention was maximum sustained catch, i.e. MSY. But until the early 1970s there was no limit in the amount of fishing or catch.”⁶³

Canada entered the Olympic race with the distant water fleets but it was an impossible race to win. The inevitable and abhorrent outcome was the serious damage to the sustainability of fish stocks upon which coastal communities had relied for centuries. While federal and provincial cost-shared programs were used to expand harvesting capacity, Canada’s share of the groundfish catch in the Northwest Atlantic dropped from 34.5 per cent in 1955 to 20.2 per cent in 1965. Not only did the total Atlantic groundfish catch decline from 2.8 million tons in 1965 to 1.6 million tons in 1974 but also the Canadian groundfish catch fell from 620,000 tons in 1968 to 418,000 tons in 1974. ICNAF introduced catch quotas or total allowable catches (TACs) for two haddock stocks in 1970. The objective of ICNAF was changed to “optimum utilization”.⁶⁴ Parsons relates that, “By 1974 all of the major groundfish stocks of the ICNAF area were under a system of Total Allowable Catches and national allocations. These initial TACs were established at the MSY or F_{max} level.”⁶⁵ However, the damage sustained up to this point was enormous. The inshore fishery, lacking the ability to search for fish over a wide area, suffered the greatest damage.

Gene Barrett identified 1968 as the crisis year in fisheries management, a crisis wherein overfishing was so egregious as to bring an end to the “age of innocence”. He describes a modernization phase from World War II to the early 1970s “when fishery policy promoted the industrialization and centralization of the fishing industry. This period marked a 30-year honeymoon between the private and public sector when large-scale development projects and capitalist expansion were seen to be synonymous with modernization and progress. However, the crisis in fish stocks from 1968 onward brought an end to this age of innocence.”⁶⁶ He goes on to say that “After 1974, fisheries policy was influenced by fishery and welfare economic principles, which advocated incorporation of public management and social considerations in the regulation of the resource.”⁶⁷

The Harris Report⁶⁸ shows that the inshore fishery for the Northern cod stock has yielded 200,000-250,000 tons on a sustainable basis. Blackwood, citing Harris, 1990, NORDCO 1981 and Lear and Parsons 1993⁶⁹, states that “the traditional inshore catch of Northern cod had continuously declined from average landings of between 200,000 to 250,000 mt during the

early 1900s to 172,000 mt by 1956 and a low of 35,000 mt in 1974. The social and economic impact of this decline was enormous as tens of thousands of people abandoned the fishery as a means of livelihood and many communities were deserted.”⁷⁰

This first collapse of the Northern cod stock and other major groundfish stocks elevated the policy objective of conservation and put a damper, for a period, on the impetus toward modernization. In 1964, Canada passed a new *Territorial Sea and Fishing Zone Act* that created a nine-mile fishing zone beyond the three-mile territorial sea and provided enabling legislation for the closure of other areas to fishing with straight baselines. The Act also provided for the use of headland-to-headland baselines. Many foreign vessels continued to fish in Canadian waters as agreements were negotiated on a bilateral basis. While it was intended that such fishing be phased out, Parsons⁷¹ notes that these negotiations were difficult and straight baselines did not become law until 1970.

Throughout the sixties and early seventies Canada witnessed a growing resource crisis in the groundfish sector. In 1974, the crisis deepened and was compounded by weakening prices in the US market. The result was a number of major policy interventions. These included a program of financial assistance to the industry and renewed efforts to establish a 200-mile economic zone. Flowing from this crisis was also the beginning of steps to assign fishing rights in the form of licences to individual fishermen and fishing enterprises. The federal minister was taking steps both internationally and domestically to recognize that fish are a common property resource and some form of ownership was needed to achieve conservation objectives.⁷² Up to this point it had been believed a shift from the inshore to the offshore sector would be the solution to the problems of the industry, along with modernization of plants and of the fishing fleet. “Now it was believed that the crux of the problem lay with the labour supply itself; that labour had to be persuaded to leave the industry. Government now saw as its objective the attainment of a “proper mix” of capital and labour in the industry so that maximum returns could be guaranteed to all dependent on it. In other words, the elimination of labour surplus, not the acquisition of up-to-date technology, had become the object of federal policy.”⁷³ This did not mean an end to vessel subsidies because the offshore fishery was still seen as needing encouragement. The Federal government continued its support to the provincial resettlement program to reduce the number of people dependent upon the fishing industry. However, licensing was added to the array of policy instruments along with restricted entry to certain fisheries. This raised fundamental questions about the right to fish and how such rights would be allocated. The full-scale introduction of licensing was not to come until early in the next period, from 1974 to 1992, but clearly, the management objectives of the Federal Government were evolving into the complex input control system in place today. Conservation was clearly rising on the spectrum of management objectives along with economic management to improve the economic viability of the industry.

Provincial Policy Objectives - 1974 to 1992

The Moores administration came to office in 1972 on a campaign that stressed rural development and criticized the resettlement program of the Smallwood administration. The new government resisted the licensing of fishers. They encouraged the growth of processing

capacity and funded the building of a new fleet of larger longliners. The province was enticed to look to the opportunities for an expanded fishery arising from the partial withdrawal of the foreign fleets because of the new 200-mile limit.

In November 1978, the province released a white paper on fisheries development that called for expansion of the offshore fleet through joint ventures with foreign enterprises. A primary landing and distribution centre would be established to supply raw material to seasonal inshore plants. The government saw joint ventures as a means to strengthen processing and marketing as well as fleet capacity. Trawlers would fish part of the year for Northern cod that would be frozen for later processing during the down-season. This fish resource was seen as being taken from the foreigners rather than from the inshore fishermen.

The scientific evidence provided by DFO scientists at the time was that in the period from 1979 to 1985 stocks would recover under sound Canadian management to a high level of abundance. The 1973 planning document prepared by provincial officials that formed the analytical base for the 1978 White Paper called for a balance between the inshore and offshore sectors. The entire offshore catch in ICNAF areas 2 and 3 was to be landed and processed in Newfoundland. The inshore fishery would be supported by provincial funding for larger, more mobile trawlers but licensing policy should be introduced to restrict licences to bona fide fishermen.

The federal minister, Romeo LeBlanc, was not receptive to the concept of a new fleet to supply inshore plants or to the expansion of the offshore fleet to include freezer trawlers. He did not favour joint ventures with foreign firms, viewing them as back door arrangements for foreigners to remain within the zone and to continue to apply excessive fishing pressure upon the stocks. Minister LeBlanc did not resist “over the side sales” of fish to foreigners with the same vigour. However, the minister’s opposition did not stop Newfoundland from collaborating with Nova Scotia and Prince Edward Island to advance a proposal for a fleet development program. At this same time, Newfoundland and other Provincial governments became concerned over their limited provincial powers with respect to fishery management. At a First Ministers’ conference in 1978, Newfoundland first requested a delegation of administrative authority along with provincial participation in setting and allocating quotas. This position was later changed to a plea for concurrent powers with provincial paramountcy. While the federal minister did not accede to these requests, there was general initial support for greater provincial involvement in policy formulation.

It is clear that the quest for greater provincial power occurred because citizens look to their provincial governments to manage the economy and, in a province like Newfoundland, the fishery is a major economic force. It is also clear the policy objective was to derive as much benefit as possible from the rebuilding of groundfish stocks by establishing the maximum allocation for Newfoundland. Increasing the jurisdictional authority of the province in fisheries management was seen as one way to accomplish this objective.

The policy positions that developed around the management of Northern cod were directed toward achieving these maximum benefits to the province. The province sought a share of 85 per cent of the TAC in this growing stock for the inshore fishery. While this specific target was not accepted by the federal Minister there was acceptance that “The first and over-riding priority in allocations is to the inshore fishery.”⁷⁴ One outcome of a conference on Northern cod management held in August 1979 was that two-thirds of the TAC of Northern cod was set aside as an allowance for the inshore fishery. The position of the province was that to the extent

that a “surplus to inshore effort can be clearly seen to exist, it must be reserved to offshore effort landing into Newfoundland ports for distribution to processing plants which now operate on a seasonal basis.”⁷⁵

The inshore allowance became a key policy focus for the province, recognizing that inshore fishers along the Northeast Coast of the island and in Labrador had a long history of fishing this stock. While there had been catch failures from time to time, the stock had not been subject to massive fishing pressure until the 1950s when foreign trawlers began harvesting more than the resource could reasonably sustain. In 1980, the inshore allowance was set at 110,000 tons, while the offshore fleet was allocated 45,000 tons out of a Canadian quota of 155,000 tons. However, as the TAC expanded the domestic offshore allocation outpaced the inshore allowance, thereby shifting the balance more in favour of the offshore sector. In 1984, when the Canadian quota was set at 246,000 tons the inshore fixed gear allowance was at 115,000 tons while the offshore allocation was 112,000 tons.⁷⁶ Furthermore, the inshore fixed gear sector could not catch its allowance. Inshore catches increased from the trough of 35,000 tons in 1974 to about 96,000 tons in 1980, declined to 80,000 tons in 1981 and peaked at 113,000 tons in 1982. The increases in the TAC went to the Canadian offshore sector, including vessels from the Maritime Provinces. “The result was that the inshore sector, which was promised first priority in allocation and were supposed to get two thirds of the TAC was, by 1986, receiving only 43 per cent of the TAC as an allocation, and due to the low level of the stock and foreign harvest outside 200 miles, was accounting for only 26 per cent of the total catch.”⁷⁷ The reason for this was that the biomass had been overestimated and the ability of inshore vessels to harvest a declining resource fell far short of the technical capacity of the offshore fleet to home in upon a shrinking biomass. The inshore allowance itself did not protect the stock or those who depended upon it as had been hoped.

In addition to increasing the inshore allowance the province sought to have the allocation principles established by the federal minister used to protect the interests of the Newfoundland fishery. The 1984 Atlantic Groundfish Management Plan identified the allocation principles as being adjacency to the resource, the relative dependency of coastal communities and the various fleet sectors along with economic efficiency and fleet mobility. The province had emphasized the adjacency principle, along with historical dependence, to ensure that Northern cod was harvested principally for the benefit of the Newfoundland industry. In 1993, the “basic principles” of the Atlantic Groundfish Management Plan were changed to “guidelines.”⁷⁸ This may have signalled a move by the Government of Canada to move away from the earlier allocation principles or to inject a higher measure of ministerial discretion.

The inshore sector faced repeated catch failures during the 1982 to 1988 period, and in 1991, low inshore landings signalled the collapse of cod and then other groundfish stocks. In the winter of 1992, the offshore fleet encountered extremely low catches, and later in the year the Northern cod fishery was closed. The Northern cod moratorium was quickly followed by moratoria for most other major groundfish species.

According to Blackwood, the collapse of the Northern cod stock can be attributed to a number of causes, including foreign overfishing and the consistent overestimation of the size of the stock biomass.⁷⁹ He also argues that “the refusal of the Government of Canada to set TACs at the stated management objective of $F_{0.1}$ in the 1989 to 1992 period also increased the share of the offshore sector. During the 1980s it was apparent that the offshore sector received special consideration due to its ability to catch its quota and employ a large number of people

while the inshore gear sector fell into a cycle of catch failures, make-work programs and a high dependence on Unemployment Insurance.”⁸⁰

Blackwood goes on to argue that the allocation process was flawed and that the intended preferential access to the inshore sector was undermined, as was application of the principles of adjacency and historic dependence. He concludes this was caused not only by foreign overfishing but also by the significant geographic redistribution of Northern cod landings to Nova Scotia and the South Coast of Newfoundland. The latter was caused by annual allocations to the Canadian offshore sector being increased over a series of years. Communities on the Labrador and Northeast coasts of Newfoundland experienced a reduced share of total landings and were no longer the only major participants in the Northern cod fishery. Blackwood supports these observations with data from 1978 and 1988 concerning the regional distribution of cod landings and the top 15 landing ports.⁸¹

In the period immediately before the moratorium, the provincial government adopted a position of joint management of the Newfoundland fishery. This resulted in a formal proposal for a joint management body that would derive its authority from both levels of government. This proposal was advanced to decentralize decision-making and to harmonize federal and provincial management decisions.

The objectives of fisheries management were radically transformed over the period 1974 to 1992. At the beginning, the anticipated economic potential of extended jurisdiction led the province to invest in plants and vessels to build up capacity to harvest and process a growing resource. Dean points out that “Prior to the collapse of the groundfish sector and, more specifically in the initial year of extended fishery jurisdiction, the fishing industry was generally promoted as an employer of last resort. It is not surprising; therefore, that employment maximization became so enshrined in fisheries policy as to constrain the implementation of those policy measures that would lead to the emergence of a more viable and dynamic fisheries sector. In retrospect, this policy approach was driven largely by income security considerations and limited substitute employment opportunities outside the fishery in regions and communities with a strong fisheries dependence.”⁸²

It soon became clear that the promise of extended jurisdiction would not be fully realized and that overcapacity had become a serious threat to the viability of the industry. Restricted access to the processing sector began in 1979, followed in 1981 by a freeze on licences for principal species. However, expansion in the number of plants continued during the 1980s. As major groundfish stocks began to decline in the late 1980s, the province’s interest shifted to conservation and allocation issues, relating particularly to Northern cod. The conservation issues were driven by the sudden decline in the resource while the allocation issues flowed from the failure of the inshore sector to benefit from the 200-mile limit and the perceived inequity of offshore landings of Northern cod in other non-adjacent provinces.

Federal Policy Objectives 1974-1992

Even before the extension of jurisdiction to 200 miles in 1977, new approaches to manage the fishery outside the existing Canadian zone were being discussed within ICNAF. Improvements in the concept of maximum sustained yield were accepted in some cases,

founded primarily upon biological concepts, as compared with the maximum economic yield concept that normally leads to the selection of a lower level of fishing effort and costs. Canada adopted the objective of conservation but also sought special preference for the coastal state. In 1975, Canada achieved a reduction in fishing effort by non-coastal states.⁸³ In 1976 ICNAF agreed to move toward the more conservative $F_{0.1}$ approach to fisheries management. The advantage is a lower fishing mortality rate with higher average stock biomass, greater stock stability, higher catch per unit of effort and improved economic efficiency.⁸⁴

In the 1974-76 period, a market downturn compounded the resource crisis in the groundfish industry. This triggered a program of federal financial intervention combined with a policy review. From the latter emerged the May 1976 *Policy for Canada's Commercial Fisheries* that looked beyond the extension of jurisdiction that was to take place in 1977. Major shifts in policy were announced. Best use of the fishery, defined as the sum of net social benefits, was to replace maximum sustainable yield. The policy recognized the need for a systemic approach to the management of the fishery, including measures to deal with the "common property" aspects that create excessive costs and dissipation of economic rent through the race to maximize each fisher's share of the catch. It also recognized the social and economic consequences of the instability to which the industry was prone. Entry to the fishery, along with fishing effort, was to be controlled. In fact, excessive catching and processing capacity was to be withdrawn. Fewer people would be employed in harvesting. This was seen to be essential.⁸⁵ Access was to be allocated based upon a satisfactory trade-off between economic efficiency and historical dependency of the fleets involved.

The late 1980s and early 1990s were marked by major problems in the management of virtually all major groundfish stocks. This is most effectively shown by reference again primarily to the Northern cod stock. DFO had undertaken to manage Northern cod with a conservative regime with quotas set below the estimated $F_{0.1}$ level. However, with the optimistic stock projections, decisions were taken to allocate a large share of the resource to the Canadian offshore sector, including new users, both adjacent and non-adjacent, and initially, foreign fishing fleets. The Keats Report commissioned by the Newfoundland Inshore Fisheries Association (NIFA) raised concerns over the use of offshore catch rates in the estimation of biomass size and with the consistent overestimation of the stock. Blackwood⁸⁶ cites the retrospective analysis by CAFSAC in 1988 that shows what TAC levels should have been established if the biomass had not been overestimated. The deepening failure of the inshore fishery led to the appointment of Task Forces and Panels, headed by eminent persons such as Lee Alverson and Leslie Harris. Even when the revised data were available, there was a reluctance to take the necessary steps to adjust the TAC. Blackwood notes that even when scientists discontinued using offshore catch rates and recommended a TAC of 125,000 tons, the Minister of Fisheries and Oceans set the TAC at 235,000 tons.

There appeared to be sounder conservation grounds for a sharp reduction in quotas once the new $F_{0.1}$ estimates were available. These events leading up to the moratorium on Northern cod indicate a conscious policy decision to favour employment and the economic viability of processing and harvesting enterprises over the interest of conservation. The necessary corrective action was not taken until the resource crisis had reached critical proportions. Looking back over the period, one is drawn to the inevitable conclusion that conservation was not in the forefront of fishery policy. In retrospect, the bright optimism associated with the extension of jurisdiction was foolhardy and led to fishing pressure that could not be sustained.

Provincial Fishery Policy Objectives 1992 - 2002

The most recent period has been dominated by the impact of the crisis in the groundfish industry and the emergence of shellfish as the dominant component of the fishing industry. A higher value product has been substituted for a less valuable groundfish product. The structural changes in the industry have resulted in a reduction in the number of participants even though the landed value remains high. Financial support programs have been substantially eliminated. The Fisheries Loan Board no longer exists but has been replaced by another, more generic, commercial lending program. The province has participated in early retirement programs for fishers and plants.

The present situation is one where the industry's viability rests heavily upon snow crab. Dean⁸⁷ cites industry stakeholders who estimate that the crab fishery represents 80 per cent of industry margins, noting that the snow crab dependency is especially pronounced along the East/Northeast Coast and Coastal Labrador.

The moratorium accentuated the high overcapacity in the fish-processing sector and led to a proposal from industry for a proactive program to withdraw plant capacity, through the purchase of processing licences. The province chose not to take this approach but in 1995 did adopt some of the recommendations of the Fishing Industry Renewal Board (FIRB) designed to limit the number of licensed plants by the designation of "core" or strategic plants. This was combined with restrictions on the ability of non-core plants to combine and thereby to achieve core status.

The FIRB had considered the option of a totally deregulated fish processing industry but rejected this approach as undermining the objective of creating a stable, self-sustaining and competitive industry with minimal requirement for public sector support. The Board argued that it was important to establish a regional balance between harvesting and processing capacity and the policy framework it proposed called for an arm's length board to manage this regional balance.

The FIRB also recommended that no new snow crab licences be issued until groundfish stocks had recovered but the provincial government did not accept this recommendation. This new licensing policy did not result in any meaningful capacity reduction. Indeed, the number of crab plants has increased to 42. The recent decision to withhold the issuance of further crab licences appears to indicate some greater commitment to capacity reduction or control.

The emergence of the cooked and peeled shrimp industry on the Northeast Coast triggered a considerable growth in the number of plant licences, from three in 1997 to 12 active plants and four inactive licences in 2002⁸⁸. Government has not to date accepted the recommendation of the Inshore Shrimp Panel that a quasi-judicial board be established to manage capacity in the processing sector.

The Report of the Special Panel on Corporate Concentration discusses the role of "strategic" fish plants in economic development and concludes that "strategic plants" in the inshore sector suffered a loss in the important role they had previously played in rural economies. Blackwood has identified the reallocation of Northern cod from these plants; while Dean refers to the erosion of their role arising from the explosion in the number of inshore plants in the period before the moratorium. The only possible conclusion is that a strong role for strategic processing plants in regional economic development was not one of the objectives of provincial fisheries policy,

even though this concept of strategic plants appeared to be accepted in the 1949-74 period as well as during Commission of Government.

Federal Fishery Policy Objectives 1992-2002

In the post-moratorium period, the federal government has directed its attention to the restructuring of the Atlantic groundfish industry and assisting people dislocated by the collapse of this important component of the fishery. The policy objectives have included capacity reduction and social adjustment. The preference has been to achieve adjustment out of the fishery to relieve the pressure, recognizing that the fishery crisis of the 1990s exacerbated a previously existing problem of excess capacity. The Task Force on Incomes and Adjustment in the Atlantic Fishery (the Cashin Task Force) identified overcapacity as a fundamental problem of the groundfish industry. The overcapacity “contributes to overfishing because fishermen have substantial investments in vessels and fishing gear, and thus have a desire to maximize their return in a competitive fishing environment.”⁸⁹ The Auditor General notes that even if the groundfish industry were to return to levels of a decade ago, the industry could not provide adequate incomes. Even though the number of groundfish licences had been reduced from over 17,000 in 1993 to just over 10,000 “Core” licences in 1997 the Auditor General concluded that excess capacity remained. “If the fishery is to be managed on a sustainable development basis, ecologically and economically, then another means of addressing the social and cultural issues of coastal communities has to be found.”⁹⁰

The Department of Fisheries and Oceans has been seeking to improve its understanding of what went wrong in fisheries management. These problems include total catch levels being set above conservation standards largely because of overestimation of stock levels. Commercial fishing data, on which stock assessment were based, in part, were coloured by selective fishing using increasingly effective technology in areas of high fish concentrations. Fishers caught more fish than was allocated. Irresponsible fishing industry practices, such as unrecorded landings, misreported landings, dumping of bycatch and high grading contributed to the collapse.

The Auditor General’s report of 1997 concluded that the primary objective should be to conserve the resource, and that the Federal fishery managers ought not to be sidetracked by other competing objectives, such as “providing economic opportunity, facilitating access to reasonable incomes and Canadianization of the fishery.”⁹¹ With such greater weight being assigned to conservation “healthy fisheries would then contribute to achieving and maintaining social and economic objectives, including the viability of coastal communities.”⁹²

The 1997 Report of the Auditor General also provides some useful commentary with respect to the ostensible objectives of fishery policy. These included the following:

“14.70 Statements of Canadian commercial fishing policy were advanced in 1970 and 1976. In 1970, the main objective of government fisheries policy was to maximize employment in Canada’s commercial fishery. The 1976 Policy of Canada’s Commercial Fisheries indicated that in the near future fisheries would be regulated in the interest of people. In 1981, the Minister of Fisheries and Oceans published a discussion paper on Canada’s Atlantic

fisheries policy for the 1980s. This document included a strategic objective “to maintain fishery resources at levels which will generate the maximum continuing economic and social benefits.”⁹³ The current status of these policy documents is unclear.

“14.71 Legislation passed in the 1980s established the objectives of economic viability and maximized employment. The *Atlantic Fisheries Restructuring Act* adopted as a hierarchical set of policy objectives for the Atlantic fisheries:

- That the Atlantic fishing industry be economically viable on an ongoing basis;
- That employment in the Atlantic fishing industry be maximized subject to the constraint that those employed receive a reasonable income; and
- That fish on the Atlantic Coast of Canada be harvested and processed by Canadians to the extent that this objective is consistent with the first two objectives and with Canada’s international treaty obligations.”⁹⁴

While the importance of conservation may have been understood, there was no explicit reference to it in the legislation.

The response from the Department of Fisheries and Oceans conveyed acceptance of the need to establish a statutory commitment to conservation, endorsing the precautionary principle and affirming that “conservation of Canada’s fisheries and their management on a sustainable basis are central to the economic viability of harvesters and processors and the well-being of communities dependent on fisheries resources.”⁹⁵

While the Auditor General acknowledges that capacity reduction represents an important component of fisheries policy, the 1997 Report also notes that:

“14.92 Currently, the incentive is for fishers to remain attached to the fishery rather than to leave it. In fact, those involved in the industry may see an advantage to strengthening the attachment where possible, since federal income support or employment insurance benefits remain attractive compared with other social support programs, and few employment alternatives exist. It appears that provincial governments and other organizations may have little reason to encourage people to leave the fishery; in the absence of employment alternatives, the demand on provincial social programs could increase.”⁹⁶

Funding had been moved from the adjustment and rationalization component of The Atlantic Groundfish Strategy into income support. The Auditor General observed that this served to encourage people to remain attached to the fishery and dependent upon federal government support.

The basic thrust of the observations of the Auditor General goes to the heart of the problem. The fishery cannot possibly achieve economic viability and ecological sustainability if it is burdened with policy objectives beyond its realistic ability to deliver. Fishery managers cannot find a solution to the unemployment of people who are no longer part of the fishery. The

Department of Fisheries and Oceans cannot solve the problem, in a fisheries management context, of continuing to support the number of people and coastal communities that have depended upon the fishery in recent decades.

The Employment Insurance (Unemployment Insurance prior to 1996) program has played a major role in allowing government to maximize employment. It is beyond our mandate to explore the full impact of employment insurance but this program is frequently seen as having unintended consequences, whose overall impact may be quite substantial. These alleged consequences include contributing to overcapacity and removing young people from school prematurely. However, it has to be acknowledged that the program contributes to the economy of the province by injecting new dollars which partly offset the economic weaknesses and industrial seasonality that have maintained unacceptably high rates of unemployment. It has been argued that such injection of new funds holds people in place who would otherwise withdraw and, indeed, that Employment Insurance continues to attract new entrants.

The Employment Insurance program pays out more benefits to participants in the fishery industry, fishers and processing workers alike, than the value of premiums collected. The program injects new money into the industry and the province.

The overcapacity that existed at the time of the moratorium exacerbated the adjustment problem arising from the collapse of the groundfish industry. Exactly how much of this overcapacity can be attributed to Unemployment Insurance is difficult to determine. The result was that landed values and earned incomes in the groundfish sector went into free-fall and many more people had to pull up stakes than would have been the case if the overcapacity had not existed. The 1997 report of the Auditor General of Canada identified Unemployment Insurance as contributing to overcapacity⁹⁷. The report also notes that in 1990 self-employed fishers were receiving \$1.60 in Unemployment Insurance benefits for every dollar earned in the fishery, up from 96 cents in 1981.⁹⁸

Various capacity reduction programs were used to retire people, vessels and gear from the fishery, at considerable cost to government and some of the benefits have been erased by the unintended effects of Unemployment and Employment Insurance.

The major change to the EI program made in 1996 was a move away from the concept of insurable weeks to one based on minimum insurable earnings. The threshold to qualify is relatively low (\$2,500 for a repeat qualifier and \$5,000 for a first time recipient). In recent years the number of fishing benefits recipients has been increasing, after declining from 1990 to 1995, especially during NCARP and TAGS. There were approximately 13,600 fishing benefits recipients in the province in 2000, about the same number as there were in 1990, before the moratorium. This represents roughly 85 per cent of registered professional fish harvesters in that year. The number of fishing insurance claimants in the region and the percentage of registered professional fish harvesters receiving fishing benefits has increased successively since the program was revised in 1996. This was in spite of the significant capacity reduction in the fishing industry over the past decade, as a result of groundfish licence retirement and other industry adjustment programs. Since 1992, groundfish licences have been reduced by over 50 per cent. This probably indicates as much the level of underemployment that existed in the previous groundfish-dominated industry as it does the removal of essentially unproductive or redundant earning capacity since 1992 or the effective replacement of it in the new shellfish fisheries. This appears to be confirmed by the fact that the number of fishing benefits recipients is now back to around the long-term (late 1970s and 1980s) annual level.

It appears to be fairly easy for harvesters to qualify for maximum benefits, especially when compared to their counterparts in fish processing. Because benefits are tied to fishing income levels, the program does not provide protection against catch failure, because low catches and earnings lead to low levels of benefits. Over the years, there have been various attempts to establish a more appropriate fishery income support system, including catch failure insurance but these have been unsuccessful. The primary reasons appear to be the prevailing even greater dis-incentive to work in such programs and the impossibility of self-financing except with prohibitively high premiums.

The overall EI situation is different for plant workers. The number of regular Employment Insurance beneficiaries in fish processing occupations has declined by about 50 per cent since 1990. Approximately 17,600 plant workers in the province received regular benefits in 1990, compared with only 9,600 in 2000. This may be attributable to the existence of a higher threshold than exists for fishers and the significant decrease that has occurred in the number, duration and earnings of processing jobs.

Young people may still find it attractive to leave school at an early age to fish or to work in a fish plant in order to gain access to benefits. The softer eligibility requirement recently put in place for harvesters could lead to further drop-outs from the school system. The lower number of jobs now available in fish processing will hinder this and the now limited (and strictly controlled) numbers of fishing enterprises that can hire additional crewmembers. The research report prepared by Audas and Murrell for AIMS⁹⁹ notes that young Atlantic Canadians continue to go into highly seasonal occupations at a rate significantly higher than the national average. This appears to confirm the longstanding concern about the negative impact of Employment Insurance upon the length of stay in school and overall educational levels in fishing regions.

This narrative only touches the surface of the manifold issues that are raised by Employment Insurance. Nor are we in a position to prescribe solutions for consideration of the Commission. What is clear is that a holistic approach is needed involving both the federal government and the province to examine how Employment Insurance can contribute to a successful fishery and complement other income support measures. In establishing a vision for the fishery of the future it is important to ensure that income support programs will complement the objectives of fishery policy, rather than working at cross purposes.

The Employment Insurance program has also had unintended effects on policy makers. It has accommodated the policy objective of maximizing employment without reducing the incomes of industry participants, both processing workers and harvesters. If this program were not available then the maximizing of employment would have created an intolerable level of overall incomes for people in the industry. It also has to be recognized that the program has lulled policy makers into accepting economic policies that allow high rates of unemployment to continue for decades.

It is our recommendation to the Commission that the linkages between income support measures, particularly Employment Insurance, and fishery management be subject to further review to ensure that the success of the fishery is not compromised by the unintended consequences of a well-meaning and firmly established program that injects new funds into the province. This review should examine the unintended consequences of Employment Insurance, including growth in, or even maintenance of, capacity. It should also examine the impact on the education of the young school age people of the province who could still be drawn out of school by the lure of qualifying for benefits. It should recognize the positive contribution that

Employment Insurance makes to the economy of the province and that, in its absence, and in the absence of a successful program of economic diversification, the level of incomes in the province would be significantly curtailed.

DFO has undertaken an Atlantic Fisheries Policy Review, which will likely lead to a re-statement of its policy objectives. The Minister has already made policy decisions on one component of this review, the Report of the Independent Panel on Access Criteria. It is reasonable to believe that the overall Review will lead ultimately to the evolution of more sharply focussed policy objectives.

Conclusion

There are some observations that can be made with respect to the effects of fragmented fisheries management and the lack of convergence in fishery policy resulting from the fractured management system. It is clear that there was an attempt to build a rational policy framework using strategic regional centers to modernize the industry. One can speculate that, with strategically placed fish plants, combined with greater discipline in the growth of both harvesting and processing capacity, the industry would not have been plunged into such an abyss by errors and misfortunes in resource management. One can also speculate that more effective joint management or policy integration between both levels of government would have created a more rational, robust and viable industry. It is tempting to believe that a mechanism that achieved effective policy integration and shared policy objectives would have produced a better outcome than the one that lies before us.

The policy objective of maximizing employment did not serve the industry well. It had the result of pushing the resource to the limit and forcing decisions on quotas that were probably in the high-risk range of the advice given by scientists. This policy objective of maximizing employment was made tolerable by virtue of the Employment/Unemployment Insurance programs. This availability of benefits from the program allowed this objective to be sustained over a period of decades and reduced the pressure for meaningful economic development programs.

This paper provides some historical perspective on the objectives of fishery policy. The objectives we have addressed in this exercise are high-level objectives. There have been significant changes in policy from one administration to another, sometimes reflecting public reaction to previous policy. In other cases, policy has been changed because of resource problems, opportunities or market factors.

The current objectives of the fisheries management policy of the Government of Newfoundland and Labrador appear to be as follows:

- To create regional balance between harvesting and processing capacity;
- To maximize employment in the fishing industry;
- To sustain rural communities and regional economies on the basis of incomes and employment from the fishery and to modulate necessary adjustments;
- To resist the notion of strategic regional plants in favour of a multiplicity of plants in many communities;

- To advance the claim of fishers in adjacent communities to be the principal beneficiary of adjacent fish stocks;
- To maximize the share of adjacent resources harvested and processed in the province and thereby, the benefits accruing to the province from the industry;
- To establish stable industrial relations and equitable sharing of the benefits between processors and harvesters from the sale of products from the fishery;
- To achieve a greater voice in the management of the fishery through changes in the province's relationship with the Government of Canada.

The corresponding apparent objectives of fishery policy for the Federal Government appear to be as follows:

- To maximize employment in the industry, subject to the constraint of reasonable earnings;
- To build and maintain an ecologically sustainable resource base;
- To build the scientific capability to minimize the uncertainty attached to scientific estimates along with the management skills to operationalize scientific estimates of risk and uncertainty;
- To allocate fish resources on an equitable basis to various competing user groups;
- To minimize the impact of resource and market changes upon fishing people and communities;
- To maintain Canadian control and to maximize the benefits to Canadians of fish harvesting and processing; and
- To reduce capacity and facilitate adjustment out of the fishing industry.

Alternative Fishery Management Policy Objectives for the Future

In this chapter, we will discuss the issue of alternative policy objectives for the future with a view to establishing a prescriptive model of fisheries management. This model can then serve as a benchmark against which to assess past and present fishery policies. These policy objectives are the highest levels of intentions or aims that governments adopt for the fisheries management system. In this context, we will take the fishery management system to cover both the catching and processing of fisheries resources, recognizing that there are collateral impacts from all such decisions. While marketing activities obviously influence the level of success in processing and harvesting, we will not include that activity, as it is not one where government involvement is any longer expected, desired or anticipated. These policy objectives will be guideposts for the future management measures governments should take in each of those two areas. They will, in effect, set the tone and direction to which all lower level program objectives, strategies and specific policy instruments must conform.

An examination of the context in which fisheries policy objectives must be developed and implemented is illustrative of the difficulties that governments face in coming to grips with the best approaches to managing the fishing industry. A better appreciation of how the sectors of the fishery relate to each other, to the resource and to markets, will help to understand past fisheries policy objectives and what is reasonable and feasible to expect for the future. In many ways, a failure to take into account the interrelated fishery system is the prime reason why the development and implementation of fisheries policy objectives has caused so much grief and frustration over time.

The Inter-related Fishery System

The fishery system consists of the fish resource, the harvesting sector, the processing sector and the fish products marketing sector. The fish resource and the habitat in which it dwells are of paramount importance. The people who work in the industry and who depend upon it are of even greater importance. We saw, in a previous chapter, that concerns about resource conservation are relatively recent phenomena, and that belief by some in the in-exhaustibility of ocean resources has not necessarily fully disappeared even today. However, it is now clear that the first imperative is the necessity to protect and conserve the fish resources and their habitat; without this the long term prosperity and, indeed, survival, of the harvesting and processing sectors will always be in doubt.

The Canadian fisheries, and many others around the world, attest to the tendency of the harvesting sector to over-exploit the resource, to use excessive amounts of labour and capital and to continually seek to circumvent or foil fishery regulations. A largely unstable resource base, recurring industry crises and unacceptably low levels of average incomes, especially in the small boat fleets, even after open entry was eliminated, have characterized this sector. It also invariably features a wide assortment of pervasive group conflicts that range across gear types, vessel size classes or geographical areas (and often combinations of all three). It can also

influence the shape of the processing sector by its pattern of fishing activities; while it, in turn, can be affected by competing demands of processors for raw material.

In the early 1990s, these tendencies were exacerbated in Newfoundland by a massive resource collapse and the ensuing transformation of primarily a groundfish industry to one based mostly on shellfish. The level of adjustment required in that “largest layoff in Canadian history” was massive. Such adjustments are often long-term because exit from this industry is not easy for any one or more of the following reasons: difficulty in liquidating fishing assets; costs (both financial and psychological) of retraining or resettling; lack of exposure to, or knowledge of, alternative employment and absence of opportunities to re-locate or re-employ. These factors can leave an excess of labour in the sector for extended periods, often as long as a generation. Today’s harvesting sector is comprehensively managed for a mix of conservation, economic efficiency and societal benefits through a wide array of entry and effort controls. However, these have not yet eliminated all problems of overcapitalisation and overcapacity, with the result that the commercial appetite of the catching fleets continues to bear no resemblance to what the resource can sustain.

The processing sector has also shown a consistent tendency to overcapitalization and overcapacity that is remarkably similar to that of the harvesting sector. While some of this may reflect the pace and location of developments in harvesting, a good deal of it appears to occur from efforts to out-compete others for raw material, with results similar to those blamed on the common property nature of primary fishing. This creation of redundant processing capacity results in heightening of the seasonal peaks in plant operations that can be inherent in the nature of harvesting operations. This in turn can lead to weakness in product marketing if processing enterprises are not strong enough to compete effectively with competitors. Governments have often contributed to these tendencies by generous plant construction assistance and subsidy programs and then tried to offset some of the ensuing marketing weakness with financial assistance or directly intervening through centralized, or single-desk, selling arrangements such as NAFEL or the Canadian Saltfish Corporation. In Newfoundland, the result has been the imposition of limitations on entry to, and controls on, types of processing operations very reminiscent of those used in the primary sector. In the past, fish processing was labour intensive, but now has become much less so with the mechanization in today’s predominantly shellfish-based activities. With the greatly reduced supply of groundfish, only partially offset by expanded shellfish landings, processing employment has become even more seasonal and produces a lower level of annual earnings. Finally, the raw material requirements of the processing sector seldom equate to proper allowable catch levels.

Moreover, the level and composition of catch implied by market demand rarely will equate to the proper level of exploitation for a fish stock or any combination of them. MacKenzie terms such a co-incidence as “wholly fortuitous”.¹⁰⁰ Markets cannot be relied on to dictate the proper level of resource exploitation. On the other hand, it is rational to manage the catch of a given species to the level required by the market when to do otherwise would produce an undesirable surplus of inventory. Resource exploitation also can be managed to eliminate or diminish unwanted seasonal peaks in production or to improve product quality by reducing the amount of small or poor quality fish. The dictum here is that, while resource management can take account of certain signals from the markets in terms of timing of quantities and grades of products, the marketplace itself cannot be permitted to dictate allowable catch levels as these will usually be above the capacity of the fish resource over the long term.

The over-investments of the past remain in the harvesting and processing sectors of the Newfoundland fishing industry and recently have been repeated to take advantage of the new resource base for shellfish. The groundfish collapse and lack of subsequent recovery has reduced the offshore trawler fleet to a small fraction of its former size, eliminated many full-time processing jobs and left a small boat fleet in several parts of the province with a small income base. Some of these outcomes may never be undone; the degree to which that is still not accepted will make it even more difficult to devise future policy objectives that many can regard as reasonable and equitable.

The present worldwide fishery situation is essentially one where the limits of raw material supply (the resource) have been reached (and in the Newfoundland case have declined in overall physical terms since 1992). Because more than adequate harvesting and processing capacity exists, the sustainable level of exploitable fish resources is now clearly the pre-eminent factor in the setting of policy objectives and the development of policy instruments for management of the harvesting and processing sectors.

The Policy Path to the Present

Fishing societies and their governments have long moved away from the concept of *MSY* as a useful objective of fishery management because of the resource instability it generates and the lack of weight it gives to other economically or socially desirable outcomes. Likewise, the pure economic efficiency objective of maximizing total net returns has never been fully accepted as an aim of fisheries management. As many, including Parsons, point out "... governments have to consider such things as income distribution and employment as well as conservation and economic efficiency."¹⁰¹ We have seen earlier in Chapter 3 that Canada, by the latter half of the 1970s, had moved along the path of alternative optima to adopt a concept of optimum sustainable yield (*OSY*) as the preferable approach to fisheries management. This is an amalgamation of *MSY* (the maximum physical yield) and *MEY* (the greatest excess of revenue over costs of fishing) into a concept of maximizing the overall benefits to society that can be derived from the fisheries. In the 1976 Policy for Canada's Commercial Fisheries, this was termed "best use".

Indeed, the Kirby Task Force statement of fisheries management policy objectives advocated the "best use" approaches of reasonable economic viability, employment maximization subject to reasonable incomes and Canadianization. Later re-statements of government's aims in dealing with the downturn in groundfish, the eventual collapse and the ensuing adjustment efforts continued to combine achievement of economic efficiency, resource conservation and minimum social disruption, without any explicit ranking being given to each.¹⁰² These evolutions all show a set of policy objectives that espoused more than pure economic efficiency; and that the emphasis changed depending on the Minister of the day or the latest crises. Indeed, most of the clearer statements of Canadian fisheries policies have followed some particular problem in the industry. The 1976 Policy for Canada's Commercial Fisheries was part of the response to the 1973-74 groundfish crisis, the Kirby Task Force recommendations were the result of the 1980-82 problems and the later statements by Ministers Siddon, Valcourt and Crosbie¹⁰³ came out of the impending, and then the actual, groundfish

collapse of 1992 and beyond. Similarly, the implicit refinements of policy objectives since the post-moratoria adjustments have retained a mix of conservation, economic efficiency and minimum social disruption with an added sustainability precept. The current Atlantic Fisheries Policy Review is the first substantial review of explicit fisheries policies since the early 1980s. Access and allocations are important components of this review, with access criteria being the subject of a separate enquiry by an independent panel headed by former federal Deputy Minister Arthur Kroeger.

The Theoretical Basis of Policy Optima

Surprisingly little of the current economics literature on fisheries management directly addresses the range of options for policy objectives. Most current economics writings range between two schools of thought. One proposes economic efficiency as the sole aim of fisheries management while the other advocates a more balanced approach where there is provision for conservation, resource allocation, efficiency and social values. The first adheres to the Neo-classical economics view that the ultimate economic objective of any endeavour should be the achievement of the greatest difference between the value of an output and the cost of the inputs used to produce it (i.e., to maximize resource rents). Because society derives the greatest benefit from any economic activity in this way no other outcome is deemed acceptable. To do so is to make a value judgement that is not permitted under this school of economic thought. However, Copes points out that choosing maximum net returns, as the sole objective is itself a major value judgement.¹⁰⁴

Currently, some economic theorists argue that the completely unfettered use of individual transferable quotas (ITQs) will achieve this ultimate objective of net revenue (and resource rent) maximization and solve all the ills of commercial fisheries in the process. Others argue this tool is not fully proven, especially the claims of self-interest driven conservation. These opponents parade a long list of observed and conceptualised adverse results they claim make this a far less satisfactory instrument that is often postulated.¹⁰⁵

Still others raise several technical problems with the notion of rent maximization itself. For example, it is possible, under certain discount rates assumptions, for the objective of rent maximization to lead to a quick fishing-out of a stock¹⁰⁶, which would not be a socially desirable outcome reflecting a realistic social rate of discount which properly weighs the interests of future generations. A more practical problem is the dynamic data requirements for determining whether maximum net rent is really being achieved. These include up to 30 years of future annual operating costs and selling prices, annual catch levels and interest rates, most of which are not ever likely to be available for analysis. A deeper perspective is that all people do not, and indeed cannot, always make the types of rational decisions required by the Neo-classical school of economics. Davidse points out that people do not always act this way because it is impossible for them to do so in a pure sense and there is not an unlimited capacity to make use of all the information that is so required¹⁰⁷. In his view, people usually do the best they can and applying the assumption of rational behaviour to the fishing industry is very hazardous. He cites the cases of Dutch fishing families remaining in the fishery when

selling their licences would bring a greater return because “pure economic considerations are embedded in or subordinated to social-psychological ones”.¹⁰⁸

The major source of disaffection with rent maximization is that it ignores other societally desirable outcomes that are valued in the real world. These include a long list of social preferences that can justifiably be claimed as legitimate alternatives to the attaining of pure economic efficiency.¹⁰⁹ Such aspirations as small community life styles, independence of the owner-operator as well as higher levels of employment and more equitable distribution of income are just some of the alternative values to rent maximization. For example, dissipating some or all of the rent in favour of higher total income and/or employment levels can be especially justified when the economy is below full employment. Then a higher utilisation of what would otherwise be surplus labour is a benefit rather than a cost to society. Moreover, since full employment is a still un-achieved economic state, this outcome is still quite appropriate for fishing regions or other non-urban areas. Two obvious caveats are that poverty-level incomes are not an acceptable price to pay for higher levels of employment or total income, nor are special ongoing operating subsidies to sustain those enterprises whose viability has been compromised. This approach can accommodate such desires as a higher number of different-sized enterprises operating from a larger number of communities so long as the returns to the labour and capital involved are reasonable. It also acknowledges that the social and cultural values of fishing communities are not inferior (and indeed could be considered superior in many respects) to those espoused by the more earnest of free market theorists.

Fishery management arrangements to achieve many of these “sub-optimal” objectives are best designed in a multi-disciplinary approach that incorporates the views of other social scientists.¹¹⁰ The input of these disciplines is especially useful in designing management measures to give effect to the final policy objectives for the fishery management system. Cadigan has produced an excellent review article that catalogues some of the types of inputs available from social sciences other than economics.¹¹¹ These so-called “alternative” writings espouse, amongst others things, the wider use of Traditional or Local Ecological Knowledge and community-based approaches in management of fisheries. These are useful in interpreting trends in fisheries data or in designing management measures that are more suitable to controlling some types of adverse behaviour of licence holders.

Another approach to fisheries management is suggested by using a broad set of social, economic and biological indicators of progress. Charles *et al*¹¹² have proposed such indicators to measure the health of the fisheries and the marine environment. Such indicators would measure the state of fish stocks, the contribution of the fishery, the quality of the marine environment, the well-being of the communities that depend upon the marine environment and the effectiveness of the institutions that manage both the fishery and the oceans. The genuine progress indicators described by Charles are intended to ensure that resources are used in a sustainable manner to benefit citizens at large, stakeholders, communities and the natural environment. This new approach could offer the potential for better management of the fishery by embracing a wider range of performance measures to evaluate and possibly amend management objectives.

We have been struck, in particular, by the situation of women in today’s fishing industry¹¹³ and their aspirations. Slightly over 20 per cent of the individuals reporting fishing income are now female. More than half the total processing workers are women, although the percentage is lower in unionized plants. In both cases, the average income for women is lower than for

men, the same as in the case of fishing incomes. Most of the women harvesters are in the Apprentice category under Professionalization because they are latecomers to that occupation. They find it more difficult to acquire the requisite training courses to advance through the other levels. Women also fared poorly from adjustment programs where support levels are determined by historical attachment. Such attachment is often poorly documented because their work patterns have differed from those of men. Women are generally more concerned about social and community values than their spouses or partners. They also are more interested in the education of offspring and their prospects for the future. All of these factors give women a different perspective on what the objectives of fisheries management should be compared with males. They would generally put more weight on the social aspects or goals of fisheries activities but not necessarily to the exclusion of other objectives such as a decent level of earnings. These are the outcomes that are most often dismissed by the advocates of economic efficiency and the use of free market forces.

The Alternatives For Future Fishery Policy Objectives

In his 1984 treatise on the economics of fisheries management, MacKenzie¹¹⁴ asserted that governments become involved with fisheries management because of:

1. The overcapacity that comes from the excessive inputs of labour and capital resources directed at the fishery, arising from the common property nature of the resource.
2. The untenable pressure this brings to bear on the fishery resources.
3. The resultant recurring crises in the industry and the general impoverishment of participants.

These reasons are probably even more valid today because of where these factors have taken the industry. The situation in, and the interconnections between, all sectors of the industry dictate a balanced approach to policy objectives. Copes has pointed out the pitfalls of uni-dimensional policy objectives that give all weight to either conservation, economic efficiency or social values.¹¹⁵ Any one of these single-focus approaches is bound to be less than successful and certainly will not produce acceptable overall results. The preferred alternative is one where there are multiple policy objectives but these are ranked in importance.

More precisely, the highest level of policy objectives for fisheries management can be found in one of the following scenarios:

1. Maximization of net returns including the resource rent (which could be appropriated by the state as a return to the public from the resource), along with intra-marginal resource rents and consumer surplus.
2. Maximization of the total enterprise or individual incomes from fishing.
3. Maximization of the number of individuals employed in the industry.
4. Some combination or melding of the above into what is deemed a more appropriate mix of benefits to society as a whole.

The real keys to success of fisheries policies objectives are the strategies and programs that are adopted to achieve them. There is not time or space here to delve into this detailed and complex area of fisheries planning but a useful reminder is that policies often are only as good as the efforts made to implement them. Indeed, the core fishery management functions of setting the level of catch, allocating it and granting access to harvesting and processing are the main ways in which the high level policy objectives just discussed are achieved. The policies applied to each of these activity areas now have some 30 years of accumulated history and are the subjects of many and varied treatments in the overall fisheries literature. These writings include dissertations on such diverse topics as options for conducting of fisheries science, the most suitable basis for, and the method of, decision-making and control, the proper policy objectives (from many perspectives) for fishery management and the best tools or management systems for achieving preferred outcomes.

With all that in mind, the following seem to be the most appropriate fisheries policy objectives for the future and should achieve the most suitable balance of resource conservation and protection, economic viability and community and socially desired values. Therefore, the objectives recommended to the Royal Commission are as follows, ranked in descending order:

1. Resource conservation must be the dominant objective, including the restoration of biodiversity and fishery habitat. Management should be highly precautionary; with TAC levels set at the lower end of the range advised by scientists and including a buffer to allow additional assurance against overexploitation. Ecological sustainability cannot be built upon the ecosystem that currently exists, with its degraded biodiversity and a precarious dependence upon historically exceptional levels of shellfish abundance. Concrete objectives for stock rebuilding need to be established for all major demersal, pelagic, estuarial and shellfish stocks. These objectives should include target levels of fishable biomass for stocks such as Northern cod (i.e., 2J3KL), cod on the southern Grand Banks (3NO), cod on the St. Pierre Bank (3Ps), cod in the Northern Gulf (4RS3Pn), American plaice and yellowtail, redfish, turbot and capelin. It is not sufficient to establish annual management plans for major species. There should be medium and long-term management plans aiming toward specific levels of stock restoration. One approach for consideration by the Royal Commission is to rebuild the species diversity and abundance that existed at the time of Union with Canada or else the levels that existed prior to massive overfishing.
2. The rights of aboriginal people must be respected in all allocation decisions.
3. Fishery resources must be managed and allocated so that those closest to them derive the maximum benefits. Allocation decisions must recognize the resource-use aspirations of adjacent coastal communities.
4. The industry must generate a competitive return including a premium for the high level of risk involved in fishing. Harvesting and processing enterprises should be allowed sufficient returns to make them viable, allowing a return to labour and capital comparable with returns in other industries where risk is similar.
5. Within the preceding objectives, the level of employment should be optimized, not maximized. This means the aim should not be to maximize employment, nor to achieve the level of employment that would result from maximizing the economic

rent. However, employment levels should allow enterprises to be globally competitive and should not impair the viability of harvesting and processing enterprises. When regulatory decisions are taken to add capacity and employment, governments should attempt to measure the impact of such decisions on the viability of existing enterprises. The economic data to allow such measurement should be compiled by government and such data should be readily accessible from harvesting and processing enterprises, on a confidential basis, as information necessary to facilitate the management of a public resource. The federal government has used this type of approach from time to time when evaluating the wisdom of issuing a new licence to prosecute the Northern shrimp resource.

One of the fundamental questions is the extent to which social, political and economic objectives can be legitimate components of fishery management policy. History shows quite clearly that the fishery has been almost continuously used to achieve social and political objectives. Such cases include policy decisions whereby fish plants were placed in literally hundreds of communities, in preference either to a policy of *laissez-faire* or, alternatively, the approach of establishing strategic plants on a regional basis. Where these over-expansionary actions compromise economic efficiency to the point of undermining enterprise viability, either for processing plants or for the harvesting sector, they should be rejected as being incompatible with sound fisheries management.

The objectives of fisheries management should be explicitly stated and consistently applied by resource managers. The existence of multiple objectives is, in and of itself, not problematic. What is needed is a clear ranking of the objectives and some sense of what the trade-off is among them. To use an analogy at the macroeconomic level, fiscal and monetary policy makers strive to achieve a balance among the national unemployment rate, the rate of inflation, the rate of productivity growth and the level of per capita output and incomes. Some measure of inflation is tolerable to achieve a reduction in unemployment but if inflation is rampant then higher employment levels may have to be sacrificed.

The same kind of trade-offs must be made in fisheries management, where the licensing of excess capacity for social purposes can detract from long-term economic viability. The overriding objectives of fishery policy must be conservation and ecological sustainability, combined with enterprise viability, producing reasonable levels of income comparable with other industries. Fishery management decisions impact on a host of economic and social factors, such as community viability, regional development, gender equity in employment and personal health, just to name a few. The dictates of sound public policy demand that these impacts be factored into management decisions. These decisions establish the regulatory framework within which the industry must operate. That regulatory framework comprises rules governing how fish are harvested and processed but also how people are treated and respected. These rules include, for example, occupational health and safety and industrial relations. If these regulatory interventions impose an inordinate cost and are out of line with similar interventions in other industries then enterprise viability can be jeopardized. When this occurs the overall management regime has to be examined and rationalized. By the same token, if the industry performs in a fashion inimical to the health of people who work in it then there is a compelling public policy imperative to take corrective management action. In essence, we believe that the complete list of fishery management policy objectives can be as varied as

society wishes, subject to the overriding requirements of conservation and sustainability and reasonable economic efficiency.

Some may view these requirements as incompatible or requiring a high degree of definition in terms of trade-offs or the actual application of these in real life. These constraints are somewhat counter-productive: in general terms conservation and sustainability are a limiter on economic efficiency, while both are even more limiting on the normal human or political aspirations to maximise physical output or employment. The precise determination of conservation or economic efficiency may not be possible at a given point in time but they must be adopted as the guiding lights of fisheries policy objectives in the future. The decision as to the weights to be assigned to conservation, economic efficiency and social factors is the prerogative of government. Any views we might express must be understood to reflect our personal values. However, conservation is both an objective and an overriding principle. We would not see conservation compromised in any way to promote economic or social objectives. Having staked out this position we believe that the fishery can make its greatest contribution if government intervention is kept to the minimum that is required to mitigate the social impact of necessary economic adjustments. Only in this way can governments expect the fishing industry to make the most suitable contribution to society.

The Role of Individual Transferable Quotas (ITQs)

Some comments on the role ITQs could play in achieving these objectives are warranted because this has been demonstrated to be an extremely powerful instrument of fisheries management. It has to be recognized that this is an instrument of fisheries policy and not an objective. It is the latest method advocated to control the tendencies of licence holders to employ excessive amounts of capital and labour in their operations. It is focused on control of output as opposed to input as was the focus with limited entry. This instrument also proposes the creation of rights in shares of fish quotas that can then be bought and sold on the open market, thus creating a mechanism under which the less efficient operators are removed from the industry and those remaining are able to maximise their returns. This removes governments from deciding who stays and who remains and allows market forces to determine the final size and shape of the fishing industry.

This powerful characteristic of ITQs is the reason why there are such ardent supporters and opponents of this approach. In a fully transferable IQ system or regime, economic efficiency is the final determinant of the level and composition of participants. It is when such systems are allowed to function with no control or limitation on the acquisition of quota shares that the results become unacceptable. The most evident of these problematic outcomes is concentration of access to the fishery and foreign or absentee ownership of the quota shares. Examples of both are available from fisheries when fully transferable IQs have been in place for some time, including Australia, New Zealand and Iceland.

Leal¹¹⁶ is one of the proponents of the ITQ approach to fishery management. It is his view that government regulation has failed, having been unsuccessful in preventing overexploitation but greatly increasing costs. He cites spectacular failures of regulation including the collapse of the cod fishery in Atlantic Canada. Government intervention can be most effective, in his

view, by creating private property rights and transforming the commons into transferable property. Without such rights the common property nature of the fishery prevents fishers from saving fish for the future. If they practice conservation and leave fish to reproduce for the future they take the risk that someone else will harvest the fish. By taking the fish now, each fisher captures all the benefits while absorbing only a small fraction of the cost of stock depletion because the cost is split among all fishers. This creates an economic incentive for too much fish to be taken and for too many fishers to enter the fishery.

Leal cites a wide range of examples to support his proposition that private property rights represent “best practice” in fishery management. Each fisher can take his share of the total allowable catch without concern that another fisher will pre-empt his access. This allows a more orderly fishery and one which will maximize the value of the catch by levelling out the effort and allowing fishers to harvest at a time and location where value is maximized. Transferability allows quotas to be taken by the most efficient fishers. Leal identifies four principal advantages. First, he cites examples where the market value of the catch is improved, for example, because of the ability to sell more product into the fresh fish market as a result of the levelling-out effect of ITQs and, in another case, because the longer season and slower pace of fishing enabled fishers to direct for larger, more valuable fish (tuna). Second, is the reduction in overcapacity along with improved vessel productivity as more efficient fishers buy out the less efficient. The fishery can be downsized through ITQs without the taxpayer-funded buyout of surplus vessels that has taken place in other non-ITQ fisheries which have collapsed. Third, safety has improved as the incentive to fish in all kinds of weather has been removed. Fourth, Leal argues that conservation is improved, partly because ITQs can be more effective than traditional regulation in achieving a desired overall harvest for the season. In some fisheries, ITQs have the effect of preventing the harvest of small, immature fish because of the greater ability to fish selectively.

Leal cites the example of the Atlantic sea scallop fishery off Nova Scotia, where the Canadian government introduced enterprise allocations in 1986 as one where the result was a strong partnership in favour of greater conservation. Leal goes on to argue, “the closer ITQs are to full property rights the stronger the incentive for fishers to conserve the resource.”¹¹⁷

Leal acknowledges that there are associated disadvantages, including the discard of by-catches and the high-grading of small fish. He does not see these problems as being insuperable and proposes a number of solutions. For larger vessels one of the solutions is at-sea monitoring by observers.

There are examples where quota allocations are achieved among fishers on a cooperative basis, without being imposed by government. Leal argues that these private harvesting agreements can be quite effective in ending the race for fish and eliminating overcapacity. Governments can play a role in facilitating these arrangements by identifying discrete sectors with common characteristics, such as the use of a particular gear type, and setting aside a share of the total allowable catch for that sector. This allows fishers or their representatives, such as a union, to allocate harvest shares among themselves as well as carrying out certain monitoring and enforcement functions. This is not unlike the way the inshore shrimp industry is managed on the East Coast of the province. In this example the FFAW/CAW performs a management function in determining fleet shares and landings caps. Quotas are not transferred from vessel to vessel but there are in-season reallocations among fleets within the sector, based upon size. While the management of this inshore shrimp fleet sector is far removed from an ITQ system,

there are discussions around the option of combining quotas within the fleet and within local areas that could permit some movement toward capacity reduction.

Leal, along with most proponents of ITQs, argue that they foster incentives for fishers to improve the fishery and are most effective when they are established as clear property rights, rather than rights of access only. Such clear property rights could be sold, pledged as loan security and transferred from one generation to another.

The most common means to establish the initial ITQs is on the basis of catch history. An alternative, advocated by many, is the use of auctions which have the potential to generate revenue to the government up front and avoid the issue of windfall gains associated with the “free” disposition of a public resource. An auction would allocate ITQs to those who value them the highest, as indicated by their bids. Such auctions are used in the allocation of government-controlled resources such as airport landing rights and broadcast frequencies in the United States and sale of rights to explore for hydrocarbon resources in Canada. For mature and fully subscribed fisheries, such auctions are not practical options. However, a secondary market in ITQs has the potential to simulate the advantages of an auction market. Indeed, such a secondary market exists in this province today but transactions involve individual species licences or the complete fishing enterprise. If either the individual species licence or the enterprise is entitled to individual shares of a specified species, these entitlements are transferred to the new holder. While these individual shares are not yet considered permanent (and generally cannot be combined) such licence transfers/re-issuances appear to be undertaken on the assumption that they are long-term entitlements.

Apostle *et al*¹¹⁸ provide an instructive and relevant case study of ITQs, involving surf clam and ocean quahog fisheries in the U.S. mid-Atlantic and the mobile groundfish fleet in the Scotia-Fundy region. It describes the evolution of ITQs, which were implemented in 1990 and 1991. The U.S. fishery was a case where the decision-makers were able to work with a relatively “pure” economic model of ITQs, without caps on ownership to prevent concentration and with virtually no limits on transferability. This fishery operated over a wide geographical area without impacting heavily on any one community. In the Scotia-Fundy case, issues of equity and the impact on communities were very important. The outcome of the Scotia-Fundy case was also largely driven by the vulnerability of groundfish stocks and by the resource declines which quickly led to moratoria beginning in 1992. In fact it is hard to separate the effects of declining resource from those arising from the introduction of ITQs.

In both the Canadian and U.S. cases, the objectives of capacity reduction and fleet rationalization were achieved. The level of employment was reduced and in Scotia-Fundy, crewmen were left with a reduced share. This is attributed to the weakened bargaining position of crew members associated with reduced employment opportunities, along with the fact that the cost of purchasing or leasing ITQs has been taken from the crew share. Notwithstanding the cap on the share which individual enterprises could take in Scotia-Fundy, there was still a significant amount of concentration which occurred subsequent to the introduction of ITQs. With respect to conservation there appeared to be a shift toward improved stewardship but this might have occurred in Scotia-Fundy because of the fragile state of the resource. In both cases there was no auction of rights and quotas were based on historical shares. There was no rental enacted to extract economic rent by government. There was a shift in landings from one region to another and in Scotia-Fundy the community and regional consequences were substantial, notwithstanding the requirement that ITQ holders must be *bona fide* fish harvesters and that no

person or enterprise could hold more than two per cent of the ITQ for a species in a specific management area. In the surf clam and ocean quahog fisheries there was no such cap and the system began with full and unrestricted transferability. In the Scotia-Fundy inshore mobile-gear groundfish fleet the system started with IQs, not ITQs. The reduction in overcapacity was associated with considerable concentration in holdings as well as a reduction in the number of active ports and buyers. The Scotia-Fundy case is an example of the trade-off between economic efficiency and equity where some communities gained at the expense of others. Whether this can be attributed to the ITQ system or to a declining resource is not clear.

The conclusions of Apostle *et al* on monitoring and compliance are somewhat reassuring. The data cited show that the number and severity of violations have been reduced. While the evidence is not irrefutable it is reasonable to conclude, as the authors have done, that compliance in Scotia-Fundy has improved under the new regime.

Apostle *et al* observe that “the level and types of “community” have been diminished by the introduction of ITQs. It is also possible that this particular path, as hard as it may seem, is part of a reconstruction of community for the next century.”¹¹⁹ Their study emphasizes the importance of consultation and industry participation in setting up the system. In Scotia-Fundy the implications of ITQs for coastal fishery-dependent communities played a bigger role than they did in the U.S. surf clam and ocean quahog fisheries, which were more geographically dispersed and where the community impact was much less critical. Even in the latter fishery the concern about monopoly power and corporate control led to a 10-year delay in the decision to go ahead with ITQs. In Newfoundland and Labrador, as in the case of Scotia-Fundy, these concerns would be even greater as a result of the potential loss of supply to local fish plants if ITQs were transferred to owners in other ports. Similar concerns on the part of communities in Alaska relating to halibut and sablefish in the North Pacific contributed to the current moratorium on ITQs in U.S. waters.

The study by Apostle *et al* looked at the impact of ITQs on southwestern Nova Scotia and found that the ITQs which were initially awarded to all enterprises were quickly concentrated even before they became permanently transferable. Vertical integration increased as plant owners gained control through arrangements with fish harvesters, who continued to be the nominal owners under fleet separation policy. On the positive side, plant owners were able to keep operating even though the total allowable catch was declining.

Even with these drawbacks (and others) to wider acceptance of this tool, we feel there is a role for its use in achieving the objectives outlined above. A properly designed ITQ regime can allow the fishery to reach more or less the desired level of incomes and employment while removing governments as the final selectors of participants. A few simple rules on the degree of accumulation of quota shares and eligibility to acquire them can remove some of the concern about concentration and control as well as that of absentee ownership. In the first case, a rule regarding the maximum allowable share of quota holdings would mitigate undue concentration. In the second case, specified eligibility criteria, similar to those currently in use in fishery licensing, would confine the ownership of quota shares to those who are willing to enter the industry on these bases and would prevent non-resident ownership.

This is the type of approach to the use of ITQs that we feel is appropriate for the future fishing industry of Newfoundland and Labrador. This controlled transferability of quota shares would allow the industry to become more efficient than it is now but still provide for the broader range of participation of individuals and communities envisaged in the future policy objectives

we have laid out. This tool will need be combined with other management measures that will still be needed to attain resource conservation (TACs, fishing seasons, gear regulations, etc...) and to allocate access in some fisheries where IQs will probably not be applicable or needed, such as the lobster fishery¹²⁰.

All of Newfoundland's over-65 ft. fleets have effectively been rationalised by the groundfish EA program and the individual share-based licensing in Northern shrimp. There are a number of "inshore" (under-65 ft.) fisheries in this province that now utilise some form of individual quota shares to allocate access amongst licence holders. Before the collapse of Northern Gulf cod, the under-65 ft. mobile gear fleet in 4R had adopted an ITQ program for their cod allocations that included an accumulation limit on acquisition of individual shares. The current individual share arrangements in 3Ps cod, 4R shrimp and all crab fisheries plus the landings cap measures in Northern shrimp are all stepping stones to some form of transferable quota shares regime. In fact, the Temporary Seasonal Crab Permits for under 35 ft Core operators were recently converted to licences when these fishermen voted overwhelmingly to accept permanent combining of such enterprises.

The likely long-term outcome is that as the benefits of permanent IQs become more obvious they will be adopted in more fisheries¹²¹ and transferability/combining of them will become more acceptable and will be adopted with limits on the amounts one enterprise can accumulate.¹²² As this happens concentration of enterprises will occur (that is an avoidable consequence of improving efficiency) and operators will increase the size of vessels they now can afford to use as their quota holdings increase. This could allow the removal of the 65 ft. vessel replacement barrier for those who acquire sufficient individual shares to justify operating a vessel in the 65-100 ft. category. Other operators would move up to larger vessels in the 35-65 ft. group, while a similar move would occur in the under-35 ft. class. Some in the latter category could move into the 35-65 ft. fleet if their accumulation of individual shares justifies that. Those who do not acquire additional shares would remain much the same as now. There would be eventually fewer enterprises operating a range of vessels that are larger in size on average than now. This would result in more efficient fleets consisting of fewer enterprises operating from fewer locations. This allowance for private sector decision-making in the controlled accumulation of individual shares is the most effective way of achieving the policy objectives we have stated in this chapter. The role of government would be reduced to assisting licence holders establish the original sharing formula and setting the level of ITQ accumulation that will produce the preferred size of the more efficient harvesting sector. The latter limit would have to be monitored and adjusted over time if necessary. We feel this approach would achieve the proper balance between the rent maximising results of freely transferable IQs and the other objectives we have proposed for the industry of the future.

There is no really good reason why this approach should not also be applied to the processing sector. Many of the same irrational investment and operating decisions observed in the harvesting sector are also found here. "Common property/open access" factors appear to have similar influences here as they do in harvesting. In this case an Individual Shares approach would be based on some concept of transferable or tradeable "production/output quotas" or "raw material/input shares" that are related to the overall available catch quotas. As in the harvesting sector, such production quotas would remove governments from having to decide who remains in the industry but could allow market forces to determine the eventual participants, and within limits, the size of their operations. Governments could determine the

approximate scale of the processing sector through rules on combining of production quota/raw material shares. This would eliminate the need for governments to decide on the size, type and location of each and every processing operation, as in the current model. The issuance of some form of production quota or raw material share could relieve governments of many of the almost impossible decisions the current approach requires. As with the harvesting sector, the introduction of such production quotas should be combined with parameters to control against undue concentration of ownership.

We recommend that governments adopt the controlled use of Transferable Individual Shares in shaping the size and structure of both the harvesting and processing sectors in the future fishery in a manner that allows the achievement of the objectives we have proposed in this chapter. There should be a high level of consultation and participation by all stakeholders to enable further evolution in the current system of individual quota holdings. We recommend that the next step on the harvesting side should be the enhanced ability to combine enterprises, along with greater flexibility with respect to vessel replacement.

Strengths and Weaknesses of the Current Management Regime and Division of Powers

This chapter will examine the strengths and weaknesses of the current fisheries management system and division of powers that has been described earlier. We will assess these in the context of the management objectives that flow from our examination of the economic and other resource management literature as well as from the perspective of the province of Newfoundland and Labrador.

Policy Integration

There must be an integration of policy objectives between the federal and provincial governments to achieve these objectives, as well as broad public support for a vision that places stock rebuilding as a high level societal goal. Because of divided jurisdiction, there must be an agreement on objectives between the two levels of government if fisheries management is to be successful. Otherwise, the province will attempt to achieve one set of objectives in its management of the processing sector while the federal government will move in another direction for the harvesting sector. These sectors are part of an integrated system and need to be managed in concert. The means of achieving policy coordination are central to this report. While the federal government has the preponderance of management authority for the fishery, the powers of the province to regulate its processing sector are not inconsiderable. These include regulation of entry and level of participation in processing, quality control, and the level of processing and value added to be undertaken within the province prior to export. The province also exercises controls over the extent to which landings must be processed on a local area basis. In addition to this regulation of processing, the province has legislative authority for occupational health and safety as well as collective bargaining in the port market and in the processing sector. However, the province has no power in resource management, including fisheries science, setting of TACs, resource allocation and regulation of harvesting technology.

There is a longstanding perception that divergence of policies and priorities has been a major problem in the management of the fishery. This has given rise to a number of reports that have recommended various forms of policy coordination through the creation of a joint board. These reports include the following:

- House, Douglas, 1986, “Report of the Royal Commission on Employment and Unemployment”, prepared for the Government of Newfoundland and Labrador.
- Harris, Leslie, 1990, “The Independent Review of the State of the Northern Cod Stock”, prepared for the Minister of Fisheries and Oceans.
- Maloney, Aidan, 1990, “Report of the Commission of Enquiry into the Alleged Erosion of the Newfoundland Fishery by Non-Newfoundland Interests,” prepared for the Honourable Clyde K. Wells, Premier of the Province of Newfoundland and Labrador.

- Dean, Leslie, “Report of the Special Panel on Corporate Concentration in the Newfoundland and Labrador Fishing Industry”, prepared for the Minister of Fisheries and Aquaculture.

These reports, and others, have focussed upon the need for integration at the policy level, recognizing that any further integration, such as joint decisions through a single management body, first require that basic agreement exist at the level of policy objectives. Agreement on such objectives is a necessary, but not a sufficient condition, for successful management. We have concluded that there has not been enough policy integration and the management failures of the past can be attributed, in part, to defective intergovernmental coordination in this area.

A number of issues will illustrate the need for such policy coordination and integration. We will take two examples for the sake both of clarity and brevity but many others could be cited. These two relate to (1) resource projections and provincial allocations and (2) capacity and seasonality. These examples show that lack of policy integration leads to uneconomic choices that are detrimental to the building of a viable and competitive industry.

One of the principal factors influencing regulatory policies with respect to harvesting and processing capacity is the quantum of resource forecasted for the short, medium and long terms. If there is no agreement on resource projections then it is likely that the two levels of government will establish divergent parameters for the management of the harvesting and processing sectors. There is no formal mechanism to achieve convergence of views on global resource availability for major species. If each level of government takes a different perspective on the resource, they will adopt different policies as to how much processing and harvesting capacity is required. Not only is there need for a framework for making resource projections, but also to achieve agreement concerning the share of the resource that will be allocated to participants in each province. Without such agreement on global resource forecasts, or a reasonable basis for joint agreement on the resource level that will be allocated, the province is left in a very difficult planning position. The province will be operating in isolation, with the result being that the number of plants licensed will bear little relationship to landings. Such a disconnect cries for a solution!

The second example relates to the need for parallel development of the harvesting fleet and the plant capacity that processes landings from it. This parallel development should take place not only at the provincial level but also on a regional or local basis. If successful, there will be a regional balance between harvesting and processing capacity. If unsuccessful, there will not only be a lack of regional balance but the viability of enterprises will be compromised. With too many plants relative to landings, the raw material available to individual plants may be insufficient to achieve an adequate return. With too many fishing vessels the port market may suffer from depressed prices or else the quotas available to individual vessels may not be sufficient to allow a competitive return. Furthermore, regulatory controls at the harvesting level can have the effect of limiting vessel size, resulting in a very narrow seasonal window within which the fleet may operate safely. Such vessel size controls imposed at the federal level, which impair the mobility of the fleet, tend to create a highly seasonal pattern of landings. This creates pressures upon the provincial government to license a larger number of plants than the overall economics of the industry can justify.

There have been few attempts to achieve such policy integration. The appointment in 1953 of the Newfoundland Fisheries Development Committee, as a joint federal-provincial

body, chaired by Justice Albert Walsh, was such an attempt. The restructuring of the offshore processing sector in the early 1980s represents an example of a close and effective working relationship forged to address a major financial crisis affecting the larger enterprises in the industry. (This occurred at a time when both governments were in the midst of disagreements over the division of fisheries management powers.) The Fishing Industry Renewal Board was established in 1994 as a federal harvesting adjustment board. Its mandate was broadened in 1996 through provincial participation and funding to include policy development for the processing sector. Its recommendations to the province provided the basis for a new licensing policy for that sector. These instances show that policy coordination can take place within the existing structure, even though such felicitous partnerships are infrequent.

Strengths of the Existing System

The present division of powers in the fisheries management system does have certain strengths. These advantages need to be balanced against the weaknesses. On the basis of this evaluation we will conclude as to whether fundamental changes in the management system are needed.

Ability to Pay

Clearly, the federal government holds preponderant management authority, relative to the province, and carries a much larger share of the cost. The federal government has much greater ability to pay for its extensive management responsibilities. The management of the fishery is an extremely costly undertaking, as evidenced by the expenditures of the Newfoundland region of DFO in 2001-2002 of \$167 million. These costs include fisheries science and stock assessment; the broad range of fisheries activities involved in setting quotas, fishing seasons, minimum fish sizes, gear restrictions and so forth; the enforcement of regulations; regulation of fishing vessel safety and operation of the Coast Guard and the necessary support functions. From this perspective the existing division of powers represents a strength of the system, rather than a weakness, because the federal government can command the resources necessary to protect the resource and to implement the conservation measures needed to achieve the conservation objectives established either independently by the federal government, or jointly with the province.

Conduct of International Relations

Historically, other countries have exercised rights to fish in waters adjacent to Newfoundland and Labrador. With the advent of extended jurisdiction in 1977, this situation changed but the 200-mile extended economic zone did not eliminate the international dimension of fisheries management. Many important stocks straddle the Canadian zone and their management requires international agreement. The federal government has responsibility for the conduct of Canada's international relations and is in the best position to undertake negotiations with countries that claim the right to fish within the Canadian zone, or outside the zone, in the case

of straddling stocks. This international dimension of fishery management requires a strong federal role, the exercise of which can be argued as a strength of the existing division of powers. However, it must be noted that there have been instances where the federal government has been blamed for compromising its fisheries objectives in order to achieve trade objectives in other sectors. Without a presence in these negotiations, the province is not in a position to safeguard the interests of its fishing industry. Nevertheless, it would be difficult to argue that the federal government ought not to be in charge of international fisheries relations. From this perspective, the current international mandate of the federal government has to be seen as a strength.

Resolution of Interprovincial Conflict

In addition to the international dimensions of the fishery and the conflicts arising from it, some form of conflict resolution is essential for resolving the interprovincial rivalry and conflict associated with fisheries management. The logical authority to conduct this conflict resolution is the federal government. However, as with the federal international role, there is a caveat that must be registered on the interprovincial role as well. This caveat relates to the principles of resource allocation. In its arguments leading up to the extension of jurisdiction, Canada relied heavily upon the rights of adjacent coastal communities in international law. Such rights are also used as a basis for establishing the rights of Canadians to fish. However, the federal government is perceived in this province as being prepared to weaken the adjacency principle to assert that fish resources are national in scope. The recent acceptance of the access criteria proposed in the report of the Independent Panel on Access Criteria by the federal Minister lends support to this perception. These criteria added a new principle of equity, which is seen in the province as a weakening of the principles espoused by Canada in its Law of the Sea negotiations.¹²³ It is argued that the principle of equity has the potential to weaken the principle of adjacency by allowing some participation by residents of other provinces in resources that are indeed adjacent to a province but which extend well beyond the near shore.

Insulation from Undue Political Pressure

We have heard the argument that federal fishery managers headquartered in Ottawa are in a better position to resist undue political pressure and therefore the powerful role of the federal government in fisheries management is a strength. Those who take this position argue that if the province were in control of resource management they would be less impervious to pressures to compromise the biological integrity of the resource by undertaking a more adventuresome approach in setting TACs. They also argue that the province would be more accommodating to pressures for additional harvesting licences and thereby further compromise the economic viability of the industry. These people cite what they consider the egregious overcapacity of provincially licensed plants in the processing sector to validate their viewpoint. The same argument is sometimes made to support continuation of the enforcement role of the federal government, based upon the greater ability of managers in Ottawa to enforce regulations without interference. Such political interference is deemed more likely if

provincial ministers were vested with the broad enforcement powers currently exercised by the federal government.

Weaknesses of Existing System

The following are some of the more obvious weaknesses of the current highly centralized fisheries management system. These are indicated in the context of lack of coordinated fisheries management initiatives and complementary policies and the resulting general failure of fisheries management.

Inadequate Role of Province

The provincial government plays an important role in setting economic and social policy. Major functions of the province include significant social programs such as the funding and operation of the health care and education systems, funding of the University, the Courts, social services as well as economic programs relating to the management of natural resources. In other provinces where the major natural resources are land-based, the provincial government has the principal regulatory power to manage the economic destiny of the province. The principle of provincial ownership and management of natural resources is established in section 92A of the Constitution Act with respect to non-renewable natural resources and certain specified renewable resources (not including fisheries). Under the Atlantic Accord of 1985, the province acquired certain delegated powers, not through constitutional amendment but by federal legislation, with respect to the management of sub-sea mineral and petroleum resources on the continental shelf. This was seen as righting a wrong in the sense that, in the Terms of Union with Canada, Newfoundland and Labrador did not renounce any claim to its mineral rights on the continental shelf. The management arrangements made in the Accord for the new offshore petroleum sector recognized an important role for the province. Furthermore, citizens of the province look to the provincial government to establish social and economic policy objectives. The provincial government, in turn, finds itself frustrated with its lack of authority and its inability to participate meaningfully in major fisheries management decisions.

Lack of Provincial Vision

On the other hand, those stakeholders who argue for the status quo, or for even greater federal power, also argue that the province lacks stated, or indeed any, objectives for the fishery and has no vision of how it should be revitalized. These people cite the lack of a provincial White Paper to guide the fishery of the future and the fact the province's last consultative document (or Green Paper) entitled "Changing Tides" was never finalized, as proof of this position.

Lack of Bilateral Policy Coordination and Integrated Decision-making Mechanisms

We have discussed earlier the need for high level policy coordination and for integrated management decisions. The lack of such integration and coordination is perceived by many to be a major weakness of the current system. A number of recommendations have been made over the years to remedy this situation. These have included jurisdictional changes to enhance the powers of the province and various forms of joint boards to advise on policy or to implement decisions within a framework of mutually-agreed policy objectives. None of these proposals have come to pass.

Influence of Union and Industry

It is claimed that industry stakeholders, particularly the Fish, Food, and Allied Workers (FFAW/CAW) and the Fisheries Association of Newfoundland and Labrador (FANL), have more influence over federal fisheries decisions, and are more likely to be consulted, than the provincial department. This places the province in an invidious position where it can be taken off guard by decisions that will have a major impact upon the people of the province and the demands they will make for social programs and for alternative economic opportunities.

Exercise of Ministerial Discretion

The current system places a large amount of discretion for management of fish harvesting in the hands of the federal minister. The same is true at the provincial level with respect to the regulation of the processing sector. Both of these situations are anomalies in public administration. It is rare to find instances where Ministers can be so intimately involved, as Fisheries Ministers are, in making decisions that have such a major effect on individual enterprises. Usually, Ministers set the policy framework for such decisions but do not take the actual decisions. Both the federal and the provincial Ministers have powers that go well beyond the policy level. This creates the potential for the exercise of wide discretion in licensing and allocation decisions, that can be either a legitimate exercise of Ministerial discretion or, depending upon the circumstances, capricious interference outside of any policy framework. In the latter instance, the result is a highly unstable regulatory environment that compromises the competitive position of the fishing industry.

In other comparable situations, where access to public resources is conveyed in the form of temporary or permanent rights, there is normally an open, transparent process available where the general public has a right to intervene. There are many examples of these, including the Canada-Newfoundland Offshore Petroleum Board, the Canadian Radio Tele-Communications Commission (CRTC), the National Energy Board, the Alberta Energy and Utilities Board and the Public Utilities Board of Newfoundland and Labrador. These bodies make decisions based on evidence and the tribunals themselves must provide reasons for their decisions, based only on this evidence. The lack of transparency in the decision-making process is one of the main weaknesses of the existing fisheries management system.

We note that the establishment of the Fisheries Resource Conservation Council in 1992 represents a step in the direction of creating a higher degree of transparency by creating a mechanism for the public review of fisheries science. Public recommendations are made to the Minister of Fisheries and Oceans, based upon input from fish harvesters, scientists and other interested parties. This advice covers conservation measures as well as research and assessment priorities. The mandate of the FRCC covers groundfish only, and the final decision rests with the Minister.

Ministerial Control over Fisheries Science

The lack of federal-provincial integration in fisheries science is seldom cited as a major shortcoming of the existing division of powers. Nor is there evidence that major resource crises, such as the collapse of major Atlantic groundfish stocks, would have been avoided by better policy integration in this area between governments. However, there has been criticism of other aspects of fisheries science. In 1997, for example, within the context of the collapse of the groundfish fishery, Hutchings, Walters and Haedrich¹²⁴ argued that fisheries science suffered when the Fisheries Research Board was dissolved in 1979 and science was integrated into the Department of Fisheries and Oceans. Their contention was that political and bureaucratic interference in government fisheries science was harmful to the fish stocks and to the well-being of people who depend upon them. They argued that there should be an independent scientific organization which would be free of political influence and which would release all scientific information on stock abundance to the public at the same time it was given to the Minister. The authors conclude that the existing framework has failed to ensure viable fish resources and sustain the fishing people and communities upon which successful fisheries management depends.

On the other hand, another independent scientist, Trevor Kenchington¹²⁵ takes a somewhat different approach, arguing that fisheries management and science do need to be separated from the political arm of government but that they should remain together. He argues the need for science to be close to managers, to explain scientific advice and to understand the management questions that need to be addressed. He also believes that science has not been given the support it needs and that it has been starved of financial resources. Kenchington contends that senior scientists are not being replaced and that the work, which should be performed by scientists, is being done by technicians.

The formation of the FRCC in 1993 was an initiative to separate the decisions on TAC from the Minister and the internal operation of the DFO science organisation. The role of this body is currently under review by the Department and we have expressed our views on it elsewhere.

Political Control over Fisheries Management

The events leading up to the moratorium indicate how total allowable catches were kept well above $F_{0.1}$ even after the Canadian Atlantic Fisheries Scientific Advisory Committee (CAFSAC) had revised its estimates of the biomass. Hutchings *et al*¹²⁶ cite the example in 1990 of how the Minister established the TAC for 1991 at 190,000 tons, even though the $F_{0.1}$ level of harvest should have been only 100,000 tons. In 1992, it was clear that the TACs had

been far too high in relationship to the retrospective estimates of the biomass and the Minister announced a moratorium on July 2nd. Why did the Minister select a TAC level in several years leading up to 1992 that was so far out of line with the scientific advice arising from the revised biomass estimates and the announced management policy? At the time, there was a sense that sudden adoption of the lower TAC would have imposed too much social and economic hardship. This gives rise to the argument that conservation would be better served through a separation of management from the political level. Furthermore, the conservation objective ought not to be compromised for short-term social and economic objectives.

Too Much Influence by Stakeholders

There is clearly a large public interest in the management of the fishery, because fish are a public resource. However, representatives of fish harvesters and processors dominate most consultative bodies. Provinces generally complain that the federal Minister and his Department give a higher level of deference to the union and industry than to provincial departments of fisheries. We understand the provincial Minister also consults extensively with these same stakeholders in this province. This high level of influence by industry stakeholders at both levels of government has the potential to compromise the overriding imperative of conservation and of stock rebuilding, given the unavoidable sacrifice associated with any meaningful level of stock recovery to historical levels. It has to be recognized that it is virtually impossible for people whose livelihood is at stake to give impartial and objective advice.

Inadequate Community Involvement

In assessing fisheries management options it is important to look not only at the role of the federal and provincial governments but also to examine how local communities and regions can make a larger contribution to the management function. There is an excellent precedent for this in the management of lobsters but for other shellfish and for groundfish and pelagics the full potential remains undeveloped. An example of some thinking in this regard is the proposal for community-based ecological fisheries management¹²⁷ advanced by the Conservation Council of New Brunswick. In that approach, Community Fisheries Boards (CFBs) would serve as a “trust” to hold and oversee management of inshore fisheries within a defined geographic area or on behalf of inshore harvesting groups. All such fishing licences would be held in trust by the Board and would not be the property of individual fish harvesters. The CFB would control fish stocks on an ecosystem level by effort control instead of quotas. In addition to managing fishing activities, the CFB would control other oceans activity in its coastal zone. Local fish harvesters would form a council within the zone with fisheries scientists serving as advisors. This model is similar to one in Japan where coastal fish harvesters’ associations hold the right to fish and their management plans are subject to approval by the regional government. The NB Conservation Council proposal also allows for the management of stocks in larger geographic regions through Bio-Regional Fisheries Boards.

We are not able to take a position on this approach, as it does not seem to have advanced beyond the proposal stage. We do recognize that we must be open to new ideas for the better management of the industry. We are encouraged with the success of the Eastport project for

the conservation of lobster. While it is sometimes argued that large stock complexes do not readily allow for regional or community management, the reality is that most of these stocks have important regional components which would benefit from local input with respect to protection of nursery areas and spawning grounds. We strongly advocate the encouragement of greater participation in such activities that will build a badly needed conservation ethic from the ground up. The lack of strong community and regional commitment to conservation is a weakness of the present system.

Women in the Fishery

Women have traditionally played an important role in the fishery. One of the weaknesses in the present system is that the governance of the industry has been dominated by male managers in government, in industry and in fish harvesters' organizations. We note that there appears to be little recognition of the historical role of women in the transition to more formal professional credentials for harvesters. Furthermore, the collapse of the fishery has had a particularly large impact upon women¹²⁸, with 12,000 out of 15,000 people losing their jobs being female. The data on participation by women are misleading because the earlier data would not have fully reflected women who processed fish at the household level in the 1950s and 1960s. Adjustment programs in which compensation was based upon "historical attachment" have failed to recognize the important historical role of women. In building a vision for the fishery of the future it is important that women be given a more prominent role in stewardship and in setting the objectives for stock rebuilding and for restoring the ecosystem to a more resilient and bio-diverse condition.

Conclusion

This assessment has been mainly directed toward jurisdictional questions and broad issues concerning the governance of the fishery. We have excluded from our scope many topical and detailed issues such as those surrounding gear technology, fleet separation, individual transferable quotas (ITQs), and the respective roles of seals, depleted capelin stocks and environmental factors in understanding the collapse of the groundfish industry.

The conclusion we have reached is that fundamental changes are required in the management of the fishery. Some of these changes will enhance the role of the Province in the management of the fishery, beginning with a long-term vision founded upon stock rebuilding. Other changes will provide for a more consistent application of fisheries policy and for changes in the process of management to make it more transparent, particularly in the pursuit of conservation goals. The options for making changes in the management of the fishery are set out in the next chapter.

Alternative Fishery Management Systems and Arrangements

In this section, we will examine two groups of options for provincial participation in the exercise of central fisheries management functions, which are those related directly to the control and regulation of fish harvesting and processing. These are the fisheries management functions divided along federal-provincial lines in Canada and that, over the years, have been the focus of much debate pertaining to division of powers. We will take a broader perspective than just the division of powers in assessing whether there are better ways of administering or carrying out these key functions, activities or responsibilities. All possible changes should be considered to accomplish the objectives we have set, including changes in the constitution, if that is what it takes.

There are a number of alternative approaches that could be taken to enhance the role of the province in fisheries management. Some of these options range from constitutional change that confers some specific powers (such as the setting and allocating of TACs) on the provinces, to jointly agreed federal-provincial administrative arrangements. In the first part of this section, we will review and assess a variety of alternative arrangements for changing the division of powers, including various proposals for constitutional change and for delegation of authority to independent boards. This review will be followed by an examination of unilateral and bilateral delivery options for key fisheries management functions in the last part of this chapter.

Division of Fisheries Powers

Other Federal Arrangements

We have not conducted a thorough survey of other jurisdictions, but in our research we have looked briefly at two other federations, the United States and Australia.¹²⁹ It is our understanding that, in these federations, the arrangements for the sharing of fisheries management authorities were created through federal/state agreements and then reflected in statutes enacted at the federal (or, in Australia, at the commonwealth) level, rather than through constitutional change.

In the United States some fisheries management rights, such as for freshwater fisheries and tidal fisheries out to at least three geographical miles, are constitutionally vested in the States. Eight Regional Fisheries Management Councils, comprised of industry and government representatives, appointed by the federal and state governments, develop fishery management plans beyond the three-mile state limit through extensive public consultation. The Secretary of Commerce can overrule decisions of the Councils but rarely exercises this authority. Provision is made for judicial review upon appeal.

There is potential for a lot of conflict in this arrangement. It is clear that the States do have meaningful jurisdiction and that the federal government is not in full control. However, Parsons¹³⁰ concludes that “A central lesson from the U.S. experience is the danger inherent in an extremely decentralized system of fisheries management. While there are some advantages

in allowing objectives to be set on a region-by-region or fishery-by-fishery basis, the failure to apply a national framework of objectives and standards can result in an extremely fragmented and ineffectual system of fisheries management.”

The fisheries management system in Australia is characterized by considerable state and commonwealth agreement on exercising divided authorities for fisheries management. Australian states have management powers for fisheries in three-mile coastal zones and the Commonwealth for fisheries beyond that. A series of agreements has resulted in various arrangements for exercising these powers by either the State, the Commonwealth or jointly by both governments. In most cases, the Commonwealth has assumed control of fisheries that extend through and beyond state waters but some states have exclusive jurisdiction over specific fisheries that had previously been managed by the Commonwealth outside state waters. The basis for these management arrangements was provided by Commonwealth legislation. The Australian system gives the states a higher level of jurisdiction than Canadian provinces, although it is probably more centralized than the American system of regional councils.

What emerges from this cursory review is that other federations have attempted to strike a balance between the powers of the central government and those of the states/provinces. The arrangements underlying this balance have to be designed to fit the national circumstances. There does not seem to be a need to entrench them constitutionally.

Canadian Constitutional Discussions on Fisheries Management

The issue of fisheries jurisdiction was frequently debated in the Canadian constitutional discussions of the late 1970s and early 1980s. In 1980, Newfoundland made a proposal for concurrent jurisdiction whereby the federal government would have paramount authority in some areas, such as international negotiations, conservation and the establishment of TACs while other aspects of a local or provincial character would come under provincial jurisdiction, such as harvesting plans and fleet allocations. At a conference of first ministers in September, 1980 the federal government adopted a position that demonstrated some flexibility in turning over powers to the provinces. The federal government was receptive to provincial jurisdiction with regard to:

- (1) Inland fisheries in the non-tidal waters of the province,
- (2) Sedentary species in tidal waters in, or adjacent to, the province, and
- (3) Aquaculture within the province and in tidal waters or adjacent to the province.

With respect to seacoast and marine fisheries, including anadromous species, the federal government refused concurrent jurisdiction but offered closer consultation.

“With the exception of Nova Scotia, all provinces seemed to favour some form of jurisdictional change giving the provinces greater powers over marine fisheries. Quebec and British Columbia favoured exclusive provincial jurisdiction; the rest favoured concurrent jurisdiction with more or less power left with the federal government. Prince Edward Island and New Brunswick apparently wanted a strong federal role in the context of concurrent jurisdiction, while Newfoundland favoured a greatly diminished federal role.”¹³¹

In the late 1980s, Newfoundland again pressed for increased provincial jurisdiction over fisheries. By this time, the level of support from other provinces was less than it had been in 1980. Notwithstanding a provision in the Meech Lake Constitutional Accord of 1987 that called for fisheries to be on the agenda for annual constitutional conferences, this did not lead to any agreement. Opposition to any change in fisheries jurisdiction continued thereafter.

When the Wells administration came into office in 1989 it adopted a policy of joint management, such as had been recommended in reports by Leslie Harris, Aidan Maloney and Douglas House. Premier Wells said that he was not seeking a change in jurisdiction but rather was proposing shared management with the Federal Government. The proposed board would be similar to the Canada-Newfoundland Offshore Petroleum Board and would have the power to set allocations, license fish harvesters, vessels and processing plants.

This proposal is set out in a 1991 document of the Government of Newfoundland and Labrador¹³². The joint management board would derive its authority from both levels of government. The goals would be: to improve industry efficiency and stability by integrating key policy responsibilities and making decisions closer to the local level; to foster the effective integration of economic and social priorities with fisheries management decisions; and to establish a more open and predictable management process. The board would make decisions with respect to the regulation of the harvesting and processing sectors, through resource allocations and licensing. The board would recommend TACs for those stocks that overlap the boundary of the Newfoundland zone, when vessels based in the province land the largest share. Once the federal Minister has set the TAC then the stock would be allocated among provincial jurisdictions based upon an agreed formula.

The federal government would continue to be responsible for scientific research, habitat management, resource protection, surveillance, enforcement, native fisheries and international affairs. The board would apply resource allocation principles. An intergovernmental agreement would establish the policy guidelines for the board and mirror legislation would be enacted by the provincial and federal legislatures. Equal numbers of board members would be appointed by federal and provincial governments with a jointly appointed Chair.

Federal Proposal for Licensing and Allocation Boards

In the same year, the Federal Minister of Fisheries and Oceans, John Crosbie, released a proposal for reforming licensing and allocation systems.¹³³ The purpose was to reform the system to avoid confusion about rules, to create greater transparency and to restrain the discretionary power of the Minister. The document points out that there is no guarantee of a public right to be heard in the existing system before decisions are taken. Nor is there any public right to know the basis on which decisions have been made or a requirement for decisions to be based on explicit policy. This contrasts sharply with other federally regulated sectors, such as communications and energy, where separate quasi-judicial administrative boards make decisions that are both visible and accessible to the public.

Two new management bodies would be created, one for the Atlantic coast and another for the Pacific. Each would manage licensing and allocation for the marine commercial fisheries. The Pacific board would also manage the tidewater salmon recreational fishery. The Minister would retain responsibility for management of the aboriginal fishery and for conservation of the resource. The Minister would continue to set annual harvest levels and establish the

management measures required to meet conservation goals. The Minister would give policy direction to the boards. The boards would undertake routine licence renewals, licence transfers and allocate licences in new or under-subscribed fisheries. They would also allocate the annual harvest among various user groups and among fleet sectors and fishing zones. Sanctions would be imposed in the case of a fisheries violation but only after a hearing to review evidence. On the Minister's direction, the boards could hold public hearings into licensing policy issues and make recommendations to the Minister.

The government would appoint members of each agency for a fixed term from a list of knowledgeable persons who have no active stake in the fishing industry. Regional balance in the selection process would be respected. Each board would establish regional panels to conduct hearings with respect to applications and licensing decisions. Decisions arising from these hearings would be subject to appeal back to these agencies.

Wildsmith's Proposal for Constitutional Change

The following discussion outlines a specific proposal for constitutional change in fisheries management powers developed by Bruce Wildsmith. This proposal creates a framework for discussing other options for change. The proposal suggests a number of other options for expanded provincial powers through constitutional change.¹³⁴ His proposal was presented in 1986 and it drew upon the constitutional discussions that had taken place up to that time. The following narrative will trace the evolution of his proposal from the preceding constitutional discussions. This proposal is summarized here because it represents a useful starting point from which to examine other alternatives that lie outside of the framework of constitutional change. Wildsmith notes that the fundamental issue is the social and economic impact of management decisions upon the provinces. The thrust of his approach is to formulate a constitutional proposal to confer greater management authority upon the provinces, to enhance their ability to set social and economic policies.

“The key components of the fishery as an economic activity are tied to a province and its land base. Fishing vessels, for example, are docked, depart from and return to a port in a province. In many cases, vessels are built in that province. The crews normally live in the province and raise their families in local communities. Equipment is likely to be supplied locally and is often produced or manufactured in the province. The fish is landed in the province and processed in plants located there.”¹³⁵

His approach is to isolate socio-economic decisions from conservation and preservation considerations, leaving the former to the provinces. He recognizes that these cannot in practice be totally separated but he uses this starting point in order to assign a greater role in fisheries allocations to the provinces. He also recognizes the practical difficulties in assigning fish on a provincial basis, given the fact that neither fish nor stock divisions respect provincial boundaries. The federal government would continue to have “exclusive legislative authority in relation to the preservation and conservation of all marine fish (except non-migratory molluscs), marine animals, anadromous and catadromous species of fish and transboundary stocks of freshwater species. Complementary to control over these fish and animals would be responsibility for their habitat, including water quality.”¹³⁶ The federal government would

assign each TAC on a province-by-province and stock-by-stock basis. The federal government would withdraw from assigning quotas by fleet sector, by gear or by enterprise, because this would be left to the provinces. Licensing would be a provincial matter but enforcement would be left to the federal government. International relations and protection of habitat would remain in federal hands.

In Wildsmith's proposal, the provinces would have exclusive jurisdiction to authorize fishing within three miles of their coasts. Management of fish stocks within these waters would still be federal but access would be restricted to local fish harvesters. Commercial fish harvesters from other provinces would be kept at least three miles from land or from any island forming part of a province. Each provincial government would have exclusive legislative authority in relation to non-migratory molluscs (excluding squid) and stocks of freshwater species confined to the province. This would include all matters related to conservation and protection, harvesting, allocations, sale within the province, environmental protection and related matters. Aquaculture would be under exclusive provincial control, subject to federal override with respect to protection of the wild fishery and its habitat, shipping and navigation and marketing of fish outside the province. Marine and aquatic plants would be exclusively provincial except for a federal override to protect habitat and wild fish stocks.

Nine provinces supported provincial management of inland fisheries, sedentary species, aquaculture and marine and aquatic plants during the 1980 First Ministers Conference on the Constitution. The federal government approved the proposal in principle but with some reservations, on provincial powers over marine and aquatic plants. During the conference, nine of 10 provinces wanted at least concurrent jurisdiction over marine fisheries, while the federal government and one province were opposed. The provincial position was that both federal and provincial governments should be allowed to make laws relative to the sea coast fisheries. The nine supporting provinces therefore advocated concurrent rather than exclusive jurisdiction. They proposed that the federal government would set TACs and implement other conservation measures, allocate quotas to foreign countries and licence foreign vessels. In these matters, the federal government would be paramount. Provincial powers would be the fixing of catch levels within federally determined TACs, issuing quotas up to these levels and licensing domestic fishing vessels. Residual powers would be provincial, in the "Best Efforts Draft" endorsed by nine provinces. The provinces would allocate quotas in the fishing areas adjacent to each respective province. The provinces were to reach agreement on provincial shares based upon established principles, including traditional fishing patterns.

While the 1980 Best Efforts Draft would provide for an independent arbitrator, Wildsmith would make the federal government the arbitrator on the question of provincial shares. He recognizes that this arbitration role would be controversial. He suggests that this might not be too difficult for established fisheries where traditional patterns could be continued. New stocks, newly exploited stocks and expanded TACs would be more difficult but he suggests the use of the principle of equal access,¹³⁷ which is part of the Common Fisheries Policy of the European Union, along with the adjacency principle. Aboriginal people have an entitlement to a share of stocks that they have historically exploited and the federal government would have to set aside a proportion of the TAC for aboriginal use before calculating provincial shares. The aboriginal groups would be responsible for allocations to their members. Once an equitable distribution of the TACs has been made among the provinces, each can then make an allocation of quotas to various fleets and regions within the province. The province could decide what kind of industry

it wants to create in terms of vessel size, size of enterprise and choice of technology. Each province can decide on whether it wants to encourage regional fishery centres or, alternatively, use the fishery to maintain a dispersed population.

“Each province would have exclusive legislative jurisdiction over the distribution of its percentage of each TAC set by the federal government, including the licensing of fishermen and vessels and control for socio-economic objectives on method of capture and seasons. The province would be able to deal with points of landing, sale of fish (even if caught outside the province) labour relations in the provincial fishing industry, processing and local marketing.”¹³⁸

Wildsmith sees his model for constitutional reform, which creates a new allocation role for the provinces, as responding to their social and economic aspirations. It also places the provinces in an ownership role in which there is an incentive for them to make good decisions. He also sees some merit in allowing provinces to establish policies that will be a better fit to local conditions than a rigid centralized structure. He sees regional diversity of management structures as a positive factor.

Asymmetrical Federalism

A strong case can be made that special arrangements should be made for this province because of its high historical and continuing dependency on the fishery. It is possible in a model of asymmetrical federalism for different provinces to have different powers. It has to be recognized that provinces are different and that the powers assigned to them should reflect these differences. Indeed there are examples of this, including the arrangements for protection of denominational education in Newfoundland in its Terms of Union with Canada. The delegation of fisheries management powers to the Province of Quebec from 1992 to 1983 is an example of asymmetrical federalism as is the application of French civil law in Quebec. The province can advance such a claim for enhanced powers with particular cogency when it can present a proposal that is non-threatening to other provinces.

The Prospect of Constitutional Change

Wildsmith notes that there are three ways of realigning the role of the provinces in fisheries management: constitutional amendment, delegation of powers and federal-provincial consultation. We will later discuss an additional option to this list, the provision of independent policy advice through a jointly appointed advisory board. The discussions of the 1970s and early 1980s focussed directly on constitutional change. It is clear that the momentum behind this constitutional approach has now been lost and circumstances are not currently propitious for renewal of those efforts.

In seeking to re-open the question of constitutional change, the province would have to weigh the alternatives. The Province might consider seeking full management authority, including fisheries science, conservation measures, allocations and licensing, enforcement and so forth. Such a goal would be unrealistic in light of the high cost. The opposition to such a

constitutional change would also be formidable. Other provinces would strongly oppose giving Newfoundland and Labrador the power to set TACs for stocks harvested by their residents. A more modest goal might be to seek jurisdiction for fisheries management authority below the level of conservation and TAC setting. This might include licensing of vessels and harvesters as well as allocations of quotas to the various fleets. Such an arrangement could lead to a situation where fish harvesters would have to secure licences from more than one management authority. A Newfoundland and Labrador authority deciding upon allocations to residents of other provinces also would be strongly resisted. We feel there must be some realistic prospect that the proposed approach will be acceptable and have a realistic prospect of success. A successful proposal, at a minimum, must not be perceived as a threat to the allocations and access of other provinces and their residents.

Our conclusion is that constitutional realignment of fisheries jurisdiction is not a practical alternative nor a realistic option at this time. For this reason we have excluded constitutional change, whether it would involve concurrent or exclusive jurisdiction, as a practical policy alternative for the short to medium term.

Based on the past record the following conditions would have to exist, at a minimum, for any actual transfer of powers to occur:

- Federal-provincial discussion of major constitutional change would have to be opened again.
- There would have to be the possibility of inter-provincial trade-offs.
- Wide political, public and industry support for changes in the division of powers to manage fisheries would have to exist.

Because these pre-conditions definitely do not now exist, we will now examine ways in which exercise of the currently provided federal-provincial powers could be improved or delivered on a unilateral or bilateral basis.

Options for Exercise of Existing Powers

We will include the following under the heading of core or central fisheries management functions:

1. Stock Assessment
2. Setting the Level of Catch
3. Fisheries Licensing and Allocations
4. Processing Licensing and Other Controls
5. Fisheries Enforcement

We will also quickly review some of the other significant governmental functions that, while affecting the conduct of fishing industry activities, do not control the size or shape of the harvesting or processing sectors.

We will assess the optimal form of delivery for the core fisheries management functions against a set of selected criteria. We have selected these because they represent the types of performance measurements invariably at the centre of criticism of various efforts of

governments to manage the fishing industry. In our view, any change that improves one or more of these performance indicators is an advance over existing arrangements. We, then, make a further assessment or judgement as to whether it is feasible to pursue a suggested change in delivery arrangements. These include the likelihood of governments agreeing to the proposed changes and the extent of industry support that may exist or could be generated.

We have adopted the following criteria to assess the various options we will identify for each management function:

1. Impartiality, the absence of subjectivity and of blatant value judgements in ministerial decisions.
2. Highest degree of excellence of outputs or results.
3. Visible and transparent operations.
4. Adherence to stated or agreed objectives.
5. Efficiency of operations.
6. Ability of the respective governments to pay.
7. Supportive of conflict resolution and policy coordination.

Real or perceived deficiencies in some, or all, of these levels of achievement are the cause of all complaints directed at governments for their handling of various fisheries management functions. However, the causes of some results are not found amongst these performance standards but more in the unpredictable, un-measurable or uncontrollable features of the overall fisheries system. Two examples of these are: (1) the lack of an absolute method of measuring the size of fish stocks and (2) the absence of adequate international management regimes for straddling (and high seas) stocks. The first is beyond the present capability of fisheries science; international law, as now accepted by the world community, does not permit an immediate and effective solution to the second. We will assess and propose optimal approaches to carrying out certain fisheries management functions but without suggesting the changes will cure all the current ills of fisheries management. First, we will examine each of the central functions individually and offer conclusions on the preferred unilateral delivery option without reference to changing the division of powers. After that, we will be led logically into an assessment of some obvious joint delivery arrangements that flow from the review of options for individual management functions.

Individual Core Functions

Stock Assessment

This is the function of collecting, analysing and interpreting various forms of data to provide a status report on fish stocks and the effects of various levels of fishing on them in future time periods. The Regional Science branches of DFO presently conduct this function through their ongoing stock assessment activities. Stock Status Reports (SSR) are developed in regional or Atlantic zonal assessment sessions that include external private sector and institutional participants. These SSRs are then made publicly available. The FRCC, an independent body of

industry and institutional members, consults widely for input into the public advice it provides the Minister on catch levels and other management measures for groundfish stocks. The Stock Status Reports for other species (other than groundfish) are discussed in the various species advisory committees and then the Department of Fisheries and Oceans conveys the final (and only) advice on catch levels and other measures to the Minister.

This full-time function requires continuous data collection, specialized research studies and the application of the latest scientific modelling and analytical techniques. For over 20 years it has operated as part of the federal fisheries management structure, providing this service to the Minister for domestic fisheries and contributing to the NAFO Scientific Council's provision of advice to the Fisheries Commission of that organization. Canadian stock assessment efforts are no longer criticized as being secretive and excluding input from other experts. The most consistent complaint now is that the function is too under-funded to provide advice on the ever-increasing numbers of stock management questions being posed. The options for changed delivery of this activity include the following:

- 1) Provincial Delivery
- 2) Third Party/Arms Length
 - a) Crown Agency or Board
 - b) University
 - c) Private Sector Entity

It is unlikely the provinces have the ability or willingness to pay for conducting this activity. It is also highly unlikely the fishing industry as a whole would prove willing to contribute financially to an alternative arrangement for provision of this function. This might hold some promise in the most lucrative stocks where some form of co-management creates a vested interest in a higher level of assessment funding.

It has been suggested that fisheries science should operate apart from the potential of interference by politicians and senior officials. To separate fisheries science from management creates the danger that science will not address the relevant questions but might focus on issues more in the realm of pure, rather than applied, research. Separation might also create a barrier to the interpretation of scientific conclusions for use by fisheries management. These drawbacks would apply whether greater independence was achieved either by re-establishing an entity similar to the old Fisheries Research Board or by moving fisheries science into a university setting.

Our considered conclusion on the options listed above is that the best results against the criteria listed will be achieved if science continues to be aligned with resource management. Stock assessment is an activity needed only by the fisheries management authority; it has no real market value and is only the first step in the annual fisheries management process. In this case, it can operate in a more focused manner as part of that structure than in one where the first concern might not be the annual requirement for input to management decisions. This would be especially true of any arrangement where basic research is seen as a preferred activity. Scarce financial resources would be another compelling reason to keep Stock Assessment with the fisheries management authority where the priorities on the need for this input can be most effectively asserted. The FRCC advisory function separates the conduct of stock assessment

more clearly from that of TAC setting. The association of the two in the past was a major criticism of that function and fisheries science as whole.

Setting the Level of Catch

This is the function of deciding or setting the level of annual harvest for each stock. This has become commonly known as TAC, or quota, setting and has been one of the more controversial areas of fisheries management since it began in the 1970s. It has been a wholly federal responsibility with the power exercised by the federal fisheries Minister based on scientific advice generated by stock assessment scientists and commented upon by fisheries advisory committees. Beginning in the mid-1980s, this annual process for groundfish came under considerable criticism because the Minister was perceived to be ignoring scientific advice or receiving advice additional to what was made public. One result of this was the formation of the Fisheries Resource Conservation Council (FRCC), an arms length body of private sector and institutional experts, to provide public advice to the Minister on allowable catch levels and other management measures for groundfish stocks. In recent years, concerns similar to those of the 1980s are being raised regarding the catch levels for other species, but especially shrimp and crab. The popularly predicted repeat of the groundfish collapse in these species raises the policy question of whether the TAC setting process in other species groups should be made similar to that in groundfish or whether even that process itself should be revised.

The most significant possibilities for changed approaches to setting annual harvest levels include:

1. Federal Minister with public advice for all stocks from an independent conservation advisory committee (e.g. FRCC).
2. Quasi-judicial commission with public advice for all stocks from an independent conservation advisory committee (e.g. FRCC).

The first option would put all TAC setting on the same basis that now applies to groundfish. This would extend the improvements (openness, transparency, increased impartiality, input from other experts) achieved there to all other species managed by quotas. It would not make TAC setting completely free of possible political influence in so far as the Minister is not legally bound to accept the advice tendered.

Only a quasi-judicial commission, established under a separate Act that specifies the basis on which it must decide annual harvest levels, could achieve that. This independent TAC-setting Atlantic Canada Fisheries Conservation Commission (ACFCC) could also be required to conduct public consultations before reaching its annual decisions. Alternatively, an independent conservation advisory committee similar to the FRCC could advise it. This commission would set the annual catch level in accordance with pre-described principles that cannot be departed from. While this would ensure that the basis for decision is clear and unchanging, it might also imply no flexibility to manage the immediate social and commercial impacts of identified resource downturns. It was the exercise of this flexibility that caused significant departures from scientific advice or resulted in decisions to set TACs at the upper end of the ranges of uncertainty that had been estimated by scientific stock assessments. However, government in establishing the policy framework within which such a commission would operate could

give it the latitude to take social, community and commercial consequences into account. This would not be our advice. We strongly believe that the policy framework for management of fish stocks must be confined strictly to conservation criteria. This commission must be given specific conservation objectives to restore key stocks to levels that existed before the resource collapse of the early 1990s. For example, the abundance and species mix that existed at the time of Confederation might well be the target that governments should set to be achieved by the board or else the abundance that existed prior to massive overfishing.

The issue in these two broad approaches to quota setting is how much improvement would be achieved by extending the FRCC approach to all stocks or by going a step further and removing all quota-setting power from the federal Minister.¹³⁹ While the current groundfish arrangement has removed the source of certain previous criticisms of the Minister, it has not produced stock recovery. Nor has it eliminated the resistance to quota reductions from the same industry participants who a decade ago accused the government of being too tardy in reducing catch levels. Where previously “the proper interpretation” of the available scientific information was claimed sufficient to reduce quotas or close fisheries such actions now are resisted by calling for “more science first”. In such a conservation deficient milieu, it is likely the most impartial, visible and undeviating of the two approaches (Independent Commission operating under special legislation) would be rejected by industry because it would remove access to a politically accountable Minister. It might also be resisted politically because it requires the federal government to pass its legislated responsibility for conservation to an un-elected body. The existing system is characterized by the powerful influences wielded by well-organized stakeholders, particularly when the management regime is subject to a high level of political control. Such stakeholders often want to push the conservation envelope while those who would speak on behalf of conservation and the broader public interest are less well-organized and financed. An independent board may allow a more committed approach to conservation by providing a forum for a more balanced articulation of the public interest and the public good.

The option of extending the FRCC approach would be an improvement over existing arrangements and more likely to gain industry and federal political support. However, it, in and of itself, would not be our choice. In this case, we would favour the independent commission, supported by the activities of an expanded FRCC that would make public recommendations to it. That would create more certainty about the basis on which TACs are set and should eliminate compromising the resource in the decision-making process. The board would review FRCC reports in the context of an open, transparent public hearing, where the decisions taken must be based on evidence freely available to all.

Fisheries Licensing and Allocations

While the public criticisms and outcries may have been the greatest in the case of TAC decision-making, fisheries licensing and allocations of quota have occupied even more time of industry participants, ministers and officials. Initially, licensing was more administratively separate from the questions of quota allocations and sub-allocations but the two are now more inextricably bound together. A decision on a new allocation is now much the same as a decision on a new licence or vice versa. These are the two functions that determine who benefits and to what extent from the available fisheries resources. The outcomes of these activities have

been behind most of the federal-provincial debates about division of powers in the 1978 to 1992 period, the subject of long and arduous discussions in the numerous species advisory committees throughout the Atlantic and the cause of the several significant disagreements between federal and provincial governments. The best examples of the latter include the first offshore Northern shrimp licences, the Nova Scotia offshore lobster licences and the inshore/offshore split in the 2J3KL cod TAC.

While some will argue that most allocation and sharing arrangements have been resolved, unexpected decisions from exercise of this function still occur and generate outbursts of protests¹⁴⁰. The recent report of the federal Independent Panel on Access Criteria and the Minister's acceptance of some of its recommendations on access principles and priorities ensure that this topic remains one of significant uncertainty for future allocation decisions in emerging fisheries, significant quota increases and decreases, and re-opening of long closed fisheries. This arises because the Panel chose to reduce the weight assigned to the adjacency principle and to specify gradations in adjacency. In addition, the panel enhanced the weighting placed upon "equity", which gives the decision-maker a high level of discretion to allocate in a completely arbitrary fashion and without a clearly stated and quantifiable policy framework. The Minister rejected the Panel's recommendation for an independent advisory committee to address allocation issues that cannot be resolved within the Atlantic.

The outcome of the federal-provincial exercise on calculation of provincial shares would seem to be the cause of more uncertainty. These shares were to be calculated to provide assurances that measures taken by a province to reduce harvesting and processing capacity, in the context of fisheries adjustment, would not undermine the province's access to resources. The federal government has never accepted the concept of provincial quota shares, maintaining quota allocations are made to licence holders in variously designated fleets. The federal position is that quota allocations to individual fleets are simply that and do not imply any ownership or control by provinces. Consequently, the calculations from this exercise are to be taken "as benchmarks only" and not as definitive provincial shares.

The major options for new delivery arrangements in these functions that would eliminate this sort of uncertainty, create stability of access, increase transparency and impartiality of decisions and remove a major burden from the federal Minister are the following:

1. Independent (Quasi-judicial) Board that sets all allocations and issues all licences (on basis of policies promulgated in advance).
2. Independent (Quasi-judicial) Board that sets allocations only in cases of major TAC increases (beyond a specified percentage change) or completely new species quotas and issues licences for them when new entry is approved (on basis of policies promulgated in advance).
3. Independent (Quasi-judicial) Board only hears appeals (on basis of policies promulgated in advance) against decisions made in (1) or (2).

In many respects, the last of these options, while a minor improvement over the present arrangement, might be an acceptable one if there were no more major allocation decisions to be made down the road. This is not certain and could leave future decisions to be made with no clearer understanding of the applicable policies than exists today. It would still exhibit the lack of impartiality, transparency and consistency many feel now exists in the current approaches to allocation decision-making. These deficiencies would be removed under the

first or second suggested mandates for an arms-length board, especially if the second option explicitly included a sanctioning of existing allocation arrangements. Our overall preference would be for the mandate of this independent board to apply to all allocation decisions, clearly leaving existing sharing arrangements in place on a permanent basis.

Processing Licences and Controls

This part of the fishing industry management system is under provincial control. It has developed many of the same issues, problems and criticisms that we have seen in the harvesting area. There are claims of lack of impartiality, transparency, consistency and application of clearly stated policies. We have outlined earlier how the problems of overcapacity are similar to those in harvesting and the complaints about the level of, and lack of access to, overall benefits from processing are almost identical. As well, the kinds of controls the provincial government has adopted for management of this sector bear many resemblances to those used by the federal government in the harvesting sector.

The effective options to improve this function, in the same sorts of ways as above for the federal allocation and licensing activities, revolve around the following:

1. Provincial Minister with public advice from an independent advisory board or committee.
2. Independent Provincial Board that issues licences and associated restrictions (on basis of policies promulgated in advance).

The first option leaves the decision-making powers with the Minister but would subject them to the scrutiny created by public and open advice of an advisory board; the second option removes the decision-making entirely from the Minister. This board would operate under provincial legislation and would be guided in its decisions by policies publicly stated by the Minister or incorporated in its establishing legislation. In terms of our criteria, we would favour this latter approach while recognising that the traditional resistance by both ministers and industry members to such independent board proposals will remain. In the first case, it seems to be a guarding of powers and in the second a preference for the option of lobbying an elected representative over that of more open and impartial decision-making. However, there now appears to be support for an independent licensing board for fish processing, in that the recent recommendation by the Independent Panel on Inshore Shrimp was supported by both processors (represented by the Fisheries Association of Newfoundland and Labrador) and fish harvesters (represented by the FFAW/CAW).¹⁴¹

Fisheries Enforcement

This element of the overall fisheries management system is often overlooked. Many, if not all, management measures are only as effective as the capability, resources and commitment to enforce them. Except for enforcement under the two fish inspection acts all commercial fisheries enforcement is conducted by the federal government. The RCMP assists domestic enforcement while boundary line and NAFO enforcement receives some assistance from the Canadian Armed Forces. In all cases the federal fisheries authority controls the enforcement

policy in terms of priorities and strategies. Moreover, the field of fisheries enforcement is now as specialized as any other fisheries management function and, indeed, has developed its own literature dealing with theories, practice and effectiveness measures.

There are few options for alternative delivery arrangements for commercial fisheries enforcement. Apart from the unlikely involvement of provincial authorities the main alternative would be to move this function out of the federal management authority and place it with other law enforcement agencies and/or the Armed Forces. However, except for some sovereignty considerations in terms of the Canadian Extended Economic Zone (EEZ) that could involve more Armed Forces resources, we are not aware of any compelling reasons to remove this function from the federal fisheries authority. Enforcement of fishing rules and regulations is an integral part of achieving the objectives established for fisheries management. As such, there is a significant need to conduct this function in a targeted manner to focus on particular areas of non-compliance or other identified management priorities. It is our view that, *ceteris paribus*, such results are more certain when enforcement is part of the dedicated fisheries management organisation. Less than satisfactory attention will be given when this function is not accorded such attention and priority. We would leave delivery of, and responsibility for, the commercial fisheries enforcement unchanged. Likewise, we would not tamper with the current arrangements for the enforcement activities for inland sports fishing that are an ideal example of working in a shared jurisdiction. Reciprocal administration of the two fish inspection acts is no longer feasible since the provincial legislation now provides for entry and capacity controls and enforcement of the federal act is now part of a broader federal agency responsible for food inspection.¹⁴²

Joint Delivery Options

Our assessment of unilateral delivery of individual fisheries management functions produced some possibilities for alternative unilateral delivery arrangements by the present authorities. It also suggested that some joint delivery options exist for several of the core fisheries management functions. In this part, we will reduce those possibilities to two functional areas and discuss the possible options for bilateral delivery. We arrived at these two potential functional areas by the following process. We have concluded that stock assessment should be left with the federal fisheries authority as the best delivery arrangement and, therefore, we do not see this as a candidate for bilateral delivery. There does not seem to be real advantages in any form of joint delivery of this specialized function because it must be objective, “state of the art” and focused on the needs of fisheries management. We also rejected changes in the delivery of fisheries enforcement because other arrangements do not offer improvements or are not simply possible or affordable. This conclusion also effectively ruled out joint or reciprocal enforcement of commercial fisheries and fish inspection act measures. We are of the view that the responsibility for setting the annual level of harvests is best left with the federal side, if for no other reason, because these must be set for all stocks in the Atlantic managed by quotas. Joint arrangements for this function in some cases, such as the Gulf of St. Lawrence, would then involve five provincial governments (plus the federal). On balance, our preference in this case remains an independent federal board advised by a conservation advisory committee.

This would not preclude a stronger advisory role for the provincial government in the setting of TACs for stocks that are harvested principally by residents of the province.

That leaves the federal functions of fisheries licensing and quota allocations and the provincial controls on processing operations as the remaining possibilities for some form of joint Canada-Newfoundland arrangement. The only options that we judge effective in removing the deficiencies of the current system are the following:

A Joint Canada/Newfoundland and Labrador Fisheries Management Authority (CNLFMA) that administers:

- Quota allocations to Newfoundland and Labrador fleets.
- Fishing licences where required by new quotas or transfers of existing authorizations.
- Issuance of new, or transfer of existing, processing licences.
- Design of other processing sector controls.

This board would operate within policies jointly set by both ministers and would administer allocations to provincial-based fleets based on TACs that would have been set by the independent federal TAC setting board.

A Joint Canada-Newfoundland and Labrador Fisheries Policy Board that coordinates federal-provincial policies for Newfoundland fisheries by:

- Issuing public advice to ministers on a regular and autonomous basis, and/or
- In response to issues referred to it, individually or jointly.

The first option would most effectively remove the criticisms of lack of impartiality, transparency and consistency from these functions. This arrangement would allow for the direct coordination of federal and provincial measures to manage the harvesting and processing sector. This would remove a long-standing source of bilateral complaints by both levels of government. Then the federal side could no longer complain that provincial processing policies or initiatives were compromising its harvesting management initiatives. Nor could the provincial authority claim that a lack of input to management of the harvesting sector was thwarting its efforts to undertake coordinated and directed development of the provincial industry. Similar complaints by industry directed at both sides would have less credibility.

The Canada-Newfoundland and Labrador Fisheries Management Authority would be appointed by the federal and provincial ministers, with each minister appointing an equal number of members and a chair appointed by mutual agreement. Members would serve for a fixed term and subject to good behaviour. The Authority would report to the two ministers, who would provide policy direction as required by the Authority. The governing legislation would be enacted by both the provincial House of Assembly and by the Parliament of Canada. It would provide for regular meetings of the two ministers to receive a report on the operation of the Authority and to consider the need for regulatory policy changes. The ministers would not be involved in individual licensing or allocation decisions but would set broad policy. In the event of a disagreement on a policy relating to fish allocations or licensing, the federal Minister would have paramount power, while in the case of application of processing policy the provincial Minister could make the final decision.

Allocations of resource to the province for disposition by the Authority would be made by the Atlantic Canada Fisheries Conservation Commission. This would be based upon traditional

shares for existing resources. For new resources, mutually agreed allocation principles would apply.

This new approach to allocations and licensing would have the effect of enhancing the powers of the provincial Minister by providing an opportunity to participate in policy decisions relating to the harvesting sector, as well as those relating to the processing sector.

The separate joint policy board that would provide management advice to both ministers on an autonomous and/or referral basis could also complement this joint arrangement. This would complete the circle in putting fisheries management completely in the public domain. No decisions would be taken on any aspect except in an open and public manner and against published policies that were indeed first publicly advised. This would also make fisheries policies and the application of them more stable and consistent because to do otherwise would risk immediate public reaction (and condemnation). The role of this joint policy board would also include advising the Atlantic Canada Fisheries Conservation Commission with respect to TACs and management plans for stocks in waters adjacent to the province. This would include examination of measures for the rebuilding of stocks and the restoration of fisheries habitat and ecosystem biodiversity.

We have concluded that the types of new arrangements we have discussed in this section constitute preferable ways to conduct fisheries management in the future. These types of new delivery mechanisms will remove the basis of most complaints levelled at past arrangements by all players. A more coordinated and stable approach is also necessary for the more focused policy objectives we have recommended earlier because these are aimed at optimizing the mix of economic and social benefits that can be obtained from the fisheries resources adjacent to the province. However, this does not mean that these changes will meet with the approval of all, or even any, of the current players. Ministers at both levels in the past, with one exception, have been reluctant to have any of their powers fettered in any way. (The exception was the Honourable John Crosbie, who proposed an independent Atlantic allocation and licensing board.) Industry has not been supportive of past proposals to pass certain decision-making powers to independent boards. In particular, they also have not supported enlarged provincial fisheries management powers. Other provinces, as well, have also resisted transfer of federal regulatory powers to their provincial counterparts, especially when those involve the setting or sharing of annual TACs. This means, in essence, that no change in the exercise of powers is likely to occur, even if it is only in joint or bilateral agreements, unless there is concurrence at all levels of the Atlantic fisheries management system.

Summary of Proposed Management Arrangements

In summary, we believe the following changes to the current management arrangement for fisheries in Newfoundland should be pursued:

- A. A quasi-judicial commission appointed by the federal Minister, the Atlantic Canada Fisheries Conservation Commission (ACFCC), that could receive advice on all species from a conservation advisory council (e.g., the Fisheries Resource Conservation Council) and other sources and render TAC and other major conservation oriented decisions. This Commission would also be charged with allocation decisions on

provincial fleet shares in new or existing species fisheries as well as for existing resources.

Our recommendation is that the province make representations to the federal government for the creation of such a quasi-judicial Atlantic Canada Fisheries Conservation Commission, to set TACs and manage interprovincial access and allocations, not dissimilar to the Canadian Radio-Television and Telecommunications Commission (CRTC) or the National Energy Board (NEB). This Commission would make major conservation (TAC) decisions, that would be implemented by DFO, based upon a transparent process in which evidence is received from a variety of sources, including DFO Science, the FRCC, industry stakeholders, the general public and the provinces. With respect to resource allocations, the inshore sector would have preferential access to Northern cod, Northern shrimp and other stocks similarly accessible to the inshore fleet. The federal Minister would determine allocations to aboriginal groups. The Commission would allocate shares to provincial fleets for stocks in which resident harvesters have historical rights. For new or expanding fisheries, agreed allocation principles would apply, subject to preferential access by inshore harvesters in adjacent coastal communities. This Commission should be comprised of knowledgeable and independent people with no personal stake in the decisions and should be gender balanced.

- B. A quasi-judicial Canada-Newfoundland and Labrador Fisheries Management Authority appointed by both the federal and provincial fisheries ministers to make decisions with respect to licences and allocations for the Newfoundland and Labrador harvesting sector and licences and other control measures in the Newfoundland and Labrador processing sector.

Our recommendation is the creation of a joint Canada-Newfoundland and Labrador licensing and allocations authority, whose mandate would encompass the harvesting and processing sector through delegated administrative powers from the province and the federal government. This authority would operate under a policy framework agreed upon by both ministers. Intraprovincial access and licensing decisions would be made based upon interprovincial allocations decided by the federally appointed fisheries management commission. This authority would be comprised of an equal number of members appointed by the province and by the federal government, with a chair selected through the mutual agreement of both governments. The members should be knowledgeable and independent people with an effective balance of men and women.

- C. An independent (not quasi-judicial) board to provide policy advice, either on its own volition or in response to referrals by ministers or by stakeholders.

This board would have no decision-making powers but it would be, in many ways, the most important of the three mechanisms recommended. This board would provide policy advice as requested by either the federal or provincial governments or else on the motion of the board itself. Another important role for this body will be to provide advice to the Atlantic Canada Fisheries Conservation Commission with respect to stock management and, particularly, to advise on the TACs of stocks in which the province's fleets are the major participants. The policy advisory board should establish targets for the rebuilding of major species and prepare draft management plans to meet identified

medium and long-term targets. This board should be comprised of an equal number of members appointed by each government with a mutually agreed chair. All members should be independent of any personal stake in the fishing industry and should not be employees of government. The membership should recognize that women have as large an interest in fisheries policy as do men. The initial tasking of this board should be to formulate the policy framework for the creation of a joint licensing and allocations authority (i.e., the Canada Newfoundland and Labrador Fisheries Management Authority), as recommended above, because such an authority can work only if there is congruence of policy, covering both the harvesting and processing sectors.

Until the conditions are right for the types of changes involved in (A) and (B) the formation of the joint policy advisory board might be a logical first step in development of new arrangements to change the exercise of fisheries management powers. The successful operation of such a joint board would tend to remove some of the reasons that now prevent new institutional arrangements. Indeed, making the first task of such a policy coordination body the preparation of a mutually agreeable proposal for joint management of the provincial harvesting and processing sectors would greatly advance this initiative.

Delivery of Ancillary Functions

There is a wide range of other government functions that have effects or influence on the fishing industry. While none of these directly control or influence the size of the harvesting or processing sectors, they do influence the levels or types of benefits that industry participants can expect from the industry. These include legislation or regulations directed at occupational health and safety in land and sea based activities, general environmental practices or requirements, training and professionalization of fishermen and processing workers, and collective bargaining. Because these do not, in their own right, determine the level of harvest or the numbers of fishing or processing licences they are not functions found in the provincial or federal fisheries administrations. Nor do we see any instances in which they should be transferred. While the fisheries managers at both levels should be cognisant of, and familiar with, such functions we see no need to change the present setting of any of these powers.

It has come to our attention that women have experienced barriers in progressing toward professional standing as fish harvesters and we recommend that the Professional Fish Harvesters Certification Board consider methods to remove barriers to training and accreditation of women. One step to this end might be more community-based training programs that would facilitate participation by women by making such training more accessible on a local basis.

Other Special Considerations

In this research project, we have examined many aspects of the fisheries management system. These included the past, present and future considerations for exercise of the powers to manage fisheries in Canada, the high level objectives that should be adopted for fisheries management in the future and the best approaches to share management powers from the perspective of Newfoundland and Labrador. In the preceding chapters, we have expressed our considered views and proposals on all these matters, as required by our terms of reference.

In the preparation of this report, we also became aware, or were again reminded, of a range of other factors that influence the place of fisheries management in the mosaic of the province and the views of others on it. These cover all manner of things from the general disdain for fisheries management that is publicly expressed almost daily, to the complete lack of any real notion as to where the government and the provincial society are going with the fisheries, and the general lack of a competent capacity in the area of fisheries policy development. These deficiencies, in a society that attaches so much importance to its fishing industry, are regrettable. It is also a hindrance to changing the current level of provincial involvement in direct management of a large part of that industry. We have commented in several earlier places that conditions are not right at this time for the province to expect any support from any quarter for an increase in its powers to manage fisheries. With the general lack of any clear articulation of government and society's intentions for the industry, it is no wonder there is such disillusionment with any suggestion for change in how the industry is managed.

We strongly believe that the Royal Commission should give serious consideration to urging the provincial government to adopt a number of specific actions to change the general malaise that exists in the present internal and external views of our approaches to fisheries management. Constant griping and transferral of responsibility are counterproductive in many ways, but especially in the raising of unrealistic expectations for solutions to the problems of the industry. Aimless debate and discussion is really only a source of added frustration that compounds the lack of specific policy directions or even aspirations. The following proposals are aimed at this broad area of such importance to this province.

Creation of a Public Capacity for Fisheries Policy

The almost complete lack of any objective and analytical capacity in the overall subject matter area of fisheries management is almost inexcusable in a province such as Newfoundland and Labrador. We refer here to the almost total absence, outside of such specialists in government organisations, of professional capabilities in fisheries biology, ecology and related physical sciences as well as in the social sciences that complement them in developing realistic expectations of fisheries policies. A major effort is needed to develop more of this capacity to objectively evaluate and understand the potential of the fisheries. This must start in the school system and continue into the secondary education system and into our degree granting and other post-secondary institutions. The ultimate aim, in this fishing province, should be

to develop centres of excellence in the public policy of fishery management, similar to those found in other coastal provinces of this country.

Memorial University should be mandated to strengthen its public policy capacity in the total field of fisheries management so that it can contribute more effectively to the development of policy for the future. This capacity should be multi-disciplinary in nature covering social sciences, education, business and engineering as well as the natural fisheries sciences. We note the participation by researchers at Memorial in the Coasts under Stress project, a comprehensive project focussing upon both the Atlantic and Pacific Coasts. We note as well the Chair in Fisheries Conservation at the Marine Institute of Memorial University. These initiatives build a foundation for the enhanced role the University could play in support of conservation and stock rebuilding objectives.

Pro-active Stance on Stock Re-Building

It is time for the government and people of this province to develop a higher vision of the potential of rebuilt fisheries and ocean resources around all our shores. A pro-active approach to rebuilding key groundfish stocks, along with restoration of fisheries habitat and bio-diversity, will require a significant commitment and even some sacrifice. The current fishery, while it is producing record levels of landed values, is taking place on the basis of a depleted ocean ecosystem where there is narrower range of species than formerly. Some experts argue that fishing further down the ocean food-chain (as is the case with our large crab and shrimp fisheries) is a dangerous practice. The matter of multi-species management may be relevant here as well. However, this concept has not really passed the theoretical stage in terms of its full-fledged application to commercial fisheries. We are proposing the promotion of this multi-species eco-system approach through increasing emphasis on the factoring in of species interactions, predator-prey relationships and habitat considerations in future management measures. This would also echo the Canada *Oceans Act* approaches of *sustainable development* of the oceans and their resources; conservation, based on an *ecosystem approach*; and, the wide application of the *precautionary approach* to the conservation, management and exploitation of marine resources in order to protect these resources and preserve the marine environment.

All measures available to promote restoration of depleted stocks must be considered, including a planned reduction in the number of predators, particularly seals, a moratorium on capelin harvesting, and experiments to determine the impact of enhancement and recolonization.

The publicized adoption of this as a major goal of this society would focus attention nationally and internationally and give the province a renewed sense of place. This effort could engage people on many levels including public participation in defining realistic objectives of stock rebuilding with an all-party committee of the House of Assembly to lead the initiative. The mandate of such an all-party committee might include the following issues:

- What lessons can be learned from the Northern cod collapse, and those of other major groundfish stocks?
- How can we promote innovation in conflict resolution associated with the management of the fisheries?

- How can a stronger conservation ethic be promoted?
- How can women play a bigger role in building this conservation ethic?
- How can the schools play a more effective role in educating the general public on the past and future of the fishing industry?
- How can the University play a more prominent role in undertaking public policy research in defining the policy options for rebuilding stocks, restoring biodiversity and fisheries habitat and other key components of fisheries management?
- What other societal changes will support a stronger conservation ethic to promote decisions that will benefit present and future generations?

Provincial Conservation Ethic

We continue to be disappointed by the general lack of anything resembling a conservation ethic on the part of all but a small number of industry participants. It is understandable that conservation can require significant sacrifice and may be perceived in the short term not to be worth the sacrifice. On the other hand, if there is not some increased awareness of the importance of this ethic and practice soon there may not a long-term future for the fishery. Efforts to develop such an attitudinal change, while difficult initially, could become a source of provincial pride. Again, this is an initiative that needs to begin at the earliest stages: in the school system. However, it should be aimed at all parts of the populace, not just the participants in the fishing industry.

In the context of building a stronger conservation ethic there is an important role for other provincial institutions, in addition to the schools and the University. The provincial Department of Fisheries and Aquaculture can play an important policy role in building a vision of the fishery of the future. Since the moratorium, the staff and budget of the Department have been reduced to the point where many believe the Department has been relegated to a minor role in the provincial government hierarchy. Our suggestion is that the role of the Department should be reassessed to ensure that it is sufficiently empowered and staffed to advise on important public policy issues and to commission research in anticipation of major issues that are likely to arise.

Specific rebuilding targets should be developed for key stocks, such as the major coastal cod stocks and Grand Bank flounders, and such rebuilding targets should be adopted as provincial societal priorities. The Provincial Department of Fisheries and Aquaculture could play a key role in such initiatives, working with the University and DFO scientists. Our suggestion is that these three parties organize an international conference to focus attention on finding the means to accelerate the process of stock rebuilding, along with restoration of bio-diversity and fisheries habitat. For example, these efforts could include experimentation with cod re-colonization using onshore hatcheries to fertilize eggs from wild broodstock and the placement of fingerlings in environments propitious for their survival. Those invited to the conference should include fish harvesters, processing plant employees, and plant operators as well as fisheries scientists, fisheries managers and social scientists. The conference organizers should set as an objective a high level of participation by women from each of these groups.

In conclusion, we believe that the search for effective mechanisms for improved participation in fisheries management should include expanded roles for key institutions in the province, including the House of Assembly, the University and the provincial Departments of Fisheries and Aquaculture and Education.

Conclusions

This report develops a statement of objectives for fisheries policy concerning the use of, and benefits from, the fishery resources adjacent to the province of Newfoundland and Labrador along with the mechanisms to enable the province to realize these objectives through adequate participation in management regimes. In order to develop options and to make recommendations, the consultants began by examining the fisheries management system prior to Union with Canada and the changes that took place subsequently within the context of management actions taken by two governments operating independently. The consultants undertook a survey of the objectives that the two levels of government appear to have adopted over three broad post-Union periods. This survey documents a serious disconnect between the interrelated nature of the fishery policy requirements and the divided jurisdictional responsibilities to make and implement these policies. The result of this disconnect is a dramatic failure of fisheries policy, resulting in the collapse of groundfish and other stocks and the precarious present dependence of the province's fishing industry upon two shellfish species. One of these is abundant (shrimp) but its contributions to margins are low, while the other (snow crab) is declining in abundance but its better margins have created a high measure of dependence.

The report also proposes a new set of policy objectives for management of the fishing industry. These would place first priority on conservation while also providing for a balanced and viable industry that respects the rights of First Nations and of people in adjacent fishing communities. They provide a greater place for the values and aspirations of women participants. This industry would have a level of overall participation that provides for competitive enterprises producing reasonable levels of incomes and overall returns. It would not be a rent maximizing industry but one that provides for a wider range of socially desired values without ongoing operating or capital subsidies. The report recommends that evolution of rights-based management systems continue, subject to appropriate safeguards.

The strengths and weaknesses of the existing management regime and division of powers has been assessed, leading to the conclusion that major changes are required to integrate policy decisions and to achieve policy coordination. The consultants conclude that the climate currently is not favourable for constitutional change, notwithstanding the compelling case for a realignment of fisheries management powers. Instead, they recommend firstly that a joint, federal-provincial policy board be established which would examine the current state of fisheries management and establish stock rebuilding goals for all major stocks, along with measures for restoration of the fisheries habitat and eco-system to the level which prevailed before massive overfishing of major groundfish stocks took place. The consultants recommend to the policy board a major restructuring of fisheries management, with the creation of a federal Atlantic Fisheries Management Commission, a joint Canada/Newfoundland and Labrador Licensing and Allocations Authority, along with a joint federal-provincial policy board.

This report also recommends institutional changes within the province to build a strong conservation ethic. These recommendations call upon action to be taken by the House of Assembly, being the highest deliberative body in the province, by the primary and secondary school system, by the University, by the provincial Department of Fisheries and Aquaculture and by fish harvesters. The consultants recommend that women be given a greater voice in

all fisheries management functions, in recognition of their commitment to the industry and the potential contribution that they can make.

Endnotes

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- ³⁸ Under this approach, the likely catch of the inshore fleet, however defined, is provided for within the overall catch quota. However, it is not enforced as a quota; the fishery is not closed if the allowance is reached and uncaught portions of annual allowances are re-allocated to other fleets.

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- ¹³⁹ An in-between arrangement would involve amending the Fisheries Act to include the basis on which the Minister must set the annual allowable catches. This would set the basis of TAC setting clearly in law.
- ¹⁴⁰ The two main decisions on Northern shrimp allocations of recent years are illustrative. In 1997, a new allocation arrangement was introduced in this fishery after a public call for proposals on sharing and significant consultations on that input. This gave most of the TAC increases in 2J3K to under 65 ft. vessels from 2J3KL and 4RS with little or no public outcry throughout the Atlantic. On the other hand, the allocation of shrimp to PEI interests from Canada's NAFO allocation in 3L drew the highest level of political and public criticism in this province. This reaction was the main reason for establishing the Independent Panel on Access Criteria.

- ¹⁴¹ One of the authors of this paper, David Vardy, was the chair of the inshore shrimp panel that reported to the Minister of Fisheries and Aquaculture on the Cooked and Peeled Shrimp Industry.
- ¹⁴² The federal Fish Inspection Act (and hence its Inspectors) was never considered a vehicle to control the size of the processing sector, possibly because this was seen as a provincial sphere of authority since the (BC) Fish Canneries Reference of 1930.

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June 30, 2003

TO HIS HONOUR THE LIEUTENANT GOVERNOR IN COUNCIL

The Royal Commission on Renewing and Strengthening Our Place in Canada was appointed under Order in Council OC2002-187, dated April 19, 2002. We are pleased to advise that the Commission has completed its work and is now submitting its Report.

In the past fourteen months, it has been our privilege to meet with almost three thousand Newfoundlanders and Labradorians throughout this province and in expatriate communities. We have received valuable insights from these meetings, from written submissions and from our research program. We now present for your consideration a recommended Pathway to Renewal built on the foundation of a collaborative partnership between the Government of Newfoundland and Labrador and the Government of Canada.

It has been an honour to have served on this Commission. It is our hope that the work we have done will play a part in renewing and strengthening our province's place in Canada.

Respectfully submitted,

Victor Young, O.C.
Chair

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OUR PLACE IN CANADA

ROYAL COMMISSION ON
RENEWING AND STRENGTHENING OUR PLACE IN CANADA

MAIN REPORT



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“What Is This Place That Holds Fast Our Hearts?”¹

We love thee, smiling land...
We love thee, frozen land...
We love thee, windswept land...
God guard thee, Newfoundland.
– Sir Cavendish Boyle

These words from the “Ode to Newfoundland,” still sung by Newfoundlanders and Labradorians long after Confederation with Canada, reflect the strong bonds between this place and the people who call it home. The bond is powerful; it remains no matter how far away we go, or how long we stay.

Relentless seas, barren landscapes, fertile valleys, stark mountains and rugged, ragged coastlines – these mark the geography of this place at the mouth of the Gulf of St. Lawrence in the northeast corner of North America. An island of 111,390 km², a coastal mainland region of 291,330 km² and an offshore of 1,820,000 km² define the geography of a province with a population of approximately 512,000 people. The Newfoundland and Labrador expatriate community is estimated at 220,000,² with most living in other parts of Canada and tens of thousands in the United States and elsewhere. Labrador is the easternmost part of the Canadian Shield and has some of the oldest rocks on Earth, while the island of Newfoundland consists of three areas of the prehistoric world melded by continental drift. The coastline is only about 12 per cent of the Canadian total, but this represents more than one-third of the Canadian coastline that is ice-free for at least six months of the year. The south-flowing, cold Labrador Current, the northwest-flowing, warm Gulf Stream, dramatic storms, fog, variable winds and flowing pack ice and icebergs add to the unique character of this place shaped by the sea.

Our history reflects the importance of the sea and its riches; it was this that first brought our ancestral peoples³ to these shores. The Palaeo-Indians, likely our first settlers, came to Labrador about 9,000 years ago. They developed the Maritime Archaic culture, which emerged in Labrador about 7,500 years ago, and on the Island about 5,000 years ago. A thousand years later the Palaeo-Eskimos reached Labrador, and about 3,000 years ago came to the Island. The Intermediate Indian culture is visible about 3,500 years ago in Labrador. Later, the Recent Indian culture developed and may have been the foundation of the Innu in Labrador and the Beothuk on the Island. The ancestors of the Labrador Inuit are the Thule, who came from the Canadian Arctic about 800 years ago. For reasons not entirely clear but certainly related to the coming of the Europeans, the Beothuk culture became extinct in the early nineteenth century. Loss of access to the vital resources of the sea, unknown and deadly illnesses such as smallpox, violence and competition with the settlers for hunting all contributed to their demise. The last known Beothuk was Shanawdithit, who died in 1829, having left the only written records of Beothuk life. Oral tradition suggests that the Mi'kmaq were living in Newfoundland long before the arrival of Europeans; however, archaeological evidence for prehistoric occupation is scarce, and we are not exactly certain when the Mi'kmaq first came to the Island. We do know that by the 1600s the Mi'kmaq frequented the Island from Bay St. George to Placentia Bay, and, during the 1760s, many moved to Newfoundland from Nova Scotia as a result of English conquests there.



So, you see, ups and downs has been my life all through, and now I am what I am.

Lydia Campbell
"To See Things and to Understand"

What Is This Place That Holds Fast Our Hearts?

The Norse arrived circa 1000 AD, but left soon after. The next wave of Europeans came in the sixteenth century, not for furs or gold as in other parts of North America, but for the vast resources of the sea. The Basques were primarily interested in whale oil; the other Europeans came mainly for cod.

The first official settlements began in the early 1600s, but extensive settlement did not occur until the later 1700s and early 1800s, really the last time this place has seen considerable immigration. Gradually, small fishing communities appeared all along the coastline, often isolated from each other. At first, the governance of this emerging colony was in the hands of fishing admirals, governors and English merchants. Representative government, a way to make this power base more responsive, was established when an elected Assembly was granted by the British Crown in 1832. Initially, only resident men on the Island voted. Women would not be given the right to vote until 1925, and Labradorians would first vote in 1946. The colony became self-governing in 1855 with responsible government. Although some believed that Newfoundland would become part of the Canadian Confederation in 1867 (indeed, Newfoundland delegates attended both the Charlottetown Conference in July 1864 and the Québec Conference in October 1864), union with Canada would not occur until more than eight decades later. The Dominion of Newfoundland would have its own coinage and bank notes, flag, stamps and ode. On the Island and in southern Labrador it had, and still maintains today, its own distinctive mid-Atlantic time-zone, which is one half hour earlier than the closest North American zone.

Newfoundland and Labrador began the twentieth century with great promise. The opening of the Bell Island mines in the 1890s, and the later establishment of pulp and paper mills in Grand Falls, Bishop's Falls and Corner Brook, led to a much more diversified economy. The railroad, necessary for land-based economic development, was finally completed – although at great cost to the public treasury. The Island, given its geographic location, became key to the development of transatlantic flights. The Balfour Declaration (1926) and the Statute of Westminster (1931) confirmed Newfoundland's status as a Dominion. In 1927, the Privy Council ruled in Newfoundland's favour in the dispute with Canada over Labrador's boundaries.

In the two world wars, Newfoundland and Labrador distinguished itself both by commitment to the cause and by the bravery of its people. Names such as Tommy Ricketts, John Shiwak, Frances Cluett, John Ford and Margot Davies remain in our memories of those wars. The Newfoundland Regiment fought bravely in World War I, first at Gallipoli and later at the Battle of Beaumont-Hamel, where more than 90 per cent of its soldiers were killed or wounded – a tragedy we remember and mourn every July 1. The Dominion was represented in the Imperial War Cabinet and at the Versailles peace talks. In World War II, men and women from Newfoundland and Labrador served with distinction in the British and Canadian Forces, as well as in the Newfoundland-based Escort Force, which protected convoys of supply ships crossing the Atlantic. The Dominion also provided land for American bases at Goose Bay, Stephenville, St. John's and Argentia. The people of St. Lawrence and Lawn showed their bravery and generosity in the rescue of the



*Natuashish
Makkovik
Aniapskwof
L'Anse au Clair
Bristol's Hope
Ireland's Eye
Loch Lomond
Conception Harbour
Isle aux Morts
Bay D'Espoir
Heart's Delight
Fox Harbour
Swift Current
Come-By-Chance
St. John's*

sailors and soldiers from the American destroyer USS *Truxton* and the supply ship *Pollux*, which went aground and were wrecked during a heavy storm.

The optimism of the earlier part of the century came to an end with the Great Depression of the 1930s. The devastation it caused, coupled with the heavy debts incurred by the war effort and the railway, made the finances of the Dominion untenable. As a result, Newfoundland's legislature voluntarily gave up self-government in 1934 and was replaced by a Commission of Government appointed by Britain. Its task was to administer Newfoundland until it become self-supporting again. In 1948, by referendum, the people chose union with Canada as an alternative to a return to responsible government or the continuation of the Commission. In 1949, the Dominion of Newfoundland became the tenth province of Canada. In 2001, the name of the province was changed to Newfoundland and Labrador.

In the 54 years since Confederation, Newfoundland and Labrador has become a modern place with characteristics common to any Western society. The people of the province enjoy the benefits of a social system with publicly funded health care and education. Manufacturing industries, mines and oil wells use the most advanced technologies. One of the fastest growing industries is information technology. Strong unions, a dynamic voluntary sector and a growing business sector have strengthened our social fabric. Sophisticated telecommunications, modern forms of entertainment and urban fashions mirror lifestyles found elsewhere in Canada. Today, in addition to the descendants of the Innu, Inuit, Mi'kmaq, French, English, Irish and Scottish, there are small numbers of immigrants from diverse ethnic and cultural backgrounds, who live mainly in urban centres. More than 95 per cent of the communities in which 90 per cent of the people live, from St. John's to Corner Brook to Forteau to Nain, are situated on coastal waters.

Our challenging geography and our history of hardship and struggle have created a people who have enormous pride in this place. We are confident in the gift we have brought to Canada. We celebrate the women and men who have built this home for us: the countless explorers, reformers, religious leaders, politicians, Aboriginal people, health care providers, musicians, artists and everyday Newfoundlanders and Labradorians have contributed to the making of this place. People such as Gudrid, Shanawdithit, John Cabot, Lord and Lady Kirke, William Carson, Armine Gosling, William Coaker, Bishop Michael Howley, Bishop Edward Feild, Emma Dawson, Philip Little, Robert Bond, Helena Strong Squires, Joseph R. Smallwood, John Joe Drew, Catherine Joe, Maniane Ashini, Lawrence Benoit, Mary Frances Webb, Martin Martin, Lydia Campbell, Elizabeth Goudie, Amos Voisey, Margaret Duley, Cassie Brown, Percy Janes, E.J. Pratt,

Ted Russell, Tommy Sexton, Minnie White, Emile Benoit, Rufus Guinchar, Joan Morrissey, Harry Hibbs, Robert Bartlett, Mose Morgan, Myra Bennett, George Story and hundreds more have imprinted their spirits on this place. The men, women and children who carved the face of this land have left us a legacy of hard work, hope in difficult times, strength in working together, creativity in facing overwhelming odds and joy in celebrating our uniqueness.

Religion has always played a significant role in the lives of the people in this place. Aboriginal traditions often exhibit a deep spirituality intimately connected to the land. Submerged for many years, these traditions are today finding a new place in the lives and dreams of the Innu, Inuit, Labrador Métis and Mi'kmaq. Christianity has had a profound influence on the history, politics and culture of the communities settled by the Europeans. Christian organizations played key roles in the development of the education, health and social systems in the province. Today, our religious traditions are constantly being expanded with the arrival of immigrants who bring the richness of other world religions and spiritual beliefs to our culture.

Unlike other parts of North America, the Newfoundland and Labrador community did not rely on specialized artisans and artists to create its culture; rather, much was made by ordinary people. "Newfoundland art is vernacular art; it speaks directly to the condition of ordinary Newfoundlanders; most of it is about their everyday lives."⁴ Newfoundlanders and Labradorians built their own houses, boats and furniture; they knit clothing, stitched quilts and baked bread. In many cases, what is unique to Newfoundland and Labrador furniture, hooked mats, house decorations, fences, mitts and so many other things is that they were made through a combination of ideas from the individual, the community and the outside world.

The artists here have always expressed themselves through storytelling, recitations, songs and ballads, traditional dance and the music of the accordion and the fiddle. Themes from Newfoundland and Labrador folklore and folklife have furnished much of the subject matter for our plays and other theatrical performances. Novels, short stories and other literary forms often deal with the values and characteristics associated with outport life. We celebrate our unique heritage in old songs such as "Let Me Fish Off Cape St. Mary's," "I's the B'y," "Squid Jiggin' Ground" and "Star of Logy Bay." But we also celebrate it in newer compositions like "Sonny's Dream," "Woman of the Island," "Saltwater Joys" and "Sea of No Cares." Think of the names of some of our most famous musical groups: Figgy Duff, the Wonderful Grand Band and Great Big Sea. Look to the paintings of visual artists such as David Blackwood, Christopher Pratt, Helen Parsons Shepherd and Gerald Squires. And, of course,



literary works such as Bernice Morgan's *Random Passage* or E. J. Pratt's *Newfoundland* triumphantly explore our vibrant culture and history.

In the first two decades of Confederation, Newfoundland and Labrador faced the subtle but very real threat of assimilation into the Canadian culture. During that same period, there was a strong American influence on those living near the American bases. But in the 1970s, a nationalistic revival led to a cultural "renaissance,"⁵ which has evolved today into internationally renowned music, art and literature. In the words of Newfoundland-born, London-based independent journalist, Gwynne Dyer:

... the intellectual and artistic capital of the province has been growing at a faster rate than almost anywhere else in Canada ... writers, painters, musicians and films are making Newfoundland's special history and character known on the national and international stage as never before, and creating an attraction that brings artists here from all over the world ...⁶

The diversity of our ancestry and the melding of struggle and hope in our relationship with the land and seas are often reflected in our unusual place names. The Innu (Sheshatshiu, Utshimassit, Natuashish), the Inuit (Makkovik, Okak, Nutak), the Mi'kmaq (Miawpukek, Aniapskwaj, Pekwatapaq), the French (Port aux Basques, Port au Choix, L'Anse au Clair), the English (English Harbour West, Bristol's Hope, Windsor), the Irish (Ireland's Eye, Waterford Valley) and the Scottish (the Highlands, Loch Lomond) have imprinted their identities on this place. The strong influence of religion is seen in community names such as St. John's, St. Brendan's, St. Mary's, Mount Carmel, Conception Harbour, Angel's Cove and St. Lawrence. Our emotional response to the struggle and hope inherent in settling here is reflected in names such as Isle aux Morts, Port de Grave, Misery Point, Famish Gut, Bay D'Espoir, Heart's Content, Heart's Delight, Heart's Desire, Hopedale, Little Heart's Ease, Paradise and Harbour Grace. Our bond with nature is evident in names such as Fox Harbour, Gander, Deer Lake, Rose Blanche, Swift Current, Swan Island, Muskrat Brook, Corner Brook and Grand Falls. Our imagination and artistic bent have found expression in names like Come-By-Chance, Broom Point, Ladle Cove, Cape Onion, Bumble Bee Bight, Blow Me Down and Random Island. Above all, the sea permeates our imagery, as almost every community is named as Harbour, Bay, Cape, Tickle, Cove, Arm, Port, or Island.

Our provincial emblems reflect our ancestors' humour and resilience in facing the challenges of living in this place. We have the Atlantic puffin, which makes its home on the ocean and in the rugged cliffs; the pitcher plant, which lives in boggy marshes and is nourished by the insects it traps; Labradorite, or firestone, which combines an iridescent glow with the durability of ancient rock; the black spruce, which is a hardy and durable coniferous tree flourishing in a short growing season; and the endangered Newfoundland pony, possibly the oldest breed of domesticated livestock in North America. Our flag, designed by Christopher Pratt and adopted in 1980, captures the colours of snow and ice (white), the sea (blue), human effort (red) and confidence in ourselves (gold). As it seeks to link our past heritage with our present reality and future promise, the flag has visible links to the Innu and Beothuk cultures, our Commonwealth heritage, the Christian tradition and the Canadian maple leaf.

Despite life in the postmodern age, Newfoundlanders and Labradorians have retained an important sense of identity, a sense of place, that links the past with the present. We have a deep sense of belonging. We care about community and value a lifestyle that balances work and time with family and friends. We have a passionate appreciation of our cultural and artistic heritage, and enjoy a strong sense of connection to the land and the sea. Our sense of attachment to this place remains remarkably strong. This was evident when the Commission visited with young people. A predominant message, in both urban and rural communities, was the crucial importance of their sense of identity and their attachment to Newfoundland and Labrador as home. We know our culture is special and even unique. And other Canadians know it, too. In a Commission poll, 72 per cent of Canadians viewed Newfoundland and Labrador as culturally distinct from Canada.⁷

One event in the recent past that serves as an example of our character and sense of humanity was the province's response to the tragedies of September 11, 2001. By hosting thousands of airline passengers from around the world and providing them with a "home," we did instinctively what we thought should be done. "There is a tendency on the part of some of us not to recognize the event for what it was – singular and revelatory. This gentle openness of heart is a manifestation of the Newfoundland and Labrador spirit nurtured over time and insinuated into our character, and we often forget it is that spirit which fires our sense of belonging."⁸

Our identity and sense of place are, and perhaps have always been, vulnerable. The impact of the loss of responsible government on the young generation of the time has never been fully examined, but it's not difficult to conclude that it must have left a changed self-image, a fear of failure and a loss of confidence. Some argue that we experienced another significant loss in 1949. One expatriate told the Commission, "We have not found that identity in Canada, because our belonging began with a loss of who we were in the moment of Confederation. We are still, I believe, stuck in that moment ... the threat of losing ourselves altogether is very real."

Others see in the closure of the cod fishery, with which our identity is so involved, a terrible impact on the attitude and spirit of our people. We blame others, and we blame ourselves. Have we accepted what has occurred in many of our rural communities? Are we in denial? Consider the following two statements received by the Commission:

Our sense of belonging to this place and a way of life have been shaken to its roots and somebody has to be held responsible. Principally it has been governments, federal and provincial, heads of organizations, business leaders.⁹

... Laying blame at the feet of governments, big business, or other impersonal forces creates a milieu of victimization and erodes local agency and responsibility.¹⁰

This loss of confidence, the feeling of powerlessness, may suggest that a less enduring sense of place threatens to emerge unless we all work together to fight it.

"We must ... [allow] people to learn that the story of their past, despite its perceived shortcomings, is largely one of resilience, survival and even success over the centuries."¹¹ The need to maintain and revitalize our sense of self and sense of place is fundamental to renewing and strengthening our place in Canada. As one person told the Commission, "We haven't figured out how to use our culture and identity to our social and economic advantage, to transform us from being proud of who we are to being confident in who we are."

There is a wonderful Newfoundland and Labrador image: the dory. When you row a dory, you do not look in the direction in which you are going; but, in looking at the wharf or beach you have left, you are able to guide your way to the new place. "Renewing our sense of place ... is not to go back; it is to launch out anew. We must reclaim the independent spirit which sustained us over our first 400 years."¹²

Newfoundlanders and Labradorians are very much part of today's world. In our lifestyles, our ways of work, our music, our art, our connections around the world and our interests, we are a modern people enjoying the same experiences and facing the same challenges as Canadians everywhere. We name ourselves Canadians, proudly celebrating the values that make this country great. We have no desire to live in the past or to go back, but we have a deep conviction that the spirit which our ancestors brought here was special and lives on in each one of us. That spirit, that sense of identity, is the source of our belief



that we can make a better future for ourselves and all who will follow us. And that spirit is the unique gift we bring to the Canadian federation.

When Newfoundland and Labrador joined Canada, our nation finally became complete from sea to sea. It remains to Newfoundlanders and Labradorians at home and abroad to ensure that all Canadians know our rich history, rejoice in our uniqueness and understand our challenges. Only in this way will we feel that Canada is made complete by our presence, and that in Canada we have truly found a place of respect and dignity.

Ode to Labrador

Dear land of mountains, woods and snow
 Our Labrador
 God's noble gifts to us we know
 Our Labrador
 Thy proud resources waiting still
 Their splendid task will soon fulfil
 Obedient to thy Maker's will
 Our Labrador

E minasshkuat shash tshakat tshé utnakant
 (Thy stately forests soon shall ring)
 Ninan Napatau (Our Labrador)
 Tshé tshemekeishkanut
 (Responsive to the woodman's swing)
 Ninan Napatau (Our Labrador)
 And might floods that long remained
 Their raging fury unrestrained
 Shall serve the purpose God ordained
 Our Labrador

Kakrangit Pisugianga
 (We love to climb the mountains steep)
 Labradorvut (Our Labrador)
 Uvalu imakkuluta
 (Or paddle on the waters deep)
 Labradorvut (Our Labrador)
 Our snowshoes scar the trackless plains
 We seek no city streets, nor lanes
 We are thy sons while life remains
 Our Labrador

Labradorvut

Ninan Napatau

Dr. H.L. Paddon wrote the lyrics for this song to the well known tune of "O Tannenbaum". Shirley Montague composed an original melody in 1988, incorporating the Inuktitut translation by Margaret Metcalfe and the Innu-aimun translation by Ann Rich (Nuna)

Introduction

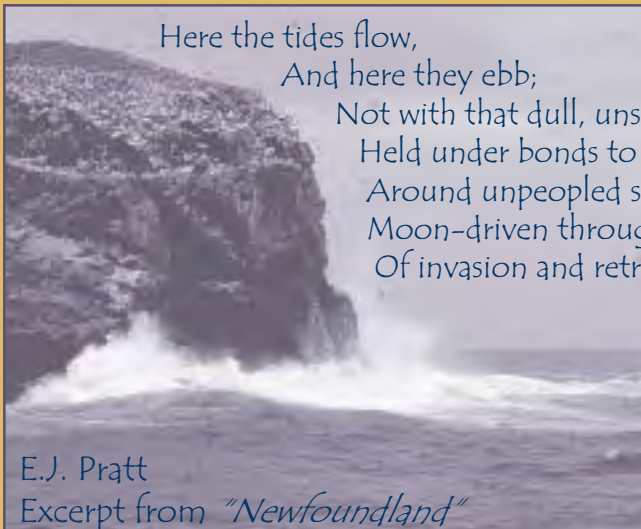


When, after a popular referendum with a slim majority, the Dominion of Newfoundland joined the Dominion of Canada in 1949, it brought vast new riches into Confederation. It added the diversity of its Aboriginal and non-Aboriginal cultures, the openness and warmth of the people, the beauty of its geography and landscape, and the skills of a workforce of talented women and men. Confederation was a moment of historic significance for Canada and of unprecedented opportunity for Newfoundland. In joining, this province became a partner with nine others, an equal in a growing and prosperous nation.

Although the people were few in number, only 350,000 at the time of Confederation, they entered with much to contribute. The new province had strategic airspace and geographic location, rich land resources and vast offshore waters. Its global position had attracted four American military bases, and the Island provided inherent security for the Gulf of St. Lawrence. It had a history of commercial trade, both with the United States and in Canada itself, and the fishing resources around its coastline and on the Grand Banks were globally renowned. Newfoundland brought forest resources on the Island and in Labrador, powerful hydroelectric resources, particularly on the Churchill River, offshore resources that would eventually encompass significant oil and gas reserves, and mineral resources, including the currently developing nickel deposit at Voisey's Bay. In total, it was a magnificent contribution.

The people of Newfoundland and Labrador are also fully cognizant of the contributions Canada has made to the well-being of this province. Since Confederation, Newfoundland and Labrador's economy has become more diversified, real personal incomes are higher and the overall level of education has risen. Important public infrastructure, including roads, schools and hospitals, has been expanded and improved. Newfoundlanders and Labradorians are benefiting from medicare, Canada Pension, employment insurance and other Canadian social benefit programs. Other large contributions to economic progress have come from the Government of Canada's significant development expenditures, including funding from the Atlantic Canada Opportunities Agency (ACOA) and its predecessor organizations, and from its investment in the Hibernia oil development. In total, Canada has made a magnificent contribution to Newfoundland and Labrador.

Nonetheless, while Newfoundlanders and Labradorians are proud to be Canadian, think the decision to join Canada was a good one and talk little of separation, the Commission has reached the fundamental conclusion that our participation in Canada has come nowhere close to reaching its full potential. There is a stark reality about our relative position in the country, which underlies much of the current discontent in our province. Newfoundland and Labrador has been on the end of a powerful set of circumstances, unique in the country, that places it in a very disadvantageous position. Since Confederation, its hydroelectric resources in Labrador have been developed for the benefit of Québec; its oil resources have been developed in a manner that makes Canada the primary beneficiary; its fishery has all but disappeared under the stewardship of the federal government; double-digit unemployment has persisted for the last 35 years; and, in the last decade, 12 per cent of its population has been lost to out-migration. All of this



Here the tides flow,
And here they ebb;
Not with that dull, unsinewed tread of waters
Held under bonds to move
Around unpeopled shores –
Moon-driven through a timeless circuit
Of invasion and retreat;

E.J. Pratt

Excerpt from "Newfoundland"

But with a lusty stroke of life
Pounding at stubborn gates,
That they might run
Within the sluices of men's hearts,
Leap under the throb of pulse and nerve,
And teach the sea's strong voice
To learn the harmonies of new floods

Introduction

has manifested itself in a province which has the nation's highest unemployment rate, lowest per capita income, highest rate of out-migration, fastest declining population, some of the highest rates of taxation, highest per capita debt and weakest financial position. The Commission asks: How many alarm bells need to be sounded? How many arguments need to be made that Canada is not meeting the expectations of Newfoundlanders and Labradorians? How many pleas need to be made that something has to be done, that something has to change, that something has to give if Newfoundland and Labrador is ever to renew and strengthen its place in Canada?

Fifty-four years after Confederation, it is abundantly clear that our relationship with the Government of Canada is under considerable and understandable strain. Newfoundlanders and Labradorians feel ignored, misunderstood and unappreciated by their federal government and, to a lesser extent, by other Canadians. There is a deep concern that a future of prosperity and self-reliance is not achievable within the Canada of today. This concern, however, should not be mistaken for regret or loss of hope. The vast majority of people believe in the underlying premise of this Commission – that change, both in our circumstances and in our relationship with Canada, is possible.

The people have reported to this Commission that they want their aspirations affirmed within Canada by a change in the actions and attitudes of their provincial and federal governments. They are aware that some decisions will be difficult, but no more difficult than much of what has happened in the last decade. They want to find a pathway to renewal that will strengthen their place in Canada. They want to know that they are, as they deserve to be, respected partners in Confederation.

It is in this context that this Report has been developed and is presented. The Commission was given the mandate to undertake a critical analysis of our province's strengths and weaknesses, and to make recommendations as to how best to achieve prosperity and self-reliance, with the final goal of renewing and strengthening our place in Canada (see Appendix A). In carrying out that mandate, the Commission listened to Newfoundlanders and Labradorians of all ages and backgrounds within and outside the province.

More than 2,500 Newfoundlanders and Labradorians met personally with the Commissioners as they traveled across the Island and Labrador and as they visited expatriates in Fort McMurray and Toronto. They met people in urban and rural settings, in schools and women's centres and public meeting places, in coastal and inland communities. The Commission brought together representatives from the length and breadth of the province in roundtables focused on specific issues and in dialogues centered on our future. It received written submissions from nearly 250 individuals and organizations. Appendices B and C summarize the outcomes of all these processes. The Commission also developed a research program that produced twenty-eight research papers and two polls, one national and one provincial (see Appendix D for a listing of the papers and a description of the polls). The research papers and the polls are published in their entirety in separate volumes and are also available at www.gov.nl.ca/royalcomm.

The Commission, in reflecting on the outcomes of its many meetings, written submissions, dialogues and research papers, identified six principles that permeated almost every conversation or written text. These principles flow from the Newfoundland and Labrador experiences of life from earliest times and are seen by Newfoundlanders and Labradorians today as the fundamental building blocks of a stronger future. The principles can be expressed as follows:

- ***a passion for this place*** – From the Aboriginal people who are bonded to the land and the sea to the expatriate Newfoundlanders and Labradorians in Fort McMurray who long for home; from the men and women from Europe who first settled this “marvellous terrible place”¹ to the recent immigrants who are now making it home; from the artists who paint the barren landscapes to the writers who tell the story of our struggle against all odds; from the athletes who carry our flags with pride to the young students who see themselves first as Newfoundlanders and Labradorians, there is a deep love for this place we call home. Our shared story of struggle and hardship, our distinctive spoken dialects, our feelings for the “rugged sea” and “the big land,” and our creative folk arts speak about our sense of place, our spirit, and our love for our culture and tradition. The passion for Newfoundland and Labrador is the source of the energy we will need to renew and strengthen our place in Canada.
- ***a new way of thinking*** – Everyone with whom the Commission spoke called for a new way of thinking about ourselves, our kinds of work and our place in Canada. Newfoundlanders and Labradorians resent our own feelings of dependence and the stereotypes of others about us. We want to see our strengths celebrated throughout Canada. We realize that, in this twenty-first century, we are living in a whole new world of ideas and relationships and possibilities. We know instinctively that the strengths of our proud history can be the sources of a new way of seeing ourselves and of reshaping our society and our economy.
- ***a new kind of relating*** – In a world of instant communications and new forms of democratic participation, we see the possibilities of building on our traditional spirit of community and generosity. We believe that, in a province as small as ours, we have a unique opportunity to build cohesive linkages among responsive municipal and provincial governments, dynamic unions, innovative businesses and an energetic voluntary sector. All would then work toward the same vision of an inclusive society respecting the rights, and benefitting from the strengths, of all persons and respecting the natural environment. We further believe that we can work to create new alliances and partnerships with the federal government, other provinces and other Canadians. In this new age, the image of “the fighting Newfoundlander” differs not in its passion or energy, but in its way of creating change.
- ***a belief in ourselves*** – Our traditional sense of our uniqueness, courage and creativity has been weakened by our fears of inferiority and stereotypes. Just as we experienced a cultural revival in the 1970s that has blossomed into a vibrant, internationally renowned artistic expression today, we are now ready for a reclaiming of our spirit that commits us to “do it ourselves,” to take responsibility for our own destiny, to have the courage to make hard choices for a better future. Our history of surviving innumerable harsh realities gives us the confidence to go forward; our hope for a different future gives us the reason to go forward.
- ***a time for action*** – The Commission was told time and again that we no longer have the luxury of waiting for more studies and more consultation. The threat to rural Newfoundland and Labrador, the fears of further out-migration, the growth of our provincial debt and the small window of opportunity open to us are all reasons why we must act now. Although that action must be rooted in a new way of thinking and relating, it cannot be delayed or lacking in focus. The survival of our province is the cost of not acting. The creation of a new, vibrant province that offers hope to its residents is the outcome of deliberate decisions and sustained action.

- ***a determined hope for the future*** – The greatest barrier to a renewed and strengthened Newfoundland and Labrador in Canada is the belief that no one will listen, that the people of the province will not pull together, or that the province is too small to cause the federal government to care or respond. Breaking down that barrier is the key task of leaders throughout the province. Without the vision for a renewed place and the hope that it can be attained, people will not be able to build on the strengths that the Commission saw everywhere it traveled and in everyone it met. The sources of hope are everywhere in this province. Leaders have to help draw out that hope and help us see how much we can and must achieve together.

These underlying principles were threaded throughout the Commission’s work. Each one is positive in itself, but each one alone can achieve little. All six linked together can become the foundation on which our future will be built. The intent of this Report is to assess the realities of the present moment in our province and to suggest a direction that has the security of being grounded in the integration of these six principles.

The Commission’s report, which begins with a reflection on our sense of place, is structured around seven sections:

- the need for a new partnership and a pathway to renewal (Section 1)
- the expectations of Newfoundlanders and Labradorians as we entered Confederation (Section 2)
- the extent to which our expectations have been met over the past 54 years (Section 3)
- the opportunities within our federation that are key in determining our success in realizing the expectations (Section 4)
- a summary of the key elements of the pathway to renewal and the challenges inherent in taking this pathway (Section 5)
- appendices (Section 6)
- notes (Section 7)

A summary report for easier access accompanies this Report and is written in the languages of the early Aboriginal and original European settlers of Newfoundland and Labrador – Inuktitut, Innu-aimun, Mi’kmaq, English, and French – as well as Braille.

“Getting rid of the “poor cousin” myth must start at home. It must start with a new mindset and vision for our future that is not simply held by government, but by all of us Newfoundlanders and Labradorians.”

Excerpt from the Public Consultations



Chapter 1



A New Partnership

Newfoundland and Labrador is a province in the best country in the world. Yet Newfoundlanders and Labradorians fear they are losing their place in this country; indeed some wonder if they have ever found it in the 54 years they have been in the federation. They have a strong desire not only to remain in Canada, but to find ways in which their province can become a more respected and fully contributing member of the federation. Newfoundlanders and Labradorians want a renewed and strengthened place in Canada.

The people of Newfoundland and Labrador want a change to a mind-set that embraces the concept of being relentlessly present-minded in analyzing our challenges, and relentlessly future-minded in tackling them. This new state of mind means looking to the future and not dwelling on the past, taking more responsibility for ourselves, and working cooperatively while promoting a culture of excellence. A poll carried out for the Commission found that 58 per cent of a representative group of people from Newfoundland and Labrador believe that it is neither the federal government, nor the provincial government, but the people themselves who need to take most responsibility for the future prosperity of this province.¹

A New Relationship

If seeing themselves through a new lens is the first step in renewing and strengthening their place, then developing a new relationship with the Government of Canada must be the second step. The challenge is how to forge a pathway to renewal, how to ensure that the people of a small province with little apparent influence can envisage, and then create, a new relationship between their provincial government and their federal government. This was the challenge presented to the Commission as it deliberated on the information it had received.

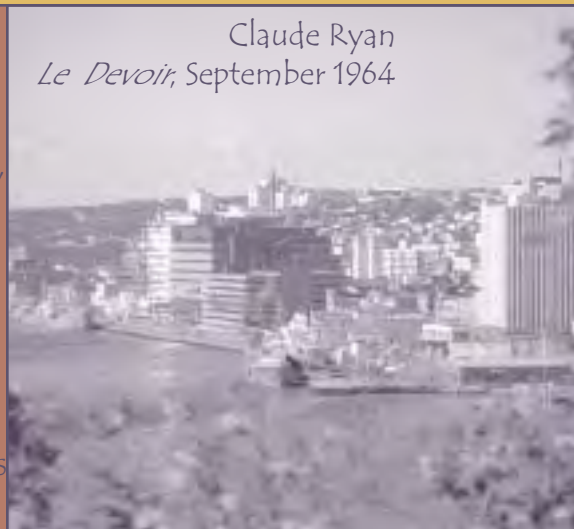
Certain key qualities would have to characterize any new, effective relationship between the provincial government and the federal government. A true partnership would be based on collaboration between the governments and between their senior officials, with an ongoing commitment to understanding each other's challenges, concerns and capacities. Their working relationships would transcend partisan interests, and would be marked by respect and an absence of dismissive or condescending attitudes. Such a partnership would be firm enough to withstand major crises, flexible enough to accommodate special circumstances, and creative enough to find solutions to unique needs. Both governments would have to be transparent in their dealings with each other, and to be resolute if either feels that the other has violated values or agreements. Building on the values which have marked the history of Canada and the history of Newfoundland and Labrador, the partnership would operate within the framework of the federation while influencing the ongoing evolution of the federation. This kind of relationship does not exist today.

Many would suggest that seeking such a relationship would be futile, a waste of time and energy. Such a view is understandable, especially given the fact that the relationship to date has not resulted in a sufficient narrowing of the gaps we experience in unemployment rates, per capita income, taxation, per capita debt,

Ils envisagent cette réforme comme devant être le fruit de conversations et d'accords loyaux entre les deux groupes. Ils veulent atteindre l'objectif par le cheminement du dialogue plutôt que par la méthode des ultimatums. Mais ils reconnaissent, au départ, que le cadre politique canadien est celui à l'intérieur duquel ils cherchent une solution.

They see that this reform ought to be made up of conversations and faithful agreements between the two groups. They wish to obtain this objective by the road of dialogue rather than by the method of ultimatums. But they recognize at the outset that it is within the Canadian body politic that they look for a solution.

Claude Ryan
Le Devoir, September 1964



A New Partnership

and rate of out-migration. It has not enabled us to effectively use the strengths of our natural resources to help us break out of our cycle of dependency. It has not given us the sense that we are respected as a fully constituted province in this federation of ten provinces. Those holding this view believe it is unrealistic to expect that the federation will change or, indeed, that the federation is capable of changing. During the course of the Commission's deliberations, public anger manifested itself in voices calling for a strident approach in the Commission's final report. There were calls for: (i) a referendum under the Clarity Act, (ii) a constitutional challenge of the adequacy of the current equalization program, and (iii) a negligence action against the federal government for its mismanagement of the fishery.

The Commission understands both the intellectual and emotional basis for arguments in favour of a more militant approach, but it is also strongly of the view that militancy is not a basis for a successful long term relationship with the federal government. It is entirely unrealistic to think that we could ever renew and strengthen this province without a positive relationship between our two elected governments. That is not to say that a respectful relationship between both governments rules out the need for strong actions from time to time. Indeed, inherent in a collaborative relationship in a federation like Canada is the inevitability of conflict and disagreement. Such conflict, however, cannot form the basis of an ongoing relationship. The Commission concludes that the building of a new relationship, rooted in the Canadian way of governance, is a risk worth taking.

More importantly, the Commission is of the view that Canada is capable of and ready for the change in approach that Newfoundland and Labrador requires. Canada has a history of constantly renewing and adapting itself to new times and new circumstances. From 1867 when the first four provinces came together to constitute the foundation of this country, to 1982 when Canada's Constitution was patriated, to 1985 when the Atlantic Accord was signed, to 1999 when Nunavut became the newest Territory, Canada has always been open to, accepting of and growing through change. Today, many Canadians believe it is time for yet another transformation. As Ross Reid, senior consultant to the National Institute of Intergovernmental Affairs and former Cabinet minister from Newfoundland and Labrador told the Commission: "We know as we start the new millennium that the country is not working as well as it could, more importantly, not working as well as it should."²²

At the same time, as many people in Canada are asking for significant change in the federation, there is an unusual coming together of new governments and new leaders, both federally and provincially. At the federal level, three of the party leaders are relatively new in their mandates, and the fourth party will have named its new leader in November 2003. A new prime minister will be in office in February 2004. Québec, Manitoba and New Brunswick have recently elected new governments. It is likely that the provinces of Saskatchewan, Ontario, Nova Scotia, and Newfoundland and Labrador will go to their respective electorates within the coming year. Never, in recent memory, has there been such an opportunity for this country to renew its way of being to better respond to the hopes and dreams of Canadians and

ensure that Canada remains “the best country in the world.” This is an opportune time for the people of this province to reflect with other Canadians on the kind of Canada we want and need. It is a time which offers exciting possibilities for a new relationship between governments as the first step in creating this new kind of Canada.

Commitment to the Pathway

The new relationship cannot be simply a theory or an idea. Governments will have to change what they do and how they do it. The commitment to create a new partnership and a pathway to renewal would mean the following:

1. The province’s commitment would be reflected in its own new partnership, based on social inclusion, with the people of this province.
2. The provincial government’s readiness to follow the pathway would be evident in its renewed commitment to the prudent management of its financial affairs.
3. The new pathway would attempt to mitigate the vulnerability of rural Newfoundland and Labrador reflected in the loss of the fishery and the painful out-migration of so many people.
4. The pathway would seek new ways to address the collapse of the groundfish fishery and the sustainability of the shellfish fishery with their implications for the future of this province.
5. Renewed efforts would be made to readjust the equalization arrangements and other federal/provincial transfer programs.
6. The province would build on the potential strengths of the wealth of its natural resources. This would mean new approaches to sharing offshore oil revenues in a way consistent with past promises, and to securing future economic benefits from the hydroelectric potential of the Churchill River.
7. The provincial government would focus on ways to strengthen the partnership through improved federal institutions, and a new provincial approach to intergovernmental affairs and alliances with other provinces and other Canadians.

As it envisages this new partnership and pathway to renewal, the Commission is not suggesting that Newfoundland and Labrador can become an Alberta of the East, or that it can rapidly progress leaving other provinces in its wake. On the contrary, the provincial government must work hand in hand with the federal government not only to ensure that the province does not fall further behind, but that it progresses at a reasonable pace. The unacceptable alternative is the status quo, entrenched by a federal system unable or unwilling to respond seriously and respectfully to the unique circumstances facing Newfoundland and Labrador. The cost of doing nothing is high, not just for Newfoundland and Labrador but for Canada as well.

Conclusions

As it begins the process of considering ways of renewing and strengthening Newfoundland and Labrador’s place in Canada, the Commission believes that the foundation must be a new relationship between the federal and provincial governments. This relationship would be framed within collaborative federalism, and would be characterized by cooperation, mutual understanding, respect and flexibility. Our two elected governments would be committed to creating a partnership that would forge a pathway to renewal addressing the major concerns and challenges facing this province. While many would suggest that such an approach will be dismissed as impossible to achieve, the Commission believes that the time

is right to advocate for such an approach, the country is capable of change, and therefore that the risk is worth taking.

The chapters that follow build on the intent of this new partnership by assessing in more detail the need for such an approach, determining the potential in the federation for the creation of such a partnership, and identifying the key elements along the pathway. It will be the provincial government's success in reshaping that different relationship with the federal government that will be a determining factor in whether a renewed and strengthened place in Canada is possible for Newfoundland and Labrador.

“The challenge is not to get out of Confederation but to get into it.”

Excerpt from the Public Consultations

“I believe that Newfoundland and Labrador is at a crossroad in its history, and it is at this point that our government and its people must endorse a new approach in our relations with the federal government.”

Excerpt from the Public Consultations

“Without any doubt, I believe the next five to ten years will be a watershed for the province in all aspects of society. Analyzing our role within Confederation will serve as the genesis of a greater plan towards greater prosperity.”

Excerpt from the Public Consultations



Chapter 2



Expectations as We Joined Canada

The Commission's terms of reference require a review of the expectations of the people of Newfoundland and Labrador prior to joining Canada. Some may question the wisdom of looking to the past at the beginning of a forward-looking final report. In the opinion of the Commission, it is critically important. One of the most interesting and enriching stages of the Commission's work was a focused discussion with a group of Newfoundlanders and Labradorians who were adults at the time of Confederation. This Expectations Roundtable reminded the Commission of an obvious but often overlooked fact. The process of joining Canada remains part of the living memory of this place. It continues to shape and explain our expectations for Newfoundland and Labrador's place within Canada. Canadians need to understand that memory and the unique perspective it continues to inspire.

This chapter examines two different types of expectations. The first are those that were held by the people of Newfoundland and Labrador. Unlike other provinces, the decision to join Canada was made by the people. Those who decided to vote in favour of Confederation did so with certain hopes and expectations. The extent to which those hopes and expectations have been met shape Newfoundlanders and Labradorians' collective assessment of this province's place in Canada today and what it should be into the future. The second type of expectations relates to the manner in which the federation would function – how the federal and provincial governments would interrelate on an ongoing basis to address challenges facing Newfoundland and Labrador. Newfoundland and Labrador, like British Columbia and Prince Edward Island before it, negotiated the terms upon which it joined Canada. The negotiation of the Terms of Union, as much as the written terms agreed to, created an expectation regarding the nature of the country Newfoundland was about to join.

Becoming Canadian

Before proceeding further, it is necessary to set out briefly the processes and events leading to the two referendums of 1948. In a paper prepared for the Commission, historian Melvin Baker provides a detailed overview of these processes and events.¹ The paper also discusses ongoing controversies, such as what influence was exerted by Canada and the United Kingdom and whether the process was engineered to ensure Newfoundland's entry into Confederation.²

While Newfoundland and Labrador today can be said to be a country in spirit, it is important to remember that prior to Confederation it was one in fact.³ That Newfoundland would sacrifice its political independence to join Canada was not a realistic possibility prior to the late 1940s. In fact, the choice was rejected in the Newfoundland general election of 1869, two years after the formation of Canada. Newfoundland's focus, then and for many decades thereafter, was on building its economy and maintaining political independence.⁴



Posters used during the Confederation Debate

Expectations as We Joined Canada

Newfoundland's progress toward an independent place in the world was dealt a severe blow by the world depression, which started in 1929. Newfoundland was in a particularly vulnerable position due to the large public debt it had amassed. The size of the debt was attributable to financing railway construction and maintenance, the costs associated with Newfoundland's participation in the First World War and loans taken out in the 1920s for public works expenditures.⁵ The depression battered the Newfoundland economy, with exports being cut almost in half between 1930 and 1933. The numbers of persons requiring government assistance for basic necessities swelled dramatically. With greater social needs and a declining ability to pay, the public debt soon grew out of control. By 1933, interest charges on the debt accounted for 65 cents of every dollar spent by the Newfoundland Government.⁶

Faced with the real prospect of bankruptcy, the Newfoundland Legislature made a formal request to the British Government to suspend Newfoundland's Constitution until the country became self-supporting again, and to replace the Legislature with a Commission of Government. On February 16, 1934, the Constitution was suspended and a British-appointed Commission of Government (consisting of three Newfoundlanders, three Britons and a British governor) assumed office.⁷

The request made by the Newfoundland Legislature and the legislation that instituted the Commission of Government⁸ reflected the understanding that responsible government would be returned on request from the people when Newfoundland was again self-supporting. But, many questions remained unanswered, such as what constituted "self-supporting" and the procedure by which Newfoundlanders and Labradorians would make such a "request." What seemed clear, however, was that only one alternative to the Commission of Government was possible – a return to responsible government.

With the outbreak of the Second World War, unemployment virtually vanished and Newfoundland's fiscal position improved to such an extent that it was able to provide interest-free loans to Britain. The principal cause of this dramatic turnaround was the significant presence and expenditures of the Canadian and American military, both of which had established military bases on the Island and in Labrador to defend North America from attack. This wartime boom did not change the fact that Newfoundland still faced daunting economic and social challenges. The enormity of the task is illustrated by the cost of a proposed postwar reconstruction program developed by the Commission of Government, which in 1944 had a projected cost of \$100 million.⁹ Nonetheless, the relative prosperity prompted many to turn their minds again to Newfoundland's constitutional future.

On December 11, 1945, the Prime Minister of the United Kingdom, Clement Attlee, announced the process by which Newfoundlanders and Labradorians would determine their future place in the world. A National Convention of elected Newfoundlanders and Labradorians¹⁰ would be convened to:

...consider and discuss amongst themselves, as elected representatives of the Newfoundland people, the changes that have taken place in the financial

situation of the Island since 1934, and bearing in mind the extent to which the high revenues of recent years have been due to wartime conditions, to examine the position of the country and to make recommendations to His Majesty's Government as to the possible forms of future government to be put before the people at a national referendum.¹¹

The National Convention assumed its mandate on September 11, 1946, and dissolved on January 30, 1948. All elected delegates to the National Convention were male, as the two female candidates were not elected.¹² In the course of its work, the National Convention sent a delegation to Ottawa to ascertain the basis that might exist for the union of Newfoundland and Canada. The discussions were detailed and resulted in draft terms of union proposed by Canada, which were introduced to the National Convention prior to the two referendums of 1948. The National Convention also authorized the sending of a delegation to London to ascertain the support Newfoundland could expect from the United Kingdom should there be a return to responsible government. The response to the Newfoundland delegation was clear. If Newfoundlanders and Labradorians returned to responsible government, there would be no financial assistance forthcoming from the United Kingdom.

On January 22, 1948, the National Convention unanimously passed a resolution recommending to the British Government that two options be put before the people of Newfoundland and Labrador: a return to responsible government, or maintenance of the existing Commission of Government. The leading proponent of Confederation, Joseph Smallwood, introduced a motion to include union with Canada on the ballot, based on the draft terms of union proposed by Canada in 1947. The National Convention, however, rejected this motion by a vote of 29 to 16.¹³

Despite this rejection, the British Government placed Confederation on the referendum ballot. On March 11, 1948, it announced that three options would be put before the people:

- Commission of Government for a period of five years;
- Confederation with Canada; and
- Responsible Government as it existed in 1933.

If one option did not receive a majority of support, the option receiving the least votes would be dropped from the ballot in a second referendum. While economic union with the United States was not an option placed on the ballot (or recommended by the National Convention), a party advocating this option campaigned in favour of responsible government, as it was seen as the first step toward greater economic ties with the United States.¹⁴

The Expectations Roundtable provided the Commission with first-hand recollections of the passion and intensity of the campaigns that preceded the 1948 referendums. The campaigns were hard fought and created a great deal of strain within our society. Bitter divisions developed at the family, community and regional level. The decision to join Canada was not an easy one for the people of Newfoundland and Labrador.

The results of the first referendum, held on June 3, 1948, did not favour Confederation with Canada. A return to responsible government received 45 per cent support, followed by Confederation and Commission of Government at 41 per cent and 14 per cent respectively. In the second referendum, held on July 22, Confederation with Canada narrowly defeated a return to responsible government. By an extremely slim margin – 52 per cent vs. 48 per cent – Newfoundlanders and Labradorians decided to have faith in a future within Canada.

Popular Expectations

In considering a future union, Newfoundland and Canada held different expectations for life together. Canada's analysis was more bureaucratic than personal. The decision to unite (whether it be yes or no) had little chance of having an appreciable and immediate impact on the lives of most Canadians. That said, Canada wished to have a clear understanding of both the advantages and disadvantages of union with its smaller neighbour. In May of 1946, an interdepartmental committee of senior civil servants was formed to gather detailed information on Newfoundland in preparation for possible future negotiations. A cost-benefit analysis was prepared,¹⁵ which indicated that the projected cost of financial assistance to the new province would be about \$15 million dollars annually. However, it must have been great comfort to look at some of the prospective benefits to Canada:

- The addition of Newfoundland to the territory of Canada would fulfill the dream of the Fathers of Confederation in 1867 of a nation stretching from “sea to sea.”
- Newfoundland was Canada's eighth largest customer of its goods, and Confederation would increase the average annual worth of the Newfoundland market from \$25 million to about \$40 million.
- Newfoundland would also provide Canada with substantial fisheries, forests, mineral and hydroelectric resources, especially in Labrador.
- With Confederation, Canada would no longer have to worry about its defence and civil aviation rights in Newfoundland, or the use an independent Newfoundland might make of the American presence to extract future concessions from Canada.

It is difficult to bring together in a statement or list the expectations Newfoundlanders and Labradorians had for Confederation. Through written submissions and public meetings, the Commission heard that there was a wide spectrum of expectations – both positive and negative – for what life within Canada would bring. That diversity is illustrated by the expectations shared with the Commission by participants in the Expectations Roundtable:

- Access to Canadian social programs such as family allowances and old-age pensions, which would improve the standard of living for many.
- Improved public services such as health care, education and transportation services (e.g., the ferry and the railway).
- A decrease in the cost of many goods due to the lifting of tariffs and customs that had been imposed on Canadian goods entering Newfoundland.
- Economic growth and prosperity from the development of known natural resources, especially the mineral resources of Labrador.
- Treatment within the Canadian family as “equal partners, not poor cousins.”
- Increased taxation and regulation.
- Labrador Inuit expectations that their language and culture would be recognized.
- A loss of local manufacturing with the influx of cheaper Canadian-made goods.

From the Expectations Roundtable the Commission also learned that the people did not have a good understanding of the draft terms of union proposed by Canada. It was a more general sense of what Confederation would mean for their daily lives that inspired a majority to have faith in Confederation. People appreciated that there were many risks, ranging from increased taxation to a weakening of local

identity. But people hoped that Confederation would bring a standard of living comparable to that of Canadians and provide a real chance for Newfoundland to realize its true economic potential.

Expectations of the Federation

As stated previously, the Commission is of the view that the process of negotiating the Terms of Union, as much as the written terms agreed to, created an expectation regarding the nature of the country Newfoundland was about to join. In a paper prepared for the Commission, lawyer Stephen May provides an overview of the Terms of Union with insightful analysis into the forces that gave shape to the final document.¹⁶ The Commission's thinking on this matter was also assisted by the Honourable Gordon Winter, a participant in the Expectations Roundtable. As many people in Newfoundland and Labrador will know, Mr. Winter was a member of the Newfoundland delegation sent to negotiate the final Terms of Union in 1948.

Mr. Winter advised that the 1948 Newfoundland delegation had developed a long “shopping list” of matters they hoped could be included in the Terms of Union. The delegation, however, had three non-negotiable items that it wanted addressed before discussing other matters.

- The first was an assurance that the Government of Canada accepted the Judicial Committee of the Privy Council's 1927 Labrador boundary decision, and that, within Canada, Labrador would form part of the Province of Newfoundland. While it is hard to imagine that Canada would disagree with the constitutional entrenchment of what its highest court had determined, it did take some time to consider this matter. In the end, Canada agreed.¹⁷
- The second was that the ferry between Port aux Basques and North Sydney would be an essential part of Newfoundland's union with Canada, and should therefore be taken over and paid for by the Government of Canada. On this point, agreement came quickly, as the ferry service would be advantageous to both Canada and Newfoundland.¹⁸
- The third was an assurance that Newfoundland would be able to continue to manufacture and sell margarine. After some debate, Canada agreed to constitutionally protect the manufacture and sale of margarine in Newfoundland, but retained its powers to prohibit and/or restrict the export of margarine from the new province.¹⁹

Mr. Winter explained that Canada then issued its bottom line; one which would severely limit the type of constitutional arrangements Newfoundland could expect to negotiate. Canada was unwilling to negotiate terms that would constitutionally provide Newfoundland with special treatment, as such a move would upset relations with the other provinces. Subject to only a few exceptions (such as Newfoundland's non-negotiable items, none of which caused Canada any great concern and all of which could be defended by existing precedents),²⁰ the Terms of Union should be limited to facilitating Newfoundland's transition to the status of province on a basis equal to that provided for the other provinces. The constitutional shape of Canada was not up for negotiation.

The problem, of course, was that Newfoundland faced unique challenges that required special treatment. In many respects, it was not on an equal footing with the existing provinces. However, whenever the Newfoundland delegation sought a constitutional approach to tackling challenges, it faced a consistent response: “We're sorry, but we have to treat all provinces alike.”²¹

Canada was not totally insensitive to the challenges facing Newfoundland, but it insisted that these matters would have to be addressed by government policy decisions on an ongoing basis, not by constitutional guarantees. Newfoundland would have to rely on the good faith, vision and courage of successive federal governments in addressing obstacles to its full participation in Confederation.

Term 29 of the Terms of Union provides a good illustration of the distinction between a constitutional guarantee and faith in future federal actions. Newfoundland was very concerned that the financial terms (23 to 27²²) together with other payments from the Government of Canada and provincial revenues would not be sufficient to allow Newfoundland to meet its new provincial responsibilities on an ongoing basis. The Government of Canada, however, refused to guarantee financial assistance fundamentally different from that provided to the other provinces. The agreed approach was Term 29:

In view of the difficulty of predicting with sufficient accuracy the financial consequences to Newfoundland of becoming a province of Canada, the Government of Canada will appoint a Royal Commission within eight years from the date of Union to review the financial position of the Province of Newfoundland and to recommend the form and scale of additional financial assistance, if any, that may be required by the Government of the Province of Newfoundland to enable it to continue public services at the levels and standards reached subsequent to the date of Union, without resorting to taxation more burdensome, having regard to capacity to pay, than that obtaining generally in the region comprising the Maritime Provinces of Nova Scotia, New Brunswick, and Prince Edward Island.

Term 29, of course, only obligated the Government of Canada to appoint a Royal Commission within a specified time, nothing more. Much was left up to faith. In 1953, the provincial government appointed its own Royal Commission, chaired by Philip Lewis, to prepare the province's case on Term 29. The product was a thousand-page report which set out in great detail the challenges and needs to be addressed under Term 29. In the opinion of the Lewis Commission, the minimum level of assistance required to meet the express objectives of Term 29 was an annual grant of \$15 million.

The Government of Canada met its constitutional obligation under Term 29 by establishing a Royal Commission, chaired by New Brunswick Chief Justice John McNair. The report of the McNair Commission was disappointing to Premier Smallwood who had always expressed great confidence in the potential of Term 29 to accelerate Newfoundland's economic and social progress within Canada. Released in July of 1958, the McNair Commission's final report recommended that the transitional grants provided for in Term 28 be adjusted upwards to \$8 million until 1962, and that the same amount be paid thereafter.

As disappointing as the recommendation was, it paled in comparison to the reaction of the federal government. Prime Minister John Diefenbaker declined initially to accept the McNair Commission's recommendation regarding financial assistance after the year 1962. This decision sparked an intense war of words between Prime Minister Diefenbaker and Premier Smallwood and marks one of the low watermarks of the province's relationship with the federal government. In the end, it was not until the fall of the Diefenbaker government that Canada finally agreed to respect the recommendation in full. The inadequacy of the Term 29 award was softened somewhat by the start of a new national program in 1957 with similar objectives, which would come to be known as equalization. In a very short time, equalization payments would eclipse those made pursuant to the Terms of Union. It was a reminder that finding our place in Canada would be, as suggested in 1948, an ongoing negotiation.

Conclusions

In reflecting on the expectations of Newfoundlanders and Labradorians prior to joining Canada, the Commission makes the following conclusions:

- Newfoundlanders and Labradorians entered Confederation with the expectation that they would be full citizens of Canada, that they would share the living standards enjoyed by all Canadians, and that their province would have the financial resources to support these standards.

- Through the process of negotiating the Terms of Union, Newfoundland and Labrador came to understand that finding its place in Canada was a task that could not be fully addressed by formal constitutional arrangements or guarantees. Rather, challenges to Newfoundland and Labrador's full participation in the federation could be addressed by government policy decisions on an ongoing basis. This view of Canada as a work in progress highlights the importance of a positive, respectful and constructive relationship between the federal and provincial governments. The pathway to renewal is a course of actions and a way of thinking designed to assist Newfoundland and Labrador and Canada to meet this expectation for their mutual benefit.

“When joining this country our forefathers carried with them all the hopes and aspirations of a young, eager, and intelligent society determined to enhance the lives of their families and provide a greater promise for their children. Indeed, the possibilities were endless in the greater union of Canada, a nation still relatively young in a sea of larger nations and established empires.”

Excerpt from the Public Consultations

“Confederation brought many changes. One of the biggest and most important in my mind is an end to the poverty experienced by seniors, the underprivileged and the unemployed.”

Excerpt from the Public Consultations



Experiences Within Canada, 1949-2003

Experiences Within Canada, 1949-2003

Newfoundland and Labrador has been shaped profoundly by its evolving place in Canada, and the people have been shaped by their identity as Canadians. By most social and economic indicators, they are wealthier, healthier, and live in a much more developed and sophisticated society than their parents and grandparents who lived through the 1930s and 1940s. There can be no doubt that, in absolute terms, this place has progressed since it joined Canada and, to an uncertain extent, because it joined Canada. A more sombre assessment arises when this province is compared with the rest of Canada. Here it becomes clear that our relative position as the poorest province has not changed since 1949.

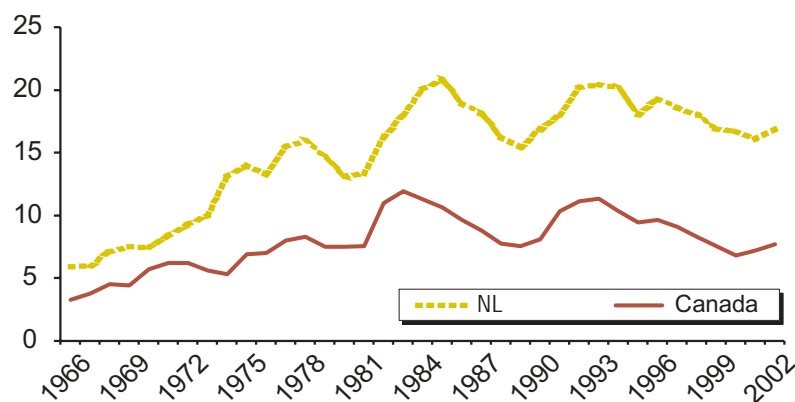
Measuring Economic and Social Progress

At the time of Confederation with Canada, and despite a strong economic recovery over the 1940s, Newfoundland and Labrador seriously lagged behind Canada in terms of economic performance. Since 1949, this province has made enormous progress, but compared to the rest of Canada, and despite having more than half a century to catch up, the gaps have remained persistent.

The most troubling economic disparity continues to be unemployment. For the first two decades after Confederation the province's annual unemployment rate was volatile, ranging from a low of 5.9 per cent to a high of 20.5 per cent. Since 1973, the rate has not fallen below 13 per cent. Figure 3.1 compares the Canadian and Newfoundland and Labrador rates for the years 1966 to 2002.

Figure 3.1

Unemployment Rates



Source: Statistics Canada; Economics and Statistics Branch, Department of Finance.

Note: Due to a change in methodology, rates for 1966 to 1975 are not directly comparable to those of later years.

How strange that they hadn't made today a holiday – after such an epic battle surely some celebration was in order but no, they were afraid, my father said, there might be riots if people were given time off. He had ruffled my hair on his way downstairs at seven o'clock, comforting me, or perhaps himself, for I didn't need comforting. "It may not be so bad... anyway it's done now and we're Canadians, we'll have to make the best of it!" He'd gone off to work, wearing the same overalls and carrying the same scraped, black lunch tin. What would change for him, I wondered.

Bernice Morgan

From the short story "To Mark The Occasion"



Experiences Within Canada, 1949-2003

Over that 36-year period, the unemployment rate in this province was always higher than the national figure by a wide margin. In 2002, it was 16.9 per cent compared to the national figure of 7.7 per cent. This is a significant difference and a much larger one than existed in the late 1960s. Unfortunately, there is no obvious trend to suggest that the gap is narrowing.

Moreover, the province's unemployment rate has been the highest among the provinces. Prince Edward Island had the next highest rate at 12.7 per cent, followed by 10.3 per cent in New Brunswick; all other provinces had rates below 10 per cent.¹

The unemployment problem is shared by both men and women. Table 3.1 below shows a breakdown of the unemployment rates by gender for 1966 and 2002, comparing this province's outcomes with the national averages.

Table 3.1

Unemployment Rates for Males and Females in 1966 and in 2002		
	1966	2002
Newfoundland and Labrador	8.6 %	16.9%
Males	10.5%	18.1%
Females	2.9%	15.4%
Canada	3.6%	7.7%
Males	4.0%	8.1%
Females	2.6%	7.1%

Source: Economics and Statistics Division, Department of Finance, Government of Newfoundland and Labrador

Note: Rates in 1966 and 2002 are not directly comparable due to different methods of measurement that were used in those years.

Table 3.2 shows the labour force participation rates of men and women for 1966 and 2002, comparing Newfoundland and Labrador with Canada as a whole. The participation rate is the percentage of the adult population considered to be in the economy's labour force, whether employed or not. As the table shows, the provincial and national participation rates in 2002 were much higher than in 1966, rising from 55.1 per cent to 66.9 per cent nationally, and from 44.1 per cent to 58.6 per cent in the province. In both cases, the increase is largely due to the increase in women's labour force participation rates. A comparison of the national and the provincial rates shows, however, that those of Newfoundland and Labrador still lag considerably behind. It is reasonable to suggest that, if the participation rates in this province had been

the same as the national ones, the gaps in unemployment rates would have been even higher than shown in Figure 3.1.

Table 3.2

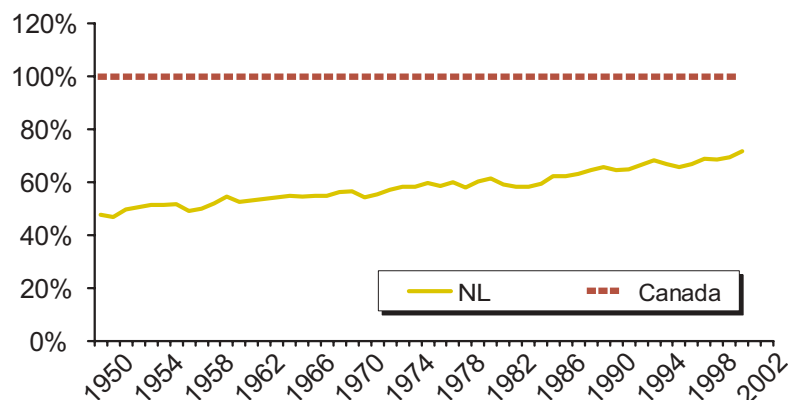
Labour Force Participation Rates for Males and Females in 1966 and in 2002		
	1966	2002
Newfoundland and Labrador	44.1%	58.6%
Males	64.8%	64.1%
Females	22.2%	53.4%
Canada	55.1%	66.9%
Males	77.8%	73.3%
Females	32.8%	60.7%

Source: Economics and Statistics Branch, Department of Finance, Government of Newfoundland and Labrador

There are other disparities of concern relating to income. Figure 3.2 shows earned income per capita in this province relative to earned income in Canada. Earned income means income from wages and salaries, investments and business earnings. It excludes pension plan income and any “transfer payments” from any level of government (e.g., employment insurance, social assistance, old age pension) and, as such, is an important measure of income, since it incorporates the notion of self-reliance. As illustrated in Figure 3.2, earned income per capita in Newfoundland and Labrador was only about 48 per cent of the national figure in 1950. By 2001, it had risen to just under 72 per cent. That is a marked improvement, but achieved only after 50 years. Yet, there is still a substantial disparity. A gap of 28 percentage points remains. If future progress were to be no better than in the past, it would take another half century to fully catch up.

Figure 3.2

Newfoundland and Labrador's Earned Income Per Capita as a Per Cent of Canada's Earned Income Per Capita

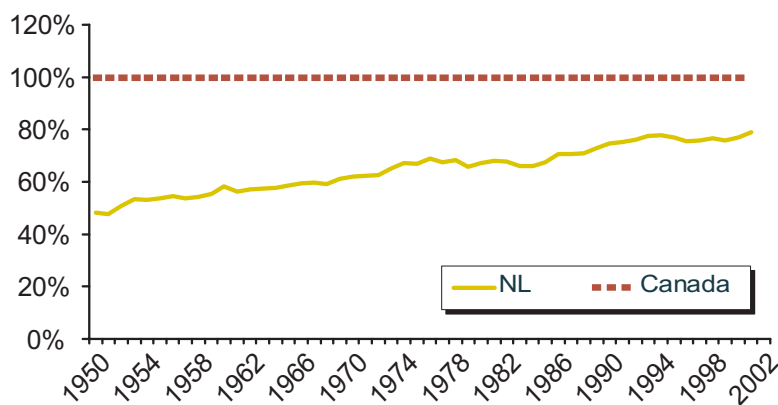


Source: Statistics Canada; Economics and Statistics Branch, Department of Finance.

A broader measure of income is personal income. It encompasses all sources of a person's income including transfer payments from government. Personal income per capita, expressed as a percentage of the national average for the years 1950 to 2001, is displayed in Figure 3.3. In 2001, average personal income per capita in Newfoundland and Labrador was 79 per cent of the national figure. That compares favourably with 48 per cent in 1950, but the progress has been slow and a large gap still exists, namely 21 percentage points.

Figure 3.3

Newfoundland and Labrador's Personal Income Per Capita as a Per Cent of Canada's Personal Income Per Capita



Source: Statistics Canada; Economics and Statistics Branch, Department of Finance.

This personal income gap is not as large as the one for earned per capita income, reflecting the importance of social programs such as old age pensions, employment insurance and social assistance in the incomes of people in this province. In 1961, 16.8 per cent of personal income in Newfoundland and Labrador was due to government transfers to persons, while for Canadians generally it was only 8.5 per cent. By 1991, the provincial and national figures were at 24.4 per cent and 14.1 per cent, respectively. Ten years later, in 2001, the disproportionately greater dependence on transfers was little changed: 22.2 per cent of personal income in Newfoundland and Labrador was from government transfers while the national figure was much lower at 13.8 per cent.

This reliance on transfer payments underlies a difficult debate, namely, the extent of dependence on unemployment insurance (now called employment insurance or EI). That dependence has been largely seasonal and recurring year after year: it has become part of the annual income of large parts of the workforce. Our dependence on employment insurance, expressed in per capita terms, greatly exceeds that of workers in other provinces. In 2001, average employment insurance benefits per capita in the province was \$1252 compared to \$418 for Canada.

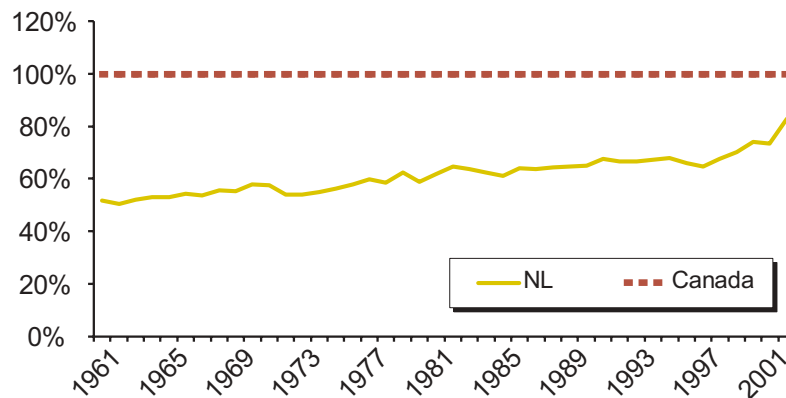
Our dependence on employment insurance is in decline, which reflects both positive and negative changes in our economy. The number of persons receiving employment insurance peaked in 1992, but by 2001 it had declined by 36 per cent in all industry sectors (except fish harvesters). The total of employment insurance benefits received in the province also peaked in 1992 at \$1.06 billion, but had declined by 23 per cent by 2001. Several factors contributed to these declining employment insurance numbers. A downturn in the economy in the early 1990s, the effects of the groundfish moratorium after 1992 on fishery sector employment, out-migration and the tightening of eligibility rules after 1996 all meant that fewer people

qualified for employment insurance benefits or for the same level of benefits. As a whole, these trends impacted women more seriously than men, in particular a number who worked part or full-time in the fish processing industry, many of whom had no alternative employment. More positively, in recent years employment insurance benefits have dropped as a result of increasing full-time employment, especially among younger workers. In summary, the overall trend of a declining dependence on employment insurance, while on the surface encouraging, hides the fact that so many still do not have enough work. Merely reducing access to employment benefits is not a solution to unemployment.

A broader measure of how well an economy is performing is gross domestic product (GDP), which is the value of all the income generated within the geographic boundaries of an economy. By that measure, this province also lags behind the rest of the country. Figure 3.4 shows that in 1961, the first year for which GDP data are available, our GDP per capita was only about 51 per cent of the national figure, leaving a gap of 49 percentage points. In 2002, 41 years later, our GDP per capita was almost 83 per cent of the national figure, still leaving a gap of about 17 percentage points.

Figure 3.4

Newfoundland and Labrador's GDP Per Capita as a Per Cent of Canada's GDP Per Capita



Source: Statistics Canada; Economics and Statistics Branch, Department of Finance.

Figure 3.4 shows there has been a dramatic reduction in the gap since 2000. Indeed, much has been made in the media of the province's recent GDP growth. This province has led the country in growth in three of the past five years. In 2002, growth was at an unprecedented rate of 13.4 per cent. These GDP growth figures should not be overemphasized, as the growth rate obscures the fact that the level of our GDP per capita is well below the national figure. A significant portion of the growth in our GDP must cover the substantial capital costs of oil companies. In 2002, corporate profit (a component of GDP) in this province grew by more than 80 per cent and was the single most important cause of that year's unusually high growth in GDP. Overwhelmingly, that growth reflects the higher earnings of oil companies due to sharp increases in oil production and prices in 2002. Those companies are not owned by residents of this province so, other than for provincial corporate income tax revenues, the profits go to investors outside the province as a return on their investment. Under these unusual circumstances, GDP growth is not as good an economic indicator as it normally is. This can be further demonstrated by the disconnect between our GDP growth and the unemployment rate in 2002 – while GDP grew by 13.4 per cent in 2002, the provincial unemployment rate actually went up from 16.1 per cent to 16.9 per cent.²

While progress has been made and earned income, personal income and GDP are moving toward the Canadian average, the remaining gaps are still large. Some of the per capita improvements, especially since 1991, were due to out-migration; even if an income measure does not change, the per capita value will increase if the population goes down. Even more troubling is the stubborn persistence of unemployment. Our unemployment rate has yet to even show any discernable trend toward the national rate, despite out-migration.

Any path toward economic progress must entail a substantial reduction in both the unemployment rate and in the gap between the provincial and national rates. Progress must also be made in terms of income, especially earned income. And, importantly, achieving these objectives must be done through greater prosperity in the province, not by out-migration.

Apart from economic indicators, there is less precise measurement available about social progress since Confederation. Statistics on social factors have not been collected as rigorously until recent years, and the notion of what constitutes an effective indicator has also changed. The provincial government, through its Strategic Social Plan,³ has, in recent years, been amassing comprehensive social audit indicators. Despite the lack of historical statistics, the social improvements since 1949 are obvious to any observer. These include social program benefits such as old age pensions, mother's allowances and unemployment insurance. As well, there have been major federal contributions to provincial infrastructure, such as the Trans-Canada Highway, Memorial University of Newfoundland, schools and hospitals. In later years, there has been universal medicare and the equalization program. Apart from programs, there has been measurable progress in terms of social outcomes such as life expectancy, infant mortality, family income and educational attainment. For such social indicators as home ownership, family stability and community safety, Newfoundland and Labrador continues, as it did at the time of Confederation, to exceed the Canadian average measures.

Development Challenges 1949 to Today

In his research paper for the Commission, sociologist Lawrence Felt categorizes post-Confederation development in three stages.⁴ The first stage, from 1949 to 1970, was the Smallwood era, which was marked by strong economic growth and social improvements, but also by failed efforts at industrialization on a North American model, controversial efforts to centralize and resettle the rural population, and weak political development. The second stage, from 1970 to 1986, was a period of aggressive provincialism, with a renewed focus on natural resources, including oil and the promise of fisheries resurgence; yet it was also marked by an increased dependence in the rural economy on unemployment insurance. The third period, since 1987, has seen some degree of economic diversification and the steady growth of the oil sector, but also the collapse of the groundfish fishery and accelerated out-migration.

What these three stages underscore is a perennial preoccupation with certain significant development challenges: diversifying the rural economy, increasing productivity in resource industries, reducing unemployment, and sustaining and improving public services across a widely dispersed territory. In the first decade after Confederation, the province enjoyed steady economic growth due to continued American military spending and a construction boom for highways, hospitals and other public infrastructure. Nevertheless, the Smallwood government faced a huge task: develop and diversify the rural economy, reduce dependence on the fishery, and provide better services to the scattered population. Part of its strategy, in cooperation with the federal government, was to undertake three successive programs for community resettlement in the 1950s, late 1960s and early 1970s. The province also undertook several small scale efforts at industrialization (many of which failed) followed by an emphasis on large scale projects such as the iron ore development in Labrador, the Stephenville linerboard mill, the Churchill Falls hydroelectric project, and the Come-By-Chance oil refinery.⁵

Following the defeat of the Smallwood government after 23 years in office, Progressive Conservative governments under Premier Frank Moores (1972-79) and even more so under Premier Brian Peckford (1979-1989) placed their emphasis on rural revival and development and on natural resources. The key sectors targeted for growth were the fisheries and offshore petroleum – the former promising better economic prospects for rural coastal communities than there had been in decades, the latter promising to create an entirely new sector with significant potential for spinoff jobs and government revenues. The retrospective analysis of both attempts is sobering. Excess fishing effort, by ourselves and by others, doomed the fishery revival and led to the collapse of the cod and other fisheries. And the offshore oil, while significant, has come nowhere near to transforming this place into the mini-Alberta predicted in the early 1980s. Moreover, the fisheries' failure since 1992 has brought the province full circle to the out-migration from rural communities experienced in the 1950s and 1960s.

There have been much quieter developments in the past decade, which have resulted in progress. The economy is much more diversified than before; most resource sectors are now as productive as the rest of the economy and as productive as any industry in Canada (e.g., oil production, newsprint, mining, some parts of the fishery sector, and business and consumer services generally). As elsewhere, small and medium size businesses are increasing, and many Newfoundlanders and Labradorians now own and operate their own businesses and are responsible for the largest share of new employment. In particular, businesses producing cultural products and tourist services continue to grow in number and sophistication. As a whole, the St. John's and Avalon peninsula economy is more stable, more diverse and has a higher average income than at any point in its history.

As in all parts of Canada, and indeed the western world, our society has been dramatically transformed. Our employment is much less in primary or manufacturing sectors (mines, mills, fish plants), and more in tertiary sectors such as business and personal services (retail stores, restaurants, computers, consulting) and in public administration (schools, hospitals, government). Labour standards have improved significantly, and organized labour's role is strong. Cultural and recreational aspects of life are now major economic and social activities in their own right, and have become important ways in which Newfoundland and Labrador contributes to the wider Canadian life. Transportation and communications technology and infrastructure (roads, planes, phones, television, the Internet) have ended the isolation of one community from another and transformed patterns of living and working.

Another major social trend is, of course, that Newfoundlanders and Labradorians have become more Canadian, while still retaining their identification with their province. After 1949, some bitterness remained amongst those who strongly opposed Confederation, but within a few years most, if not all, could see real advantages in Canadian citizenship. Nonetheless, several factors have contributed to a resurgence in the past twenty-five years of what has been called "neo-nationalism."⁶ Our political identity as Newfoundlanders and Labradorians has never been subsumed by our Canadian identity, but coexists with it. Public opinion polling over several years has found respondents in this province thinking of themselves "first" as Newfoundlanders or Labradorians rather than as Canadians, although there is no evidence that the two are seen as incompatible.⁷

Our Relations Within Canada

In 1949, the province had to adjust to a new political system although, fortunately, it was to a federal system in which sovereignty and power is shared between two levels of government. Still, Newfoundland and Labrador was initially ill-equipped to compete in the political world of postwar Canada. Democracy had been stunted by the loss of responsible government in the 1930s. Gradually, the public has become more demanding and more critical of government, and the province has become more self-conscious as a political community.

From the perspective of political development, becoming part of the Canadian federation held both advantages and disadvantages for Newfoundland and Labrador.⁸

The advantages:

- we became part of a country with a growing influence in the international community and an increasing ability to promote our interests abroad.
- we received the evolving benefits of the Canadian social security system. Indeed, we were the only part of Canada to join the federation on the explicit promise of social security, which makes the cutbacks of the past decade all the more serious to this province.
- we received a significant form of continuing political autonomy as a Canadian province – which, as a form of decentralized power, provides much greater policy and financial autonomy than do most other federations.

The disadvantages:

- we had to adjust to a new political system with some familiar features, such as parliamentary democracy, but many unfamiliar ones, such as the federal constitution and its system of fiscal federalism. For most of our 54 years in the federation, people have been more comfortable with their provincial democracy, turning out at a higher rate for provincial elections than for federal ones.⁹
- we had to suffer the loss of much of our independent ability to plan resource management and industrial development. We lost control over trade and monetary policy, the fisheries and – after contestation – control over offshore petroleum resources.
- we have been cast into a grouping as an “Atlantic” province along with the “Maritime” provinces, with the resulting implied assumptions – not always true – that we have the same interests, and even identity with, the older grievances and conservative political culture of the Maritimes.
- we inherited a whole set of “family feuds”, such as the French/English divide and a tendency to anti-Americanism, to which we had not been a part to any great extent.

This pattern of advantages and disadvantages has been played out in different ways over the years and through some rather dramatic turns in federal/provincial, and interprovincial relations. Premier Smallwood set the initial tone by making a close partisan linkage between his provincial Liberal party and the Liberal Party of Canada. This worked extremely well to ensure that the federal Liberal government was rewarded for listening to our concerns and for distributing the benefits of Confederation. This arrangement broke down, somewhat, when the federal Liberal party lost office to the Diefenbaker Conservatives in 1957. However, it is noteworthy that, unlike some other provinces, the political party system in Newfoundland and Labrador remains tightly integrated with its federal counterparts.

Even in the best of circumstances, the Smallwood government and its successors have found an extremely limited appetite in Ottawa for special arrangements to deal with the unique needs and interests of Newfoundland and Labrador. Instead, appropriate change to meet our needs have come mainly as a result of more general constitutional or policy trends. These have included the gradual development of national social programs, many through intergovernmental financing, and federal programs for regional development and equalization. Yet, in this evolution, the key political considerations for the federal government have not been over the specific circumstances of this province, but over those of more populous provinces, particularly Ontario and Québec. The chief example of a bilateral arrangement that did acknowledge our unique circumstances is the Canada-Newfoundland Offshore Petroleum Board, established by the 1985 Atlantic Accord. The most stark example of a lack of flexibility in federal

arrangements has been with our fisheries, a resource that has been managed directly from Ottawa, without significant differentiation from the entire Atlantic fisheries and without meaningful input from the provincial government.

One way of compensating for the one-size-fits-all fixation of the Canadian federal system is for Newfoundland and Labrador to have effective representation, both within the central institutions of the federal government and in intergovernmental relations.¹⁰ Over the years, the province has been represented by many capable leaders who have helped this place to “punch above its weight” in national political affairs. However, leadership has also been put to the test, such as in the tense relations over fisheries and the offshore in the Peckford years, and in the Wells administration’s opposition to the Meech Lake Accord. Similarly, strong representation in the federal cabinet has been important.

Despite a record of effective intergovernmental relations in the past, there is a prevailing sense in the province today that the federation is failing us. Two specific events, in which the federal government played a leading role, have contributed to this malaise. The first of these was the cod moratorium announced in 1992, which has had a devastating effect on the province. While the federal government did deliver a major adjustment program, that program had many flaws. What is more, there is a widespread view that, through the lack of a long-term rebuilding program, Ottawa appears to have now written off the large segment of our economy and society that is based on the fisheries. The second was the federal budgetary cuts since 1995, which have had a significant negative impact in this province, further complicating provincial finances and undermining our ability to maintain national social standards.

More broadly, our provincial government shares with other provincial and territorial governments in Canada the sense that the federal government has lost interest in cooperative and collaborative relations. Our relations with Ottawa and with the other provinces have been influenced both by the general climate in intergovernmental relations in Canada as a whole, as well as by our own pursuit of intergovernmental goals. More collaborative intergovernmental policy has been possible when the federal government takes the lead and provides the political will to work together. Alternatively, competitive and combative relations arise when the federal government sets a centralizing or dismissive tone, or avoids cooperative approaches. As for the province’s approach, it has been more effective when it develops its positions carefully, acts strategically to make common cause with other governments and communicates clear priorities to the federal government.

The Balance Sheet Issue

Throughout the Commission’s consultations, there were calls for the tabulation of a balance sheet showing the relationship between the financial benefits Newfoundland and Labrador brings to Canada and the financial benefits Canada brings to this province. In responding to these requests, the Commission was uncertain about what should be included in such an exercise and what forms of analysis should be used.

Tabulation of the financial benefits the province receives from the federal government would have to include equalization and other intergovernmental transfer payments as well as payments to individuals, including old age pensions, employment insurance, wages and benefits for federal government employees, and payments to businesses for purchases and services. Financial benefits the federal government receives from the province would have to include corporate and personal income tax and other tax payments, employment insurance premiums, and interest payments on loans, fees and other sources of revenue. If these are the only benefits recognized, federal spending in Newfoundland and Labrador since 1949 has exceeded the amount of revenues the federal government has collected in this province by a wide margin. In the past decade, that gap has been very large, ranging between \$2.5 billion and \$3.5 billion a year. In 2000, federal spending was approximately \$4.8 billion, against revenues of about \$2.2 billion, a difference of some \$2.6 billion.¹¹

A balance sheet, however, must also address lost revenues because of barriers and policy failures (e.g., the failure of the national energy policy to allow the transmission of hydroelectricity across provincial boundaries), or economic benefits that the rest of Canada has already enjoyed as a result of this province joining the country. It must also address issues such as the financial returns that the federal government will receive in the decades ahead from offshore oil and gas development. As part of the Commission's efforts to address this balance sheet issue, an independent analysis was commissioned.¹² That analysis explored some of the crucial issues involved. One of its most important findings was a confirmation of the extent to which others benefit from the hydroelectricity generated by Churchill Falls. Focusing on the years 1991 to 2001, it was found that the estimated windfall gain from that resource averages about \$850 million a year.¹³ Effectively none of that windfall has been shared with this province. It is a benefit to Hydro-Québec, and therefore to its electricity consumers and its owner, the Québec government. Overall, the 65-year Churchill Falls arrangements will result in tens of billions of dollars in cumulative benefits to others in Canada. These benefits are not counted in the fiscal spending statistics that characterize our province as being highly dependent on the rest of Canada.

This study also identified some of the other ways by which the rest of Canada gains as a result of Newfoundland and Labrador's presence in the Canadian economic union. There are the benefits arising from trade in goods and services; the economic benefits generated by Newfoundlanders and Labradorians working elsewhere in the country; and the profits from our province's natural resources that enhance corporations that operate here, but are owned by Canadians outside this province.

Beyond those identified in this study, there are other ways by which the rest of Canada gains economically from Newfoundland and Labrador. Among the most prominent of these is the locational value of this province. Locational value encompasses a range of considerations including the value of air space, the potential resources of the continental shelf, the province's strategic location, and the value of security of oil supplies. It is difficult, perhaps even impossible, to express this locational value in terms of dollars, and the Commission has made no attempt to do so. Nevertheless, there can be no disputing the fact that Canada values the lands and offshore waters of Newfoundland and Labrador. As Gwynne Dyer writes:¹⁴

Pro- and anti-confederates come up with different balance sheets on the union of Canada and Newfoundland at the time and continue to do so today, but it's clear that nobody in Ottawa in 1948 saw Newfoundland as either an economic bonanza or a crippling drain for Canada ... Ottawa's strongest motive for supporting the confederate cause in Newfoundland and offering reasonable terms to the prospective new province was a fear that a Newfoundland which regained its independence might pass into the control of the United States ... In a free vote in 1948, Newfoundlanders might well have chosen some kind of link with the United States leading to statehood – and Canadians both official and unofficial would have regarded that outcome as a disaster.

Indeed, as was noted in Chapter 2, in 1946 Canadian officials did undertake a balance-sheet forecast of a union of Newfoundland with Canada. Needless to say, having considered that forecast, Canada's decision was to proceed.

It is an extraordinarily complex task to construct a balance sheet showing all the sources and magnitudes of the financial gains to this province by Confederation, and the gains to the rest of the country. It is difficult to imagine, let alone measure, what would have occurred if Newfoundland and Labrador had not entered Confederation; or if the fisheries had been managed so as to maximize the economic benefits to the provincial economy; or if a power corridor through Québec had allowed the Churchill Falls arrangements to be negotiated on a level playing field. When provincial governments have engaged in balance sheet exercises, the results have been fruitless debates with the federal government over assumptions, use of data, methods of analyses and items to be included.¹⁵ Battling over balance sheets is not constructive; it does not lead to progress. It should be avoided so as not to distract the provincial and federal governments

from focusing on what really matters – ensuring that the federation works for its constituent parts. This entails working in partnership to address the economic and social challenges facing this province and its people.

The Commission's attempt to develop a balance sheet has highlighted issues addressed throughout this Report: (i) the current state of financial dependency in which this province finds itself; (ii) the frustration Newfoundlanders and Labradorians feel in being identified as “takers” in the federation, despite facing so many inequitable circumstances since 1949; (iii) the failure of the federal government and many Canadians to understand and appreciate this province and the contributions it has made to the country; and (iv) the significant challenges facing smaller provinces as they seek to find their respected place in the federation. The balance to be found is not so much in a balance sheet focused on dollars given and received; rather the balance is to be found in a new federal/provincial relationship focused on enabling this province to end its dependency and enabling this country to work for all Canadians.

Conclusions

Newfoundland and Labrador is a very different place today than when it joined Canada. The Commission draws the following conclusions from its examination of the province's broad experiences within Canada since 1949:

- While there can be no doubt that, as a people, Newfoundlanders and Labradorians are wealthier and enjoy a higher standard of living than they did before joining Canada, the relative position of the province within the Canadian federation has not changed.
- Unemployment remains the highest in Canada. Earned income and personal income were only 72 per cent and 79 per cent respectively of the national average in 2001, the biggest gap with national levels of any province. Recent strong economic growth due mainly to oil production has not overcome these basic disparities.
- As a society, Newfoundland and Labrador has advanced considerably, with a more diversified economy and more developed social services. Transportation and communications infrastructure has helped to end the isolation of our communities. In political terms, the province has adapted to the federal system of government and benefited from national values such as sharing and cooperation. In recent years, however the federal/provincial relationship has become strained and unproductive.
- A balance sheet that focuses only on dollars given and received is not only incomplete but, more importantly, diverts the attention of governments from building a new relationship directed towards enabling the province to end its dependency, and the country, as a whole, to work better for Canadians.

There is, therefore, a sense of disconnect, a feeling that within this country Newfoundland and Labrador must find ways to renew and strengthen its place. Our experience since 1949 confirms that the potential exists in Canada to allow renewal and strengthening to happen.

“Let’s not fall into trap that some mis-guided souls may have by asking what have we done for Canada - the evidence is under our feet and in the Atlantic blue sky and on the broad ocean, and in the war graves of Europe and our proven generosity toward all, and in the skyscrapers of Ontario and Alberta and in the B.C. industries, and in the mainland universities and our music and stories... the time is past for a compulsory updated history course to be immediately introduced in grade 8.”

Excerpt from the Public Consultations

“Without federal support, Canada’s first major offshore oil project would not have begun. This is perhaps the clearest indication of the benefits of the federal-provincial relationship ... This federal-provincial energy development shows what progress can be made when the two levels of government work together, each bringing its own strengths.”

Excerpt from the Public Consultations



Chapter 4

Population Loss, Out-Migration and Rural Newfoundland and Labrador

The 10 per cent decline in this province's population between 1991 - 2001 due to massive out-migration is a shocking indicator that something has gone seriously wrong in the economy of Newfoundland and Labrador. The Commission, in its public meetings, in the written submissions it received, in its meetings with government officials, in its roundtables, and in its dialogues heard clearly and consistently that the most significant social and economic challenge facing the province is out-migration and its impact, especially in rural Newfoundland and Labrador. This chapter explores the demographic change in the province overall, the impact of out-migration, especially in rural areas, the policies and programs that have attempted to address the challenge, and the need for further action.

Background

Long before joining Canada, Newfoundland and Labrador faced economic ups and downs. At times, it has prospered. During successful fisheries in the eighteenth and nineteenth centuries, as well as during the first decades of the twentieth century and throughout the 1940s, there were good times.¹ However, there were also difficult times, caused by market conditions, natural disasters or failures of fisheries. Hardship forced many people to leave, so out-migration is not a new phenomenon. It has been common throughout the province's history, with people emigrating mainly to the United States and Canada before 1949, and primarily to the rest of Canada since Confederation. However, from the early 1940s until the 1960s, thousands of women married American military personnel stationed at United States bases here and subsequently almost all moved to the United States.² Movement within Newfoundland and Labrador was also widespread. People moved to new frontiers throughout the Island as pressure on local fishing grounds increased, they went to the interior as mines and forestry industries developed, and they moved to work at American military bases. Initially, people went to Labrador for the coastal fisheries and later to the interior to build and maintain iron mines, military installations and hydroelectric sites. People have also moved seasonally: Aboriginal peoples traditionally moved seasonally; people went each year to participate in the summer fisheries in Labrador; seasonal workers went to work in the United States in construction and other trades; and, more recently, many other people from Newfoundland and Labrador participate in seasonal migration to other parts of Canada for work. People of this province are accustomed and willing to go where employment opportunities take them.

Confederation with Canada was seen as a way of creating more economic opportunities so that people would no longer have to leave. Since then, there has been minimal net in-migration to the province, mostly by Newfoundlanders and Labradorians returning home. But, as Figure 4.1 shows, since 1951, net out-migration has been the norm. A slightly higher percentage of those who have left are men – for the past thirty years, 51.9 per cent of the total have been males and 48.1 per cent, females. Since 1992, that percentage has increased to 53.9 per cent for males but decreased to 46.1 per cent for females.

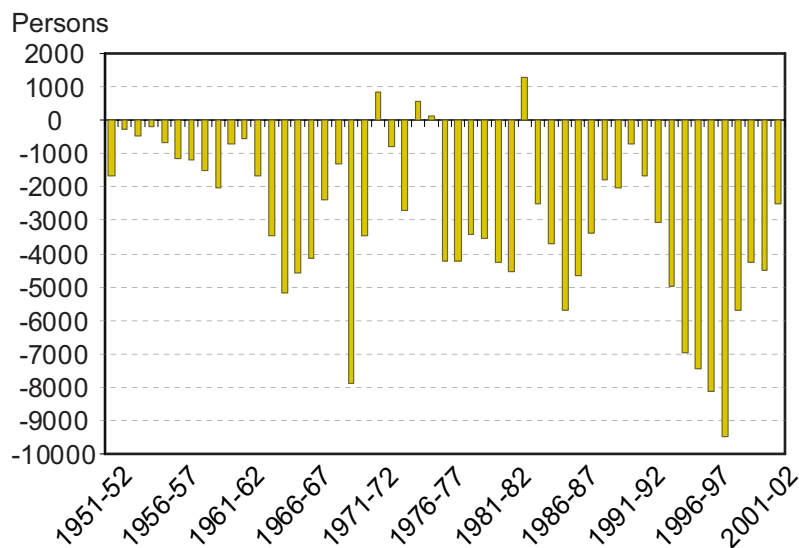
Coming home teaches me that I own nothing
 that there is nothing in the world
 I have a claim to
 though this one place has a claim to me -
 turning south onto the Buchans highway
 I follow the Exploits River further into bush,
 through Buchans Jct. buried in waves of spruce
 and past the cold length of Red Indian Lake which has
 forgotten me completely since I left

Michael Crummey, *The Road Home* here years ago...

Population Loss, Out-Migration and Rural Newfoundland and Labrador

Figure 4.1

Net Migration
 1951-52 to 2001-02



Source: Economics and Statistics Branch, Department of Finance.

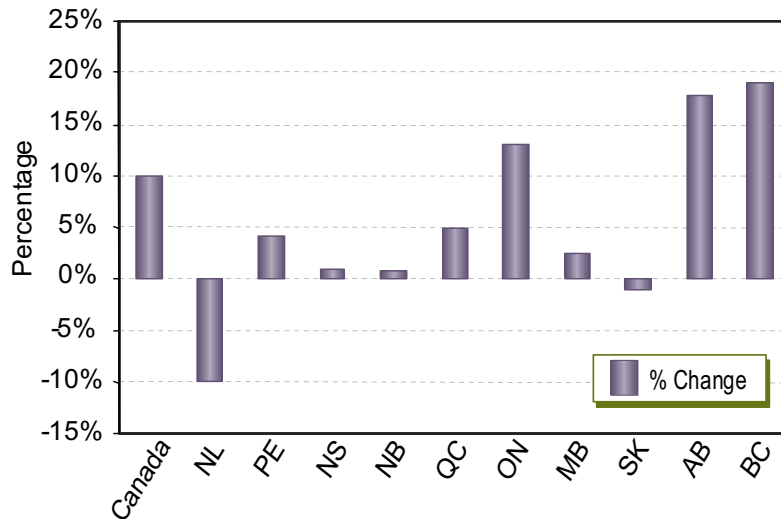
Despite these losses, the population and most communities continued to grow until the last decade, when double-digit unemployment rates and declining birth rates contributed to a stagnation of the population. The collapse of the groundfish fisheries in the 1990s worsened the situation, turning ever greater numbers of Newfoundlanders and Labradorians into economic migrants. The population of this province in 2001 was more than 10 per cent lower than in 1991, an unparalleled loss for any country or province, except perhaps during wars. Certainly, it is an anomaly in Canada. Figure 4.2 shows that all other provinces have had growing populations over this time, except Saskatchewan, whose population declined slightly.³

Figure 4.2

Percent Change in Population

1991 to 2001

Canada and Provinces



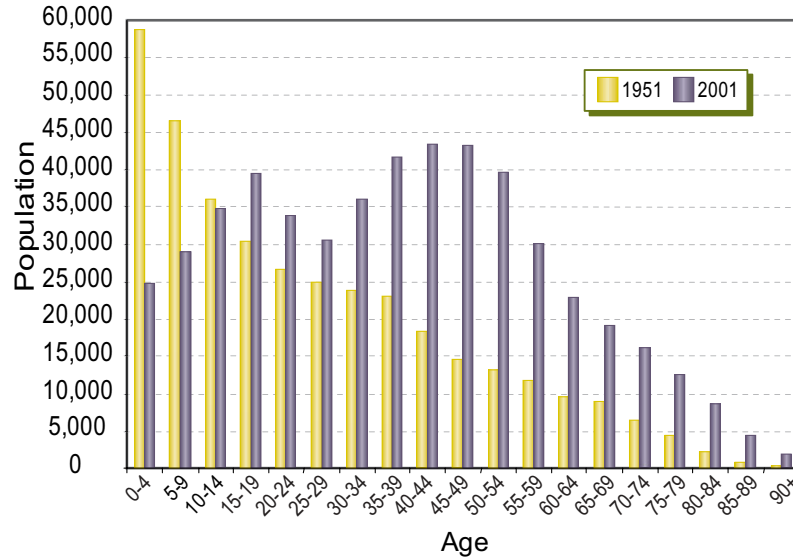
Source: Statistics Canada, Demography Division; Economics and Statistics Branch, Department of Finance.

It is important to emphasize that this 10 per cent population loss *understates* the out-migration. There was natural population growth over that ten-year period. Allowing for that, the data indicate that approximately 12 per cent of the 1993 population has left this province.

Compounding the problem has been the continuous and disproportionately large loss of youth. Migrants are typically young adults and families with young children. In the past, when birth rates were higher, natural population growth was sufficient to offset out-migration. More recently, with declining birth rates and the out-migration of so many young people, the age structure of our population has changed dramatically. Figure 4.3 compares age distributions in 1951 with 2001. The change is especially worrisome with respect to youth. There are fewer children aged 0-4 and 5-9 years in 2001 than in 1951; and, similarly, there are fewer 0-4 year-olds than 5-9 year-olds, fewer 5-9 year-olds than 10-14 year olds, and fewer 10-14 year-olds than 15-19 year olds. Consequently, the province of Newfoundland and Labrador is not only losing population, but the average age of the remaining population is rising.

Figure 4.3

Population by Age 1951 and 2001



Source: Economics and Statistics Branch, Department of Finance, Government of Newfoundland and Labrador.

More alarming are the projections that, under current circumstances, people will continue to leave Newfoundland and Labrador. While projections to 2016 released by the provincial government show a slowing in the trend, the province will still have population decline and out-migration continuing until at least 2010. At that time, the population is projected to be 504,112, compared to a high of 580,195 in 1993.

Impact of Out-migration

This population loss creates a serious social cost for the people of this province in both urban and rural areas. It is extremely difficult for people with close ties to their families and communities to leave, and it is equally difficult for those who remain to see their children leave. Distance makes it hard to maintain family and community relationships. With job losses in many parts of the province being so severe, and without sufficient growth in employment opportunities elsewhere in the provincial economy, people have been forced to choose between unemployment and out-migration. Many migrants are young adults, often with valuable technical skills and academic training.⁴ The province needs youth to build a stronger and more prosperous economy. We cannot afford to see so many move to Alberta, Ontario, and so many other places to build prosperity elsewhere. To maintain our culture and identity, we cannot afford to have more people compelled to leave for economic reasons.

In addition to the negative aspects for those who stay, there are also significant implications for those who leave. In *Newfoundlanders: Home and Away*, Leslie Bella speaks about the vulnerability of migrants:

Living in a community with many of one’s own background can be good for the mental health of new migrants. Some of those we talked to described living for a while in enclaves of Newfoundlanders. Here they enjoyed visiting with people from home, celebrating traditional events and keeping alive the contacts with home. Those not actually living in Newfoundland enclaves use other

opportunities to get together with other Newfoundlanders. The experience of being surrounded by Newfoundlanders, even those you did not know, was difficult to describe in words, but was clearly emotionally significant ... Through this togetherness, Newfoundlanders may inoculate themselves from mental health difficulties associated with isolation and loss of culture.⁵

There is a differential effect on families that leave. National studies suggest that the impact on men and women who migrate is different: men experience significant earning increases after changing provinces, but the earnings of women tend to fall.⁶ This might reflect the effects of the family decision to move in order to further the career of the husband; it might also be influenced by the higher male unemployment rate.

While out-migration, population decline and the aging of the population have affected all parts of the province, the impact on rural Newfoundland and Labrador has been particularly devastating. Rural areas such as the Northern Peninsula, the South Coast, and Notre Dame Bay have fared the worst.⁷ The general tendency of many young people to leave, especially those with post-secondary education, combined with declining birth rates and the devastating effects of the collapse of the groundfish fisheries, with no recovery in sight, has depopulated many rural areas of almost their entire younger generations. Many rural municipalities, especially those that have lost both their economic bases and their youth, have suffered to the point that they can barely provide minimal levels of service or pay their debts. The loss of people from rural communities makes it more costly, on a per capita basis, for the provincial government to provide adequate health, educational and other services in those communities.

The people of Newfoundland and Labrador spoke strongly to this challenge in the Commission's public consultations. Youth in all areas of the province, including major urban centres such as St. John's, spoke of the lack of job opportunities and their need to fulfill their ambitions in life by moving to other parts of Canada or the world. Women spoke of the increasing burdens they carry as needs for social support increase, while the availability of social supports decreases. Men and women spoke openly of the second wave of out-migration, when they would follow their children and grandchildren to wherever they might be living. Young adults spoke of the strong personal desire to stay and the strong economic forces that were pushing them to leave. Newfoundlanders and Labradorians in Fort McMurray, Alberta, home to many expatriates, spoke strongly of the desire to return, but only if they could earn similar incomes. Young professionals in Toronto spoke of their plans to return, but only if they could make a difference here.

Policies, Programs and Population Shifts

Since Confederation, the federal and provincial governments have developed a myriad of approaches, policies and programs to reallocate population. Some initiatives have involved extensive (and expensive) cost-shared agreements between the provincial and the federal governments, while others have been developed and delivered by one government or the other.

The idea of implementing policy designed to shift population from one rural area to another with better facilities, or to urban centres, dates back to 1953. From 1954 to 1965, the provincial government's Centralization Program provided subsidies to households in smaller communities to relocate en masse to other communities. In all, 115 communities were abandoned under the Centralization Program, with 7,500 people relocated to other communities. In 1965, a more aggressive policy, the Resettlement Program, was put in place. It was a cost-shared program with the federal government. Unlike the Centralization Program, the Resettlement Program did not require the unanimous consent of all households in a community. In fact, there was implicit, and sometimes explicit, pressure from provincial authorities for communities to agree to be resettled. More than 200 communities were abandoned under Resettlement and approximately 6 per cent of the province's population relocated.⁸ Since many people were forced to move, and because

some of the relocations caused economic hardship or were to places not of the people's choosing, the Resettlement Program, which ended in 1975, is remembered with bitterness in this province.

Due to the backlash against resettlement and, more probably, because of the extension of the offshore fisheries jurisdiction to 200 miles, the provincial government reoriented provincial policy toward rural Newfoundland and Labrador in the late 1970s and 1980s. During this period, unemployment insurance benefits provided incentives for people to seek employment in the seasonal fishing industry through harvesting and processing. More fish plants were built or expanded and fishery development initiatives undertaken, often with substantial public subsidies. More people entered the fisheries and became dependent on a fishery that eventually could not continue to support them.

There are those who have suggested that Newfoundland and Labrador had too many people relative to its economic base – an implicit support for policies that encouraged people to move out of the province.⁹ For example, the economist Parzival Copes suggested that resettlement from isolated fishing outports was just a first step in a process leading ultimately to out-migration.¹⁰ The Economic Council of Canada, in its 1980 study of the provincial economy, saw no basis for such a policy, pointing to Iceland's success in achieving prosperity despite similar challenges. The study also cited Japan's economic success despite its lack of natural resources. Nor did the Economic Council of Canada see out-migration as a solution, focusing instead on a "from bays to peninsulas" strategy.

The Council observed that, with the completion of the Trans-Canada Highway and with the road connections of many smaller outports on peninsulas to urban centres along the highway, there would be scope to concentrate economic activities. Workers and consumers in connected outports could commute. In this way, the Council suggested, businesses could increase the rate of utilization of their capital equipment and increase productivity. Resource-based businesses would generally have to remain close to the resources, but most businesses would gain. Similarly, provision of social services could be more efficient if they were located in urban settings within commuting distance of outports. The Economic Council also encouraged fisheries policies oriented toward limiting entry and augmenting economic gains.¹¹ The provincial government of the time did not support the main thrust of these recommendations, but rejected what it saw as resettlement in disguise and the Council's overly economic approach to the fisheries. Instead, government supported rural renewal, based on strong support for the inshore fishery.

A Search for Solutions

In a further search for solutions of its own, the provincial government in 1983 appointed the Royal Commission on Employment and Unemployment, chaired by Memorial University of Newfoundland sociologist Douglas House. The Commission report, released in 1986, stated that there was untapped potential in rural areas. It presented a range of recommendations aimed at realizing that potential through community development and local entrepreneurship. The Commission attempted to strike a balance between sectors and between urban and rural areas; it also suggested that reliance on unemployment insurance had become problematic, creating a syndrome of dependency. The Commission argued for a different type of federal income-support program, which would change incentives inherent in the unemployment insurance program. That proposed replacement program was never implemented.

In 1989, the newly elected Liberal government under Premier Clyde Wells appointed Dr. House to lead an Economic Recovery Commission (ERC).¹² That group released a strategic economic plan, *Change and Continuity: A Strategic Economic Plan for Newfoundland and Labrador*, in 1992. The provincial government disbanded that commission in 1996, but not before substantial changes had been introduced. The ERC initiated two chief instruments. First, Enterprise Newfoundland and Labrador took on the roles of a former provincial development corporation, both to consolidate under one agency all services to small business and to decentralize those services to better serve rural clients. Second, the Enterprise Network was created to provide basic support for rural development communications using the Internet.

Much of what was achieved by the ERC came about through the close cooperation and joint funding of the federal government, in particular the Atlantic Canada Opportunities Agency, through its St. John's regional operation.

In 1994, a joint federal/provincial Task Force on Community Economic Development was appointed to work on a model for community-based partnerships. This task force released the report *Community Matters: The New Regional Economic Development*. It concluded that local people themselves should play the lead role in their region's own economic development, with government playing a supportive role. The province was divided into 20 economic zones, with a regional economic development board for each zone. These zonal boards remain in place today. They are community-based volunteer boards consisting of representatives from municipalities, business, labour, community development groups, education and training institutions, as well as other interests. The task force report also led, significantly, to the federal/provincial Strategic Regional Diversification Agreement, which spent \$36.8 million over five years to support the new zone structure.

In March 2001, the report *The Renewal Strategy for Jobs and Growth* was released by the provincial government. It was intended to provide guidance for continued economic growth, with an emphasis on (i) capturing strategic growth opportunities in traditional industries such as fisheries, in maturing industries such as tourism, and in emerging industries such as information technology; (ii) creating the right environment for economic development; (iii) investing in education, training and youth; (iv) adopting new partnerships for collaboration and cooperation; and (v) building stronger communities and stronger regions within the province. The extent to which the strategy is succeeding has yet to be determined. It has been suggested that the provincial government continues to place emphasis on two strategies to revive rural Newfoundland and Labrador. The first is that all departments of government consider rural renewal as part of their mandates. The second is the creation of a positive and stimulative business climate in which the private sector will generate considerable wealth and employment.¹³

In summary, the approaches taken to rural development and the rural sustainability issue have differed dramatically over the last 54 years. Initially, government policy stressed centralization and resettlement, because it saw a weakened inshore fishery and more promise in industrial development. That approach was abandoned by the 1970s in favour of rural renewal, based mainly on the fisheries revival. Yet government also drew upon efforts to diversify the rural economy, largely around small business.

The Commission, in its travels, saw impressive evidence of existing rural industries. There is a strong base of tourism business, including eco-tourism, the primary and secondary processing of seafood, the production of wine and other products from wild berries, the manufacturing of windows, cabinets and furniture, the manufacturing of industrial gloves and boots, the quarrying and polishing of dimension stone, the manufacturing of education software, the production of fibreglass boats, and the provision of aerospace services, among others. It can be argued, therefore, that the potential does exist for the creation of new businesses in rural areas.

The tremendous progress of these achievements is nonetheless overshadowed by two major realities. First, the mainstay of the rural economy has remained the fishing industry, which has been in serious decline for over a decade. Second, much of the rural economy has relied too much on employment insurance. Therefore, while many new jobs have been created in a myriad of new businesses and sectors in the past two decades, there simply have not been enough to counterbalance the loss of jobs in the fishery since the cod moratorium of 1992 and to prevent out-migration and economic decline.

The Challenge of Rural Sustainability

Whatever else, the challenge of rural sustainability is a national, indeed, an international, issue, and in that sense is not unique to Newfoundland and Labrador. Globalization, urbanization and out-migration

are challenges shared by rural areas throughout Canada. The situation in Newfoundland and Labrador has its unique characteristics because it has been driven by the loss of the fishery in the last decade and by significant out-migration.

The Commission believes that debating rural challenges and realities, openly and truthfully, is a first step in dealing with rural sustainability. Government cannot stop people from getting older, cannot stop rural youth from seeking meaningful opportunities in urban environments, cannot prevent parents from following their children and grandchildren to urban areas, either in their own province or throughout the rest of Canada, and cannot raise expectations that modern services in all areas of rural Newfoundland and Labrador, regardless of their economic base or population decline, can be reasonably provided by a fiscally challenged treasury.

Not every community can have a manufacturing facility for industrial gloves or industrial boots, and there are only so many sawmills and ship yards that can be economically viable. Moreover, anyone interested in establishing a new industry or small manufacturing operation has built-in incentives to locate in areas such as the northeast Avalon, closer to the modern services provided by large health care centres, schools, airports, the university and the College of the North Atlantic, and major shopping malls. In other words, urban areas provide people with an opportunity to fulfil their urban expectations while living in rural settings. This is a strength which should not be ignored; indeed, it should be embraced, as the struggle over rural out-migration continues. The province is so much better when the people who leave rural Newfoundland and Labrador take advantage of opportunities on the northeast Avalon or Corner Brook or Gander or Grand Falls, rather than move outside the province.

Throughout the Commission's work, many people spoke of the benefit for this province of emulating the successes of our North Atlantic neighbors. While there are important lessons to be learned, it is clear that the configuration of a society such as Iceland or Ireland is a result of numerous factors deeply embedded in their past and culture. What works for one does not necessarily guarantee success in another.¹⁴ Each is a product of a specialized history and culture reflecting the subtle interplay of internal and external processes. Iceland, for example, has experienced substantial internal migration to the larger urban areas without conscious policy direction. The result is a fishery that has a decidedly urban presence. This concentration has been largely driven by government policy supporting efficiency, high productivity and economies of scale, even if a result was greater urban growth and concentration.

Much potentially helpful research is underway on the rural society. The Commission in the course of its work has become aware of at least three substantial research projects underway in rural Newfoundland and Labrador. The project Coasts Under Stress is conducting an integrated analysis of the long- and short-term impacts of socio-environmental restructuring on the health of people, their communities and the environment. The Natural Resource Depletion and Health Project is studying how the health of people in coastal communities (Bonavista, Fogo, Arnold's Cove and Trepassey) has been affected by the fishery crisis since the end of The Atlantic Groundfish Strategy (TAGS). The New Rural Economy project is a five-year research and education project underway in 32 communities across Canada, including Winterton and Twillingate in this province. The research gathered will be analyzed and shared with rural people, policy analysts, researchers, the business community and government to assist in identifying and addressing important rural issues.¹⁵ To support the longer term research needed and to ensure such dialogue is well informed, the Commission endorses the establishment of a Centre for Regional and Rural Development Studies at Memorial University of Newfoundland. The objective of this Centre would be the ongoing development and consolidation of the research and education base needed to analyze the complex matters related to the survival of rural Newfoundland and Labrador.

Newfoundland and Labrador is not alone in this struggle to address its rural issues. All rural areas across this country are asking the same questions and facing the same overwhelming lack of answers. At the moment, rural development appears to be low on Ottawa's priority list. The most recent attempt by the

federal government to support rural development is the Canadian Rural Partnership program which encourages federal departments and agencies to scrutinize their programs and policies through what they call the rural lens. The challenge for this process is that national programs are not always sensitive to regional needs and circumstances, even though rural development needs differ significantly from province to province.

How the provincial government eventually deals with the challenges of rural sustainability and, indeed, how Canada eventually deals with them on a country-wide basis will speak clearly to what this country values and how it envisions its future.

Insights Into a Rural Strategy

Everywhere it travelled, the Commission was made aware of both the importance and the complexity of the issues related to the survival and sustainability of rural Newfoundland and Labrador. The loss of so many people from rural areas, the aging of the population remaining in many rural communities, the limited possibilities for economic development extensive enough to replace the jobs lost in the fishery, the realization of the new economy's focus on urban-based employment, and the move away from labour-intensive to technology-intensive industries, even those related to natural resources, are among the difficult factors to be considered in addressing the future of our rural society.

Rural sustainability emerged as an overpowering issue in all the Commission's deliberations, whether in rural or urban areas of the province, and in its hearings outside the province. While there is a stark realization that there are no obvious breakthrough solutions, there is also a very deep sense that the issue must be addressed. Although the Commission did not have the time to do the kind of in-depth exploration and consensus-building that would be required to appropriately address the matter, it did recognize that a failure at least to explore the rural situation would be a failure to consider a fundamental component of the renewal and strengthening of this province in Canada. Even though this Report has few answers, a number of insights can be identified:

1. Government has not articulated the ongoing consequences for rural residents as their communities shrink, the population ages and young people decide to leave. Neither the federal government nor the provincial government has articulated a rural strategy with clear goals and achievable outcomes.
2. All who met with or submitted reports to the Commission had difficulty in formulating the essence of the rural question and were more comfortable in addressing specific issues (e.g., out-migration, employment, education, community development) rather than the larger situation. Any efforts to openly address this question are complicated by memories of the 1960s resettlement program, by fears that even discussing the issue will signal the end of rural communities, or by mistrust that decisions will be imposed on people in rural areas.
3. The rural situation has very significant implications for public policies and expenditures. Yet there is a propensity for allowing the situation to unfold on the basis that the issues, somehow or other, will resolve themselves.
4. Any significant recovery in the groundfish fishery is more than a decade away, and it would be unrealistic to hold out such recovery as the ultimate solution to economic opportunities. Crab and shrimp fishing, sealing, forestry, small manufacturing, sawmilling, boat building, tourism and information technology, to name a few, all have great potential in allowing us to take the maximum possible advantage of rural settings and rural resources in order to sustain as much of rural Newfoundland and Labrador as is economically feasible. Even with that potential realized,

however, no one has the answers to where all of the jobs are going to come from to replace the number of jobs lost in the fishery.

5. In the knowledge-based and high-technology economy, most jobs are being created in urban areas. Urban job opportunities in close proximity to rural communities, therefore, must be seen as part of the solution. All new economic activity, no matter where created, is essential to a strong future in Newfoundland and Labrador. It would be a mistake if we did not celebrate all the economic activity that keeps people in the province and keeps the economy moving. It would be a further mistake if government attempted to determine where such economic activity should take place rather than to embrace economic opportunities wherever they occur. Commuting from rural communities to work in urban centres is one of the key opportunities for rural youth. It would be important, therefore, as the provincial government articulates a rural strategy that it view the province as a total economic entity.
6. In developing a rural strategy, the provincial government will need to go beyond a focus on jobs alone to explore more fundamental questions about the kinds of possible futures which need to be considered. These futures could include the pursuit of (i) an urban agenda, (ii) a regional agenda, or (iii) a rural agenda. Each of these options presents its own difficulties and comes with its own costs. The pursuit of an urban agenda would involve developing a diversified economy based on five or six centres with the best economic potential. New services and highway development would be linked to these centres. The pursuit of a regional agenda would involve developing in the order of twenty to twenty-five regional centres around the province to serve as hubs for smaller surrounding communities. The hubs would be chosen for their business potential and their ability to connect with nearby small communities. The pursuit of a rural agenda would involve the provincial government undertaking to deliver health, education and other government services in most rural areas, with government agencies wherever possible being moved outside of St. John's to rural areas.
7. No one likes to wade into problems that appear to have so few solutions. One of the options, therefore, is simply to let the situation unfold. But this entails the greatest danger of all – that, in ten or fifteen years, the people of Newfoundland and Labrador will lament that a realistic strategy aimed at sustaining as much of rural Newfoundland and Labrador as possible was not pursued in an open and honest manner for the benefit of future generations. As Canadians and as Newfoundlanders and Labradorians, we will then have ignored the threat to our rural culture and tradition, and we will have done so at our peril.

These insights do not resolve the struggle that Newfoundland and Labrador is facing today. They do provide a basis for a clearer focusing of the issue and for the beginning of a public dialogue involving citizens in a matter that is so critical to our future. Building on these first steps, the provincial government must develop a rural strategy for this province. While the provincial government must take the leadership, it is imperative that the Government of Canada be included in this endeavor.

Conclusions

The Commission believes that the time has come for the people of the province to become engaged in an informed, frank and honest public dialogue on the future of rural Newfoundland and Labrador and for the provincial government to use this dialogue as the first step in the development of a rural strategy. The provincial government must place priority on initiating informed public dialogue on future options, changing lifestyles and settlement patterns, and the public policy implications of meeting urban expectations in rural areas. There are many possible models of citizen engagement from which the government can choose as it initiates this dialogue. Its own processes related to the *Strategic Social Plan* and *Jobs and Growth* as well as the Commission's *Dialogues* are examples of models which have been

effectively used in this province. Building from the public dialogue, the provincial government must then begin to formulate a strategy related to rural Newfoundland and Labrador.

It is clear from the Commission's deliberations that people are seeking a new way of thinking about this issue; that there is a realization that we must find a healthy balance of rural sustainability with strengthened urban growth centres; that the province and its people are evolving in a new way of relating between the "bays and towns"; and that the time for such dialogue is now. It is time to move the discussion from the kitchens, wharves and boardrooms to become an integral part of public discussion and policy-making in this province. Such dialogue will be healthy and will help forge a new vision and strategy for the future of rural Newfoundland and Labrador.

"As for our young people, the problem is that no one is articulating the dream."

Excerpt from the Public Consultations

"Our goal is to change the relationship with Ottawa so that it allows Newfoundland and Labrador to reap the benefits of our most talented and passionate young persons today- a change that will reverse the trend of out-migration."

Excerpt from the Public Consultations

"...the heart and soul of Newfoundland was created and nurtured in the coves and inlets of this island. I do not mean to romanticize the spirit of Newfoundland. My intention is to ask you to think about the importance and beauty of the rural character of Newfoundland."

Excerpt from the Public Consultations

"If St. John's and the modern service centres have become Newfoundland and Labrador's economic engine since Confederation, outport communities remain its soul. The various expressions of Newfoundland culture are rooted there and in aboriginal communities, and we must reconnect with that culture, rekindle that sense of place and reawaken that identity if we are to prosper in the future."

Excerpt from the Public Consultations





Social Inclusion in Newfoundland and Labrador

Inclusion, collaboration, accommodation and transparency are principles underlying the envisioned partnership between the provincial government and the federal government, but they must also guide relationships within this province. Putting these principles into practice will ensure that all Newfoundlanders and Labradorians have a respected and equal place, both in the province and among other Canadians. Within this context and building on the assumption that economic development and social development are interdependent, this chapter explores the challenges to social inclusion and social cohesion in our province. Together with the assessment of the financial position outlined in Chapter 6, this reflection is necessary if the Commission is to understand the strengths and weaknesses of the province and its readiness to be a partner on the pathway to renewal.

There is increasing evidence to show that social cohesion and inclusion are critical in order for societies to prosper economically, for development to be sustainable, and for all citizens to enjoy a basic level of well-being. All of these elements are essential components of any plan to renew and strengthen our place in Canada.¹ In this context, social cohesion involves:

... building shared values and communities of interpretation, reducing disparities in wealth and income, and generally enabling people to have a sense that they are engaged in a common enterprise, facing shared challenges, and that they are members of the same community.²

Social inclusion repeats the theme of equality as it requires “... the social commitment and investments necessary to ensure that socially and economically vulnerable people are within reach of our common aspirations, common life and its common wealth.”³

The values underlying these concepts are reflected in the provincial government’s *People, Partners and Prosperity: A Strategic Social Plan for Newfoundland and Labrador*. This document provides a framework incorporating a long-term approach addressing social and economic development on a community and regional basis. The Plan has a vision for “... healthy, educated, distinctive, self-reliant and prosperous people living in vibrant, supportive communities within sustainable regions.”⁴

As part of the Plan, the government has developed a social audit, designed to measure strengths and weaknesses for the purpose of making necessary interventions.⁵ These measures examine a variety of social and economic indicators such as health, education, employment and income and, where possible, delineate the differences between men and women, age, regional differences and make comparisons with the rest of Canada. It is not the mandate or intention of the Commission to repeat the work of this Strategic Plan.

However, in meetings throughout the province, in written submissions and through the research program, the Commission was made aware of two realities that must be addressed if we are to strengthen social cohesion and endorse social inclusion in the province: (i) among specific groups (women, Aboriginal

Dear Natash,

We have a lot of work to do in our community – our community is dying... Let us work together – we will be able to help our children and our grandchildren. We will be the ones to show them something beautiful about our lifestyle, our traditions – something beautiful that we can leave for them when we are gone.

Elizabeth Penashue
Sheshatshiu, Labrador



Social Inclusion in Newfoundland and Labrador

peoples, other minority groups and Labradorians) there is a feeling of not having found “a place in our place,” and (ii) Newfoundlanders and Labradorians sometimes perceive that they are misunderstood or stereotyped in ways that prevent their being fully respected Canadians within their own country.

Equality and Inclusion for Women

Women in the province made it clear to the Commission that their perspectives and experiences have not been taken sufficiently into account whether one looks at the fishery, the new economy, out-migration, volunteerism or decision-making processes.

A major review of the fishery found that one of its present shortcomings is the inadequate voice of women in the management of the fishery and in the fishing industry generally.⁶ Little recognition was given to the historical role of women in the fishery either in the move to more formal professional credentials for harvesters, or in the adjustment program that was based on “historical attachment.” Although more than 30 per cent of the people who lost their jobs after the moratorium were women, they fared poorly, both in the support and retraining programs that did not take into account the differences between women’s and men’s experiences in the collapse of the fishery.⁷ The retraining served to further entrench women in sectors of the economy where low pay and few opportunities are standard. All the evidence suggests, then, that in building a vision for the fishery of the future, women must be given a prominent role.⁸

In the attempts to restructure the provincial economy, women remain disadvantaged. While more women now participate in the labour market, they are more likely to work part-time, and labour in lower-paid, female-dominated sectors.⁹ The divide between women and men related to average earnings remains. In 1960, women in Canada earned an average of 54.2 per cent of men’s earnings, while in Newfoundland and Labrador that number was 51.3 per cent. The numbers have improved slightly over the past forty years: women in Canada earn 63.6 per cent while the average in Newfoundland and Labrador is 62.7 per cent. The 1996 changes to the employment insurance regulations had a disproportionate impact on part-time workers, the majority of whom are women.¹⁰ Accessing training opportunities has been especially difficult for women because training funds are tied to employment insurance eligibility, and many women in rural areas do not have that eligibility. As a result, too often they cannot afford to finance the career education available at colleges and universities. The Commission was told repeatedly about this inequity.

Negative stereotypes about women’s skills and roles continue to create barriers for women in entering the labour market, accessing training, and in availing of small business start-up funds. In the tourism industry, women are clustered in low-paying, seasonal work. Few women have gained access to higher paying jobs in technology and resource-based industries (e.g., in the construction phase of the Hibernia platform, women represented 4 per cent of the workforce).¹¹ Even in this new economy, women face the

absence of meaningful employment equity and family-friendly policies in the workplace. Removal of barriers to women's labour force participation and implementation of proactive workplace policies will allow women to bring the full benefit of their energy, knowledge and skills to our provincial economy.

The population decline in rural areas, out-migration and the aging of the population have had a disproportionate impact on women. Women are the primary caregivers of children and elderly relatives – work which is usually unpaid. Women are the ones left to fill the gaps as family support networks diminish and government services are withdrawn from small communities. Women make up a large proportion of the elderly population in small rural areas, and these elderly women are less likely to have economic security.

In many of our meetings, in one of our roundtables, and specifically in a study reported from the Bay St. George Women's Centre, women in rural areas reported that they are feeling a great deal of volunteer burnout. Many were already working as volunteers on several committees and felt they were being stretched to capacity; they feared the loss of yet more of their local committees. Some felt that government had "downloaded" more work on community networks and organizations than they could handle; this left people feeling tired and overburdened. This work often involves the provision of essential social programs, such as the staffing of women's centres which offer support for women who are victims of violence. The study reported that much of the emotional support and nurture roles had fallen on the women in the communities: "Women are feeling as if they can't do it all, volunteer, take care of family, sick relatives and work. Women of small communities are going through high amounts of stress. It is obvious that some are feeling burnout while others don't want to bother anymore."¹² Too often, these women felt that they were not only losing volunteers to out-migration, but that people had stopped caring.

While the economic impact of out-migration is devastating, the social challenges in sustaining family and community life as the population decreases, especially in rural areas, are becoming overwhelming. In our struggle to address these challenges, it is critical that we understand the differing impacts on women and men, and that we build on the differing insights of both genders in finding an effective response.

The continuing barriers to the inclusion of women in decision-making in the province mean that women's experiences are not being considered when policies are being developed, that women's knowledge and skills are absent in assessing complex issues relating to the social and economic survival of the people of the province, and that one-half of the population are too often excluded when steps are taken to shape a new vision for our future. Among such barriers are the lack of accessible and affordable daycare, discriminatory attitudes about the knowledge and skills women possess, and a failure to understand the different needs, roles, life experiences and economic and social circumstances facing women and men. The Status of Women report noted, "During the focus meetings many women described barriers to getting involved in leadership roles of the community. Women felt their traditional roles were not valued, they felt as if they were non-productive citizens. Because they felt undervalued, women could not see themselves accepted in any leadership roles."¹³

In the assessment of women in leadership, it is worth noting that, in all of the federal elections in this province since 1949, out of the 373 candidates only 30 have been women.¹⁴ In the last federal election (2000), only three of the 32 candidates were women, two from the New Democratic Party and one Independent. Only two women have ever been elected to the House of Commons from this province.

Positive steps have been taken by the provincial government through the maintenance of the Women's Policy Office and the implementation of the policy on gender inclusive analysis for all policy and program development in government. However, if women are to see themselves as valued, respected and included citizens of the province, stronger policies must be implemented to facilitate the inclusion of women in decision-making, improve women's access to training and education, improve gender equality

in the workplace, encourage women as entrepreneurs and support women as they face daunting odds in the face of overwhelming out-migration. These issues are not specific to our province. Therefore, the Commission supports those who are calling on the Government of Canada to revisit the 1970 *Report of the Royal Commission on the Status of Women* in order to pursue the improvements needed to ensure the full and equal participation of women in social, economic and political life in Canada.

Aboriginal Peoples, Identity and Governance

The Commission has been repeatedly told that Canada, Newfoundland and Labrador and Aboriginal communities all stand to gain if a renewed relationship of respect and dignity can be achieved. In its meetings with the Aboriginal men and women in the province, the Commission heard a consistent and familiar theme, stated in this way by Labrador Inuit President William Barbour in Nain: “... the essence of building a common future together requires dignity and respect. If Canada cannot treat Québec, Newfoundland and its Aboriginal peoples with dignity and respect, Canada cannot hold together as a nation.”¹⁵

This theme of respect and dignity heard all across the province is one the Commission shares with the Aboriginal community. These words are a signal of how renewed relationships should work, whether they are between the provincial and federal governments or between governments and Aboriginal peoples.

The Commission spoke to members of Aboriginal communities to get a sense of the issues facing them, to better understand the importance of the land to their spirit and sense of identity, and to learn from their experiences in dealing with governments on federal government recognition and relationship matters. If the Aboriginal community is indeed a microcosm of the province in that it is unique and confident in its culture, yet weak in its economy and image, and sees itself as struggling to gain the respect and dignity of governments, how does that speak to the province’s efforts to plan a pathway to renewal?

The first lesson the Commission learned, as it began its community consultation process by visiting the Conne River Reserve, is the value in having a strong self-image. The community worked very hard at successfully convincing governments of their Aboriginal status. And while they would admit it is only the start of a challenging process, the other Aboriginal communities in this province look to them as an example of what is achievable.

There are other Mi’kmaq groups on the Island. The Federation of Newfoundland Indians emphasized to the Commission the need for access to federal programs and services. The Commission is aware that the federal government has received but not yet responded to their commissioned report from former cabinet minister, the Honourable Marc Lalonde, concerning whether and how the members of the Federation of Newfoundland Indians can gain access to federal programs and services. The Commission encourages the federal government to give this Report the immediate and urgent attention that is needed.

The Chiefs of the Sip’kop and Ktamukuk Bands made it abundantly clear to the Commission that their bands are far from satisfied with the state of discussions and progress with the federal and provincial governments, and have initiated legal action to confirm their status.

The Commission heard from many Aboriginal leaders and through its own and other research that Aboriginal people were omitted from the Terms of Union. The negotiations under the Terms of Union resulted in the federal government subsequently making an agreement that the new province would administer some of its programs; this resulted in the federal government effectively failing to carry out the constitutional and fiduciary responsibilities that it had accepted for Aboriginal people in other parts of Canada.¹⁶

Inuit leaders have told the Commission that formal recognition from governments is painfully slow. The Inuit in Labrador described the awakening of the spirit of self-image that captured so many other people,

including Newfoundlanders, in the 1970s. There was a pan-Aboriginal reaction to federal government policies, and in that time period Inuit leaders began to take steps to address what they felt were threats to their identity. Although the changes since the 1970s have come with many sacrifices for individuals and communities, today the Inuit can proudly assert that progress is being made toward negotiating self-governance and concluding a comprehensive land claims agreement with the two levels of government.

The Innu Nation, having recently achieved status under the Indian Act, is trying to advance its land claim and is working with the two levels of government to establish reserves at Sheshatshiu and Natuashish. The new community of Natuashish presents an opportunity for the Mushuau Innu to deal with the tremendous social challenges they face and to build a healthier and more prosperous life. The Innu leader told the Commission that reserve creation and eventual resolution of the Innu land claim are vital components of the Innu Healing Strategy. While progress has been made, the federal government must continue to work with the Innu to help them through the healing process and build the capacity to run their own affairs.

The Labrador Métis (descendants of contact-period European men and Inuit women) do not have access to the full range of programs and services available to many other peoples of Aboriginal descent. They have submitted land claims documentation with the federal government, but, as of yet, have been unsuccessful in having it accepted for negotiation. The Labrador Métis Nation President told the Commission that these two factors make the membership feel they are being treated unfairly when compared to their neighbours, the members of the Labrador Inuit Association and Innu Nation. The federal government must bring clarity to questions surrounding the status of the Labrador Métis Nation and the acceptability of their land claims application.

Women in Aboriginal communities told the Commission that the voices and experiences of Aboriginal women are not being given adequate consideration as land claims and economic development are being addressed. They spoke about the negative social impact of events such as the forced settlement of the Innu in the 1950s and the forced resettlement of the Inuit from Hebron and Nutak during the same time period. They expressed concerns that current approaches are not addressing their desire to protect their connections to the land, their family structures, their values and their culture.

The Commission has realized from its meetings that the issues are complex, and no single solution or template works for everyone. As Maura Hanrahan states in her paper, confirming what the Commission has learned from its discussions with Aboriginal peoples and their representatives, “Government-Aboriginal relations in Canada are a patchwork quilt; there are many kinds of arrangements ...”¹⁷ In recognizing this complexity, the Commission is of the view that the federal government must place greater emphasis on bringing clarity to the rights and entitlements of the Aboriginal peoples in this province, with priority being given to: (i) concluding land claims negotiations with the Inuit and Innu, and the creation of reserves at Natuashish and Sheshatshiu, (ii) finding a way to enable all Mi’kmaq and the Labrador Métis Nation to access federal Aboriginal programs and services, and (iii) making a final decision on the Labrador Métis’ land claims application.

The Aboriginal peoples in this province have waited many decades for government action. Progress has been made, but it is slow in coming and is not at the same rate for all groups. The federal government must realize the sense of urgency which accompanies the concerns expressed and, with the support of the provincial government, must find ways to work more effectively with the Aboriginal leadership to ensure a strengthened future for all Aboriginal people in the province.

Other Minority Groups

Ensuring that people know that they are members of the same community and are engaged in a common enterprise is especially challenging for members of minority groups in a province which has not had a

history of broad diversity of culture, religion and language. A commitment to enhancing social inclusion must include an approach which addresses this challenge.

Many of the province's Francophone population are descended from Newfoundland's earliest French settlers on the west coast of the province. More recent French-speaking immigrants have come to St. John's, western Labrador and Happy Valley-Goose Bay. Concerns have been raised about the loss of the French language, the assimilation of the culture and the disregard for the historical tradition. However, the rebirth of interest in the culture and heritage which began in the 1960s has resulted in more federal funding for the promotion of French identity and language, the availability of French media such as *Le Gaboteur*, the establishment of a separate Francophone school board, and a strengthened appreciation of our province's French heritage. Continued support for this development is an important step in achieving the goal of social inclusion.

The province has now become home to immigrants from all over the world, including countries not traditionally recognized as our places of origin. Our culture and economy have benefitted from the participation of people from Asian, Africa, Latin America, the Mediterranean and the former Eastern Bloc. It is important that the people of the province become more aware of the presence and contributions of these new citizens, that we find ways to celebrate their presence and that we work together to facilitate the integration of new Canadians into our society. The continued work of the Association for New Canadians and the opening of the English as a Second Language Adult Training Centre and Employment Resource Centre are positive steps in this direction. The continued partnership of the Association with the federal and provincial governments will be a critical element in ensuring that our province grows in appreciation of the strengths that flow from a multicultural and diverse society.

As we become more sensitive to the value of diversity and more open to its presence in Newfoundland and Labrador, we will also become a more welcoming and supportive society for those who have too often been marginalized or deemed "different". Differences in race, colour, ethnic origin, sexual orientation, physical ability, mental ability, religion and age must come to be seen as sources of strength in our province. This can only result in a province which gives our traditional values of community, generosity and hospitality a new expression in this twenty-first century.

Labrador and Newfoundland

Through its public consultation process, the Commission came to understand that an undercurrent of alienation continues to exist in Labrador.¹⁸ Given the enormity of the challenges they must face together, Newfoundlanders and Labradorians cannot afford to be divided, but must turn greater attention to strengthening their relationship.

The first step is the building of a greater level of understanding in the rest of the province for Labrador's significant contributions and ongoing frustrations. Polling conducted for the Commission suggests that such an understanding does not presently exist.¹⁹ While Labradorians and the provincial government must lead in this area, this Report offers an opportunity for the Commission to assist, albeit in a small way.

Labradorians sense that the provincial government continues to primarily view Labrador through the lens of what Labrador can do for Newfoundland or the provincial treasury. This frustration is not limited to matters concerning the fairness of local benefits from the development of Labrador resources. It is a feeling that the provincial government sees a future *because* of Labrador as opposed to one *in* Labrador. Labradorians appreciate that Labrador will play an increasingly important role in the economic and fiscal health of this province. They do not resent or resist this role. However, what they want to see is a greater commitment on the part of the provincial government to facilitate growth in Labrador for the benefit of the province as a whole. Timely completion of the Trans-Labrador Highway and the utilization of cheap Labrador hydroelectric power to facilitate new industrial development in Labrador are just two examples

of the investments many Labradorians want to see the provincial government make in this province's future.

Labradorians also believe that they do not get the respect they deserve from the provincial government, and that their priorities are often ignored. This is particularly frustrating because of the significant contributions Labrador has made and will make to the province. The message "Labrador feels as ignored by the government in St. John's as Newfoundland and Labrador feels ignored by the government in Ottawa" was conveyed to the Commission by many Labradorians. Progress has been made to better include Labrador's voice and perspectives in decision making. There is a separate Department for Labrador and Aboriginal Affairs, which is headquartered in Happy Valley-Goose Bay. Labrador, with only 5 per cent of the population, presently has two representatives in the provincial cabinet. In the view of the Commission, the Department of Labrador and Aboriginal Affairs must continue to work toward ensuring meaningful and ongoing consultation between Labradorians and relevant federal and provincial departments and agencies on key issues of concern. For this to work, the commitment to greater consultation must be government-wide and not just with the Department of Labrador and Aboriginal Affairs.

One issue that is of ongoing concern is the future of military air training at Goose Bay. Low-level flight training drives the local economy and makes an enormous contribution to provincial and government revenues. The future of air training in Labrador, however, is clearly uncertain. The flights and presence of the allies who train at Goose Bay is in decline. There is an urgent need for the federal government to work with Labradorians and the provincial government to position, enhance and market Goose Bay's air training strengths. Failure to direct immediate and appropriate attention to the future of Goose Bay could be devastating. The Commission appreciates that efforts are already underway, but believes that efforts need to be significantly enhanced with strong leadership from the federal government. On this issue, and many others involving the use of the land, airspace and water in Labrador, governments must be mindful of the interests of Aboriginal peoples and of social and environmental matters.

The Commission believes that there is a growing respect for Labrador and Labradorians in the rest of the province, and that Labradorians sense a changing of attitude and approach toward their needs and aspirations. The frustration in Labrador centres mainly on the pace of that change. The challenge now, for the province as a whole, is to work to ensure that every citizen, whether they live in Labrador or on the Island, is treated with respect.

Newfoundlanders and Labradorians as Fully Respected Canadians

Throughout the Commission's work, there was a great affection expressed for Canada and a great pride about being Canadian. Newfoundlanders and Labradorians are fully cognizant of the enormous contribution that Canada has made to the well-being of their province since Confederation. Canadians have great affection for Newfoundland and Labrador. There exists a strong foundation of respect for the province and empathy for its place in Canada. Polling reveals a positive attitude toward Newfoundland and Labrador; Canadians feel that it is a vital part of the country and that the federal government does not give it the respect it deserves or the financial support to which it is entitled.²⁰

While Canadians hold these positive images of our province and its people, it is clear that Canadians do not know Newfoundland and Labrador very well:

Newfoundland's recognition factor in the rest of the world is quite low, and barely extends past the four topics of seals and codfish (both bad these days), oil (mostly good), and nature untamed (very good). This should not be regarded as an unmitigated failure – how high is the recognition factor for Manitoba or Maine? – but investment and tourism would both benefit greatly from an improvement in this area.²¹

Canadians are indeed familiar with outdated stereotypes and past realities. They are much less familiar with the contributions of the province to the Canadian federation.²² When asked “What is the greatest contribution of Newfoundland and Labrador to Canada?”, an alarming 34 per cent stated “Don’t know.” Not surprisingly, 26 per cent stated that the fishery was our greatest contribution to Canada.²³ The lack of familiarity that Canadians have with Newfoundland and Labrador is particularly striking on the economic front, where the province’s recent growth and diversification have gone largely unnoticed. The province’s economy is viewed largely as one dimensional (the fishery).²⁴

During the Commission’s work, many Newfoundlanders and Labradorians expressed concern about the misunderstanding of our province and its people. In the words of Ross Reid, “There is no doubt that if we as Canadians could see ourselves as others see us we would have a completely different attitude toward Canada and what it means to be Canadian; there is no doubt that if we as Canadians could see what it means to be a Newfoundlander and Labradorian we would have a completely different attitude.”²⁵

Of particular concern was the persistence of negative stereotypes. The Commission heard countless stories during its visits with young people in schools about the ignorance they faced as part of their cross-cultural experiences with other Canadians. Similar stories were heard from roundtable discussions such as the Expectations Roundtable where participants, who were young adults at the time of Confederation, spoke of enduring numerous acts of misunderstanding over their many years of meeting with other Canadians. Through the Commission’s public hearings, submissions and other interactions with the public, it was one of the subjects which compelled people to speak passionately about our place in Canada. As one participant stated, “The ignorance is not only expressed in Newfie jokes, the repetition of which consolidates an already dismal view of our people, but in the surprise often expressed that someone from Newfoundland is so educated, articulate, and not wanting to party all the time.”

It is true that Canadians are familiar with outdated stereotypes. But what is also clear is that those who *know* the province are least likely to believe that these stereotypes hold any truth. Those who know Newfoundland and Labrador will hold the most favourable view of the province.²⁶

So, while residents of Newfoundland and Labrador feel pride in being part of Canada, it is tempered by the consistent feeling that there is a lack of respect on the part of the federal government and other Canadians for our people, and for the contributions we have made to Canada. The poll showed that 84 per cent agree that the province is often ignored by the federal government, 42 per cent feel we are not treated with respect and 47 per cent say we are treated with “a little respect.”²⁷

Most worrisome for many is that this lack of understanding and level of ignorance go beyond the Canadian public to become imbedded in the business community and the federal bureaucracy. People from educational institutions, businesses and public servants, both past and present, stated that the negative attitude toward Newfoundland and Labrador is ingrained and difficult to overcome. Worse, many feel there is an overwhelming sentiment, frequently expressed openly in the national media, and quietly echoed by the civil service and the national business community, that Newfoundland and Labrador is a hopeless case.

But there are mixed signals. The Commission also heard from Canadians, and from Newfoundlanders and Labradorians, including those who have moved away, that the province has a strong, positive reputation:

Among English-Canadians, at least, Newfoundlanders have come to be seen as a slightly different breed of human beings who add interest and value to the Canadian mix. This has little to do with the tedious ‘stage Newfoundlander’ phenomenon; Newfie jokes notwithstanding, there is a clear perception among urban Canadians in particular that both the place and its people are in some sense special ... If your most important possession is your reputation, then

Newfoundlanders have not done badly over the past half-century – or at least we have done well at distracting attention from what we have done badly.²⁸

Further, it is suggested that we are misplacing our energies in addressing misinformed stereotyping: “Too much time ... is spent on these negative perspectives, and talking about them only reinforces the stereotypes ... accentuate the positive.”²⁹

We have strength in this place. We have a distinct culture that empowers us to communicate and build community. We will not dispel negative stereotypes with a massive public relations campaign. Rather, by ensuring we have a strong, confident society, based upon respect and equity for all, we can reshape and build an understanding with each other as Newfoundlanders and Labradorians and as Canadians. It is a renewed understanding and respect that will enable this province to truly pursue a new partnership with Canada. The Commission is confident that there is a foundation of respect and empathy with Canadians; the opportunity is to better educate ourselves and Canadians on the challenges and opportunities that face us.

Conclusions

The Commission has listened to the concerns expressed by women, Aboriginal peoples, members of other minority groups and Labradorians, and makes the following conclusions:

- Social and economic circumstances which have differing impact on men and women must be recognized and accommodated. Stronger policies must be implemented to facilitate the inclusion of women in decision-making, improve women’s access to training and education, improve gender equality in the workplace, encourage women as entrepreneurs and support women as they face incredible odds in the face of overwhelming out-migration. The Commission supports those who are calling on the Government of Canada to revisit the 1970 *Report of the Royal Commission on the Status of Women*, in order to pursue the improvements needed to ensure the full and equal participation of women in social, economic and political life in Canada.
- Aboriginal peoples must get the respect that can only come from the knowledge of belonging, recognition and legitimacy. For too much of this province’s time in Canada, the federal government has avoided its constitutional and fiduciary responsibilities to the Aboriginal peoples of Newfoundland and Labrador. The federal government must place greater emphasis on bringing clarity to the rights and entitlements of the Aboriginal peoples in this province; priority should be given to concluding land claims negotiations with the Inuit and Innu, creating reserves at Natuashish and Sheshatshiu, finding a way to enable all Mi’kmaq and the Labrador Métis Nation to access federal Aboriginal programs and services and making a final decision on the Labrador Métis’ land claims application.
- Members of other cultures must have the assurance that the diversity they bring is recognized and appreciated as strengthening the social fabric of this province. Only tangible recognitions and the wholehearted celebration of historically disenfranchised people can signal that everyone in this province recognizes that the strengths of this place are no longer primarily the property of traditional power groups.
- The undercurrent of alienation which exists in Labrador cannot be ignored or dismissed by the provincial government and Newfoundlanders. While progress is being made to bridge this divide, the Commission is of the view that government departments and agencies, with the assistance of the Department of Labrador and Aboriginal Affairs, must demonstrate a strong commitment to meaningful consultations with Labradorians on key issues. The Commission further recommends that attention be directed toward access to Labrador energy for domestic and commercial use in Labrador, timely completion of the Trans Labrador Highway, and the future of the Goose

Bay air base. On these issues, and many others involving the use of the land, airspace and water in Labrador, governments must include the interests of Aboriginal peoples and social and environmental matters.

- An integrated approach to social and economic development and strategic cooperation and collaboration among business, labour, the voluntary sector and government is vital. These groups must be meaningfully included in the deliberations and decision-making process concerning the economic future of this province.
- We must ensure that other Canadians understand Newfoundland and Labrador, its challenges and opportunities, and the important contribution it makes to Canada. They need to hear and understand *our* story to know who we are. Therefore, we ourselves must know our own story. Celebrating our culture and working to educate and inform Canadians of this distinct place are vitally important if we are to dispel stereotypes. All expatriate Newfoundlanders and Labradorians are key ambassadors for broadening the base of people who hear our story and recognize the common humanity it reinforces. An improved image is a measure of the pathway to renewal's success more than a component of it. The province's image will improve as its place in Canada improves.

Newfoundland and Labrador society must embrace a common purpose leading to respect in its workplaces, communities and political institutions, so that all groups know that their experiences are valued and their voices heard. That same sense of common purpose and respect must be reflected in Newfoundland and Labrador's place in Canada if the people of this province are to truly feel that, finally, they have found their place.

“Just as Canada may appear to be treating Newfoundland unfairly, so too Newfoundland treats its aboriginal communities in ways that seem unjust.”

Excerpt from the Public Consultations

“The Labrador house has often been divided into apartments, not rooms... each apartment has its own entrance way to get to the landlord who is never home. There are two landlords – one is in St. John's, one in Ottawa.”

Excerpt from the Public Consultations

“Respect for the languages and cultures of aboriginal people is essential to their survival.”

Excerpt from the Public Consultations

“Two parent families are now living the life of a single parent family as the men have gone away to work, therefore placing extra burdens on the women who are struggling with everyday issues with children, finding bits and pieces of employment. They are care-givers for the elderly with little family support in place to help them. As well, some families have both parents working away and the children are being cared for by other relatives. One can only imagine the effects this has on the family unit. Seniors are struggling on their own as many of their family members have migrated to other parts of the country.”

Excerpt from the Public Consultations

“When I said I was coming to NL, more than one person said “what did you do wrong?”. I wish they could experience what I have experienced ... the quality of life, emphasis on spirituality, the education system. We need to somehow raise our profile in the rest of Canada.”

Excerpt from the Public Consultations





Financial Position

The fiscal position of any province reflects its ability to provide reasonable services to its citizens within a reasonable tax regime while maintaining a reasonable credit standing. Long-term fiscal soundness, in a country like Canada, is a prerequisite to being able to maintain a relatively favourable competitive standing among provinces. The stronger the fiscal position of any province, the greater its ability to attract and retain people and business and in turn to generate economic activity through higher levels of public services and lower levels of personal and corporate taxation. In other words, one of the key measures of any province's prosperity and self-reliance and, therefore, of its position in Canada is its fiscal strength. In the case of Newfoundland and Labrador, its relatively weak fiscal position, characterized by high levels of both taxation and debt, speaks to the need to renew and strengthen its place in Canada.

Newfoundland and Labrador started out in Confederation with a balanced budget and a \$40 million (1949 dollars) accumulated cash surplus. Unfortunately, it also started well below national levels in terms of infrastructure, health services, education services and social services. It has been struggling to catch up ever since. While much has been accomplished, this process of catching up, even with substantial federal fiscal transfers, has been very costly to the province. Furthermore, over the years, some of the strategies of various governments aimed at accelerating economic development proved to be both ineffective and financially burdensome. Overall, the fiscal history reflects persistent budgetary deficits, a virtually uninterrupted accumulation of debt and relatively high levels of taxation.

At various times throughout the past decade, public service cutbacks, wage freezes, layoffs and service reductions have been the order of the day in Newfoundland and Labrador, as elsewhere. Sustained fiscal balance, however, has not been achieved, despite these cutbacks. Much remains to be done and, as in most provinces, there is ongoing pressure to maintain and improve social services. But this province's fundamental financial constraints make it difficult to do so. In order to move forward in terms of achieving its economic and social objectives, the province must strengthen its financial position – a fiscal imperative and a major challenge.

The challenge stems from four fiscal realities: (i) a high and continually mounting debt burden; (ii) relatively high taxes, with limited practical scope to raise significantly more revenue from existing sources; (iii) persistent budgetary deficits; and (iv) insufficient net gains from offshore oil revenues to put the fiscal house in order.¹ The challenge has also been exacerbated by the ongoing population decline.

The purpose of this chapter is to explain these fiscal realities. It is important that these issues be understood and imperative that the renewal strategy reflects them.

The Debt

First, it is necessary to consider the debt situation. The provincial government has run budgetary deficits in almost every year since 1949. In addition, it has incurred debt obligations related to non-budgetary

It is when we compare Newfoundland of today, after a dozen years of what for us has been phenomenal progress, with the rest of Canada that we are brought up by a short turn to the realization of the fact that we have a quarter century at best, and even a half century at worst, to go before we catch up with today's general average in Canada.

Hon. Edward S. Spencer, Minister of Finance
Newfoundland and Labrador
Budget Speech, June 22, 1960

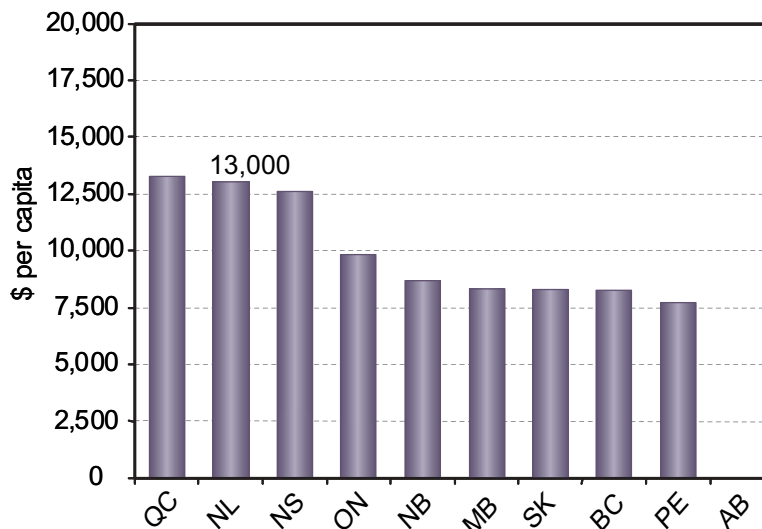


Financial Position

items, including substantial borrowings in recent years to fund public sector pension liabilities. The result is a continuing escalation in the provincial public sector debt. One measure of the debt is “taxpayer-supported debt,” which is the debt of the provincial government and its agencies other than the debt of self-sustaining provincial Crown corporations, such as Newfoundland and Labrador Hydro.² As of March 31, 2003, that debt amounted to some \$6.9 billion. Figure 6.1 shows that the provincial government’s taxpayer-supported debt, expressed on a per capita basis, ranked with the highest in the country, slightly below but effectively tied with Québec’s, at approximately \$13,000 per person.

Figure 6.1

Taxpayer-Supported Debt Per Capita Estimated as of March 31, 2003



Source: Data extracted from The Canadian Federal and Provincial Governments – 2002 Overview prepared by the Dominion Bond Rating Service Limited, January 2003. Comparative data based on projections in the respective 2002 budgets.

Compounding Newfoundland and Labrador’s overall debt obligations are the provincial government’s unfunded pension liabilities. These liabilities represent the monies to be paid into pension plans for provincial government employees, teachers and provincial elected officials in order to fund the current pension benefit provisions. The most recent estimate of the unfunded pension liabilities of the provincial government totaled approximately \$3.4 billion in 2002. In per capita terms, this was approximately

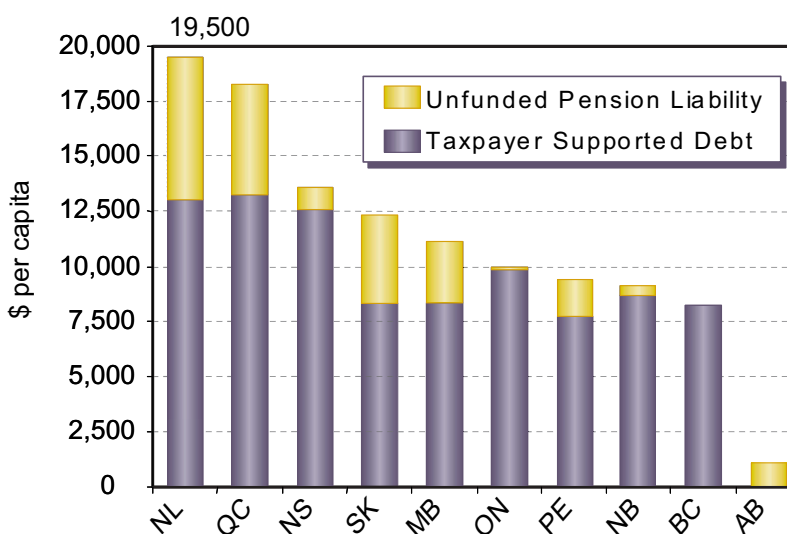
\$6,500, the highest in all provinces. In other provinces, figures range from a high of \$5,000 per capita in Québec to zero in British Columbia.

Adding these pension liabilities to taxpayer-supported debt gives a more complete picture of the provincial debt situation. In the case of Newfoundland and Labrador, that sum indicates a total debt in excess of \$10 billion, which is approximately \$19,500 per capita – an increase of 51 per cent since 1992-93 and the highest level of combined debt in all the provinces, as illustrated in Figure 6.2.³

Figure 6.2

Combined Provincial Debt Obligations Per Capita

Estimated as of March 31, 2003



Source: Data extracted from *The Canadian Federal and Provincial Governments – 2002 Overview* prepared by the Dominion Bond Rating Service Limited, January 2003. Comparative data based on projections in the respective 2002 budgets.

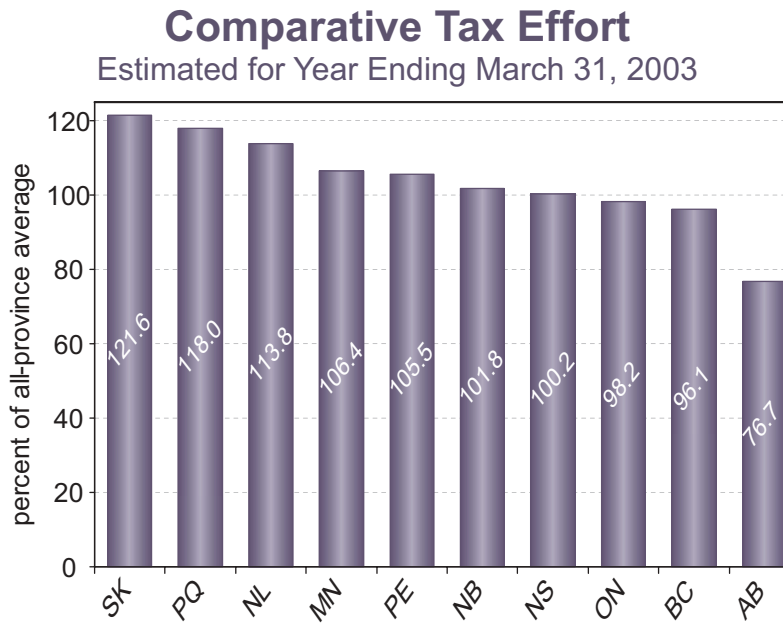
A key financial indicator which places the level of provincial debt in context with the size of the economy is the ratio of debt to GDP. Exclusive of the pension obligations, this province's taxpayer-supported debt-to-GDP ratio was estimated at 44.6 per cent as of March 31, 2003. By this measure, Nova Scotia had the highest ratio at 47 per cent, while Newfoundland and Labrador was next in line. However, in the overall context, when this province's substantial pension obligations are taken into account, our combined taxpayer-supported debt and unfunded pension liabilities amount to 66.7 per cent of GDP, the highest debt ratio of any province. Québec was second highest at 58.4 per cent, while Nova Scotia was next at 50.7 per cent. On a positive note, this province's ratio has come down in recent years, and the 2003 ratio represents a considerable improvement from the level of 82.8 per cent recorded in 1994-95.

The provincial credit rating has an impact on the provincial government's ability to borrow as well as on its interest costs. It is important to note that the province's credit rating has been upgraded in recent years. This reflects a number of factors, including improved debt ratios and key economic prospects. However, Newfoundland and Labrador still holds the lowest overall rating among the ten provinces.

Tax Levels

Next, it is necessary to consider another fiscal reality: the relatively high tax burden in the province. A large debt and a low credit rating mean that a larger than otherwise share of revenues must be devoted to paying interest on that debt. At the same time, there is growing pressure to spend more on important social services such as health. Raising significantly more revenue through taxes to meet these challenges is not a practical option. Provincial tax effort in Newfoundland and Labrador is the third highest among the provinces, as illustrated in Figure 6.3. The chart indicates that the provincial tax effort is 113.8 per cent, which essentially means that tax levels here are generally 13.8 per cent higher than the average across the provinces.

Figure 6.3



Source: Department of Finance, Government of Newfoundland and Labrador, based on data derived from federal equalization estimates, February 2003.

It is important to note as well that the province’s fiscal capacity, i.e., how much revenue it can raise through taxation, is relatively weak. As of 2003, its fiscal capacity was about 68.5 per cent of the national average.⁴ In turn, a weak fiscal capacity reflects a relatively weak economy. It is important to note that, while the province has recorded particularly strong economic growth in recent years, its economic base remains far below the Canadian norm, as explained in Chapter 3. Given the already high levels of taxation, there is a real risk that further tax increases in existing major tax sources would be counter productive – too harmful to the economy to be worth it.

Moreover, other provinces are moving to lower tax rates, especially on income. As the tax rates of other provincial governments’ decline, it becomes more difficult for Newfoundland and Labrador just to maintain its relative position, much less improve upon the competitiveness of its tax rates relative to other provinces. In fact, in recent years, budgetary pressures in this province have necessitated the deferral of planned reductions in personal income tax.

Budgetary Deficits

A third fiscal reality is that the current fiscal path has produced persistent deficits and is leading to large deficits, on a “go-forward” basis. One-time revenues temporarily contained the province’s budgetary deficits during the mid 1990s to recent years. In addition, the provincial government’s past methods of budgetary reporting excluded large amounts of borrowing from the provincial deficit, thereby diminishing the reported shortfall.

In the March 2003 budget, the provincial government acted to improve its budgetary reporting by reflecting more of these borrowings directly in the budget. While under the previous method of reporting, the budget projects a \$212.7 million deficit for 2003-04, the budget also reports the “consolidated cash deficit,” which totals \$286.6 million, including a deficit of \$101.6 million on current account.⁵ The consolidated cash deficit is a more comprehensive measure of the deficit since it includes provincial government borrowing to finance expenditures undertaken by certain government agencies. If we move away from this province’s traditional method of budgeting to an “accrual” basis of budgetary reporting, which is used by the Government of Canada and the other provinces (in various modified forms), Newfoundland and Labrador’s budgetary deficit for the fiscal year 2003-04 totals \$666 million.

For several years prior to 2003, the budgetary deficits, regardless of how they were reported, were lower than they otherwise would have been due to one-time revenues. Those one-time revenues helped cover increases in program expenditures for a limited time period. Yet the program expenditure obligations are ongoing, and the one-time revenues have now been largely depleted.

Over the past decade, provincial government per capita spending has moved from about 7 per cent above the average of the provinces to 17 per cent above it. Per capita expenditure comparisons with other jurisdictions are skewed by the divergent population trends – the 10 per cent decline in this province and approximately 10 per cent growth in the national population in the last 10 years. Nevertheless, maintaining the current spending patterns in Newfoundland and Labrador, along with the existing revenue regime, points to an estimated go-forward deficit of \$250 to \$500 million when measured on a “consolidated cash” basis. This is not sustainable.

The provincial government is therefore in a difficult financial situation. Its high taxes act as a drawback on the economy; there are strong pressures on the expenditure side of its budget, and its high level of debt creates an ongoing funding burden. It needs to put its fiscal house in order.

Offshore Oil Revenues

The fourth fiscal reality is that it is imprudent to assume that, based on current fiscal arrangements, revenues from offshore oil developments will be sufficient to overcome the go-forward deficit and permit action on debt containment and tax relief.

Without doubt, there are some favourable economic developments and prospects for some positive relief to the troubling fiscal picture in the coming years. Huge investments are taking place in resource development projects such as Voisey’s Bay and the offshore, and there are many small-business success stories. Tourism is growing. The development of the Gull Island hydroelectric site on the Lower Churchill River is a possibility. Employment is growing, and some regions of the province, especially the northeast Avalon, have had much-improved circumstances. Lower interest rates encourage investment and marginally ease the province’s debt-financing burden. Oil production is expected to rise, and another offshore oil field, White Rose, is projected to come on stream in 2005. It is widely expected that, as a result of increasing oil production, GDP will grow at high rates, but likely at very volatile rates, over the next few years.

Yet, the implications of these positive economic events fall well short of providing the solution to the province's major fiscal challenges. A large component of GDP growth (as discussed in Chapter 3), albeit for legitimate reasons, will go to nonresident owners of oil companies; in 2002 more than 20 per cent of GDP consisted of corporate profit before taxes; in 1997, before oil production was significant, only 6 per cent of GDP consisted of corporate profit before taxes. Increases in tax revenues due to other improvements in the economy will, in part, be offset by consequent reductions in equalization. Any development of Gull Island, due to the time required for environmental assessment and construction, would not yield any revenue until perhaps 10 or 12 years after an agreement is finalized.

There is a widely held expectation, both inside and outside the province, that offshore oil developments, and the revenues that would go to the provincial government as a result, will bring financial prosperity to Newfoundland and Labrador. However, it is a totally unrealistic proposition to suggest that offshore oil will transform this province into an Atlantic Alberta. At present, there are only two producing offshore fields and just one other under development. Offshore oil is very costly to develop, which absorbs much of the revenue from commercial fields and makes it uneconomic to develop smaller fields on their own. (Smaller fields will eventually be developed as tie-ins to the infrastructure put in place for the larger projects.) In addition, after the early years of production, the provincial government's revenues from offshore oil will be mostly offset by corresponding declines in equalization payments. While the prospect of reduced dependency on the federal government is a positive development and an aim supported by this Commission, it does not do much to enhance the provincial government's financial flexibility and strengthen the overall net revenue position.

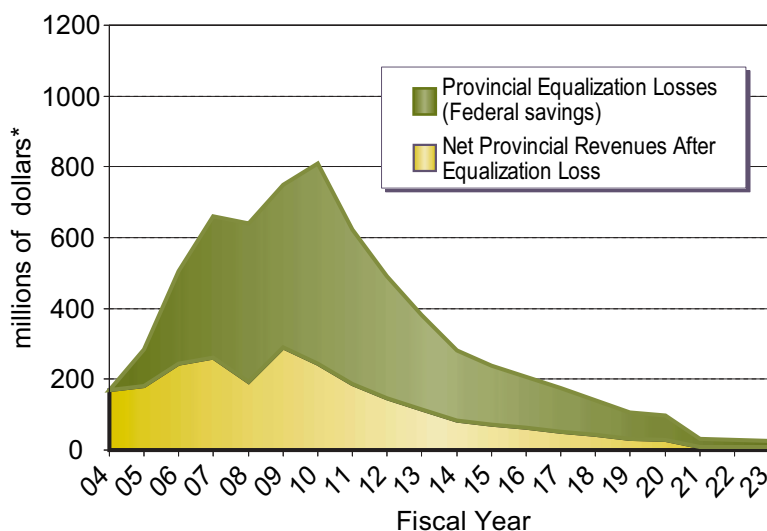
There will be some improvement in that position over the next few years. That is because oil production is expected to increase quite significantly and also because the provincial government has the option of invoking the "offset" provisions in the Atlantic Accord or the equalization program's "generic solution." Offset payments partially, and on a declining basis, compensate the provincial government for any year-over-year reductions in equalization. On the other hand, the generic solution reduces equalization losses arising from oil revenues to 70 cents on the dollar. Still, even these options do not assure the provincial government of either a substantial share of the total tax revenues generated by offshore oil or of sufficient revenues to address its fiscal challenges. The details of those two options will be discussed more in Chapters 9 and 11. For the purpose of the following discussion of the provincial government's financial position and outlook, it is assumed that these aspects of the Atlantic Accord and equalization remain in their current form.

Barring major new commercial discoveries and significant increases in world oil prices, under current sharing arrangements it is unrealistic to expect that net provincial oil revenues will be large enough to alter Newfoundland and Labrador's fiscal position to a material extent. Such a change would likely require (i) doubling the number of fields that are currently operating or under development; (ii) those new fields being brought into production before production in the existing fields begins to fall off significantly; and (iii) the long-term world oil price averaging US\$30 a barrel, in order for this province to have a reasonable chance of shaking the status of fiscal dependency. That would be a great outcome for all parties, including the federal government, which would no longer be paying any equalization to the provincial government and would likely be receiving substantial corporate income tax revenue from the oil companies. The Commission might like to join with others in hoping for and dreaming of this outcome, but reality must be the guide. There are good prospects for further development of offshore fields over time. However, the Commission knows of no evidence that the long-term world price of oil is likely to average US\$30 or more a barrel; and it knows of no evidence that there are three more large commercial fields in the offshore that would be developed before production in the existing fields begins to fall off substantially.

A profile of expected offshore revenues is illustrated in Figure 6.4. Those revenues consist of royalties and provincial corporate income tax revenues from the oil companies. This profile assumes the world price of oil to average US\$28 a barrel in 2003 and, thereafter, an average of US\$24 in constant dollars, i.e., adjusting upward for inflation. In addition, it is assumed that 25 per cent of the oil companies' corporate income tax will be attributed to and collected by this province.⁶ This revenue analysis is not intended to be predictive as to the actual outcome, but to be indicative of the relative orders of magnitude based on mid-range assumptions for the key variables.

Figure 6.4

Provincial Offshore Oil Revenues Before and After Equalization Losses



Source: Projections based on the existing projects (Hibernia, Terra Nova and White Rose). Data extracted from projections provided by the provincial Department of Finance.

***Note:** Constant dollars adjusted for inflation.

As shown in Figure 6.4, with these assumptions provincial oil revenues from the three commercial fields would be substantial; over \$400 million for the years 2006 to 2012. The projections indicate that provincial royalties and tax revenues would peak at over \$800 million in 2010, and then decline rapidly. In the peak year, the \$800 million is split between equalization gains to the federal government in the order of \$550 million and provincial net revenues of about \$250 million.

Figure 6.4 indicates that, with these assumptions and the current sharing arrangements, the province could anticipate receiving net revenues in the range of \$200 to \$300 million a year from offshore oil for the next seven or eight years.

Most significant, perhaps, is the fact that net oil-related revenues in excess of \$150 million are reflected in the 2003 budget. This means that, through the Atlantic Accord, the provincial government is already receiving an amount equivalent to a substantial portion of the net revenues it can expect to realize in the best years of production from the existing oil projects. While provincial revenues and royalties are projected to increase substantially in the coming years, the benefits of the Atlantic Accord diminish and the province's proportionate net share of the total provincial oil revenues will decline. The analysis indicates that the incremental "revenue upside" to the province from the levels budgeted in 2003 would

be in the order of \$100 to \$150 million a year – in the good years. In short, the revenue upside represents an amount roughly equivalent to one half of the consolidated cash deficit in the 2003 budget, and the peak revenues are projected to be short-lived.

By 2012, the net annual revenues from the existing oil projects could fall below the level in this year's budget. While it is possible that additional projects could come on stream in the future, by the time they are developed, only 30 per cent of the associated revenues would accrue to the province – provided, of course, the generic solution is still in place. Such developments might contribute to a moderate improvement in the fiscal projections presented herein, but, on balance, the outlook for the overall financial position of the province remains difficult.

It is crucially important to underline the uncertainty associated with these or any multi-year projections of oil revenues. Long-term oil prices in the order of US\$24 a barrel, in inflation-adjusted terms, are not at all assured. Many would argue that US\$19-20 is more realistic. At US\$19 a barrel, the picture of revenues given in Figure 6.4 would change dramatically and unfavourably. The provincial government's projected gross revenues would likely be approximately 40 per cent less. The provincial government's net revenue, after equalization losses, would fall accordingly, making it a rather modest amount indeed. Furthermore, currency fluctuations, the value of the Canadian dollar relative to the US dollar, will also impact on the revenue streams.

Overall, the financial analysis and budgetary outlook prepared for the Commission indicates that there is some moderate upside in net oil revenues in the coming years. In addition, favourable growth rates in other provincial revenue sources are expected, based on the ongoing high level of activity associated with various projects and developments. However, the analysis clearly concludes that, given the existing levels of government program spending and recent expenditure growth patterns, the provincial government's deficit predicament is not self-correcting. Furthermore, once the one-time revenues are depleted, the core deficit on a go-forward basis is likely to be in the order of \$250 to \$500 million – including a substantial shortfall on current account. (A deficit on current account is tantamount to a family borrowing money to buy groceries – a totally unacceptable situation for even the short-to-medium term.)

In summary, the provincial government's financial position is weak: there is a large deficit for 2003-04; and, barring major policy changes, a continuation of significant budgetary deficits can be expected. At the same time, there is a need to reduce the tax burden in the province; there is a need to address growing spending pressures; and there is a need to curtail the escalation in debt. Revenue from offshore oil will help, but, under current sharing arrangements, it is simply not realistic to expect that this revenue alone would be enough to substantially strengthen the provincial government's financial position.

Conclusions

The Commission has concluded that the provincial government should take immediate action to put the province's fiscal house in order as part of renewing and strengthening its place in Canada. The Commission, therefore, is recommending that:

- the provincial government commit to achieving and sustaining a balanced budget within a specified time frame (such as three to four years), with particular emphasis on the immediate elimination of the deficit on current account;
- the commitment to fiscal prudence be re-enforced by the introduction of balanced-budget legislation; and
- the provincial government conduct an in-depth assessment of its high unfunded pension liabilities and determine if modifications are required in its long-term strategy to address them.

The Commission acknowledges that the restoration of fiscal balance will be a difficult process. It will require serious decisions that could lead, in the short term, to a further deterioration in Newfoundland and Labrador's relative position in Canada.

There are two overriding conclusions that follow from this analysis. First, there is no basis to expect that oil revenues and revenues from general economic growth will be sufficient to overcome the challenges of dealing with the large accumulated debt and the significant unfunded pension liabilities. Secondly, even if, to be optimistic, oil revenues and economic growth were to succeed in overcoming the go-forward deficit, there is still a need to address debt and to ease tax burdens. Sustaining the status quo should not be considered sufficient. Strong fiscal discipline is needed to ensure that revenues from the province's depletable offshore oil resources are used efficiently to strengthen the economy and society.

"They say that "the Rock is on a roll". What does that mean to us in outports on the Island if we have no jobs?"

Excerpt from the Public Consultations

"There can be no peace in a country or a province or a community where there is no economic justice."

Excerpt from the Public Consultations



Terms of Union

Newfoundland's entry into Canada was given effect by the British North America Act, 1949,¹ passed by the Parliament of the United Kingdom. The Terms of Union, which is a schedule to the Act, sets out the terms under which Newfoundland would join and operate as Canada's tenth province. The Terms of Union, then, are very important as they provide for Newfoundland and Labrador's constitutional place within the federation.

The Commission sought an independent assessment of the Terms of Union to gain a better appreciation of what they provide for and of their continuing relevance.² In line with the findings of this study, the Commission's main conclusion is that the primary purpose and effect of the Terms of Union was, and has been, to provide a constitutional place for Newfoundland and Labrador that was not materially different from that of the other provinces. This is not to suggest that all provinces have a strictly "equal" constitutional status within Canada, as some important distinctions do exist,³ however, none of these differences are so fundamental as to approach a "special" constitutional status for any province.

The Commission is not suggesting that the Terms of Union, having accomplished their main purpose, are no longer relevant. The point is that there is little within the Terms of Union that can be called upon in support of a strategy to renew and strengthen our place in Canada. This message was reinforced to the Commission by many of the participants in the Expectations Roundtable, including a member of the Newfoundland delegation to the final negotiations of the Terms of Union.

Challenges of Constitutional Arrangements

While Newfoundland and Labrador was granted no special treatment under the Constitution, it must be acknowledged that these arrangements have presented special challenges for this province. In attempting to realize its economic potential, Newfoundland and Labrador has faced significant constitutional obstacles. These challenges relate both to the manner in which the federal government has exercised its jurisdiction in respect of Newfoundland and Labrador, and to judgements of the Supreme Court of Canada.

Federal Jurisdiction Over Fisheries

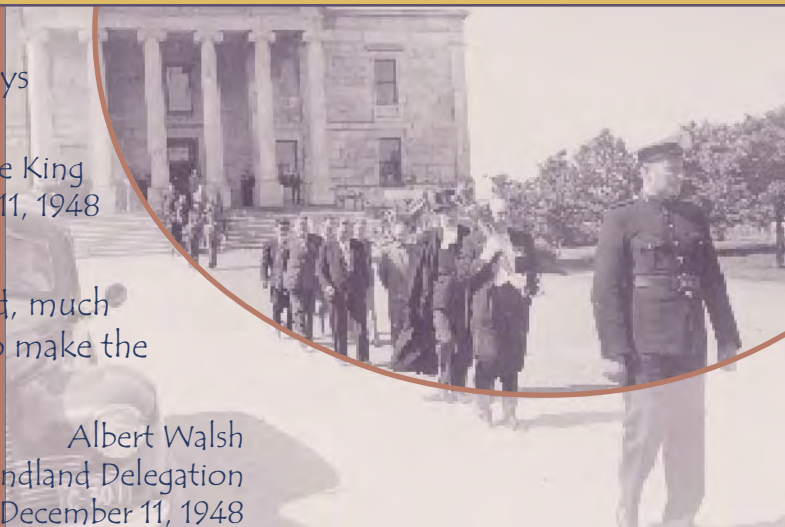
When Newfoundland joined Canada in 1949, the federal parliament assumed legislative jurisdiction over its fishery resources under section 91(12) of the Constitution Act, 1867. Term 22 fettered the discretion of the federal parliament in its exercise of these powers by providing for the maintenance of Newfoundland "Fisheries laws" for a period of five years. Under Canadian law, the fishery was unregulated in comparison to the regime already in place in Newfoundland and Labrador.⁴ This five-year freeze, then, was provided simply to avoid a regulatory vacuum and resulting industry instability. Thereafter, the regulation of the Newfoundland and Labrador fishery became the responsibility of the federal government. The regulation

"...the linking of the fortunes of two countries in a common destiny must always be an act of faith in the future."

Prime Minister Mackenzie King
December 11, 1948

"As in many other agreements of this kind, much depends upon the desire of both parties to make the agreement work."

Albert Walsh
Head of the Newfoundland Delegation
December 11, 1948



Terms of Union

of fish processing remained with Newfoundland and Labrador, pursuant to provincial jurisdiction over property and civil rights within the province under section 92(13) of the Constitution Act, 1867.

For more than 400 hundred years, the groundfish fishery had sustained Newfoundland and Labrador. Under federal control, this great resource has been brought to the brink of extinction. As will be discussed in Chapter 10, Newfoundland and Labrador certainly made the proper regulation of this industry difficult by its own actions (e.g., the proliferation of processing licenses, and political pressure on the federal government to maintain and increase quotas). However, the fact remains that this environmental, social and economic tragedy occurred on the federal government's watch and as a result of its failure to manage the resource properly.

Offshore Oil and Gas

One of the greatest resources Newfoundland and Labrador brought into Confederation was its massive continental shelf. Starting with the first offshore exploratory well in 1966, the people of this province have lived in hopes that oil and gas could make a meaningful contribution to improving Newfoundland and Labrador's place in Canada. An opportunity that should have brought Newfoundland and Labrador and Canada together resulted in a bitter constitutional struggle for jurisdiction. Many years were wasted in negotiation and disagreement, leading to two separate court references on the subject of constitutional jurisdiction.⁵ In 1984, the Supreme Court of Canada determined that Canada, not Newfoundland and Labrador, had constitutional jurisdiction over the shelf and its oil and gas resources.⁶ Ironically, under the Constitution, Canada was provided with a resource that was only available to it at international law because of the coastline of Newfoundland and Labrador.

Following this decision, the federal and provincial governments agreed to a joint approach to the development of these resources through the Atlantic Accord.⁷ The significance of the Accord extends beyond the approach it set for the management of offshore petroleum resources and revenue sharing. It provides us, as well, with a reminder that there have been occasions when the federal and provincial governments have been able to work together to further the purpose of making Confederation work better for both parties.

Churchill River

The ability of the province to control the development of its natural resources under the Constitution of Canada was set back by the Supreme Court of Canada's 1985 decision⁸ regarding the Upper Churchill Water Rights Reversion Act. This Act, passed by the Newfoundland and Labrador legislature in 1980, provided for the expropriation of the water rights and assets of the developer of the Churchill Falls project, the Churchill Falls (Labrador) Corporation (CF(L)Co). The purpose of the Act was clearly stated

in section 3 as being: “to provide for the reversion to the province of unencumbered ownership and control in relation to certain waters within the province.”

On appeal from a decision of the Newfoundland Court of Appeal upholding the constitutional validity of the Act as a valid exercise of the province’s powers in relation to property and civil rights in the province, the Supreme Court of Canada found the Act to be unconstitutional. The Supreme Court of Canada determined that the true or “colourable” purpose of the legislation was to “interfere with the power contract and thus to derogate from the rights of Hydro-Québec to receive an agreed amount of power at an agreed price.”⁹ The Court went on to find that the rights of Hydro-Québec under the Power Contract were in Québec, beyond the legislative competence of Newfoundland and Labrador. At the end of this winding road, the Supreme Court of Canada ruled the Act to be an unconstitutional attempt to impair a civil right outside the province. Newfoundlanders and Labradorians were forced to accept that, under the Constitution of Canada, their provincial legislature could grant but not rescind a water lease.

The Commission offers these examples to inform other Canadians of some of the challenges Newfoundland and Labrador has faced. These actions and decisions created a great deal of bitterness in our society but, as this Report reveals, our focus is beyond the battles and grievances of the past. Newfoundland and Labrador’s experiences, however, make the refrain “all provinces must be treated equally” hard to accept.

Gulf Ferry

Term 32(1) of the Terms of Union has much continuing relevance to Newfoundland and Labrador. The courts have yet to consider Term 32(1) for the purpose of defining the precise nature and level of Gulf ferry service it requires. However, a consideration of the plain language of this term, together with the judicial interpretation of a similar term in the Prince Edward Island Terms of Union,¹⁰ allows the Commission to frame the federal government’s obligations with a degree of confidence. It is important to note that it is the federal government, not Marine Atlantic, that is responsible for ensuring that the constitutional obligations stated in Term 32(1) are fulfilled. Likewise, it is the federal government that is liable for any breach of those obligations. Term 32(1) says:

Canada will maintain in accordance with the traffic offering a freight and passenger steamship service between North Sydney and Port aux Basques, which, on completion of a motor highway between Corner Brook and Port aux Basques, will include suitable provision for the carriage of motor vehicles.
[Emphasis added].

Term 32(1) requires the federal government to “maintain” the Gulf ferry service at a level which is “in accordance with the traffic offering.” In the view of the Commission, this clearly requires the federal government to ensure the continuous operation of the service, without interruption, at a level of service that addresses demand for its use. To meet this obligation, the federal government must invest in the service to ensure that it anticipates, and stands ready to accommodate growing traffic demands on an ongoing basis. If this level of service was to be diminished or interrupted for any reason (except as a result of forces beyond the control of the federal government, such as the weather), the province would have the option of initiating legal action to compel the federal government to meet its constitutional obligations, and would be entitled to seek damages arising from such a breach. The Commission is also of the view that Term 32(1) requires that the service meet a standard of quality and affordability.

Whether the service provided to date has been in keeping with the federal government’s obligations under Term 32(1) is beyond the ability of the Commission to properly and fairly address, given its broad terms of reference. The provincial government has the resources to make such an assessment, and the Commission trusts that it would, if required, take legal action to compel the federal government to meet

its obligations and to pay compensation for any breach of Term 32(1). The Commission is hopeful that a new relationship between the federal and provincial governments would avoid such a result.

A cooperative relationship between the federal and provincial governments would see the two working together to improve this service for the benefit of both Canada and Newfoundland and Labrador. During the Commission's public consultations, concerns were expressed regarding the quality and affordability of this service. For many Newfoundlanders and Labradorians, the Gulf ferry service is the clearest measure of the federal government's commitment to this province. A renewed focus by the federal government on improving this service would send a strong message that it is committed to strengthening and renewing Newfoundland and Labrador's place in Canada.

The impact a work stoppage would have on the Gulf ferry service is a concern that the federal and provincial governments need to address. The mere threat of a work stoppage is damaging to the provincial economy, the most obvious impacts being on the tourism industry and small businesses. The Commission appreciates that this is a sensitive issue and recognizes that it is not its place to suggest a particular approach to this issue. The Commission hopes, however, that an approach can be found that would avoid the need for legal action by the provincial government against the federal government in the event of an interruption or diminishment of the Gulf ferry service arising from a work stoppage.

In the view of the Commission, Term 32(1) requires a quality and affordable Gulf ferry service at a level continually able to meet demand for its use. The service, however, should not be viewed just as a constitutional commitment to be enforced and respected. It is an essential infrastructure component in strengthening the province's economy. The manner in which the service is provided and improved will be a reflection of the new relationship between the federal and provincial governments.

Amendments to Terms of Union

Canada's constitutional arrangements have not remained static since 1949. Changes have been accomplished, the most significant of which occurred through the 1982 package of constitutional amendments. With respect to the Terms of Union, there have been amendments since Confederation that have been key in effecting and reflecting fundamental changes within this province's society:

- Term 17, at the time of union, provided the province with legislative jurisdiction over education within the province, but it also guaranteed key denominational education rights existing at the time of Confederation and the public funding of denominational schools. Since 1949, Term 17 has been amended three times. The most recent amendment retained legislative jurisdiction for the province, but removed any protection for denominational education.¹¹
- In 2001, the Terms of Union were amended to change the name of the province from "Newfoundland" to "Newfoundland and Labrador." This change reflects a growing and strengthening respect between residents of Labrador and Newfoundland. As noted in Chapter 5, much remains to be done to draw the two parts of the province closer together. This constitutional amendment was a small but significant step.

Newfoundland and Labrador's past success in amending the Terms of Union should be placed in context. First, it is important to note that these amendments required only the support of the federal parliament and the provincial legislature. There was no need to secure the support of other provinces. Second, these amendments did not change the division of powers between the federal parliament and provincial legislature. The interests or powers of the federal government were not directly impacted by these amendments, nor were the interests of other provinces.

During the Commission's public consultation phase, there were general calls for the renegotiation of the Terms of Union to get a better deal for Newfoundland and Labrador. With respect to the fishery, such

an approach was recently endorsed by the House of Assembly. In May of this year, a resolution passed unanimously instructing the provincial government to seek amendments to the Terms of Union to provide for shared and equal constitutional authority between the federal parliament and provincial legislature over fisheries. The resolution also proposed the negotiation and constitutional entrenchment of a new joint management board to manage fishery resources.

The Commission appreciates that fundamental change to the management of Newfoundland and Labrador's fishery is required. However, the Commission does not see constitutional amendment as a realistic or necessary way to implement such changes. The amendments advocated by the House of Assembly would require the support of seven provinces, comprising 50 per cent of Canada's total population, and the federal parliament. The federal government has already indicated that it is not interested in pursuing constitutional change. Furthermore, it would appear that Newfoundland and Labrador is far from securing the requisite support from other provinces. In the opinion of the Commission, it is highly unlikely that Newfoundland and Labrador would be able to secure the required support for such amendments in the near future.

The Commission's statements should not be taken as a condemnation of the House of Assembly's resolution. More than anything, the resolution is a symptom of the frustration that has developed in this province with respect to the federal government's approach to the management of Newfoundland and Labrador's fishery. That it took a call for constitutional change to get the federal government's attention on the most important issue facing Newfoundland and Labrador speaks directly to the weakened state of intergovernmental relations in Canada today.

The Constitution of Canada is not an impediment to improving the management of the Newfoundland and Labrador fishery. However, fundamental change is required to the attitude and approach of the federal and provincial governments toward the management of this resource and toward one another. Our past demonstrates that fundamental reshaping of the relationship between the federal and provincial governments can be accomplished without amending the Constitution of Canada. An example to look to is the provincial and federal legislation that implemented the Atlantic Accord, an agreement that provides for a joint management regime in respect to offshore oil and gas. This was accomplished without any amendment to the Constitution of Canada. What was required was a commitment to work together.

The federal government has indicated in a clear and somewhat insensitive fashion what it is not prepared to do – engage in constitutional negotiations. That is simply not good enough. The onus is on the federal government to indicate what it is willing to discuss. The Commission strongly encourages the federal and provincial governments to enter into immediate discussions of the management approach outlined in Chapter 10 of this Report. The benefits of such an approach stretch further than just one industry or resource. They could serve as an early and strong foundation for a new cooperative relationship between the federal and provincial governments.

Aboriginal Peoples

The Terms of Union contain no mention of Aboriginal peoples. However, by virtue of Term 3 of the Terms of Union, the Aboriginal peoples of Newfoundland and Labrador were placed in the same position, constitutionally, as the other Aboriginal peoples of Canada. Term 3 provides for the application to Newfoundland and Labrador of other legislation comprising the Constitution of Canada, subject to a few exceptions:

The British North America Acts, 1867 to 1946, shall apply to the Province of Newfoundland in the same way and to the like extent as they apply to the provinces heretofore comprised in Canada, as if the Province of Newfoundland had been one of the provinces originally united, except insofar as varied by

these Terms and except such provisions as are in terms made or by reasonable intendment may be held to be specially applicable to or only to affect one or more and not all of the provinces originally united.

The legal effect of Term 3 was to confirm the federal parliament's legislative jurisdiction in respect of "Indians, and Lands reserved for the Indians" under section 91(24) of the Constitution Act, 1867. However, after speaking with many Aboriginal groups and reviewing relevant submissions and articles,¹² the Commission has come to understand that the absence of any specific mention of Aboriginal peoples in the Terms of Union was intentional.

While the Terms of Union passed jurisdiction in respect of Aboriginal peoples to the federal government, the question left unresolved was how the federal government would exercise that jurisdiction. The parties decided to remain silent on this issue in the Terms of Union in favour of future discussions between the federal and new provincial government. The place of the Aboriginal peoples, both in Newfoundland and Labrador and in Canada, was ultimately left up to the federal government to decide as a matter of policy. It appears that there were three reasons that supported the decision to put the matter off to another day:

1. That application of the Indian Act would be a retrograde step, given that the Aboriginal peoples in Newfoundland and Labrador enjoyed the right to vote, which would be lost with the application of the Indian Act.
2. The number of Aboriginal peoples in Newfoundland and Labrador was small, and the view at the time was that many had already been "absorbed" into the dominant white population.
3. The Indian Act assumed the existence of reserves which did not exist in Newfoundland and Labrador, making the delivery of services too difficult.¹³

The federal government has been painfully slow in recognizing its responsibilities to the Aboriginal peoples of this province. For many decades, it limited its role to providing funding to the provincial government to provide and expand public services to some, but not all, Aboriginal peoples. In effect, the federal government, for much of the province's time in Canada, has been content to abandon its responsibilities to the provincial government. The resistance of the federal government to treat the Aboriginal peoples of this province in a fair and equitable manner is of the utmost concern to this Commission.

In recent decades, a more productive relationship has been building through such initiatives as the registration of some of the Mi'kmaq population under the Indian Act and the negotiation of land claims with the Inuit and Innu in Labrador. As noted in Chapter 5, the Commission is nonetheless conscious of an unfinished agenda on Aboriginal issues.

Conclusions

Newfoundland and Labrador accepted a place within Canada that was not materially different than that of the other provinces. Subject to the federal government's continuing obligation to provide the Gulf ferry service in accordance with Term 32(1), the Commission sees little else within the Terms of Union that can be called upon in support of a strategy to renew and strengthen the province's place in Canada. With respect to Term 32(1), the federal government is required to provide a quality and affordable Gulf ferry service at a level continually able to meet demand for its use. However, the service should not be viewed just as a constitutional commitment to be enforced and respected. A renewed focus by the federal government on improving this service would send a strong message that it is committed to strengthening and renewing Newfoundland and Labrador's place in Canada.

While the Commission does appreciate that fundamental change to the relationship between the federal and provincial governments is required, particularly with respect to the management of the fishery, it does

not see constitutional amendment as a necessary or realistic way to implement such changes. Fundamental change can be accomplished outside of the Constitution, as evidenced by the Atlantic Accord and its implementing legislation. The Commission, then, favors practical and cooperative approaches outside formal constitutional change as it believes such approaches have a more realistic chance of success.

“The Terms of Union, which form the legal basis of the fusion of these two states, make no reference to Francophone and Acadian communities in Newfoundland and Labrador. According to the collective memory of the francophones on the west coast- an impoverished people- they voted by a large majority to join Canada because of the enticing picture that was painted of the guarantee of an influx of federal funds.”

Excerpt from the Public Consultations

“When the new volume of our history was opened in 1949 and we became citizens of youthful and virile Canada, the old way and time in which my generation had passed its youth was but a yesterday behind. It was still fresh in our memories. The new volume had opened but the old one had not been closed. The story was there for any who cared to read.”

R.F. Sparkes, Preface to The Winds Softly Sigh



The Evolving Nature of the Federation



The Changing Canadian Federation

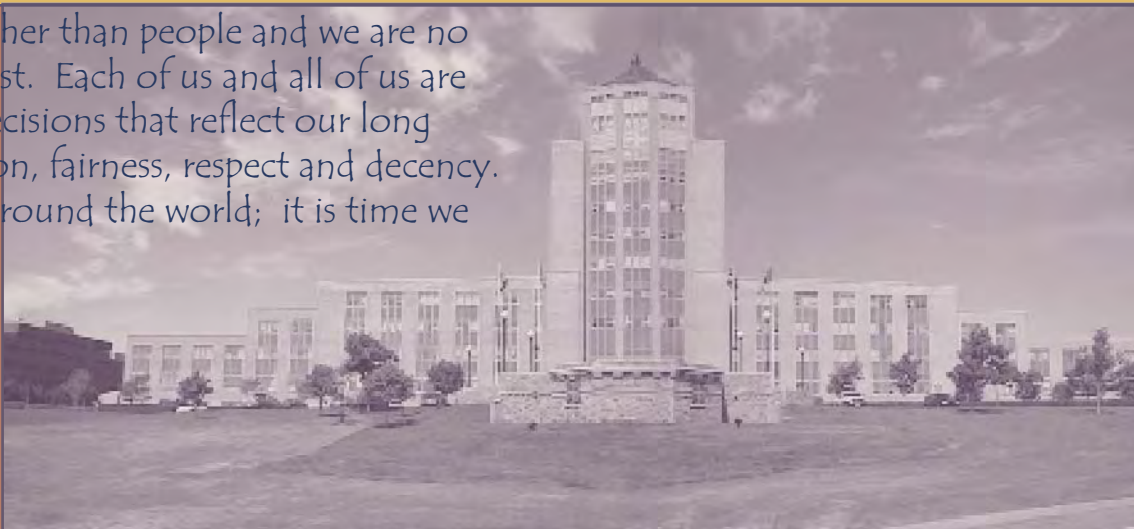
The Canadian federation has a very different system of government today than it did in 1949. The Canadian Constitution has been amended in significant ways, especially in 1982, to incorporate, among other changes, the Charter of Rights and Freedoms and Aboriginal rights. But fundamental change has occurred more slowly and less dramatically in the ways our federal institutions perform on a daily basis, in the ways that governments interact with one another, and in the ways that their fiscal arrangements adapt to changing economic and social circumstances. These changes have had both positive and negative consequences for Newfoundland and Labrador. On the one hand, Canadian values of sharing and commonly held views about rights, entitlements and obligations greatly enhance the benefits of the federation for this province. On the other, provinces seem to count for less in the national political culture than they did in 1949, and the federal government seems less concerned with treating provinces as equal constituent partners in the federation.

The first significant long-term trend that illustrates both the positive and negative aspects for Newfoundland and Labrador is the growing sense of Canadian nationalism, of a pan-Canadian identity and national standards. Canada today is a more integrated country than the one we joined in 1949. In the 1940s, Canadian citizenship brought with it such social entitlements as old-age pensions, family allowance and unemployment insurance. By 1970, the welfare state had expanded to include universal medical and hospital insurance, contributory pension plans, support for universities and a strong interprovincial convergence in the provision of social services and social assistance. No matter where they live, individual Canadians can expect a similar set of social entitlements and programs.

By itself this trend is unremarkable – all industrial democratic countries provided similar services in the postwar period. What was remarkable is that Canada achieved its social policy objectives while retaining substantial provincial autonomy – at least that has been the intent. The federal government helped build up welfare state programs through cost-sharing agreements with the provinces which, in the early years, placed explicit conditions on the provinces. These conditions gradually became much looser. Two other developments have helped to preserve provincial autonomy: the gradual decentralization of tax room from the federal government to the provinces, and fiscal equalization. In 1950, when Ottawa exercised strong central control over revenues, the federal government levied about 65 per cent of total revenues in Canada. By 1999, this had declined to 47 per cent.¹ Yet the capacity of each province to generate revenue from the same tax base differs widely because of regional economic disparities. This means that equalization is the lynchpin to the entire system. Without equalization payments, the poorest provinces would not have been able to participate in the original cost-shared agreements to build up programs such as medicare. Yet the unconditional nature of equalization – no strings attached – means that all provinces retain an important core of autonomy.

A country is nothing other than people and we are no stronger than the weakest. Each of us and all of us are better when we make decisions that reflect our long held values of compassion, fairness, respect and decency. We bring this message around the world; it is time we brought it home.

Ross Reid



The Evolving Nature of the Federation

Canada might have taken a different route to building the welfare state after the second world war, as did other federations such as the United States and Australia. The federal government could have delivered health, education and other social programs directly, which is what the Australians do. Or it could have imposed very specific conditions on the provinces for the delivery of programs in return for federal funding, which is what the Americans do. Canada did neither of these things, because we place greater value on provincial autonomy and decentralization. We have chosen in Canada to deliver the social security of the state mainly through the provinces, supported crucially by equalization and other transfer payments. The full consequences of these choices for our province are outlined in the chapter on fiscal federalism. Suffice to say here that the Canadian federal system puts an enormous strain on the limited public finances of the Newfoundland and Labrador government to perform its role in meeting the values and expectations of provincial residents *as Canadians*.

In his paper for the Commission on the development of the Canadian federal system, political scientist Roger Gibbins points out that the way Canada has chosen to develop its social programs has been especially beneficial to Newfoundland and Labrador, in that interregional sharing has become an important national political value. However, in national politics, it has not been the very limited influence of Newfoundland and Labrador that has caused these developments as much as it has been the relative regional disparity faced by Québec.² Had Québec's economic position been above the national average for the past 50 years, rather than being below it, our national policies in this respect would have been profoundly different. Of course, in keeping with its preferences for the way the federation should work to support provincial autonomy, Québec has also been very influential in sustaining a more decentralized approach to taxation and program delivery. The other provinces, to a lesser or greater degree, share these values about maintaining provincial autonomy.

Another major trend has been Québec nationalism and the federal response to it. Since the Quiet Revolution of the 1960s, Québec society has sought to redefine itself around Québec nationalism. Efforts to contain burgeoning Québec nationalism within the federation have absorbed the energies of a generation of political leadership in Canada. These efforts led directly to the successful patriation of the Canadian Constitution in 1982 and the strengthening of pan-Canadian language rights and other broad civil and political rights of individuals in the Charter of Rights and Freedoms. Yet they also led to the two Québec referendums on sovereignty and ultimately to the federal Clarity Act which sets out rules for how a province might secede from the federation.

These two developments, Québec nationalism and the Charter, combined with the growing emphasis on Aboriginal rights, have all paradoxically had the effect of strengthening the first of the trends noted above, i.e., pan-Canadian citizenship and a sense of Canadian nationalism.³ In 1949, Newfoundland and Labrador joined a Canada whose politics was resolutely territorial and where the key definition of territory was the province. By 2003, Canada's politics are much more "non-territorial" and much less

based on the provinces as key units. In other words, Canadians now derive their political identity less and less from their province of residence (in the case of Québec this is because they do not want to be “just” a province) and increasingly from “non-territorial” aspects, such as their linguistic, ethnic, gender or Aboriginal identities – or simply from their identity as Canadians. This has led to a tendency to view provincial governments as just another set of stakeholders rather than as constituent members of the federation. National politics, in particular the federal government, appears to be much less sensitive than it once was to regional differences and interests. Canada is generally recognized among federations to be more decentralized than most.⁴ However, from the perspective of this province and many others, the central government of the federation seems clearly to be less responsive to its constituent units than other federations are.

These long-term changes in the Canadian federal system leave Newfoundland and Labrador in an ambivalent position. As a province with significant regional economic disparity, we depend on the pan-Canadian value of sharing to ensure that we benefit from Canadian citizenship. Yet our identity as Newfoundlanders and Labradorians remains very strong. As national politics and the preoccupations of the federal government shift from a province-centered to a non-territorial focus, we are concerned that the interests, needs and even identity of our place may suffer.

The population of Newfoundland and Labrador makes up less than 2 per cent of the Canadian total, a proportion that is declining every year as the overall Canadian population increases and ours declines. But as a province, we are one of ten. To be fully Canadian for us means to have Canadian federal institutions and values that reflect and reinforce the provincial composition of Canada. There are a number of elements to this. First, there need to be intergovernmental mechanisms providing us with an equal place at the table. Second, there needs to be an elected Senate with equal representation from every province. Third, the country should respect the concept of provincehood. Newfoundland and Labrador gave up its status as a dominion to be a Canadian province, not some shadow of a province. With just half a million people we are small in Canadian terms, but we are still our own political community in a way that places with similar populations, such as Mississauga, are not. If Canada loses its ability to treat its constituent political communities equally, then the country will have lost the very essence of its federalism.

The Federation is Not Working Well

Canadians should understand the reality of how power and influence are exercised, and how federal policy is made – from the perspective of this province – and compare it with their own experiences. Three aspects of that reality need to be spelled out. First, the political representation in the federal legislature and executive suffers from fundamental flaws. The province’s perspectives are submerged and marginalized in existing federal institutions. These institutions need changing. Second, federal administrative presence and policy, when it comes to Newfoundland and Labrador, are inadequate and a major source of alienation and frustration. Third, the intergovernmental relationship is vital to making the federation work, but it, too, has been neglected and is often acrimonious. We need a more collaborative spirit and more effective mechanisms to achieve our goals jointly.

Representation in the Federal Parliament

The reality of the province’s political representation is that there are seven members of Parliament in the House of Commons out of a national total of 308. Constitutional and legislative guarantees exist to preserve that number as the province’s minimum representation. Ontario, by contrast, has 102 seats. Newfoundland and Labrador’s much smaller number of seats means that, if there is an issue that affects only or mainly this province such as foreign overfishing on the nose and tail of the Grand Banks, compared with an issue that affects only or mainly Ontario, such as the flow of traffic on the international

bridge at Windsor, the political reality is that the Windsor bridge gets the main attention while overfishing is ignored or seen as only a regional issue.⁵

Since 1949, our members of Parliament have all belonged to Canada-wide federal parties: Liberal, Progressive Conservative and New Democratic. We have not had a regional party, and our seven seats would unlikely have given us much influence as a regional bloc in any case. What this means, however, is that, due to the exercise of party discipline, voters in Newfoundland and Labrador do not always get to hear their members representing their interests, as this is usually done behind the closed doors of party caucus. Initiatives to reduce party discipline on more votes, to provide more leeway for private members' motions, or to provide committees with more scope and authority could increase the capacity of elected members to better represent their provincial constituencies.

Another key form of political representation is the Cabinet. Political convention since 1949 is that Newfoundland and Labrador has at least one seat around the Cabinet table. When a strong political figure holds that post, the regional minister can make up for a lack of numbers elsewhere.⁶ Unfortunately, whether the federal cabinet minister is considered strong or not depends on political and electoral fortunes rather than on there being an automatic or systematic feature.

The problem of small province representation in federal institutions in Canada is compounded greatly by the lack of an elected upper house in the federal parliament. In virtually all other federations, the upper house acts to directly represent the people of the constituent units of the federation (states, provinces, cantons, etc.) or their governments. In Canada, our Senate is appointed, not elected, and by the federal Prime Minister, not by the provinces. Thus, while on paper the Senate has just about the same legislative authority as the House of Commons, in practice that authority is very seldom exercised because the Senate lacks democratic legitimacy. Unlike the Canadian Senate, the United States Senate, the German Bundesrat and the Australian Senate all have effective political power which they use to ensure that national policy reflects the interests of all the regions and governments of the country. The Commission believes that, if there was an elected Senate with equal representation of the provinces, regionally sensitive issues would get a fuller hearing and require more negotiation and compromise among regional interests in Canada.

One can think of several examples of major policy issues in the past 50 years when outcomes would have been different if federal institutions had greater built-in regional sensitivities. For example, one could argue that the 1980 National Energy Program would not have proceeded in the same way and not have been as damaging to western economic interests if the federal legislation had to be negotiated with an elected Senate. Or it could be argued that federal legislation and programs for industrial and regional development would have been more complementary and consistent in terms of regional balance if reviews by Senate or House of Commons committees had sufficient influence to overrule bureaucratic bias in Ottawa. More equitable and sensitive regional representation, while not eliminating national debate on these and many other issues, would have transformed it into more productive channels which would have likely led to more judicious and quicker resolutions.

Canadians from all parts of the country know that federal institutions do not adequately reflect their interests and aspirations, but it is more than something they just have to “live with.” Political and bureaucratic power in the Government of Canada is becoming ever more concentrated within the Prime Minister's Office and other central agencies.⁷ The system has become dysfunctional not only for this province, but for the country as a whole. Canadians continue to face major policy issues on which national consensus is hard to achieve. Institutions that are able to mobilize more stable and equitable compromises will provide more effective governance over the long term.

Finally, part of the “problem” with Ottawa, from the perspective of people who live outside Ontario in particular, is a very old Canadian phenomenon, born of the sheer geographic size and diversity of Canada. That is the reflex that treats the interests and issues of central Canada as automatically of

national importance, while treating those from elsewhere as merely “regional.” From Newfoundland and Labrador’s perspective, for example, fisheries issues often require a national response, particularly when international law and diplomacy are concerned. But it is rarely accorded national significance partly because it is not economically or socially significant to central Canada. As Rex Murphy said recently: “It may not be a pleasant thought, but distance from the centre is, in far too many ways, for far too many people, the very measurement of this confederation’s worth and meaning.”⁸ Better regional representation in the federal parliament might help to alleviate this problem, but it is unlikely to ever disappear. Not only government, but also private institutions and civil associations in Canadian society, including the media, have a responsibility to ensure that the concerns, interests – even passions – of one part of the country are understood and appreciated in other parts of the country. It is something for which, as Canadians, we all need to take responsibility. Success will come only if we are committed to accepting that responsibility and continually seeking creative solutions.

Federal Administrative Representation and Presence

The second reality is the application of administrative power and policy. There are two dimensions to consider: first, the role of people from Newfoundland and Labrador in Ottawa, and second, the federal administrative presence in the province. Newfoundland and Labrador is even less well represented in appointed positions in the federal government than it is in elected ones.⁹ There has been only one deputy minister from this province since Confederation. There has never been a Supreme Court justice. We have had very sporadic representation on major federal boards and agencies. It is worth noting that the federal government has made at least three major attempts in the past 30 years to ensure that the public service in particular reflects Canada’s diversity. The first was to make the public service bilingual. The second was to make the public service reflective of our multicultural and multiracial reality and the third to increase the representation of women. The time has also come to have a more proactive policy of better representing all provinces and territories of Canada in the federal administration. This could include more extensive use of executive interchange and recruitment at all levels from a broad geographic pool.

Another important dimension is the direct federal presence in Newfoundland and Labrador. The federal bureaucratic presence outside Ottawa has been declining for some time in Canada. This goes relatively unnoticed in the larger cities, but in smaller cities, towns and rural communities the elimination of post offices, Canada Employment centres, and small craft harbour authorities among others, has a disproportionate effect on local economies. More serious for Newfoundland and Labrador were the major federal budgetary cuts of 1995 in which across-the-board reductions in the federal presence occurred. Federal employment in Newfoundland and Labrador was cut by 38 per cent, the highest proportion of cuts of any province in Canada.¹⁰ More efficient public management may have resulted through contracting out, privatization and, in some cases, the downsizing of federal operations. Nonetheless, the cumulative effect in this province has been a clear sense of federal abandonment. The federal government is regarded as less visible, more remote, and less engaged in the local society and economy. These trends have happened, if less severely, all across Canada. Yet, federal government employment in the national capital region has rebounded to early 1990s levels.¹¹

What is less evident elsewhere is the consistent downgrading of federal administrative authority which has happened in Newfoundland and Labrador. There are no departmental Atlantic regional headquarters offices in this province, although 17 regional headquarters are located in Nova Scotia and 11 in New Brunswick. Prince Edward Island houses the national headquarters of the Department of Veterans Affairs. Regional headquarters are located in Newfoundland and Labrador only in those instances where federal regions are defined as a single province, such as with Fisheries and Oceans and Human Resources Development. The Canada Customs and Revenue Agency (CCRA) maintains a Regional Income Tax Processing Centre in St. John’s, but the CCRA’s Atlantic Regional Office is in Nova Scotia. Thus, for all

but two federal agencies, local federal managers must report to and obtain authority for a wide range of decision-making from regional headquarters located in Halifax or Moncton, not to mention Ottawa.

One recent example that speaks to this issue is this year's further diminishment of Environment Canada's weather forecasting office in Gander. In this age of information technology, why should high-tech services such as weather forecasting be based in Halifax and not Gander? Why cannot Gander be the weather forecasting centre for eastern Canada? The automatic assumption, merely because of our location, seems to be that national or regional administration has to be done in Ottawa or Halifax. Given the importance to this province of fisheries management, for example, a substantial portion of central federal administration should be based here. Finally, a small but notable case is that of the federal government's Canada Hibernia Holding Corporation. This organization performs the important function of administering the federal government's investment stake in the Hibernia oilfield project. Its office is located, not in St. John's, but in Calgary where it is lost in dozens of similar offices. The Commission is not aware of any technical, commercial or administrative reason why this office should not be based in this province.

Another aspect of the federal presence in Newfoundland and Labrador is the apparent "Atlantic region" policy of the Government of Canada. For administrative convenience, the federal government has for many years treated "Atlantic Canada" as a single unit. To most people outside Newfoundland and Labrador, administrative policies and practices that combine the four Atlantic Provinces are just common sense – four small provinces with similar interests. Yet from this province's perspective there are practical problems with this approach. There is no "Atlantic region" in the sense of a common identity of the people.¹² While some "Maritimers" have a common identity as such, virtually no one in this province shares that identity. Instead, the Atlantic region concept creates misconceptions, reinforced by the fact that the very distinction of Maritime/Atlantic is lost on most Canadians – that the Maritimes means the three provinces of Nova Scotia, Prince Edward Island and New Brunswick, but that Atlantic refers to those three plus Newfoundland and Labrador. Newfoundland and Labrador not only has a separate history and culture and a much larger and more diverse geography, but it also has significant differences in economic, social and political interests. In some limited respects, an Atlantic regional economy may exist, but the benefits of an Atlantic-wide policy seem mainly to accrue to Halifax or Moncton.

These differences limit the degree to which the Government of Newfoundland and Labrador can cooperate effectively with the other Atlantic Provinces – even though some cooperation takes place. In the past decade or so the four Atlantic Provinces, through the Atlantic Premiers' Council and similar organizations, have achieved some success in practical integration. This includes initiatives such as an Atlantic procurement policy for purchasing goods and services, the harmonization of regulation across many fields, and joint efforts at trade and tourism promotion, educational curriculum development, and a community college consortium.¹³ Despite these accomplishments, the Commission's view is that Newfoundland and Labrador should pursue common Atlantic Province positions or integration initiatives on a case by case basis, when they have significant potential advantages for this province. There is no compelling evidence that a more general, all-purpose common front would make a sufficient difference to warrant the watering down of our specific interests.

More fundamental is the objection to the concept of an Atlantic region. It speaks volumes about our place in Canada. It reinforces the view that this place does not merit full provincial status and that provincial borders in the "Atlantic" should dissolve. And, of course, when we are continually integrated with the Maritimes, our true needs and aspirations are often rendered invisible. Most tellingly, it enables federal bureaucrats and, increasingly, federal politicians to claim that if it has been done in and for Halifax or Moncton, somehow it has also been done for Newfoundland and Labrador.

Intergovernmental Relations

The third way the federal system currently works is through intergovernmental affairs. Canada is a work-in-progress, and intergovernmental relations represents one of the few ways in which that work can be effectively done. It is especially important in order for provinces to ensure their place in Canada. This is so, not only for this province, but for all provinces, especially the smaller ones. Just as Canada benefits from rules, norms and institutions at the international level that temper the power of the big powers, so too smaller Canadian provinces can benefit from rules and mechanisms that enable the federation to work more equitably.

While the federal constitution attempts to divide jurisdiction as much as possible, in practice many areas of policy are shared. This interdependence was growing in Canada just as Newfoundland joined the union, and became ever more intense over the next forty years. Federal/provincial negotiations, consensus and agreement became the norm for dealing with such major policy fields as social programs (including medicare, social assistance, post-secondary education and housing), the environment, regional development and trade promotion. Intergovernmental relations involve a wide array of forms: bilateral, multilateral, regional and cross-Canada. Governments are free to pursue whichever forum suits the issues. However, for the federal system as a whole, the most important intergovernmental relationships are the joint federal/provincial/territorial ones, through which national, and not just federal policy, is often formed. The system of federal/provincial and interprovincial relations (much of the time including the three territorial governments as well) has played an enormous role in effecting cooperative change in Canada.

Intergovernmental arrangements and cooperation have served this province well since 1949. These have included bilateral agreements such as the General Development Agreements (GDA) and Economic and Regional Development Agreements (ERDA) from 1974 to 1994, the Atlantic Accord of 1985, the Hibernia agreement of 1991, as well as the multilateral agreements such as the Constitutional Accord of 1981 and the Agreement on Internal Trade of 1995. However, the federal government seems increasingly less interested in cooperative approaches, in regular intergovernmental exchange and in reaching national (i.e., federal and provincial) consensus on major issues.¹⁴

Intergovernmental relations have come under some fire in recent years. As a result of the Meech Lake situation, many Canadians came to distrust the closed and executive nature of these mechanisms, especially when such fundamental things as the constitutional future of the country were being discussed. Complex intergovernmental fiscal arrangements have blurred a sense of accountability for who is responsible for what, seen, for example, in the health care field.¹⁵ Also, some critics think that competition among governments produces better results in the long run: that it is good that governments compete for electoral favour and sometimes choose to be uncooperative. This Commission does not deny that some competition can be a good thing, nor does it deny the reality that in our system of partisan politics, political leaders can have ideological and other differences that limit cooperation. However, on balance, the Commission is convinced that more collaborative relationships, not less, are required in the future. This is true nationally and internationally. The Government of Canada has been preoccupied in recent years with Canada's changing global position; it is vital that Canada has a sustainable and stable role in international matters. Whether it relates to the World Trade Organization, the Kyoto Protocol on Climate Change or global public health, effective governance means effective multi-level relations reaching from the local to the international level. Federal/provincial relations, properly conducted, can contribute to maintaining Canada's position in the world.¹⁶

Our present intergovernmental institutions have limits when it comes to effective decision-making. Federal/provincial mechanisms are too ad hoc and too dependent on the will of the federal government. The decision to have a First Ministers' meeting is in the hands of the federal Prime Minister alone; there is no regular schedule or formal agenda-setting process. The decision-making within intergovernmental

meetings is also very informal: no votes are taken and decisions are not binding in law, which often limits results to watered-down consensus. At the very least, the federal/provincial/territorial forums could build upon the practice in the past decade of the Annual Premiers' Conference (APC – Provinces and Territories). The APC has become more focused, benefits from more extensive preparation and follow-up, and has taken on a more ambitious policy role. This has led to more productive interprovincial relationships.¹⁷

Many of the major opportunities for achieving prosperity and self-reliance depend on a productive relationship between governments. Building and maintaining a successful partnership requires a strengthened intergovernmental affairs organization, led by a strong minister and supported by a team of advisors with knowledge and experience in federal/provincial matters and relationships. Also required is a carefully considered, long-term, comprehensive intergovernmental strategy. This involves setting priorities and communicating them consistently to the federal government and other provinces. The strategy should be based on careful policy research and analysis, not only with respect to relationships with the federal government, but also with the key neighbouring governments of Québec and the Maritime Provinces, with the other provinces and territories, and with our closest international neighbours, St. Pierre and Miquelon and the New England States.

The only physical border which Newfoundland and Labrador shares with any other province is with Québec. Our relationship with that province has been under strain for some years because of the Churchill Falls arrangements and the lack of the development of the Lower Churchill. It now is time to look in a much broader and longer term context at whether Newfoundland and Labrador and Québec can achieve stronger political, economic and cultural ties. This could extend, not only to hydroelectric power, but to many other areas where there are common opportunities and challenges, such as economic development and transportation on the Lower North Shore of Québec and the Straits of Labrador. There are also joint discussions which can take place on the potential offshore oil and gas development in the Gulf. Now is the time to break new ground in our relationships with Québec.

The Opportunity for Intergovernmental Renewal

This Commission is reporting at a moment of significant potential change in the Canadian political landscape. Earlier this year Québécois elected a new government led by Premier Jean Charest who is placing a renewed focus on making the Canadian federation work better. Several other provinces will also hold elections this year. At the federal level, a leadership process is underway to find the Honourable Jean Chrétien's successor as Prime Minister, providing what will be in essence a new federal government.

In response to the growing dissatisfaction with our political institutions among Canadians everywhere, there now appears to be an openness to change. We see that dissatisfaction expressed in calls for electoral reform, for more openness in parliamentary debate, for a greater role for free votes and for less rigid party discipline. We see it expressed in recent proposals for Senate reform, for a Council of the Federation, and for other ways to make intergovernmental relations more effective. However, we do not see any groundswell for constitutional change, which many see as leading to conflict and paralysis.

There are both risks and opportunities for Newfoundland and Labrador in this new era of Canadian federalism. Over the years our province has supported both a strong federalist and centralist power structure in Canada, reflecting our fiscal dependence on the federal government and the need for the federal government to counterbalance the interests of larger provinces. This strategy, at least as a general proposition, has not worked to significantly change our place in Canada. Alternatively, this province has at times cast its lot with the group of provinces seeking more power from the federal government – recognizing as many Canadians do that better decisions are those made closer to the people. While such a strategy may be beneficial in specific instances, the Commission believes that there should be a strong federal government, sensitive to the needs of the provinces and territories. But there should also be strong

provinces. Such a balance is better for Newfoundland and Labrador. Ours is a small province with limited fiscal capacity. Canada needs a strong federal government to preserve its own place in the world and to work with the provinces and territories to promote common Canadian goals.

As stressed at several points in this Report, this Commission believes that the longer-term interests of Newfoundland and Labrador are best served by a *balanced and collaborative Canadian federalism*. This would have the following features:

- strong provinces and territories, among which the gaps in fiscal capacity decrease over time. The primary presumption would always be that when a province/territory is itself able to deliver a program, it would do so.¹⁸
- a strong federal government but with a much greater ability to represent all parts of Canada. This should include reform of the Senate to improve the representation of the provinces in the federal parliament.
- federal principles of sharing and sustaining the social union, which involve a recognition of a strong federal role in taxation and spending, but within the parameters of a jointly-determined approach as begun under the Social Union Framework Agreement.
- more predictable, regular and productive federal/provincial/territorial relations, led by the First Ministers. Governments should explore the options for more formal forums for federal/provincial relations.
- greater emphasis on intergovernmental partnership, not competition, to achieve collective goals. This can only happen, however, in an atmosphere of respect and trust.

Within these principles, there is much room for continued adaptation, negotiation and flexibility. As the province's experience in Canada has shown, the federation is a work-in-progress. This Commission and the people of Newfoundland and Labrador look to our provincial and federal representatives, and to the representatives and governments of other Canadians, to start working together to do just that.

The primary responsibility lies with the Government of Newfoundland and Labrador and the Government of Canada. They must deal more collaboratively with one another, seeking common solutions to such problems as restoring the groundfish fishery and achieving more equity in offshore oil revenues. This will require a conscious and concerted effort to build personal and governmental relationships at all levels. A productive and mature relationship will be based on open and frank communication and trust.

Yet there are many other kinds of alliances that our provincial government must prepare for and promote. These include:

- a tripartite partnership with Québec and the federal government on new hydroelectric developments in Labrador.
- a partnership with other resource-producing provinces on equitable resource revenue arrangements.
- a partnership with other provinces to reform the mechanisms of intergovernmental relations and to achieve consensus on an elected Senate.
- a partnership with the federal government and all the provinces and territories on such multilateral issues as fiscal arrangements (equalization, Canada Health and Social Transfer) and on broad, cross-Canada challenges such as a national strategy for rural Canada.

In forging these alliances, one realizes the truth of the old adage that “There are no permanent alliances, only permanent interests.” However, the Commission's goal generally has been to show that the Canadian

federation is only as strong as its weakest link, that the federation must work better, not only for our province, but for all.

Conclusions

The Government of Newfoundland and Labrador seeks a new relationship with the federal government and other partners in the federation. The Canadian federation is founded on the principle of sharing power between federal and provincial governments. While in constitutional terms all provinces are equal, in reality they are not. Some have much larger populations and much bigger economies. The population of Newfoundland and Labrador is less than 2 per cent of the Canadian total. But, as a province, we are one in ten.

For Newfoundland and Labrador to be a full Canadian partner, it is necessary to have a federal government and other institutions with values that reflect and reinforce the provincial composition of Canada. The following provides a summary of our conclusions:

- Intergovernmental mechanisms must give provinces an equal place at the table. Smaller provinces and territories feel especially exploited and are united in their frustration over their inability to bring about change in the federation. There is an uneasy sense that the federal government has a strong bias toward diminishing the role of provinces. The Commission supports the calls made by many provinces/territories for annual and better supported First Ministers' meetings.
- An elected Senate is needed with equal representation from every province. This is a longer-term goal in that it requires constitutional amendment. The provinces should work together to achieve consensus on an agenda for Senate reform.
- The concept of provincehood should be more strongly valued in the operation of the federation. The provinces are not just another set of "stakeholders." Nor should the Government of Canada assume that Newfoundland and Labrador's needs and interests are always covered by reference to an Atlantic region policy. The federal government should respect this principle in all its policy initiatives and in program implementation. The federal public service must also be more sensitive to Canada's regional diversity. Options for improvement include: extensive travel of senior public servants to the provinces/territories, regular meetings on substantive issues held outside the nation's capital, executive interchanges between senior provincial/territorial and federal officials, and a proactive federal government policy of greater participation of all the provinces in the senior levels of the public service.
- The level of federal government presence in the province is an important economic indicator of how seriously the federal government sees its role in Newfoundland and Labrador. The recent abandonment of the weather office in Gander is a prime example of the ease with which the Government of Canada can diminish its presence in Newfoundland and Labrador based on an overall Atlantic strategy.
- The Government of Newfoundland and Labrador must become better organized to deal more effectively with the Government of Canada and other governments in the federation. The Minister of Intergovernmental Affairs should be a powerful member of Cabinet who can deal effectively across departmental lines and be a champion in Ottawa on all things important to the province's place in Canada. It would be ideal if the Intergovernmental Affairs minister were the premier of the province or, alternatively, a minister with the status of deputy premier.
- The provincial government needs to have a carefully considered, long-term comprehensive strategy for intergovernmental affairs, setting out priorities and communicating them consistently to its federation partners. The senior advisers in Intergovernmental Affairs should be second

to none within the province's public service. They should understand the complexities of the federal system and develop close working relationships with the federal and other governments. A key role of the strengthened office of Intergovernmental Affairs would be to help the federal government and its advisors gain a far better understanding of the province. The first and most important task in the new intergovernmental strategy would be to present, at the earliest possible date, a comprehensive overview of our place in Canada to federal cabinet ministers and senior advisors.

In summary, the Commission calls for a firm but reasoned approach to building the relationship between the federal and provincial governments. The Commission anticipates a broad agenda for intergovernmental renewal, and this should engage the provincial government fully. The Commission has noted that these matters are of increasing interest to Canadians throughout this country.

“... the feeling of being left out constitutes one of the soft fractures of this Confederation, as alive in Newfoundland and the East Coast as it is, depending on the time of day, say in Alberta.

Rex Murphy

“We have lost control of our lives. We have a sense that we have no power.”

Excerpt from the Public Consultations

“Despite valiant efforts to avoid such a fate and strong evidence that Canada's tenth province differs substantially from its Maritime cousins, Newfoundland and Labrador found its identity submerged in a region that had already congealed in the Canadian vocabulary by 1949.”

Margaret Conrad

Address to the Newfoundland Historical Society, May 2003





Fiscal Federalism

In the Commission's hearings and consultations, many people expressed concern about the state of the province's public finances, about the inadequacy of its public services and about its not meeting Canadian standards for social programs such as health care. The Commission heard from post-secondary education institutions and their students, and from people on social assistance. These issues involve fiscal federalism, the arrangements whereby social and economic programs are funded and delivered within a federation.

In Canada, the federal government has an advantage over provincial governments when it comes to raising revenues. Provincial governments, especially in smaller provinces, recognize that an increase in provincial tax rates may cause their taxpaying citizens and businesses to relocate to other provinces. Such relocation is ineffective against federal government taxes. On the expenditure side, however, the responsibilities of provincial governments are substantial. For instance, the provincial governments must provide health care and education, both of which are very costly. Having such spending responsibilities, but with less scope than the federal government to raise revenues, causes a "fiscal gap" for provinces generally. To address this, a system of intergovernmental transfers is needed. For the federation to function properly, the transfers from the federal to provincial governments have to be sufficient to do what is required.¹ If not, there will inevitably be a "vertical fiscal imbalance," with the result that provincial governments will not have sufficient funds to adequately deliver the programs for which they are responsible.

The provincial and territorial governments argue that such an imbalance has existed for some time. In 2001, Québec established a Commission on Fiscal Imbalance, chaired by Yves Séguin. Its report, released in 2002, concluded that there was a serious imbalance, and warned that the federal government's strong fiscal position was allowing it to encroach into areas of provincial jurisdiction rather than partnering with provincial governments.² Subsequent to the Séguin Report, a further study prepared by the Conference Board of Canada for the provincial and territorial governments also concluded that there is a substantial vertical fiscal imbalance.³ While the federal government may not agree that there is an imbalance, it cannot deny that sustaining an adequate level of social programs requires that it make transfer payments to provincial governments.

Intergovernmental transfers are made in all federations, either through formal programs or on a discretionary basis. In Canada, the federal government currently has two major intergovernmental transfer programs: the equalization program and the Canada Health and Social Transfer (CHST). Equalization provides unconditional grants to provincial governments with weak abilities to raise revenue. The CHST goes to all provincial and territorial governments and is intended to support their programs in health care, post-secondary education and social assistance. In addition, the federal government's regional development programs can include such intergovernmental transfers as cost-sharing agreements with individual provinces.

"[Intergovernmental payments] illustrate the Commission's conviction that...provincial autonomy must be respected and strengthened, and that the only true independence is financial security....They are designed to make it possible for every province to provide for its people services of average Canadian standards....They are the concrete expression of the Commission's conception of a federal system which will preserve both a healthy local autonomy and build a stronger and more unified nation."

Canada 1939 Report of the Royal Commission on Dominion-Provincial Relations Vol. 2 (King's Printer, Ottawa, p. 125.)



Fiscal Federalism

These transfer payments reflect the practical Canadian values of provincial equality and autonomy, sharing and equity, and efficient public services. Fiscal transfers also play an important part in promoting national economic efficiency and integration by ensuring that tax burdens are not significantly greater in one part of the country compared with another, and by ensuring that people move to take up economic opportunities, not just to attain better public services and lower taxes.

Fiscal arrangements are vital to sustain the social union in Canada by helping to meet the need for similar standards of social programs and other entitlements. What Canadians want and have come to expect in terms of social entitlements differs very little from province to province. Health care is the most obvious example, but it also extends to other areas. Newfoundland and Labrador has been a strong supporter of the evolving social union over the years, including the 1998 Social Union Framework Agreement (SUFA) between the federal government and all the provinces and territories except Québec and Nunavut. That agreement provides a mechanism whereby the federal, provincial and territorial governments may establish ground rules for federal programs that fund provincial and territorial social programs, as well as for federal programs in areas of provincial and territorial jurisdiction. Thus, its purpose is to ensure that the federal government acts in partnership with provincial and territorial governments. To date, SUFA has not lived up to expectations,⁴ but it may yet provide a basis for a balanced arrangement among all the governments to guide social program transfers.

Fiscal federalism is also a practical means to fulfill the principles enshrined in section 36 of the Constitution Act, 1982:

36(1) Without altering the legislative authority of the Parliament or of the provincial legislatures, or the rights of any of them with respect to the exercise of their legislative authority, Parliament and the legislatures, together with the Government of Canada and the provincial governments, are committed to:

- (a) promoting equal opportunities for the well-being of Canadians;
- (b) furthering economic development to reduce disparity in opportunities; and
- (c) providing essential public services of reasonable quality to all Canadians.

36(2) Parliament and the Government of Canada are committed to the principle of making equalization payments to ensure that provincial governments have sufficient revenues to provide reasonably comparable levels of public services at reasonably comparable levels of taxation.

The principles in section 36(1) show that equality of opportunity is an important Canadian value. It means that specific measures to promote development in provinces with economic disparities can make important contributions to promoting equality of opportunity and reducing the disparities. "Essential

public services of reasonable quality” is also part of that commitment, which is further supported by the commitment to making equalization payments in section 36(2). These constitutional principles mean that fiscal arrangements should help promote, not hinder, major economic development opportunities that can reduce disparities and promote equality of opportunity.

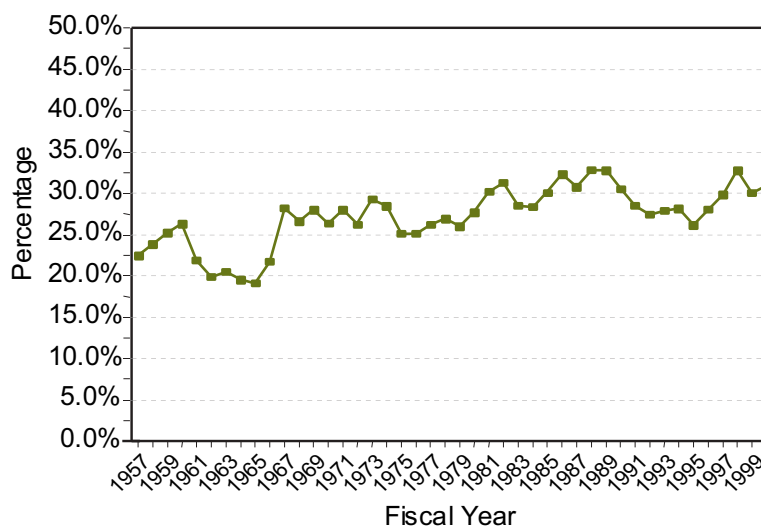
Equalization

The equalization program is entirely financed by the federal government. Since its beginnings in 1957, its purpose has been to provide funds to provincial governments so that they can offer similar levels of public services without having to resort to much higher tax burdens than in other provinces. The equalization program has been an important source of revenue to most provincial governments. At times, as many as nine provincial governments have been in receipt of equalization payments from the federal government. In 2003-04, such payments from the federal government are estimated to total \$10.5 billion, of which more than \$850 million represents the entitlement of Newfoundland and Labrador.

These payments have been, and continue to be, an especially important source of revenue for Newfoundland and Labrador. Figure 9.1 shows that equalization payments have typically equalled between 20 per cent and 35 per cent of total provincial government revenues, far more than is usual in other recipient provinces.

Figure 9.1

Equalization as a Percentage of Total Revenues Newfoundland and Labrador



Source: Department of Finance, Government of Newfoundland and Labrador.

The federal government has always followed a revenue-based formula as the means of calculating a provincial government’s equalization entitlement. In its most basic form, the formula uses just three steps to determine a province’s annual per capita entitlement. First, the federal government establishes a revenue benchmark, or standard, which is expressed in dollars per person. Second, it determines each provincial government’s ability to raise revenue; this is referred to as a province’s fiscal capacity, and is also expressed in dollars per person. Third, the difference between the standard and the provincial fiscal capacity is calculated. Any amount by which the standard exceeds the fiscal capacity is the amount of the province’s equalization entitlement on a per capita basis. This per capita entitlement, multiplied by

the province’s population, is the total equalization entitlement. If the standard is equal to or less than a province’s fiscal capacity, there is no equalization entitlement for that year.

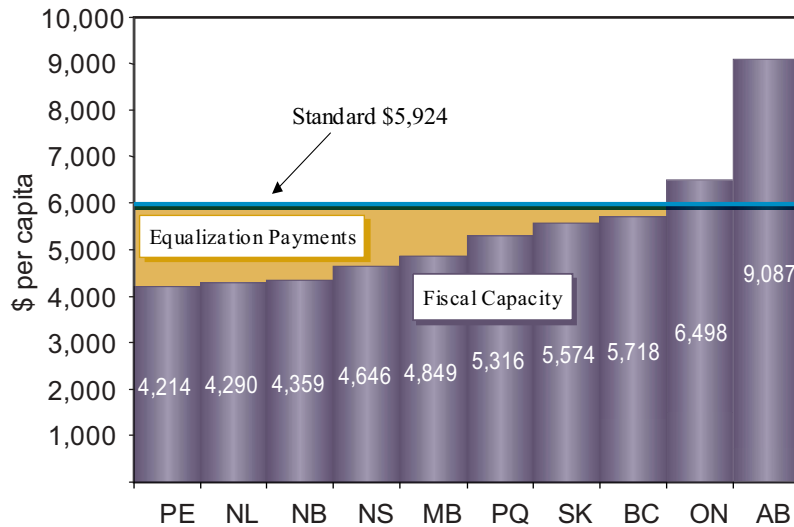
Initially, the standard was based on the ability of the two richest provinces in raising revenues from three sources: personal income tax, corporate income tax and succession duties. Over time, the standard has been considerably broadened to include many more sources of revenue, such as general sales taxes, the income of government Crown corporations, tobacco taxes and, in varying degrees, natural resource revenues. The reference set of provinces used in the standard was initially two provinces, then changed to include all ten provinces. Since 1982, five provinces have been part of the standard, namely British Columbia, Manitoba, Ontario, Québec and Saskatchewan. The standard is now the estimated per capita revenue that these five provinces would raise if they used the national average tax rates for each of over 30 revenue sources.⁵

A province’s fiscal capacity is currently measured as the estimate of how much revenue it could generate from the same set of revenue sources used in the standard, under the assumption that the provincial government imposed the national average tax rate corresponding to each of those sources. Thus, fiscal capacity is not how much revenue is actually collected, but an estimate of how much a provincial government could collect if it applied the national average tax rates.

Figure 9.2 shows estimates of the fiscal capacities of provincial governments and the standard for the fiscal year 2003-04. The standard is \$5,924 per capita. As can be seen in Figure 9.2, Ontario and Alberta have higher fiscal capacities than the standard and so are not entitled to equalization. Newfoundland and Labrador has a fiscal capacity of \$4,290 per capita. Since this is less than the standard, the provincial government is entitled to equalization for this year. According to Figure 9.2, seven other provincial governments are entitled to equalization for this year.

Figure 9.2

The Equalization Formula 2003-2004



Source: Government of Canada, Department of Finance, First Equalization Estimate 2003-04, February 2003.

The dollar amount implied by the difference between the standard and a province's fiscal capacity may not be the actual entitlement for a provincial government. The federal government makes adjustments for any ceiling or floor provisions that may be in effect. Ceilings have been used to put a limit on the total amount that would be paid out in equalization. During the 1990s, the federal government tightened ceilings on total payments, leading to equalization payments substantially below those implied by the differences between the standard and fiscal capacities of the provinces. In 2003, however, the federal government agreed to remove the ceiling provision. The floor, in contrast to the ceiling, applies to individual provinces. If a province's entitlement, as determined by the difference between the standard and its fiscal capacity, falls in a specific year, the floor provision allows for payments to ensure that the loss in equalization does not exceed a certain amount. In 2001-02 and 2002-03, Newfoundland and Labrador received floor payments. In various years since 1992, New Brunswick, Saskatchewan, Prince Edward Island and Nova Scotia have also received floor payments.

Another significant component of the program is the "generic solution," introduced in 1994: if a province has 70 per cent or more of a single revenue source, then 30 per cent of that province's revenue from that source is excluded from the calculation of its fiscal capacity. The generic solution was adopted due to a recognition that a province with a very large share of a revenue source could influence the national average tax for that revenue source. In practice, the generic solution applies only to revenues from a few natural resources in some provinces; in some years it has applied to Saskatchewan's potash and heavy oil, Nova Scotia's offshore gas and Québec's asbestos. Importantly, it can also be invoked for Newfoundland and Labrador's offshore oil revenues, an issue that will be discussed later in this chapter.

In principle, the equalization program is an attractive method for determining intergovernmental transfers. Funds generated by the federal government's superior access to revenues are transferred to provincial governments that, unless they impose extraordinarily high tax rates, do not have access to revenue sources sufficient to fund the public services for which they are responsible. The most important element of the current equalization program is its unconditional nature. There are no strings attached to how the recipient provinces spend the money. This is an entirely appropriate arrangement in a federation. The provincial governments do not tell the federal government how to collect these revenues, and the federal government does not tell the provinces how to allocate the funds among the public services for which they are responsible. However, some aspects of the program are of concern. These relate to the adequacy of the payments and to the manner in which natural resource revenues are currently treated in the formula.

The first to be considered is adequacy. The overall level of funding for the equalization program has been contained by the federal government. This has been done by various means. The federal government's redefinition of the standard in 1982 had the effect of lowering the standard; excluding Alberta brought the standard down more than the exclusion of the Atlantic Provinces brought it up. During the 1990s, the tightening of the ceiling, to the point of freezing it in some years, also reduced the amount the provinces would have received under this less generous standard. The effect of these cost-containment measures, especially coming at a time of growing demands for public services that are the responsibilities of the provinces, was to place many provincial governments in difficult circumstances. The ceiling has now been removed but, unfortunately, the five-province standard has not yet been changed.

Another element of the adequacy issue relates to population decline. It is particularly important to this province, and it is likely a concern shared by other provinces, particularly Québec and Saskatchewan. The 10 per cent decline in the population of this province since 1991 has been dramatic. The decline underscores the severity of the economic challenge facing this province. It also creates an equalization-related problem. A province's equalization entitlement is equal to its per capita entitlement multiplied by its population. If the population declines, the total entitlement declines as a result. However, with sizeable

reductions in the population, it is extremely difficult to reduce program expenditures that were based on serving a larger population. Moreover, debt obligations must still be paid.

Compounding this problem is the fact that equalization entitlements are based on estimates of the population. When it turns out that a province's population has declined more than was initially estimated, or has increased less than estimated, the federal government can then seek to recover prior overpayments. This is unfair and impractical in the short term. It is impossible for provinces to adjust their spending programs retroactively, and it is impractical to make complete adjustments in the short term. In the view of the Commission, the equalization formula should include a population-floor provision in order to phase in the impact of a population loss on a province's equalization entitlement in any one year from the previous year's entitlement. This provision is distinct from the current equalization floor provision which does not address population loss, but typically limits a province's equalization losses caused by a large change in its per capita fiscal capacity relative to the per capita standard. An allowance should also be made for retroactive population estimates that are disadvantageous to any province.

Apart from adequacy, there is a second concern especially important to this province and to Nova Scotia, i.e., the treatment of natural resource revenues.⁶ The purpose of an equalization payment is to fill any gap between a province's fiscal capacity and the equalization standard. Therefore, by design, if the gap widens, a province receives more equalization, and if the gap narrows, a province receives less. The latter effect is sometimes referred to as a "clawback." When a province's fiscal capacity improves generally, there is usually little debate about that effect. However, controversy occurs when the improvement in fiscal capacity arises from increased natural resource revenues. This controversy did not originate in Newfoundland and Labrador. It has been ongoing almost since the beginning of the program, and reflects an even longer and wider debate over the extent to which provinces should control and benefit from their natural resources.

For Newfoundland and Labrador, the extreme implications of the clawback became striking in 1982. In that year, the federal government redefined fiscal capacity to include all non-renewable natural resource revenues; at the same time, it removed all of Alberta's non-renewable natural resources from the standard by excluding that province from the reference provinces in its new five-province standard. In the five years prior to 1982, 50 per cent (rather than all) of these revenues had been included in both the standard and fiscal capacity. With the new definition, this province's revenues from offshore development would now be offset on a dollar-for-dollar basis through reductions in equalization, rather than on a 50 cents on the dollar basis as under the previous arrangement. Nova Scotia faced the same prospect with regard to oil and gas off its coast. The consequences of the situation were obvious. Without some action, offshore developments would lead to no net increase in revenues to these two equalization-dependent provinces; at the same time, the federal government would be saving on equalization payments and adding to its own revenues from applicable federal taxes.

In recognition of this problem, both the Canada-Nova Scotia Offshore Petroleum Resources Accord of 1986 and the Canada-Newfoundland Atlantic Accord of 1985 incorporated "offset" payments. Under the Atlantic Accord, Newfoundland and Labrador can receive some compensation (i.e., offset payments) from the federal government for any year-over-year reductions in equalization entitlements during the initial years of oil production. The Atlantic Accord, like the Nova Scotia Accord, is not part of the equalization formula. The Atlantic Accord will be discussed in more detail in Chapter 11.

Within the equalization program itself, there is an alternate way to avoid a dollar-for-dollar loss in equalization payments as offshore oil revenues increase. It is the generic solution. Newfoundland and Labrador's offshore revenue consists almost entirely of oil royalties and provincial corporate income taxes on oil companies. The sum of those revenues is designated as a unique revenue source in the equalization formula. Thus, by definition, the province has 100 per cent of this revenue source. Consequently, the generic solution can be applied. When it is applied, 70 per cent rather than all offshore

revenue is included in the measurement of the provincial government's fiscal capacity; this limits the decline in equalization to seventy-cents per dollar of offshore oil revenue. The federal government allows the provincial government to opt for either the Atlantic Accord offset payment provision or the generic solution, but not both. Oddly, the federal government requires the choice be made before all the revenue figures are finalized, so there is the risk of selecting the less advantageous of the two. It is the view of the Commission that the provincial government must be assured that it will receive whichever option yields the greater benefit.

For 1999-00 and 2000-01, the provincial government chose the generic solution. It opted for the Atlantic Accord's offset provisions for 2001-02, 2002-03 and 2003-04. According to federal government estimates, the offset payments for those three years amount to \$44.8 million, \$163.4 million and \$132.2 million respectively.⁷ It is likely that the Atlantic Accord offset provisions will continue to be chosen as oil production and expected revenues rise in the next few years, after which time the generic solution will again be the more advantageous. Thus, the generic solution may be of great importance to Newfoundland and Labrador in the years ahead. The Commission recommends that, in the next scheduled federal review of the equalization program in 2004, the generic solution be enshrined for the long term.

The Commission noted that the Standing Senate Committee on Finance, in its March 2002 report, not only endorsed the idea of returning to a ten-province standard but also supported liberalizing the generic solution so that a greater share of non-renewable resource revenues could be retained by recipient provinces. Other federal bodies have made similar recommendations. The 1985 Report of the Economic Union and Development Prospects for Canada, a federal royal commission chaired by Donald Macdonald, recommended a ten-province standard and an even more liberalized treatment of natural resource revenues. Notably, it recommended that 20 to 30 per cent of natural resource revenues be included in the equalization formula.⁸

Finally, beyond adequacy and the treatment of offshore oil revenues, there is an ongoing, fundamental problem with equalization. The federal government can, and does, unilaterally change the program according to its interests. While the program is renewed in five-year cycles, with each renewal involving consultations with provincial governments, the federal government determines all aspects of the program. Substantial changes to the program, whether introduced at renewal time or other times, can be very disruptive to provincial governments' budgets and force abrupt policy changes as a result. While the federal government must have some latitude to adjust the program, especially in light of unanticipated events, there also should be some limiting mechanism so that the adverse impacts on provinces can be minimized. The establishment of a credible national institution to advise the federal government on equalization (e.g., Australia's Commonwealth Grants Commission) might be worthy of consideration.⁹

The Canada Health and Social Transfer

The other major mechanism by which the federal government transfers funds to the provincial and territorial governments is the Canada Health and Social Transfer (CHST). These funds, which go to all provinces and territories on per capita basis, are specifically intended to assist in financing provincial health care, post-secondary education and social assistance programs. The federal government's total spending on the CHST is actually larger than its expenditure on the equalization payments. However, as is the case with other provinces with fiscal capacities substantially below the standard, Newfoundland and Labrador receives more in equalization payments than it does from CHST payments. Table 9.1 shows this comparison for 2002-03.

Table 9.1

Total CHST and Equalization Payments to Provinces (2002-03)		
	Estimated Payments to All Recipient Provinces	Estimated Payments to Newfoundland and Labrador
CHST	\$19.1 billion	\$347 million
Equalization	\$10.3 billion	\$904 million

Source: Department of Finance Canada “Federal Transfers to Provinces and Territories” February 2003

The federal government claims its CHST contribution is higher than its payments as shown in Table 9.1 because it states that “tax points” should be included. This refers to the fact that, in 1977, the federal government withdrew from cost-sharing health care and post secondary education programs and reduced its income taxes to give the provincial governments room to raise theirs. As such, these tax points really refer to funds raised by the provincial governments using their own taxes; there is no payment from Ottawa in relation to these tax points.

The CHST was created by the federal government in 1996. It did so by merging two existing programs: Established Program Financing (EPF) and the Canada Assistance Program (CAP). EPF was the federal government’s contribution to financing provincial health care and post-secondary education. CAP was a cost-sharing arrangement that assisted with provincial social welfare programs. When the federal government merged EPF and CAP into the CHST, it substantially reduced their total funding. As Table 9.2 shows, by 1998-99 overall funding, as well as funding to this province, was approximately 33 per cent less than in 1995-96.

Table 9.2

Estimated Federal Cuts Embodied in the Introduction of the CHST			
	1995-96 EPF and CAP	1998-99 CHST	Reduction
Total	\$18.5 billion	\$12.5 billion	32.4%
NL	\$413 million	\$276 million	33.2%

Source: Department of Finance, Government of Newfoundland and Labrador

Recently, the federal government has taken measures to alleviate the considerable hardship that accompanied those cutbacks. Still, it was only in 2001-02 that total CHST funding returned to approximately the same nominal amount as in 1995-96. Largely because of Newfoundland and Labrador’s population loss, CHST funding for this province in 2002-03 was still below the 1995-96 level. In the federal government’s 2003 budget document, *Investing in Canada’s Health Care System*, the federal government highlights its plans to increase CHST related cash transfers so that they grow nationally by an average of 7.3 per cent a year from 2000-01 to 2010-11. This increased level of funding is welcome. However, the federal government’s advertisement of its 7.3 per cent figure fails to acknowledge that it is calculated from a starting point at which funding was almost 20 per cent below its 1995-96 level and, for this province, falls short of providing a sufficient level of funding to meet its existing and increasing costs of health care.

Population losses compound the adequacy problems for Newfoundland and Labrador. As with equalization, when the population declines, our total CHST funding is reduced. Yet, it is difficult to reduce public expenditure on the associated social programs at the same rate that population is declining; even the extent of population loss is not known until some time after the fact. An economic slowdown or a shock to rural areas, such as the closure of the fisheries, can put more people on social assistance, at least

over the short-term. Facilities built for a larger population cannot be easily closed if it means denying the smaller population access to an essential social service. As this Commission has suggested with regard to equalization, some provision, perhaps a population floor, should be used in the determination of the total CHST entitlement and its planned replacements, the Canada Social Transfer (CST) and Canada Health Transfer (CHT). In its March 2003 Budget, the provincial government indicated that the population losses led to a cumulative loss in equalization and CHST related cash transfers of \$890 million from 1994-95 to 2003-04, a significant sum for a small province.

Federal Role in Economic Development

By the late 1950s, it became clear that, despite strong national economic growth and development, several parts of the country lagged behind others. National economic policies did not benefit all regions to the same degree and, indeed, may have actually contributed to regional disparities.¹⁰ The commitment to address regional disparities is part of the implicit bargain of Confederation: in return for the participation of its constituent parts in the national economic union, the country as a whole will assist provinces that fall behind fiscally or economically. As noted already, this commitment was explicitly included in section 36 (equalization and regional disparities) of the Constitution Act, 1982.

Since the 1960s, the federal government, usually in cooperation with the provincial and territorial governments, has undertaken a variety of programs for regional development aimed at addressing regional disparities.¹¹ Initially, regional development programs were targeted at slow growth rural areas in the Prairies and the Atlantic Provinces. By the early 1970s, such programs were expanded to Québec and, ultimately, to virtually every province and territory. In the process, this expansion weakened the original purpose of the programs. Since 1986, the Department of Employment and Immigration (now Human Resources and Development) has also been involved in rural economic development through its Community Futures initiative. By the 1990s, two factors combined to collapse this considerable effort at regional development: fiscal restraint and market-based critics of government intervention.

From the 1970s until the mid-1980s, the provincial governments increased their direct support to industry and agriculture through subsidization and other means. The federal government, through its Department of Industry and its successors, continued and expanded its support programs for targeted manufacturing sectors, mainly to those based in Ontario and Québec. Even with the revolution in public policy of the past 15 years, during which governments have abandoned many forms of market intervention and have adopted free trade as their primary industrial strategy, federal programs of support to industry continue. So, too, does funding from most provincial governments, although at lower levels. Meanwhile, federal funding for regional development has shrunk considerably. It cannot now compete, if it ever did, with the industrial programs of other branches of the federal government or the development funding of the larger provinces. Federal regional development is now a marginal activity in Canada.

A review of the past 50 years shows that this province has been a major recipient of federal funding for economic development purposes. Funding has covered a wide range of activities and purposes and has gone through a number of phases. The first phase, the 1950s and 1960s, dealt with basic catch-up infrastructure, including roads, schools, hospitals, airstrips and municipal water and sewer services. In this period, the federal government also cost-shared funding with the province for community resettlement. By the late 1960s, the focus had shifted to industrial development, including direct assistance in grants and loans to business, as well as more direct infrastructure such as industrial parks. In the 1970s and 1980s, while the direct assistance to business continued, cost-sharing with the province expanded to include broad economic development programs aimed at upgrading specific sectors and the provincial support structure for them (the 1974-1984 General Development Agreement and the 1984-1994 Economic and Regional Development Agreement). These sectors included mineral development, fisheries, agriculture, forestry, tourism, and general urban and rural development.

Some critics argue that, rather than help to lift an economy out of slow growth and dependency, regional development funding in fact perpetuates dependency by distorting market signals.¹² It is certainly true that the funds spent in these decades on economic development could not change nor deny the reality of market forces. However, even acknowledging that many criticisms of regional development in practice are valid – i.e., that many of these investments were wasted on poor business plans, that their delivery was excessively bureaucratic, or that funds were channelled to local projects on the basis of political “pork-barrelling,” – a more balanced assessment of regional development efforts should be made.

A balanced assessment begins with the recognition that scarce public funds must be put to the best possible use. Yet it seems that the federal government has “lost its way” in regional development policy. Over the years, too many federal agencies for regional development have suffered from blurred objectives and inconsistent and short-term application. Competition between the federal and provincial governments in Canada over economic development (a much broader pattern than just in Newfoundland and Labrador) has been held responsible for several shifts in program and policy focus and in the considerable volatility in the development and delivery of regional development programs.¹³ In the process, the federal government has largely abandoned the idea of joint economic development planning with the provinces as entailed in comprehensive cost-shared agreements over the past 25 years.

Federal direct delivery and attempts to increase visibility can get in the way of sensible, long-term development strategy. For example, Industry Canada’s pilot program for improving broadband access in rural communities relies on “partnerships” with not-for-profit, community-based associations to compete for funds to attempt unintegrated and piecemeal development in local broadband infrastructure. The success of this program will be limited by the level of funding available (\$105 million for all of Canada) and by its reliance on voluntary organizations to provide such services. In this province, the more sensible approach would be to have an agreement with the provincial government and the private sector to build broadband access into health and education services. Such broadband access would then provide an essential network that individual consumers could use as well.

Instead, the current federal priority appears to be to use regional development funds provided by the Atlantic Canada Opportunities Agency (ACOA) to sustain political visibility. In the most recent fiscal year, 2002-03, the federal government, through the Atlantic Canada Opportunities Agency, spent approximately \$76 million per year in Newfoundland and Labrador for assistance to business and to more general community and industry-specific economic development. Meanwhile, the abandonment of a cooperative cost-shared approach is having a negative impact in the province. The \$95 million federal/provincial Comprehensive Economic Development Agreement signed in 1997 expired this year, with no successor agreement in sight. That cost-shared agreement provided critical funding for many government strategic initiatives and industry associations. Many tourism, cultural and heritage organizations told the Commission how vital funding from this agreement is to their organizations and, that without this funding, their futures are at risk. Also important for broad economic development purposes has been federal funding to the municipal infrastructure programs and funding for labour market development initiatives.

It is enormously difficult to prove cause and effect in evaluating regional development, unless one can point to a specific investment and its specific returns. Certainly, there have been some important commitments by federal governments at critical times in recent years. The financial assistance of \$1 billion to the Hibernia consortium to start up offshore oil development is not forgotten. The further assistance of the federal government’s taking an 8.5 per cent equity position in that consortium, after one of its private partners pulled out in 1992, was also a crucially important move. More recently, federal government financial assistance helped to facilitate the conclusion of an agreement between the province, Inco and its subsidiary to proceed with the development of the nickel deposit at Voisey’s Bay. These sorts of initiatives are important if this province is to break out of its “Catch-22” syndrome.

Because Newfoundland and Labrador is not rich, it cannot undertake such initiatives and, without these initiatives, it cannot become prosperous.

Conclusions

The equalization program is crucially important to this province. For the program to meet its intended objectives, the Commission concludes that the following changes to the program are required:

- a return to a ten-province standard
- inclusion of a population floor provision in the formula to reduce the impact on a province's equalization entitlement due to population loss, including some accommodation for prior year losses
- preservation of the generic solution for the longer term.

In the view of the Commission, it is in the national interest to make such changes and to do so in the spirit of improving the federation for all Canadians.

An adequately funded CHST is required for provinces to provide quality health and social programs. Federal cuts to funding for these programs in the mid-1990s were severe. The current strong fiscal position of the federal government demands that this situation be rectified. The Commission is aware that CHST cash entitlements for this province are still not at the level they were prior to the cuts, despite additional federal funding this fiscal year. The Commission supports the position of the province that:

- for the health care system to be sustainable, the federal government must provide greater financial support to the province
- future federal contributions to CHST should be tied to an annual escalator that reflects program costs.
- In addition the Commission supports the inclusion of a population floor provision to reduce the impact on a province's CHST entitlement due to population loss, including some accommodation for prior year's losses

The federal and provincial governments have a role in providing strategic investments to remove obstacles to development and promote opportunities. The Commission's view is that these investments should be concentrated in two areas:

- co-operatively planned and funded economic development programs in support of research and innovation partnerships, and for communications and transportation infrastructure;
- large strategic initiatives to break barriers and to encourage major private development to get underway, such as occurred with the Hibernia project.

The Commission sees such economic development as another important aspect of a renewed partnership within Canada. The commitment to economic development is a fundamental principle underlying the Canadian federation. Canadians accept that principle, and the Constitution recognizes it.

“We have been on the journey for 53 years now and can say with certainty that the decision to join the Canadian Confederation has improved the standard of living for our citizens. We have benefitted by becoming part of the country that the United Nations has consistently ranked among the best in the world and we pride ourselves on being part of a country that is respected in the global community.”

Excerpt from the Public Consultations

“Without a suitable improvement [in cost-shared programs], our province will continue to hemorrhage its talented artists, artisans and support personnel to other regions of Canada and beyond.”

Excerpt from the Public Consultations





The fishery, particularly the groundfish fishery, is at a crossroads, and its role in the provincial economy and in rural society is very uncertain. The fishery is at a point where it will either decline further or, more hopefully, regain its dominance through the rebuilding of the resource in a sustainable manner. Presently, the fishery is embroiled, yet again, in public and political debate about the recently announced closures in cod fisheries, specifically Northern cod and Northern Gulf cod stocks. The current frustrations are reminders of the failures of the past decade. These include:

- an expensive yet unsuccessful adjustment program
- cutbacks in fisheries science and enforcement that instill a sense that the federal government has given up on rebuilding the resource
- increased level of foreign overfishing
- shock and grief of rural communities which are being decimated by out-migration

The decline in the groundfish industry resonates throughout Newfoundland and Labrador. For over five hundred years, our society has been intimately intertwined with the ups and downs of the fishery. The current state of the fishery, therefore, strikes at the heart of “our place in Canada.” It is incredible that something so central to the economic and social life of Newfoundland and Labrador is rife with political infighting, intergovernmental competition and bureaucratic mismanagement.

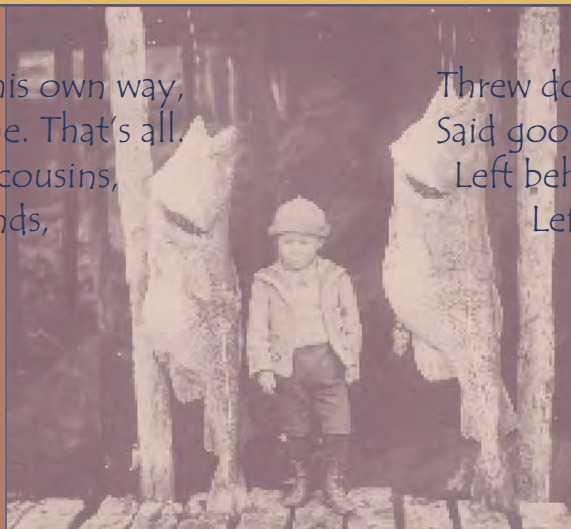
It is important to place the fishery of today in context, because the roots of the problems run deep. This chapter will briefly outline the history of the fishery and its importance to Newfoundland and Labrador. It will then address the issue of foreign overfishing and the management of “straddling stocks,” as well as the vexing issue of fisheries management.

The Changing Fishery and its Role in Newfoundland and Labrador

The fishery in Newfoundland and Labrador has never been static. In 1901, when our total population reached 221,000, no less than 54,000 people, a staggering 72 per cent of those employed, were engaged in the fishery. By 1935, when the population had increased to 289,000, 46 per cent of the total workforce of 78,000 was directly employed in the industry. As late as the mid-1980s, despite 40 years of decline, the fisheries workforce was approximately 20 per cent of total employed persons, and represented over 50 per cent of those employed in the rural economy. In the current context, prior to the most recent closures, however, the fishery employed approximately 7.5 per cent of the provincial workforce. The value of landings due mainly to crab and shrimp has reached near record levels.

The fishery has played an important role in employment for females as well as males. While participation rates have changed over the years, females today make up slightly more than 20 per cent of the individuals

Each in his own way,
They just came. That's all.
Each in his own world of cousins,
Sisters, loves and friends,
One day at home in
Europe,
And the next
With the movement
already in his veins,



Threw down the reins of home
Said good-bye to homely paths
Left behind a native sod
Left behind a nation growing
Left behind a doubtful god
And came, perhaps to fish
for cod.

Tom Moore
Ancestors,

Fisheries

reporting fishing income. Women represent more than 50 per cent of those employed in the processing sector. However, the average income for women remains lower than for men.¹

Change has also been a constant in the application of fishing technology. The most significant technological change since Confederation came as a result of the transformation to fresh-frozen production from saltfish processing. This change had major effects on employment and investment patterns; as a result, many communities were resettled in the 1950s and 1960s. Another dramatic change occurred in the 1950s with the introduction of factory-freezer trawler technology by foreign distant-water fleets. In addition, Canadians began utilizing otter-trawling technology to prosecute the offshore groundfish resources. This new harvesting technology had a dramatic negative impact on inshore (smaller coastal vessel) landings, especially by the mid-1970s. Governments at the time thought that jobs would occur elsewhere in the economy to offset the declines in the fishery. Indeed, many policy-makers saw the inshore sector of the industry as an obstacle to economic diversification.²

The decline and despair that pervaded the inshore fishery waned with the extension of Canadian fisheries jurisdiction in 1977. In fact, there was euphoria following the extension of jurisdiction by Canada and the phase-out of foreign fishing inside the 200-mile limit. There was a sense within the fishing industry and rural communities that Canada had achieved a solid recovery of most groundfish resources by extending jurisdiction to 200 miles. The extension of jurisdiction in itself was also seen to ensure an effective management of the fishery into the future.

In the years following the establishment of the 200-mile limit, the harvesting and processing sectors of the inshore and offshore fisheries launched a wave of investment. This expansion of the industry was largely financed through loans and subsidies from both the federal and provincial governments. As fish landings increased, a greater sense of community stability prevailed. By the early 1980s the industry was significantly overcapitalized. The overcapitalization, combined with the economic recession of the period and record-high interest rates, led to the failure of many firms in the groundfish sector. Following a deep financial crisis within the industry, governments and banks restructured most of the larger firms in 1983. Despite the financial restructuring, however, there was little or no rationalization of the harvesting or processing capacity within the industry.

Throughout most of the 1980s, the industry acted hastily and politically to harvest more and more groundfish and create more and more jobs; and it did so without any reasonable understanding of the state of the resource. In 1983, the Task Force on Atlantic Fisheries reported that "Canada's Atlantic coast fishermen should be able to catch about 370,000 tonnes more than they did in 1981... almost all of this increase will consist of cod... most of the growth will take place off northeast Newfoundland."³ While stocks were beginning to recover following the decimation that occurred as a result of foreign fishing in prior decades, domestic fishing efforts were increasing significantly. It was not until the late 1980s that fisheries scientists began to question the true state of groundfish resources. By 1989, scientists were

recommending that annual Total Allowable Catches be reduced markedly; however, political and socio-economic considerations took priority, and fishing continued at relatively high levels. During the 1980s, foreign fleets continued to ravage the stocks beyond the 200-mile limit.

The Collapse of the Fishery

By 1992, the groundfish stocks in Atlantic Canada, particularly those adjacent to Newfoundland and Labrador, were in such a depleted state that the Minister of Fisheries and Oceans declared a moratorium. Although there had been a modest level of fishing permitted for various stocks in recent years, in April 2003 the minister announced the further closure of the remaining commercial and recreational fisheries for Northern cod (2J3KL) and Northern Gulf (3Pn4RS) cod. While not nearly as large as the 1992 closures, this action will still affect an estimated 4,400 fish harvesters and plant workers, and nearly \$50 million in personal income per year.⁴ The collapse of these key groundfish stocks has left a lasting imprint on the province. It has bred strong mistrust of fisheries management and science, and left a lingering question about why the policies of both federal and provincial governments failed to sustain such valuable and renewable resources for the benefit of present and future generations.

Over 30,000 people and hundreds of communities were directly affected by the moratoria on cod and other species. From an economic perspective, over \$600 million annually has been lost to the provincial economy from the loss of four key groundfish stocks: Northern cod, Gulf cod, Grand Banks American plaice and cod. The industry is now anchored by the shellfish sector (snow crab, shrimp and lobster) which accounts for about 80 per cent of total output and employment. Given the cyclical nature of these stocks and the over-capitalization in both harvesting and processing, there is little confidence that these fisheries are sustainable. Any significant drop in landings, especially snow crab, will cause heightened levels of uncertainty and community instability.

At the Commission's public meetings, the collapse of the fisheries became a major topic for discussion and debate. Not surprisingly, in all rural coastal areas this issue ranked as the number one concern. Many reasons for the failure were offered, including: (i) inadequate science, (ii) improved technology, (iii) too many processing licenses, (iv) too many harvesters, (v) too much reliance on the fishery as an employer of last resort, (vi) heavy reliance on the employment insurance program to sustain communities and people, (vii) too much political pressure to keep quotas high, (viii) relentless foreign overfishing, (ix) lack of action on seal populations, and (x) a general reluctance to come to grips with the reality of the declining resource because of the unthinkable result. In other words, the public recognizes – and the Commission agrees – that there is a collective responsibility for the loss of the fishery. Nevertheless, the federal government has overall responsibility for the management of the fishery. The stocks collapsed “on their watch,” and therefore the federal government must take primary responsibility for rebuilding the resource.

There can be no questioning the magnitude of the stock collapse. In the most dramatic cases, Northern cod declined from approximately 265,000 tonnes annual landings in the 1980s, to its total closure this year; similarly, the northern Gulf of St. Lawrence cod stock went from 100,000 tonnes to its total closure. According to analysis undertaken for the Commission, the chief explanation for the loss of these valuable resources is “...the failure of fisheries science and management to prevent overfishing ...”⁵ While environmental change also contributed, “the real issues were that scientific understanding of the cod fisheries had been inadequate, and “signals” of change in the northern cod ecosystem were not sufficient to trigger any management action whatsoever.”⁶

A similar conclusion can be made for most of the other Canadian managed groundfish stocks. “The state of the fisheries science and its translation to management of the Newfoundland and Labrador fisheries must be judged harshly. The Federal Government of Canada, and its current Department of Fisheries and Oceans, have not been effective at conducting the necessary science and executing effective management

of Newfoundland and Labrador fisheries.”⁷⁷ In other words, a deadly combination of ineffective overall fisheries management, inadequate fisheries enforcement, inadequate science, foreign and domestic fishing practices, a burgeoning seal population, advances in harvesting technology, political interference and the lack of an open and transparent decision-making process – all undermined the capacity of Nature to withstand the sustained human pressures brought to bear on these stocks over several decades. As George Rose has written, the Northern cod (and by extension most of the Atlantic groundfish stocks) is “... the icon for fisheries mismanagement in the world.”⁷⁸ We have lost, we trust not permanently, one of the world’s great wild harvests. This was not inevitable: other major groundfish stocks in Norway, Iceland, Alaska and New Zealand have not been subject to the same mismanagement.

A Plan for Rebuilding and Sustaining the Fisheries

The single most important question regarding key groundfish stocks is the time frame for stocks to recover and the extent of that recovery. Only sound stewardship of the resource will bring the fish back. This will not be easy; it will take many years and a substantial investment of resources. However, it is essential that the turnaround begin immediately. As part of an urgent action plan, the Government of Canada must commit to a comprehensive rebuilding plan for the groundfish fishery, involving a far stronger commitment to fisheries science and a more effective approach to fisheries management. The fishing industry and the Government of Newfoundland and Labrador must also commit to this rebuilding plan, and must participate in its formation and implementation over the long term.

There is now a growing convergence about what needs to be done to rebuild the stocks. The findings of the Fisheries Resource Conservation Council, the Newfoundland and Labrador All Party Committee, the House of Commons Fisheries Committee, the research conducted by DFO Science, and the research conducted for the Commission involve a multiplicity of approaches including, but by no means limited, to the following:

- restricting directed cod fishing
- reducing the size of the seal population
- implementing a moratorium on recreational cod fisheries
- imposing a ban on trawling in cod-spawning areas and areas of juvenile cod aggregation
- placing a moratorium on the commercial capelin fishery
- increasing the level of funding for DFO scientific research, including requirements for mechanisms to improve partnering among DFO science, academics and industry
- addressing the problem of foreign overfishing by establishing a more effective fisheries management regime to protect straddling stocks and their ecosystem
- enhancing fishery enforcement programs to protect recovering fish stocks from illegal fishing
- determining the feasibility of cod stock enhancement through cod grow out and release initiatives
- designating protected areas to enhance stock recovery and the protection of ecosystems in the bays and on the Grand Banks
- establishing a Newfoundland and Labrador Fisheries Science Centre at Memorial University
- reinstating funding for science vessels within DFO

- conducting research on the environmental sustainability of various harvesting methods, with measures being taken to minimize ghost-fishing, by-catch of non-targeted species and habitat destruction

What needs to be done is clear. What has been lacking since the early signs of decline in the late 1980s is an overall, long-term plan for stock rebuilding that has the political commitment of both governments and the appropriate resources for the task. The Commission is recommending, therefore, the immediate establishment of a federal/provincial “Action Team” appointed jointly by the prime minister and the premier with a six-month mandate to recommend, in consultation with industry participants, a plan for stock rebuilding. The appointment of such an action team is imperative. It will send a clear signal that stock rebuilding is of the highest priority for leadership in the Government of Canada and the Government of Newfoundland and Labrador. The urgent time frame signals that the rebuilding plan cannot await the outcome of more lengthy discussions associated with issues such as joint management. Indeed, without a successful plan to rebuild fish stocks, there will be little to worry about in terms of who is going to manage them.

While dealing with an action plan for the rebuilding of groundfish stocks is critical, the team also would be mandated to make recommendations with respect to any actions deemed necessary to ensure the ongoing sustainability of shrimp and crab stocks. The importance of this issue cannot be overstated. Should immediate action not be taken to rebuild groundfish stocks, and should snow crab and shrimp stocks significantly decline over the coming years, it can be said without fear of contradiction that the economic base of rural Newfoundland and Labrador will collapse. The Action Team would take maximum advantage of all the available research, which is substantial and recent, to expeditiously outline a groundfish rebuilding plan and a shellfish sustainability plan.

The Action Team would also make recommendations on restoring expenditures on fish science. During the 1990s the federal government substantially reduced funding and personnel for fisheries research. This made no sense in light of the circumstances facing the fishery which in fact pointed to the need for an increased scientific effort. The rejuvenation of the fisheries science program, the restoration of funding and the need for greater utilization of research vessels should therefore be a priority issue for the Action Team.

An Approach to Foreign Overfishing and Straddling Stocks

While the northwest Atlantic fisheries have always been an international affair, foreign fishing on the continental shelf escalated dramatically after the introduction of factory-freezer technology in the 1950s. By 1974, this fishing effort led to the first major collapse of the province’s groundfish fishery. This occurred under an international fisheries management regime, the International Commission for the Northwest Atlantic Fisheries (ICNAF), which failed to safeguard the sustainability of virtually every commercial fish stock in the area. Lasting from 1949 to 1977, the ICNAF regime allowed catches, particularly by fleets from Europe and the Soviet Union, to go far beyond the capacity of all key groundfish stocks, thus causing the spawning biomass of most stocks to collapse.

The 1964 decision by the Government of Canada to increase Canadian fisheries jurisdiction from three to twelve nautical miles had little impact on foreign fishing given the wide distribution of fish stocks well beyond twelve miles. The increasing provincial, national and international concern over the impact of distant-water fishing efforts on a global basis finally resulted in Canada extending its jurisdiction over fisheries to 200 nautical miles on January 1, 1977. International law of the sea negotiations led to the United Nations Convention on the Law of the Sea (UNCLOS) in 1982. The UNCLOS agreement that coastal states could extend their jurisdiction to only 200 nautical miles left out an extremely productive

but vulnerable set of “straddling stocks” on one part of Canada’s continental shelf known as the “Nose” and “Tail” of the Grand Banks, as well as non-straddling stocks even farther out on the Flemish Cap.

During the Law of the Sea discussions, Newfoundland and Labrador representatives urged the Government of Canada to ensure that these straddling stocks be included in any new Canadian jurisdiction. In the end, the Canadian government acceded to the international consensus on a 200-mile regime. It expressed confidence at the time that this decision would not compromise the ability of Canada to effectively manage the straddling stocks.⁹ This new framework provided for a far greater measure of coastal state control within 200 nautical miles. The areas outside Canada’s Exclusive Economic Zone were left to the management of ICNAF’s successor, the Northwest Atlantic Fisheries Organization (NAFO), established in 1978.

Initially, Canadian fisheries jurisdiction appeared to deliver on the promise of a greater share of resource for the Canadian fishery. By the early 1980s, however, foreign fleets displaced from inside the 200-mile limit began to concentrate on fish stocks just outside the line, ultimately undermining both Canadian and NAFO regulations. Throughout the 1980s the level of European Union catches on the Nose and Tail of the Grand Banks far exceeded their NAFO allocations. For example, between 1984 and 1990, the European Union received groundfish allocations totaling 214,000 tonnes, whereas Canadian experts estimate the actual European Union catch at 911,000 tonnes.¹⁰ This overfishing by European Union countries and other fishing fleets, whether members of NAFO or not, led to a sharp decline in stock biomass. All principal trans-boundary groundfish stocks on the Nose and Tail of the Grand Banks and the Flemish Cap were placed under moratoria by the early 1990s. There is no doubt that this foreign fishing contributed to the demise of Canadian groundfish stocks, especially cod and flatfish on the Grand Banks, as well as other major resources on which the Canadian fishing industry had depended.

Since the mid-1990s, Canada has pursued a broad approach consisting of multilateral, bilateral and unilateral measures in an attempt to bring severe foreign overfishing by European Union and other vessels under control. This included strengthening Canadian legislation (such as 1994 amendments to the Coastal Fisheries Protection Act to allow for enforcement of NAFO management measures), the highly publicized arrest of the Spanish trawler *Estai* and direct negotiations with the European Union. The federal government also took the lead in negotiating the United Nations Fisheries Agreement (UNFA) of 1995, aimed at strengthening international fisheries regimes such as NAFO to better conserve and manage straddling stocks.

Despite these measures, foreign overfishing has escalated in recent years. Canada is still unable to effectively address overfishing within the NAFO framework. Actions by NAFO member countries, such as the misreporting of catches by species and area, the use of illegal mesh gear, and the continued misapplication of the objection procedure within NAFO, have compromised the very integrity of the NAFO conservation framework. These failures have led many to demand that Canada assume “custodial management” of groundfish stocks outside of its Exclusive Economic Zone. Indeed, during the Commission’s deliberations, there were repeated calls for such action. The House of Commons Standing Committee on Fisheries and Oceans also recommended unilateral action by Canada to “assume responsibility for the management and conservation of the areas of our continental shelf beyond the 200-mile limit.”¹¹

The Commission fully supports the Standing Committee’s statement that the ultimate objective Canada must pursue is “a comprehensive, conservation-based fisheries management regime outside the 200-mile limit that is as rigorous as that inside the 200-mile limit.” Furthermore, and in this context, the Commission fully understands and supports the legitimate arguments behind the demand for custodial management. They are based on the reality that NAFO has proven itself an ineffective mechanism to properly manage straddling stocks outside the 200-mile limit.

Nevertheless, it has to be recognized that immediate unilateral action by Canada to assume responsibility for areas such as the Nose and Tail of the Grand Banks and the Flemish Cap has serious legal, diplomatic and enforcement risks. Research, conducted for the Commission,¹² concludes that custodial management would be seen and resisted by foreign nations as a violation of international law, including treaty obligations voluntarily assumed by Canada under the UNFA. Furthermore, Canada would have to abandon NAFO to pursue this course of action. The Commission is concerned that Canada is not presently in a position to enforce and maintain custodial management in the face of strong resistance from foreign states. There is a real risk that the abandonment of NAFO, coupled with an inability to enforce and maintain custodial management, could lead to a “free for all” much worse than the present situation. This would not be in the best interests of the resource, Newfoundland and Labrador or Canada. While the federal government has already rejected the recommendation of the Standing Committee that it take custodial management of the continental shelf outside of 200 miles, simply rejecting custodial management as an immediate option is not good enough.

The federal government has an obligation, in consultation with the province, to immediately develop a comprehensive plan to enhance the management and conservation of straddling stocks outside 200 nautical miles, and to commit the resources necessary to achieve this objective. An immediate part of this comprehensive plan would be working to enhance the management capabilities of NAFO. This cannot and should not be viewed as maintenance of the status quo. Canada must act much more forcefully within NAFO to see if reform is possible. This would include a determined effort within NAFO for operational improvements on such issues as the inspection regime, blacklisting of offending ships and publicizing violations. More fundamental improvements, such as the enhancement of member-state enforcement and inspection, should also be pursued. Negotiations within NAFO would have to be supported by other pressures such as port closures and aggressive international public education efforts aimed at building support for reform. The federal government must also increase pressure on those NAFO members, particularly the European Union, who have not ratified UNFA to do so. Thereafter, the federal government must take maximum advantage of the dispute settlement options under UNFA to force NAFO members to comply with their obligations.

The risk is that, despite all best efforts, NAFO will remain ineffective. Canada’s comprehensive strategy must, therefore, include steps to prepare for the possibility that strong unilateral action will be required should its attempts to reform NAFO fail. Canada must launch a major diplomatic effort to build international understanding and support for decisive action to protect these stocks. It must also ensure that it has the resources necessary to enforce and maintain unilateral action, such as custodial management, should such action prove necessary. The alternative – the status quo – is to stand aside and allow foreign overfishing to decimate straddling stocks with tragic results for both the resource and rural Newfoundland and Labrador. The Commission is strongly of the view that Canada must make one last effort at strengthening NAFO. At the same time, Canada must prepare itself and the international community for the reality that strong unilateral action may be necessary to conserve and protect critical straddling stocks.

Fisheries Management – A Dysfunctional Federal/Provincial Relationship

The challenge of rebuilding and sustaining the fisheries of Newfoundland and Labrador is formidable, and cannot be addressed in isolation from national and provincial policy-making. That challenge includes a collaborative vision of the role that the fishery can play in the future of our rural society. Such collaboration arises from both constitutional and common sense realities. To begin with, the provincial government has overall responsibility for shaping economic and social development; this includes its rural coastal communities. The federal government also plays an important role in economic development

policy and programs. Moreover, any federal or provincial initiative is bound to fail unless it is integrated with a coordinated strategic fisheries management and development vision.

The specific regulatory responsibilities over the fishing industry are relatively straightforward, even if they are difficult to separate in reality. As with other provinces, the fisheries adjacent to Newfoundland and Labrador are under federal jurisdiction by virtue of section 91(12) “seacoast and inland fisheries” of the Constitution Act, 1867. This means that the federal minister and the Department of Fisheries and Oceans are responsible for such tasks as stock assessment and fisheries science, licensing of vessels and fishers, the allocation of stock quotas and their enforcement. The federal government is also responsible for the regulation of international and interprovincial trade, competition, product standards and international negotiations related to fisheries management outside 200 miles. The primary provincial regulatory role arises from section 92(13) “property and civil rights” of the Constitution Act, 1867. This gives the provincial government control over fish plant licensing, certain aspects of quality control and aquaculture, and more generally, labour standards, collective bargaining and occupational health and safety.

In essence then, jurisdiction and policy-making over the fisheries are fundamentally split between the two levels of government, requiring a major effort at cooperation if the overall management of the fisheries is to work.¹³ Unfortunately, the fisheries relationship between the Government of Canada and the Government of Newfoundland and Labrador too often has been highly political and dysfunctional. This became especially evident following the extension of fisheries jurisdiction in 1977 when the fishery took on greater prominence in economic development. The provincial government advocated for a larger jurisdictional role during constitutional debate in the late 1970s and 1980s. It pushed for concurrent jurisdiction over fisheries management, to provide the province with primary responsibility for economic and social regulation of fisheries resources adjacent to the province. More recently, in May 2003, the House of Assembly passed a unanimous resolution calling upon the Government of Canada to begin negotiations leading to the establishment of a joint management regime through a constitutional amendment.¹⁴

The 1970s-1980s controversy over jurisdiction compromised any real opportunity for the development of a common policy approach to the management and development of the province’s fishing industry. Cooperation became even more unlikely when federal licensing and resource allocation policy led to increased fishing capacity by vessels based in other provinces. This occurred in the waters adjacent to Newfoundland and Labrador when new resource opportunities arose after 1977, and involved, especially, Northern cod and shrimp. Without the broad support of the fishing industry at large, the provincial government failed to achieve its jurisdictional goals. Moreover, the federal resistance on the jurisdictional issue, not surprisingly, found widespread support in the Maritime provinces. In any case, federal fisheries management continues to be wrapped in an overall Atlantic-wide fisheries policy in which there is no apparent room for an articulated policy addressing the unique needs of Newfoundland and Labrador.

The lack of any direct participation by the Government of Newfoundland and Labrador in the management of its key resource has reduced the province to an advocacy role. Newfoundland and Labrador is seen as but one of many “stakeholders,” and federal policy forces it into a competitive game with the Maritime provinces and Québec. This situation contributes to the provincial government’s condemnation of federal measures. It is no way to run the fishery. It is no way to run a federation.

While intergovernmental conflict continues, fisheries policy is increasingly regulated and restrictive. The federal government has, for many years, adopted a policy of restricted entry into the fishery and a more structured stock-by-stock management approach in both the inshore and offshore sectors, leading to the micro-management which characterizes industry regulation today. Moreover, the overall regulatory approach is marked by excessive authority solely in the hands of the federal minister as the final decision-maker. Over the years, this has left the entire system susceptible to last minute and continuing pressure

from politically connected industry factions. No other major resource industry in Canada is regulated on that basis, and fisheries should not be either.¹⁵ The proof lies in the fact that the overall regulatory and decision-making structure failed to ensure the sustainable management of the dominant groundfish resources. In short, this policy approach failed the many thousands of individuals and their communities who had a major dependence on these stocks. This, in turn, has led to the erosion of confidence in the federal fisheries management structure.

It must also be acknowledged that the provincial government's management of the fish processing sector immediately after the extension of fisheries jurisdiction lacked the discipline that was critical to the evolution of a viable and stable fishery. Community expectations for the licensing of fish plants exceeded the supply of fish available for processing. The provincial government's processor licensing policy was also driven by resource projections that did not materialize, leading to overcapacity in the processing sector. And, as noted elsewhere in this Report, federal employment insurance policy, aided and abetted by the provincial government, contributed to overcapacity. Certainly much of the fisheries in the province is and will always be seasonal, and there is an appropriate role for employment insurance (EI) in sustaining workers through months of unemployment. But EI rules have encouraged the practice of spreading the returns of the fishery too widely, with overly short work periods, encouraging many more people to enter the sector than it can reasonably sustain.

The Commission's view is that the province's licensing policy remains too political and has led to a processing sector that is still seen as the employer of last resort. The shellfish industry today is a mirror image of the groundfish sector of the 1980s. Yet this excess capacity was licensed, for the most part, since the groundfish fishery collapse. It is clear that lessons have not been learned about the impact of processing overcapacity on the sustainability of fishing communities. If the snow crab resource declines significantly over the coming years, as it has in areas off Labrador, this overcapacity will lead to pressure to keep quotas at higher levels than can reasonably be sustained. If the resource follows the path of the cod, there will be an equally large disaster.

In summary, the roles and responsibilities of the Governments of Canada and of Newfoundland and Labrador are so intertwined that cooperation and collaboration are absolutely essential. The harvesting and processing sectors of the fishing industry should be managed as part of an integrated system. The fishery is too important to allow current fractured relationships in fisheries management to persist. The ongoing dysfunctional relationship leads to a lack of overall fisheries policy objectives. It compromises both the industry's contribution to the province's economy and the prospects for stock recovery. It also negatively affects many rural communities.

Joint Management

The Commission, therefore, endorses completely the need for a mechanism which will allow the province to have a joint role in the management of the resource and, in particular, to be a strong partner in an action plan to rebuild the fish stocks. Research for the Commission and fisheries management practice in other countries suggest that it is not so much which order of government regulates the fishery so much as *how* it is done.¹⁶ Far too much power has been in the hands of federal and provincial ministers who determine the economic and social shape of the fishery and are often influenced by the political lobbying of fishing interests. The public interest, including proper stewardship of the resource, has not been well served. No other major resource sector in Canada is managed in such a direct and political fashion.

The Commission's view is that institutional reform should be initiated whereby a determination of the policy framework for the conservation, management and development of the Newfoundland and Labrador fisheries can be carried out jointly by the federal and provincial governments. In this regard, the Commission was influenced by the extensive research carried out on its behalf by David Vardy, Eric Dunne and George Rose.

It is no longer acceptable for the federal government to make decisions so crucial to the province without a formal mechanism for meaningful input from the people of Newfoundland and Labrador. During the course of finalizing our recommendations on the fishery, the Government of Newfoundland and Labrador introduced a resolution into the House of Assembly seeking a formal amendment to the Terms of Union and released a White Paper entitled *Joint Management of Newfoundland and Labrador Fisheries*. This resolution and paper seek amendments to the Terms of Union to provide for shared and equal constitutional authority between the federal parliament and the provincial legislature over fisheries adjacent to the shores of Newfoundland and Labrador. They also propose the negotiation and constitutional entrenchment of a new Joint Management Fisheries Board to manage fishery resources.

The Commission endorses a joint approach for fisheries management. Such an approach does not need a change in the Terms of Union and could follow a route similar to that which led to the establishment of the Canada-Newfoundland Offshore Petroleum Board. There will have to be much discussion and consultation on the details of this approach, but the following three principles should apply to any new mechanisms:

- the primary decisions regarding the annual setting of the Total Allowable Catch (TAC), the allocations of TACs and the regulation of the harvesting and processing sectors be made jointly by the federal and provincial governments
- joint mechanisms be open, transparent and include full opportunity for stakeholder consultation
- the licensing of the harvesting and processing sectors be done on an integrated basis by an arm's length regulatory body jointly appointed by the two governments

Negotiations should begin as soon as possible to establish a Joint Management Fisheries Board. In the view of the Commission, there is every opportunity for both levels of government to make joint management work. It is no longer acceptable for the provincial government not to have a meaningful say and meaningful participation in the management of its most important natural resource. One area of caution is the extent to which the setting of TACs can be incorporated into a joint management function. This is particularly so for stocks such as 3Pn4RS (Gulf cod), where fleets from all provinces have a fishing history. It would be worthwhile to keep an open mind with respect to the exact mechanism for setting TACs, so that opponents of joint management are not afforded the opportunity to dismiss the fundamentals of joint management over the details of how to handle TACs.

In dealing with the important issues of stock rebuilding, custodial management, joint management and fishery science, the Commission had an overwhelming sense that politics and political matters are the driving forces in issues dealing with the fishery. It was not lost on the Commission, as it reviewed the various structures that could be established for joint management, that this work was being done in an environment where most of the fish had already disappeared. Indeed, it was revealing that, during the final stages of the Commission's work, an independent body of experts designated Northern cod a threatened species. There was an uneasy sense that highly charged political arguments were taking place long after they could do any significant good.

The Commission wishes to put the current debate into some perspective. It is our view that if someone could wave a magic wand and put joint management, custodial management and a stock rebuilding plan in place overnight, there would still be a period of years before stocks, particularly the Northern and Gulf cod stocks, could reasonably be expected to recover. Moreover, even if restoration were to result, it would most likely be more than ten years before stocks could sustain any significant commercial harvests. In other words, there are no easy or short-term solutions. There is, however, a need for immediate action, and nothing less than a concerted and collaborative effort by all participants is required to keep focus on achieving the objectives.

Conclusions

This is the last chance for the fishery. Both governments have an obligation to ensure that this chance is not lost. The Commission is recommending a collaborative federal/provincial approach which includes:

- Immediate action to put in place a groundfish stock rebuilding plan and a plan to ensure the ongoing sustainability of the shrimp and crab stocks. This should be a stand-alone priority exercise undertaken by a joint Premier's-Prime Ministerial Action Team with an urgent six month mandate.
- Negotiations on joint management to take place as soon as possible. This process should not be complicated by demands for a change in the Constitution, including the Terms of Union.
- A comprehensive plan to enhance the management and conservation of straddling stocks outside 200 nautical miles, and to commit the resources necessary to achieve this objective. This plan would involve Canada making one last determined effort at strengthening NAFO, while at the same time preparing itself and the international community for the reality that strong unilateral action, such as custodial management, may be necessary should efforts within NAFO fail.

The mechanisms established to implement these approaches must ensure women have a voice in rebuilding and managing the resource.

Both levels of government should put their energy into getting on with the important issues rather than wasting it on political battles. Indeed, if both levels of government cannot find the political will to cooperate fully and jointly on the stock rebuilding plan, then it is inconceivable that they would be able to find the political will to deal with the longer-term complicated negotiations associated with such issues as independent and objective regimes in fisheries science, custodial management and joint management.

In summary, the groundfish fishery is essentially closed, and the shellfish sector is vulnerable. These fisheries can be rebuilt, but only with an overall long-term plan or strategy based on intergovernmental collaboration. Unless this collaboration happens, the Commission fears that fishery management in the future will only be a repeat of past approaches, and will therefore be doomed to failure.

“The Grand Banks is to Newfoundland what softwood lumber is to British Columbia, oil to Alberta, wheat is to the Prairies, potatoes to Prince Edward Island, and apples to Nova Scotia. It’s about time Canada acknowledged this and take the kind of action it would take if the resources of other provinces were threatened.”

Excerpt from the Public Consultations

“You’ve got to put the fish first. Without the fish there is no fishery.”

Excerpt from the Public Consultations



Chapter 11

The Regulation of Natural Resources, Atlantic Accord and Churchill River



The equitable development of Newfoundland and Labrador's natural resources hold great promise to help move the province toward a future of enhanced prosperity and self-reliance. Whether this promise will be realized will be determined, to a certain extent, by external market forces. But, most importantly, it will depend on the federal and provincial governments' vision of the role natural resources should play in strengthening this province's place in Canada. In the view of the Commission, the federal and provincial governments have the strongest obligation to ensure that this province's natural resources are developed for the *long-term* benefit of Newfoundland and Labrador and Canada. With respect to many natural resources, the provincial government has the primary responsibility for ensuring that developments provide the maximum possible benefits to the people of this province. Other critical natural resources, however, require an essential partnership with the federal government.

This chapter focuses on offshore petroleum and the hydroelectric resources of the Churchill River, both developed and undeveloped. With respect to offshore petroleum, the vision and commitment the Commission seeks from governments already exists in the 1985 Atlantic Accord. The challenge now for the federal and provincial governments is to ensure that this commitment is realized. The Churchill River, particularly the undeveloped potential of the Lower Churchill at Gull Island, presents the federal government with an opportunity to demonstrate in a significant way that it is committed to working with Newfoundland and Labrador in improving the province's place in Canada. This chapter begins with a general discussion of the need to ensure that all of the province's natural resources are developed and managed in a way that provides the greatest possible benefits to its people.

The Regulation of Natural Resources

As discussed in Chapter 7, this province has faced some significant constitutional challenges in managing its natural resources (particular challenges facing the proper regulation of the fishery are discussed in Chapter 10). Overall, however, Newfoundland and Labrador has possessed extensive legislative powers under the Constitution of Canada to help ensure that provincial natural resources are developed and managed for the benefit of Newfoundlanders and Labradorians.

In 1982, provincial legislative powers with respect to non-renewable natural resources, forestry resources and electrical energy were strengthened by a constitutional amendment that added section 92A to the Constitution Act, 1867. Two key features of section 92A relate to provincial powers over the export of these resources and the raising of revenue. Under section 92A(2), the provinces are empowered to make laws in relation to the export of these resources to other parts of Canada, subject to the limitation that such laws cannot provide for discrimination in prices or supplies exported to another part of Canada. Before 1982, only the federal parliament could make laws in relation to the export of resources. Section 92A(4) provides the provinces with great flexibility in raising revenue from these resources. It authorizes taxation, by any mode or system, of these resources (in the case of electricity, the sites and facilities for



2. The purposes of this Accord are:

... (c) to recognize the right of Newfoundland and Labrador to be the principal beneficiary of the oil and gas resources off its shores, consistent with the requirement for a strong and united Canada.

excerpt from
The Atlantic Accord

The Regulation of Natural Resources, Atlantic Accord and Churchill River

generation) or their primary production. This is significant, as a tax on the production of a resource would be an indirect tax, which before this amendment was beyond the legislative power of the provinces. Furthermore, section 92A(4) makes it clear that taxation on the production from these resources is allowed even if the production is exported in whole or in part from the province. Taxation, however, cannot differentiate between production which is exported and that which is not.

During its public consultations, concerns were expressed to the Commission regarding the extent to which the province benefits, or does not benefit, from the development and management of its natural resources. Frustration was evident regarding the loss of the fishery, the lack of benefits from Churchill Falls and the unfolding loss or offset of oil royalties and taxes by reductions in equalization payments. The Commission, throughout this Report, has made recommendations regarding the management of natural resources. In Chapter 10, it made recommendations with respect to the fishery, and in this chapter it will deal specifically with the Atlantic Accord as it relates to offshore oil revenues and the development of the Lower Churchill.

Progress on these matters will help strengthen public confidence that the province's natural resources are being developed and managed in the best interests of the people. However, the provincial government must also demonstrate that it is constantly challenging itself to ensure the greatest possible returns. Periodically, it will be necessary for the provincial government to undertake a comprehensive and critical assessment of its approach to a natural resource. The provincial government's current study of electricity policy provides a valuable opportunity in this regard. In the view of the Commission, this study is critically important and should be given the utmost priority.

A key component of this review must be a careful consideration of the province's powers under the Constitution, including section 92A, to derive important and needed benefits from electricity generated from all developments on the Island and in Labrador. The benefits to be examined should include both effective access to electricity to encourage and attract new industrial developments, and reasonable taxation and royalty payments to help bolster the province's finances. The Commission appreciates that the power to legislate under the Constitution is only part of the equation. Careful consideration must also be given to costs, such as financial risks and potential impacts on the province's ability to attract future investment. Carefully conceived, such an analysis will influence not only the best actions to take on the regulation of this vital resource, but also the most advantageous timeline.

Offshore Petroleum and the Atlantic Accord

Overview

In 1985, the federal and provincial governments entered into an agreement providing for the joint management of offshore petroleum resources and the sharing of revenues. This agreement is known as the Atlantic Accord. Paragraph 2(c) of the Accord states that one of its purposes is “to recognize the right of Newfoundland and Labrador to be the *principal beneficiary* of the oil and gas resources off its shores, consistent with the requirement for a strong and united Canada.”

The Commission has reviewed the outlook for future oil revenues and the overall sharing of government revenues likely to result under the current arrangements. It is clear from this review that in 2003-04 Newfoundland and Labrador will probably receive the full net benefits of provincial revenues. Under the existing arrangements, however, this favourable revenue split will continue only for the very short term. As oil revenues begin to escalate to their full potential, the net share of revenues retained by the province will decline dramatically due to the workings of both the equalization formula and the Accord. Overall, the Commission has concluded that Newfoundland and Labrador will not be the principal beneficiary of oil revenues in the coming years. As a result, the spirit and intent of the Atlantic Accord will not be realized. Projections indicate that, over the life of the existing oil projects, the province will be the net beneficiary of only 20 to 25 per cent of total government revenues.

Unlike the failure of the fishery, which is a resource disaster that has already occurred, the oil situation represents an impending but avoidable failure in the relationship between the federal and provincial governments. Urgent joint action is required. This difficult situation has arisen because development circumstances have changed substantially from those anticipated when the Atlantic Accord was negotiated almost 20 years ago. The solution lies in an amendment to the Accord ensuring that the principal-beneficiary objective is met. While there are many important issues facing Newfoundland and Labrador over the next decade, none have more potential to help it move towards prosperity and self-reliance than changes to the Atlantic Accord.

The Projected Revenue Shares

The Atlantic Accord states quite clearly that Newfoundland and Labrador should be the principal beneficiary of its offshore oil and gas resources. To meet this principal-beneficiary purpose, the Atlantic Accord allows the province to establish and collect revenues as if the petroleum resources were on provincial land. The federal and provincial governments of the time, however, recognized that the workings of the equalization program would frustrate the principal-beneficiary objective in the Atlantic Accord. Indeed, at the time, the workings of the equalization program would have resulted in a dollar-for-dollar loss of equalization payments. To address this concern, and based on assumptions as to the timing and magnitude of the resource revenues that would flow to the province, the two governments agreed to a system of equalization-offset payments.

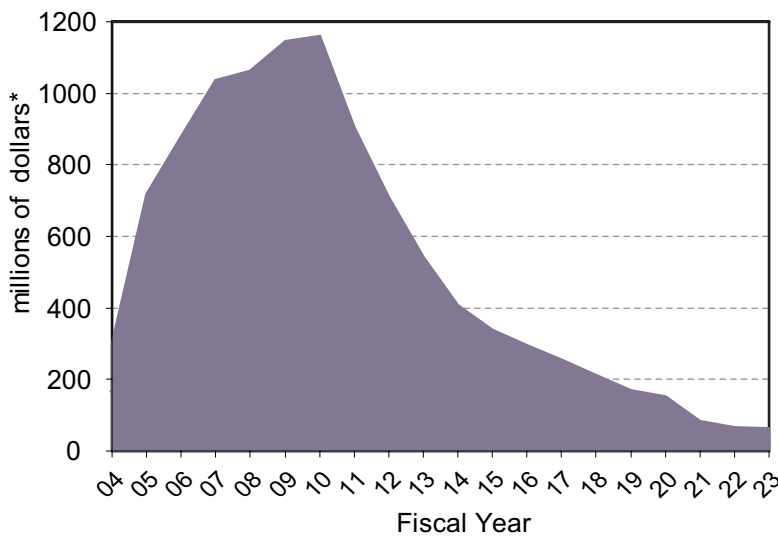
In examining whether or not the principal-beneficiary purpose of the Atlantic Accord will be achieved, the Commission reviewed a set of multi-year projections for total government tax and royalty revenues. These were based on current expectations of production from the two operating fields, Hibernia and Terra Nova, and a third field, White Rose, currently under development. The Commission is aware that the economics of a fourth project, Hebron Ben Nevis, continues to be studied by the owners, and that areas such as the Flemish Pass and Laurentian Sub Basin hold promise for new discoveries. It is also conscious of the fact that there has not been a major discovery off the coast of Newfoundland and Labrador for more than 17 years. In the Commission’s view, therefore, the most appropriate analysis is one based on the three existing developments.

The revenue forecast is based on a long-term world oil price of US \$24 a barrel adjusted for inflation. These assumptions are the same as those used in Chapter 6, as are the underlying assumptions regarding the royalty regime and provincial corporate income tax. In order to assess the overall sharing of total government revenues, it is also necessary to include projections for the federal government’s corporate income tax revenues. To do so, a judgement was made concerning the revenues that would actually be collected, given that federal corporate income tax payments are influenced by the overall level of profitability of the various companies and by allowances for exploration and development expenditures.¹

Figure 11.1 illustrates the projected profile of combined government revenues from offshore oil for the next several years – the expected lifespan of the three current projects. These projections include federal corporate income tax as well as provincial corporate income tax and royalties. The combined federal/provincial revenues are projected to rise rapidly, peaking at almost \$1.15 billion in 2010; they will then decline steeply.

Figure 11.1

**Total Government Revenues
from Offshore Oil**
Combined Federal/Provincial Revenues



Source: Projections based on the existing projects (Hibernia, Terra Nova and White Rose). Data extracted from projections provided by the provincial Department of Finance.

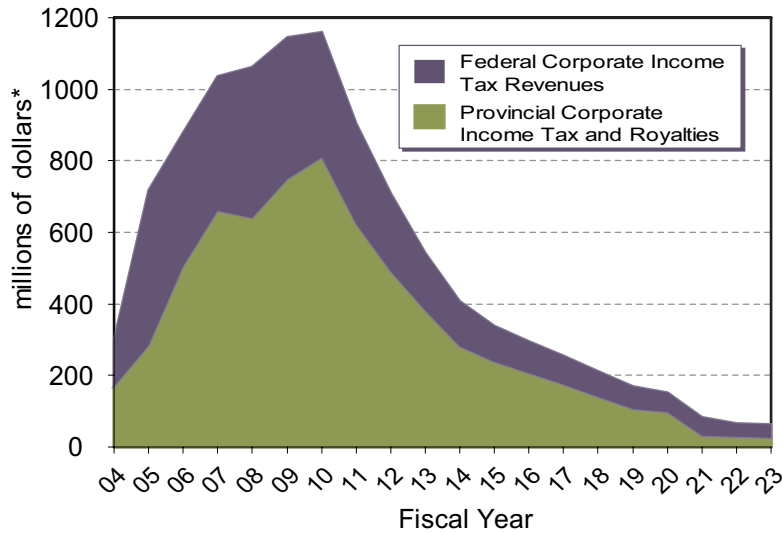
***Note:** Constant dollars adjusted for inflation.

The Commission has reviewed the manner in which the overall government revenue streams might ultimately be divided between the federal and provincial governments. In this regard, the first step is to review the composition of the oil revenue stream as it is derived from federal sources and provincial sources. This is illustrated in Figure 11.2.

Figure 11.2

Government Revenue Sources from Offshore Oil

Federal and Provincial Revenues



Source: Projections based on the existing projects (Hibernia, Terra Nova and White Rose). Data extracted from projections provided by the provincial Department of Finance.

***Note:** Constant dollars adjusted for inflation.

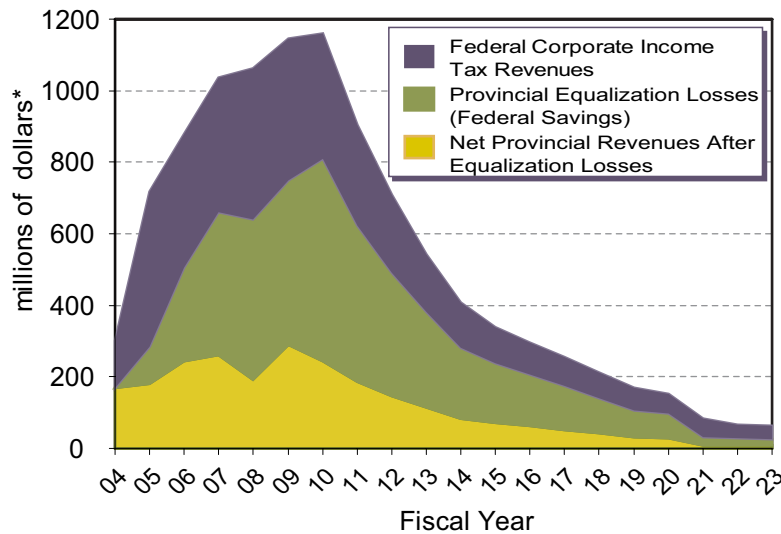
Figure 11.2 illustrates that a very significant component of the revenues will be derived from provincial corporate income tax and royalties.

The second step, and the most important analysis, relates to the assessment of the *net* share of the revenues which ultimately go to the benefit of the respective governments. The analysis, illustrated in Figure 11.3, assumes that the “generic solution” under the equalization program, which allows the province to retain 30 per cent of provincial oil revenues, will be preserved beyond 2004. In some years, such as in 2003-04, the various offset payments under the Atlantic Accord are more favourable to the province than the application of the generic solution. Until 2011, the provincial government may, in such cases, choose the formula which is most beneficial. After that, the options under the Atlantic Accord expire and the generic solution becomes the only option. Taking both the Atlantic Accord and the generic solution into account, the overall sharing of government revenues from federal and provincial sources is summarized in Figure 11.3.

Figure 11.3

Net Sharing of Government Revenues from Offshore Oil

Reflecting the Impact of Equalization and the Atlantic Accord



Source: Projections based on the existing projects (Hibernia, Terra Nova and White Rose). Data extracted from projections provided by the provincial Department of Finance.

***Note:** Constant dollars adjusted for inflation.

This figure reveals a startling revenue split, particularly when viewed in the context of the magnitude of the revenues involved and the clear intent of the Accord. The distribution of revenues between the federal and provincial governments simply does not even come close to fulfilling the intent of Newfoundland and Labrador being the principal beneficiary from offshore oil revenues.

Figure 11.3 graphically illustrates a number of points:

- The first is that the province is currently receiving provincial taxes and royalties with minimal equalization losses – due to the important but short-term protections afforded by the Atlantic Accord. At the same time, the federal government is benefitting from its federal corporate income tax.
- The second is that, although oil revenues are projected to increase significantly in coming years, the province will receive little of that incremental revenue. This is due to the fact that the proportionate level of revenue protection afforded by the Atlantic Accord declines dramatically due to the workings of the various formulas. The equalization loss becomes increasingly more significant, thereby minimizing the net gains to the province.
- The third point is that the peak revenue years from these projects are quickly approaching, and are projected to last for a very short period between 2006 and 2012. Thereafter, the revenues are expected to decline sharply, producing the “revenue bump” evident in Figures 11.1 to 11.3.
- The fourth, and most important point, is that over the life of the existing projects, the net amount of revenue that the provincial government retains will pale in significance when compared with

the combined impact of the federal government's savings from reduced equalization payments and its federal corporate income tax.

Certainly there are short-term benefits to the province from the equalization offset provisions of the Atlantic Accord. However, over the life of the current projects, the federal government's net gain, inclusive of its savings in equalization, will amount to approximately 75 to 80 per cent of all government revenues. This leaves a net benefit to the province of just 20 to 25 per cent. For example, total government revenues from the three existing projects are projected to peak in 2010 at \$1.15 billion. Under the existing structure, after the impact of equalization, it is projected that the province would realize net revenue gains of only \$250 million in that year. This means that the Government of Canada, after taking into account its equalization savings, would be the net beneficiary of the remaining \$900 million.

It is recognized that these revenue projections, like any multi-year projections, are based on an array of assumptions. There will no doubt be a wide variety of views concerning the future trends of a number of the key variables. The Commission, however, would emphasize that the accuracy of the projections in each year is not as important as the overall trends, the relative orders of magnitude and the relationship between the net shares expected to be realized by each government. In that regard, the Commission believes the projections reasonably reflect the nature of the sharing relationship that can be expected to unfold.

Changed Circumstances

The enormous question which the Commission attempted to address is how such an inequitable sharing is possible given the clear statement of intent and purpose in the Atlantic Accord. When the Atlantic Accord was signed in 1985, there were great expectations that offshore oil would set Newfoundland and Labrador on a course of phenomenal economic growth. The period leading up to the signing was marked by impressive exploration success and high oil prices. Hibernia (1979), Terra Nova (1984) and White Rose (1984) were all discovered prior to the signing of the Atlantic Accord. There was, therefore, great optimism at the time that new oil would soon be discovered and developed, and that the revenues flowing to Newfoundland and Labrador from the Accord would place it on a rapid road to prosperity and self-reliance. Speaking in 1984, the then Minister of Energy, Mines and Resources, the Honourable Jean Chrétien, predicted that Newfoundland and Labrador might become a "have-province" within five years of first oil from Hibernia.²

Had those optimistic assumptions been realized, the equalization-offset payments could have protected the principal-beneficiary purpose. These assumptions clearly have not been realized. As a result, the revenue sharing arrangements and time frames reflected in the Accord will not achieve the overall purpose of making Newfoundland and Labrador the principal beneficiary. The Commission has concluded, therefore, that the Accord will not work in accordance with its original spirit and intent, and that there is every reason why it should be fixed. It confounds all logic for anyone to claim that, despite the federal government receiving a net benefit of 75 to 80 per cent of offshore revenues, Newfoundland and Labrador remains the principal beneficiary.

The Commission's conclusion is supported by a research paper prepared by the Honourable John Crosbie.³ In this paper Mr. Crosbie states: "Clearly Newfoundland [and Labrador] is not the primary or principal beneficiary of the offshore resources, nor of offshore revenues, but a minor beneficiary when compared to the federal government. The importance of this is that, unless the Atlantic Accord is honoured and implemented as to its original intent, Newfoundland [and Labrador] is unlikely ever to become a self-sufficient province within the Canadian federation." The Commission's concerns are also shared by the *Report of the Standing Senate Committee on National Finance, 2002*, which recommended that: "The [federal] government should undertake an evaluation of the equalization provisions of the Atlantic Accords to determine if they have met the intent for which they were designed."⁴

The position of the federal government, as expressed by the federal minister of Intergovernmental Affairs, is that the Government of Canada is fully respecting both the letter and intent of the Atlantic Accord, and that Newfoundland and Labrador will be the principal beneficiary of petroleum development off its shores. The federal government further claims that, as a result of the introduction of the generic solution to the equalization program in 1994, this province has received, and will continue to receive, “significantly greater benefits” than those envisaged at the time the Atlantic Accord was signed.⁵ The projections discussed in this Report, of course, take into account the Atlantic Accord as well as the generic solution. The Commission concludes that an 80-20 or 75-25 revenue split in favour of the federal government is totally inconsistent with Newfoundland and Labrador being the principal beneficiary of its offshore oil revenue.

Need for Revised Accord

The Commission is aware that the issues surrounding the Atlantic Accord are complicated. Indeed, it has a sense that there is not a complete understanding within the province of the significant challenge confronting the province in terms of future revenue losses. In many ways, the issues surrounding the Atlantic Accord resemble the Churchill Falls situation. In both cases agreements were made based on assumptions that did not materialize. In both cases unfolding, yet unforeseen, circumstances worked to the significant disadvantage of Newfoundland and Labrador and its place in Canada. Figure 11.3, therefore, depicts a situation which is totally unacceptable in a federation where fairness and equity should prevail.

Revenue-related amendments to the Atlantic Accord should reflect two basic principles. First, a far greater share of the provincial revenue from the offshore should be retained by this province to reflect the principal-beneficiary objective. This objective is not met by the generic solution or by the present provisions of the Atlantic Accord. Second, the province should continue to receive a proportionately greater net share of provincial oil revenues as long as it remains below the Canadian average for agreed-upon fiscal and economic measures. The Commission is recommending that the federal and provincial governments enter into immediate discussions to revise the Atlantic Accord to ensure that the principal-beneficiary objective is both honoured and achieved.

The Churchill River

Overview

Newfoundland and Labrador brought into Canada the tremendous hydroelectric potential of the Churchill River in Labrador. In the early 1970s, the Churchill Falls site was developed, yielding 5225 megawatts of power. Two significant hydroelectric sites remain undeveloped on the Lower Churchill River, at Gull Island and Muskrat Falls.

The inequitable outcome of the Churchill Falls development, together with successive failures to develop the other sites on the Churchill River, has profoundly affected Newfoundlanders’ and Labradorians’ perceptions of their place in Canada.⁶ Despite the passing of more than 30 years since power was first generated, the outcome of the Churchill Falls development covers Newfoundland and Labrador’s place in Canada with a long dark shadow.

Churchill Falls

The term of the Churchill Falls contract was initially 40 years, and debt financing was arranged successfully on that basis. After the financing was in place, however, there was an eleventh-hour demand by Hydro-Québec that extended the term of the contract to an unbelievable 65 years, with lower power

rates granted to Hydro-Québec for that final 25-year period. While the power contract arrangements were finalized in 1969, the effective date of the contract was July 1, 1976. Between the time the contract was signed and its effective date, the world went through an unprecedented energy shock, with an unexpected increase in energy prices caused by the oil crisis in the Middle East. As a result of this international energy crisis, the value of energy from Churchill Falls underwent a windfall increase estimated to be in the order of \$850 million a year.

The world events leading to this increase were not foreseen by the parties to the Churchill Falls contract (CF(L)Co. and Hydro-Québec) or by the owner of the resource (Newfoundland and Labrador). Hence, they were not provided for in the power contract and related arrangements. As a result, the huge annual windfall profits go almost entirely to Hydro-Québec. Hydro-Québec has benefitted from these annual profits for the last 27 years, and will continue to do so for the next 38 years, until 2041.

In its deliberations, the Commission heard the view, though much in minority, that Newfoundland and Labrador should put the Churchill Falls matter in the past. In a poll conducted for the Commission, however, 74 per cent of respondents refused to support this view.⁷ At the same time, it is the opinion of the Commission that the people of this province should be prepared to move forward in realizing the potential of the Gull Island site to help deal with its growing fiscal predicament and the building of a stronger economy, particularly in Labrador. That said, the development of Gull Island should proceed in an environmentally responsible manner and in a way that is respectful of Aboriginal rights and interests.

The federal government placed Hydro-Québec in a monopolistic position during the Churchill Falls negotiations of the 1960s by not enacting legislation that would have allowed for a power corridor through Québec. Without such federal legislation, negotiations on the Churchill Falls project took place in a situation in which virtually all of the power and energy had to be sold to Hydro-Québec. Consequently, it was in a position to dictate a low price, an insignificant recall of power for use in Newfoundland and Labrador and an unprecedented time frame (65 years) governing the power contract. The inaction of the federal government in the matter of allowing a power corridor through Québec was, and still remains, contentious, especially in view of the fact that the federal parliament has passed legislation to allow the construction of oil and gas pipelines across other provincial boundaries.

The federal government also played a direct role in facilitating the conclusion of the Churchill Falls deal. This was done through amendments to the Public Utilities Income Tax Transfer Act that effectively allowed the developer, CF(L)Co., to lower its sale price for Churchill Falls power, as had been demanded by Hydro-Québec. The federal government helped make the project viable and, therefore, was an essential partner in seeing the development proceed.

The inequities of Churchill Falls have been argued with great passion for more than three decades. Some argue that it was flawed national energy policy and the lack of a power corridor through Québec that denied Newfoundland and Labrador any opportunity to export its energy and capture the economic rent. Others call the deal a home-grown disaster, the fault of Premier Smallwood who championed the project and never asked for a power corridor nor insisted on a re-opener clause. Others argue that it is a simple case of “a contract is a contract.” Still others argue that the unintended outcome of the contract was so radically different from that envisaged at the time that simple decency demands its renegotiation.

In the view of the Commission, Churchill Falls is fundamentally about whether or not fairness and equity exist in the Canadian family. It is about the Government of Canada standing on the sidelines as an observer of a situation where, due to unforeseen circumstances, Québec currently reaps a windfall profit of approximately \$850 million a year from a hydroelectric resource located in, and owned by, Newfoundland and Labrador. The first question asked by Newfoundlanders and Labradorians was: “If the situation had been reversed in the late 1960s, would not the Government of Canada have intervened in the national interest and allowed a power corridor through Newfoundland and Labrador for the export

of Québec power?” The second question asked was: “Why, in the absence of the power corridor, has the federal government refused to facilitate a reasonable sharing of the windfall profits between the two provinces?” One can only imagine the favourable impact on the fiscal position of Newfoundland and Labrador had it shared in even 50 per cent of the Churchill Falls windfall profits since 1976. It would have already meant additional annual revenues in the order of \$425 million for 27 years, or an additional \$11 billion over that period with potential revenues of equally significant amounts until 2041.

Lower Churchill Development

The Churchill Falls dispute has been an ongoing obstacle to the development of hydroelectric potential on the Lower Churchill at Gull Island (2000 megawatts) and Muskrat Falls (800 megawatts). These two hydroelectric sites have remained undeveloped for the last three decades because Newfoundland and Labrador and Canada have failed to join forces to harness their potential for the good of all Canadians.

Nowhere is a new way of thinking and doing things required more than in the approach to the development of the Lower Churchill River. The provincial government needs revenues, the province needs energy for industrial purposes, Québec needs power and energy, as does Ontario, and Canada needs energy production which will attract Kyoto credits. Nevertheless, the potential of the Lower Churchill River remains undeveloped even though Gull Island is one of the lowest cost hydroelectric developments remaining in North America.

The early development of the \$4 billion Gull Island project would involve Newfoundland and Labrador accessing sufficient power for industrial use in Labrador, Québec purchasing power and energy for its own use, Québec wheeling power to customers in Ontario and the northeastern United States, and Canada coming to the table as a financial partner to ensure that Newfoundland and Labrador is able to earn an appropriate return as owner of the resource. The Commission strongly feels that equitable development on the Lower Churchill is long overdue. It presents a genuinely profound opportunity for the province and the federal government to demonstrate that they are committed to a renewal in their relationship.

In the fall of 2002, Newfoundland and Labrador and Québec were nearing the end of negotiations to develop the Gull Island project. While no deal was concluded, and little detailed information on the negotiations was provided, there were many concerns expressed by the public. In particular, one of the main concerns related to possible financing was that Hydro-Québec would be the financial backer of the project. The concern, at its most fundamental level, was that if Hydro-Québec would be both the major purchaser of power and the major lender for the project, Newfoundland and Labrador therefore would be negotiating from a position of significant weakness. Such a potential imbalance in negotiating power was offensive to many Newfoundlanders and Labradorians, particularly given the history and outcomes of the Churchill Falls development. In the view of the Commission, proceeding in this manner in the future would be a recipe for failure.

This situation can be overcome if the Government of Canada agrees to become a significant financial backer to the Gull Island project. This will allow contractual arrangements to be put in place so that Newfoundland and Labrador will earn appropriate returns as the owner of the resource. Without Canada’s involvement, there will be only two practical choices for the province: (i) develop the Lower Churchill on Québec’s terms, or (ii) let the water flow to the sea. It is time for Canada to come to the Lower Churchill table as a partner. Such a constructive role would demonstrate that the federal government takes seriously its constitutional commitment, as stated in section 36(1)(b) of the Constitution Act, 1982, to “furthering economic development to reduce disparity in opportunities.”

In the view of the Commission, issues related to the Churchill Falls development should not be directly linked with negotiations to develop the Gull Island site. However, in moving forward with the Gull Island development, the provincial government must ensure that it takes no action that could prejudice

its future ability to regulate the Churchill Falls resource more effectively for the benefit of the people of Newfoundland and Labrador.

Conclusions

In summary, the Commission is calling upon both the federal and provincial governments to work to ensure that this province's natural resources are developed for the long-term benefit of both Newfoundland and Labrador and Canada. In particular, the Commission recommends that:

- The provincial government works constantly to ensure the greatest possible returns from resource development. The province's current review of electricity policy provides a valuable opportunity in this regard. A key component of this review must be a careful consideration of the province's powers under the Constitution, including section 92A, to derive important and needed benefits from electricity generated from all developments on the Island and in Labrador.
- The federal and provincial governments enter into immediate discussions to revise the Atlantic Accord to ensure that the spirit and intent of the Accord – that Newfoundland and Labrador be the principal beneficiary – are honoured. The province must capture significantly greater net benefits than the present forecast of 20-25 cents on each dollar of government revenue generated from offshore oil.
- A new approach to the Churchill River be adopted that looks to the future rather than the past. The provincial government, in partnership with Québec and the federal government, should pursue an early and equitable development of the Lower Churchill at the Gull Island site. The role of the Government of Canada, as a financial backer to the project, would be entirely consistent with its constitutional commitment, as stated in section 36(1)(b) of the Constitution Act, 1982, to “furthering economic development to reduce disparity in opportunities.”

“We would be foolish if we thought anyone but ourselves can chart the future for us... the new way of thinking about Newfoundland must start here at home.”

Excerpt from the Public Consultations

“It was a sad day when I packed my bags and left my home to look for something that should have been in my province in the first place – a future.”

Excerpt from the Public Consultations



Chapter 12

Strategic Location and Infrastructure



The Commission's mandate included an examination of the means by which Newfoundland and Labrador can take maximum advantage of its strategic location between the North American and European trading blocks, and the challenges and opportunities of the global economy. This examination reveals that the province's strategic importance has changed significantly over its history, and is changing once again in the early twenty-first century. This chapter provides a brief overview of changing strategic realities, and then turns to an assessment of the strengths and challenges of our location, dealing in turn with the resource economy, human resources and education, location as such, transportation, and communications and information technology.

Old and New Geographic and Strategic Realities

Newfoundland and Labrador occupies the far northeast corner of North America. It faces three ocean environments: the Labrador sea, the Gulf of St. Lawrence and the northwest Atlantic Ocean. It flanks the northeast approaches to the continent and is the closest landmass in North America to Europe. The province is remote from any major population centre, and its subarctic climate imposes limits on some economic activities. Still, the land and sea provide access to impressive natural resources. Newfoundland and Labrador's ability to sustain a society and to develop its resources has historically depended on broader geopolitical and strategic factors. Gwynne Dyer asserts that "... geopolitical importance comes in three major forms: military, economic and national/political..." and influences to whom Newfoundland and Labrador is important, and at what time.¹

In the era before European contact, the Aboriginal peoples subsisted on the wild game and fish of the interior and coastline; they relied upon the forests for shelter and warmth, and traded with other Aboriginal nations in eastern North America. For at least two centuries after Europeans discovered this place, their ventures in fisheries and whaling were of considerable significance to Europe. The English, French, Portuguese and Spanish exploited the Banks cod fishery from the late 1400s, and the Basques maintained a whaling station at Red Bay for many decades in the sixteenth century.

By the mid-eighteenth century, European settlement was well established, as farming, logging and mining began to supplement the fisheries. However, by then Newfoundland's economic significance had declined, eclipsed by the westward expansion of settlement and development of the North American continent. The society and economy continued to grow nonetheless. By the early twentieth century, the industrial revolution transformed the economy, introducing mechanization to the fishery, allowing development of hydroelectric resources, increasing the scale and scope of mining and turning timber into paper. As population shifted, the railway opened the interior of the Island, people resided as much in towns as they did in the fishing outports. Still, until well into the twentieth century, the chief economic advantage of Newfoundland and Labrador remained its position next to one of the world's most productive fisheries ecosystems.

"The assets...may change over time, but at the moment they consist of very significant natural resources...a rapidly growing reputation as a centre of artistic, cultural and intellectual creativity; a geographical location which briefly had military importance, [and] continues to be important in terms of the country's vision of itself...and a collective place for Newfoundlanders in the Canadian national consciousness which, while impossible to quantify, is a major asset in itself."

Gwynne Dyer



Strategic Location and Infrastructure

Newfoundland and Labrador's military value, for much of its history, was tied integrally to its economic value. Newfoundland became England's first colony in 1583. Until 1763, the British and French empires militarily contested control over this asset. Throughout that period and well into the twentieth century, Britain remained Newfoundland's most important trading and financial partner. As Newfoundland became more settled, it sought to pursue competitive and beneficial economic relations both inside and outside the Empire, and traded as much as it could with the French, Americans, other British colonies, Caribbean islands and the Mediterranean. In fact, the government sought formal trade reciprocity with the United States during the 1890s and in 1905, but that goal was blocked by Britain and Canada.

The geopolitical contest between Britain and France continued here long after the peace Treaty of Paris in 1763. The French retained the islands of St. Pierre and Miquelon, as well as rights to the fishery, including exclusive exploitation of Newfoundland's west coast fishery. These "French Shore rights" continued until 1904. The maritime boundary between Canada and France around St. Pierre and Miquelon was only settled by arbitration in 1992. This small French territory continues to be a valued neighbour and trading partner. Today joint initiatives are underway between St. Pierre and Miquelon and the Burin Peninsula economic development authorities, especially in tourism. Since 1991, St. Pierre and Miquelon has been eligible for duty-free trade within the European Union; thus, interest has grown in the prospects of further processing of products in St. Pierre and Miquelon for duty-free shipment to Europe, and for transshipment of goods in St. Pierre and Miquelon originating in Canada.²

By the early 1940s, military considerations overtook economics as the more significant strategic factor of our location. Steamship technology made Newfoundland an important port-of-call in transatlantic shipping, and for the protection of those shipping lanes. During World War I, when Britain depended crucially on imported food and industrial raw materials from North America, shipping became vital. By the time of the Second World War, transatlantic air travel had also become militarily important. Thus, in the 1940s, both naval and air bases here bridged the gap between North America and Britain. Newfoundland played a vital part in the March 1941 Leased Bases Agreement between the United States and Britain by providing access to ports and strategic locations for airfields. Thousands of American, Canadian and British forces were stationed here. New communities grew up around the air bases at Gander, Goose Bay and Stephenville and at the naval base in Argentia. St. John's was also transformed by the military build-up and became especially important as a base for cross-Atlantic convoys.

Newfoundland and Labrador's military importance continued long after the Second World War. In the 1950s, Goose Bay became a base for the NORAD strategic air command, with fighter aircraft to intercept potential air threats from the Soviet Union and its allies. The province's air bases retained an important role until technology made cross-Atlantic stopovers on the way to the continental United States less vital. Labrador played an important role as the eastern flank of the various defence surveillance networks across the north during the Cold War. Today, while Canada's NATO allies maintain an air force training facility

at Goose Bay, the overall military presence here is minimal and our strategic military significance has been reduced.

Confederation with Canada again transformed the strategic factors. By 1946, the stage had been set for Newfoundland to lose the last vestiges of its British colonial ties. As Gwynne Dyer argues, Newfoundland and Labrador was to become of far more political importance to Canada than it ever was to Britain.³ In strategic terms, the union “completed” Canada by bringing into the federation the last of the British North American colonies that had refused to join the American revolution. It prevented the northeastern flank of Canada from falling into American hands, and in psychological terms, kept Canadians from feeling hemmed in by the United States.

Some of the province’s economic assets were also important to Canada in 1949, particularly the iron ore and the hydroelectric potential in Labrador. The greatest long-term geopolitical advantage for Canada, however, has turned out to be in the offshore. As Gwynne Dyer notes:

When your fishing and seabed mineral rights suddenly jump from three miles offshore to two hundred miles, the province with the longest seacoast – Newfoundland and Labrador accounts for over a third of the total Canadian coast that is ice-free for at least six months of the year – is bound to jump in strategic importance too ... For the foreseeable future, however, it is the [offshore] oil that gives Newfoundland and Labrador a new relevance and importance in Canada’s national economic strategy.⁴

Confederation with Canada also hastened the continental integration of the province’s economy. This occurred in two steps: first, through economic, social and political integration with Canada, and second, through economic and, to a degree, social and cultural integration with the United States. Canada formalized and deepened its integration through the Canada-United States Free Trade Agreement of 1989 and the North American Free Trade Agreement of 1994. The provincial government strongly supported free trade with the United States in the 1980s and 1990s. Research indicates that the Free Trade initiatives have had three major effects for this province’s long-term strategic interests. First, it reinforced already important links with United States investors, especially important for the offshore oil sector. Second, it has led to growth in exports to the United States, although at a lower growth rate than the increase in exports to the United States from Ontario, Québec or the western provinces. Third, by eliminating tariffs and other discriminatory barriers, it has helped to counterbalance some of the disadvantages of being in the Canadian economic union.⁵ What has been relatively neglected in the stronger continental trade relations has been the traditional North Atlantic trade patterns of Newfoundland and Labrador, especially for fish products – i.e., in Spain and Portugal, Brazil and the Caribbean. As David Alexander has demonstrated,⁶ after Confederation the Government of Canada was unable or unwilling to promote the kind of linkages required to sustain strong export markets outside the United States.

Now the strategic factors are shifting again. In the new global economy, firms can access capital and technology from all over the world, develop products and manufacture them in a number of different countries, and distribute and market them globally. The computer and telecommunications revolution that accompanies globalization means that all business today must be, at least to some degree, electronic. Another feature, if less pronounced, is a more competitive and lower cost transportation system. This new global geometry is “dissolving historic economic geography.”⁷ Markets are everywhere, product is found everywhere, and communication between markets and manufacturers is instantaneous. A final but vital factor in globalization, especially for the developed industrial world, is that human capital is becoming the most important strategic asset. This is especially so in the “new economy” of communications, information and e-business. It also means that few developed economies can compete on the basis of labour costs alone, and that all natural resources – with a few strategic exceptions – are in plentiful

supply. This leaves human “capital,” determined by the education and skill of the workforce, as the key competitive factor.

This changing strategic context has profound implications for Newfoundland and Labrador. First, the changes in transportation and communications technology are removing the “tyranny of distance” that has made this place seem to many to be remote and isolated. Second, the province’s export markets are already diversified beyond North America – in 2001 the province conducted over one-third of its international trade with Europe and the Far East.⁸ We have begun to increase investment and tourism linkages with North Atlantic neighbours such as Iceland and Ireland. Europe does seem closer now, and opportunities will continue to arise exploiting the province’s position as “a mid-Atlantic island” bridging the four main time zones of North America and the three of Europe.⁹ Finally, unlike some of the other factors that in the past were largely determined elsewhere, the increasing importance of human capital is something that can be primarily shaped by the province, at home.

In sum, the world is creating opportunities based on new geographic and strategic realities. Can the province forge a new set of strategic alliances that will enable it to take better advantage of its geographic position in this changing environment? Are there things it can do to improve the province’s strategic importance in going forward? The answers lie in a frank assessment of the strengths and challenges of our current position.

Strengths and Challenges

It is the assessment of the Commission that the strengths of Newfoundland and Labrador still lie, quite simply, in its people and in its natural resources. The fundamental challenges reside in the province’s location and in the dispersal of its small population over a large geographical area. But neither obstacle is insurmountable.

Resource Economy

Newfoundland and Labrador will be a resource-dominated economy for some time to come. Yet natural resource developments alone, as crucial as they are, will not solve all of this province’s fiscal and economic problems. Natural resource development involves the use of the resource, capital investment and labour. Especially for large-scale projects, capital typically comes from sources outside the province, while the benefits for Newfoundlanders and Labradorians come from employment and resource revenues collected by the provincial government. More and more, with technological improvements, capital is replacing workers; we see it in the reduced employment in existing forestry, mining and resource-related manufacturing. New resource developments will create welcome direct employment, but, once these are in operation, it is probable that the number of such jobs will decline over time. Mining and offshore oil developments are capital intensive, and once built, hydroelectric sites require relatively few workers. Even in a recovered fishery, an efficient industry means better utilized capital and likely far fewer fishers and plant workers than in the 1980s.

Where feasible and commercially viable, further processing of resources can be enormously beneficial to the communities where these facilities are located. Yet it is overly optimistic to expect that processing of resources can provide enough opportunities for all of the communities in need of employment. An important objective for resource development, therefore, should be to obtain reasonable revenues. Those revenues – especially where substantial – are of critical importance in any plan to address the province’s fiscal position, to support social programs, to provide a tax regime more conducive to entrepreneurship and private investment and to maintain and improve infrastructure.

This Report focuses on recapturing the opportunities of three sets of natural resources: fisheries, offshore petroleum and hydroelectricity. This is not done because these are the province’s only sources of resource

wealth, or that resources are the only road to wealth creation. Far from it. But they do represent the most significant single set of economic opportunities that have the potential to impact on the province's prosperity and self-reliance. There are other natural resources that should be noted here, in particular, mineral and forest resources. The Voisey's Bay nickel deposit is just beginning a new chapter in the province's economic history. The forest sector also continues to be important, but faces important resource constraints in terms of a sustainable wood supply.

The well-being of the people of the province is especially dependent on the health of the natural environment. The sense of who we are and its expression in our art, music and culture are linked in unique ways to this place with its oceans, rivers, rocks, land, forests, barrens, wildlife, fish and air. Most of the province's industries, even our tourism and cultural industries, rise from its environment – fishing, forestry, agriculture, mining, hydroelectricity, gas and oil. The world is coming to the province's door to experience our wild, open spaces. This kind of tourism will contribute to self-reliance and prosperity as long as the people are careful not to diminish the very environment they seek to exploit. Hence, whatever the approach to a renewed and strengthened place in Canada, it must be based on sound environmental principles: protection of human health, sustainable economic development, pollution prevention and community-based environmental management. The people of this province paid – and are still paying – a massive price for the inability to establish those values in the fishery, and must recognize that, as the stewards of a unique and precious environment, we must preserve it.

Human Resources and Education

The province's human resources are part of this sustainable environment. The people of the province are, in human ecology terms, an element of biodiversity. We have become a society with its own material culture based on a relationship to the land and sea, while drawing on a heritage marvellously mixed: Aboriginal peoples, west-country English, Scots, Irish, French and recent immigrants from all over the world. What has emerged within a broader and multicultural Canadian society is a vibrant and recognizable Newfoundland and Labrador culture.

Despite the decline of many rural communities and their attendant social and cultural traditions, in recent years there has emerged in the province an exciting cultural industry in art, music, literature, theatre, film and media. This flowering of culture in the cities, towns and rural communities is exerting an influence on the country disproportionate to the size of the province's population. Although this is not the only reason for the development of our culture, the potential is there for international export of many products with the expression of our culture. The people's natural creativity is truly worthy of cultivation and promotion.

The emergence of an entrepreneurial spirit is another relatively recent trend, which has enabled the province to turn to small business to create jobs and improve incomes. Goods and services once supplied by large organizations are more and more being offered by smaller suppliers at lower cost and with greater efficiency. The transfer of ownership, risk and decision-making to smaller entrepreneurs brings a new vitality to local and provincial businesses. It is worth noting that an entrepreneurial spirit is part of the heritage of this province and was reflected in the many locally owned businesses which existed prior to 1949, but gradually disappeared as we entered the Canadian economy.

The P. J. Gardiner Institute for Enterprise and Entrepreneurship at Memorial University of Newfoundland, in its survey of small business in the province,¹⁰ found that examples of business success exist today across the economic spectrum – from manufacturing and resource sectors, to a wide variety of business and personal services. These businesses have a strong orientation to export markets based on the quality and uniqueness of their products and services. The survey also found that the most important business assets were human qualities: employee expertise, dedication and a positive work ethic.

The emergence of small business is not by accident or merely the result of larger forces in the North American and global economies. The ability of local entrepreneurs to take advantage of commercial trends has not been taken for granted, certainly not by provincial and federal agencies and by business associations and educators who have worked hard to promote small business development over the past 20-30 years. The success of these enterprises comes at a vital time. They can make an important contribution to employment and income growth in the province. The entrepreneurial spirit is becoming a part of the people's sense of place.

Small business draws on another key strength – an educated workforce. While in some respects educational achievement in this province has lagged behind other parts of Canada, the gap has been closing.¹¹ However, as the submission by the Newfoundland and Labrador Teachers' Association states: "Clearly, in a province where unemployment levels remain high and where job opportunities, while improving, still do not reach countrywide norms, education is paramount."¹² Through public meetings and schools visits, the Commission was encouraged by the importance youth attach to education. There is a growing appreciation that, with higher levels of education, come greater employment opportunities and income levels. While perhaps not a sufficient ingredient for prosperity and self-reliance, this change of attitude is certainly a necessary one. Research into other sustainable North Atlantic societies such as Iceland and Ireland indicates that literacy and higher education are vital for the achievement of economic and social change.¹³ Table 12.1 summarizes key facts relating to educational levels and employment rates in Newfoundland and Labrador.

Table 12.1

Relationship Between Education and Employment Newfoundland and Labrador (2002)		
Level of Schooling	Employment Rates	
	Male	Female
Some High School	36.8%	26.3%
High School Graduate	57.3%	45.7%
Post-Secondary Certificate	66.5%	63.4%
University Degree	79.4%	73.5%

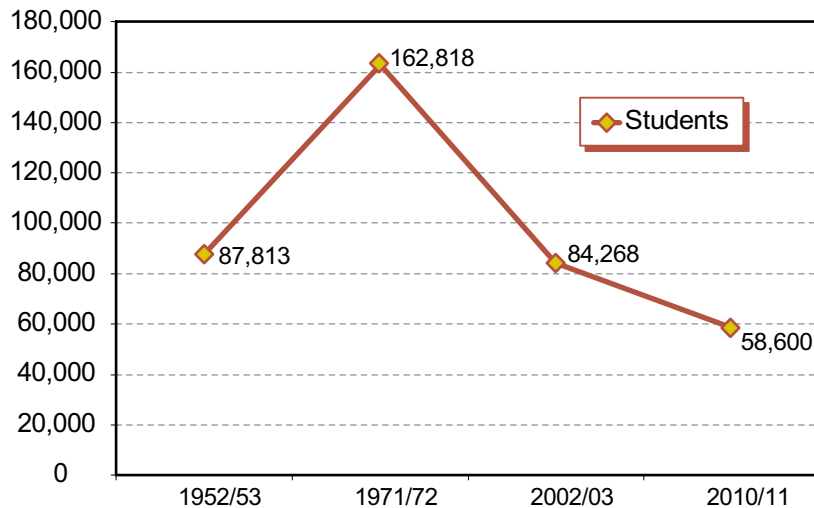
Source: Economics and Statistics Branch, Department of Finance

Men and women with higher levels of education also tend to earn substantially higher incomes. In 2000, the average income for males with less than high school was \$19,600, but increased to \$35,000 with a trades certificate and to \$52,900 with a university degree. Average incomes for women were considerably lower: for those with less than high school they were \$10,800, with a trades certificate \$22,700, and a university degree \$32,200.

Providing a world-class school system in Newfoundland and Labrador is no easy task. Geography and demographics present enormous challenges. The land mass of the province is great, but its population is small and dispersed across some 650 communities. As a result, the provision of education is very expensive, especially in remote rural areas. Almost 66 per cent of schools are rural; yet they serve only 45 per cent of the population, and almost 25 per cent of schools have fewer than 100 students. Out-migration and a declining and aging population are having a profound impact on the province's education system. Figure 12.1 shows the startling drop in K-12 school enrolments, which has declined from a peak of 162,818 in 1971 to approximately 84,268 in 2002-03, and is projected to further decline over the next decade to 58,600. These declines create challenges for accessibility, quality and affordability – particularly in rural settings and for particular academic programs.

Figure 12.1

Newfoundland and Labrador School Enrolment (K-12)



Source: Department of Education Statistics.

Individual commitment to education is not enough. As a society, we must fully appreciate the value of this resource for our future. Throughout its public meetings, the Commission heard that not only must the province have a world-class and responsive education system, but it also must have an affordable system. Too many young people leave this province because their student debt levels leave them with no other choice. While every person must be encouraged to pursue their full potential, every possible opportunity for that potential to be realized in Newfoundland and Labrador must be provided. Students told the Commission that, while much more still needs to be done, they were generally encouraged by recent initiatives by the provincial government to make education more accessible and affordable. However, there is almost universal dissatisfaction with the federal government's efforts in this area.

The Commission believes that, for Newfoundland and Labrador to attain greater prosperity and self-reliance, it must increase its investment in education. Under present fiscal circumstances, it is difficult to see how this can be done. The provincial government already spends approximately 20 per cent of its budget on education. A greater commitment from the federal government is required and should be viewed as an investment that will yield long-lasting benefits for both the country and the province.

Human resources are especially important in the "new economy" of the tele-computational revolution.¹⁴ This component of the economy offers real potential for the province. The new technology is being applied in our traditional and emerging wealth-creating sectors: fisheries, mining, forest products, offshore oil and gas. The public sector, notably health and education, has been transformed by the new technologies, improving cost efficiency and quality of service. The tourism sector has also been enhanced by the Internet. The information technology sector has burgeoned; the province now has approximately 400 firms creating nearly 4,000 jobs, over half of which are in St. John's.

Memorial University of Newfoundland and the College of the North Atlantic are leaders in the province in the application and dissemination of technology, and they also export educational services abroad. Universities are seen as especially important contributors to the growth of the knowledge-based economy. This role depends on a number of factors, including the experience and capacity of the university to collaborate with the private sector, the receptivity of local firms to technology-transfer opportunities,

and the sensitivity of federal research funding programs to circumstances in this province. Memorial University of Newfoundland, while strongly committed in its mandate to research and to share the results with the broader community, could improve this function through faculty incentives geared to achieving local collaboration and by the establishment of a research centre to study the knowledge economy.¹⁵ The university sector across Canada receives its major research funding from the federal government as well as from private sources. Memorial University of Newfoundland has not been given its relative share of that funding, and has fallen even further behind, perhaps because these programs have been designed to reinforce the strategic strengths and longer track records of research-intensive universities in Ontario, Québec and other provinces. By adopting allocation measures for research funding more sensitive to the particular strengths and mandates of universities, the federal government can ensure the optimal use of research funding and its contribution to research, development and innovation in the Newfoundland and Labrador economy.

Location

The strategic value of Newfoundland was shaped by its location. It was close to very productive fishing grounds and, in military terms, guarded the northeast flank of the continent and provided a bridge between North America and Europe. Neither of these strategic factors was of such importance to merit major wealth or influence, but they did sustain centuries of settlement. As strategically significant factors, both have disappeared. As our economy and society have become more and more integrated into Canada and North America, our North Atlantic role has diminished. There is no way of denying the reality that, from the perspective of the heartland of the continent, whether in central Canada or in the United States, we are seen as marginal and peripheral. They view the province as remote, difficult and expensive to reach, with a harsher climate. They do not consider the province an important domestic market. That is not to say that what the province produces is not valued, or that as a people we are not valued. But that value will always be discounted if it is measured only by Ontario or New York standards of location, population and concentration.

Another aspect of the province's location that bears reiteration is the dispersal of its small population over an enormous geography. The public service and transportation infrastructure are stretched to the limit to service remote communities. Addressing this challenge is not easy and has tested the ingenuity of our governments and businesses for a long time. We must embrace, wherever possible, new technologies that enable services to be delivered from central locations. The population distribution turns fundamentally on the broader issues of rural sustainability discussed elsewhere in this Report.

Transportation

Transportation and communications have been vital to both the Island portion of the province and Labrador. Canada has developed and prospered in the past century by defying its huge and difficult terrain through its leadership in transportation and communications services and technology. Consider the Canadian Pacific Railway, Air Canada, the Trans-Canada Highway, the Canadian Broadcasting Corporation and Telesat. However, deregulation of transportation markets and the privatization of national carriers and ports have put at risk what was once an important Canadian strength – a viable, available, affordable transportation network across the entire national territory. Admittedly, these changes were made to increase Canada's overall economic competitiveness. The new policy framework may work for the concentrated population centres and markets in Canada, but it does not work for the more widely dispersed populations for which the original infrastructure was intended. This is especially worrying for Newfoundland and Labrador because we are so dependent on efficient transportation linkages for our global competitiveness.

What is worse, our position in the Canadian transportation network is shrinking. With the agreement of both the federal and provincial governments, the federal crown corporation that ran the Newfoundland railway closed it down completely in 1988, with the federal government providing compensation in the form of highway investments. This places a much greater burden on the competitiveness and viability of remaining road, air and sea links.

The road system in this province is absolutely essential to economic prosperity. It is a key to exports, especially fish products, other manufacturing and tourism. It plays a vital role in making an adjustment to a more viable rural economy. The Trans-Canada Highway and the regional trunk roads system have been built through a series of federal/provincial agreements.

Today, the only federal funding program specifically dedicated to highways is the Strategic Highways Infrastructure Program which in this province provides only \$11.5 million in federal funds over five years. The Canadian government, unlike the federal government in the United States, has no policy providing for substantial and long-term funding for the country's national highways system. It is time for the federal government to recognize the importance of an efficient and well-maintained highway system for the economic development and prosperity of the nation, and to partner with the provinces in a new generation of highways infrastructure investment.

Convenient and competitive air service is essential if this province is going to prosper. The quality, frequency and availability of air service to and from the rest of Canada have been downgraded consistently in the past decade, especially from airports in Labrador and on the Island outside of St. John's. The federal government's devolution of airport facilities to local authorities has the potential of jeopardizing the long-term viability of many of the airports in the province. The airline business worldwide is in turmoil with complaints mounting about declining service. Yet, convenient and competitive airline routes are an essential requirement for a globally-oriented economy if this province is to compete in human capital markets and tourism. The province simply cannot overcome its locational weaknesses without effective air transportation.¹⁶

As discussed in Chapter 7, the Gulf ferry service is a visible reminder of Newfoundland and Labrador's place in Canada, and is critically important to the economic development of this province. The Canada Marine Act (1998) and Transport Canada's Marine Policy requires Marine Atlantic to "substantially reduce its costs and increase efficiency."¹⁷ While the Commission is not opposed to increased efficiency, it is important to note that such directives to Marine Atlantic do not in any way excuse the federal government from fully meeting its constitutional obligations under Term 32(1). In addition to living up to its constitutional obligations, the federal government must recognize that investments in the Gulf ferry service are an essential component of economic development in the province. In the past, the federal government's approach and attitude toward this important service has strained its relationship with Newfoundland and Labrador. A renewed focus on this service would send a clear message that it wishes to strengthen that relationship and is committed to ensuring the economic health and prosperity of the province.

Communications and Information Technology

With the revolution in computers and telephone technology, locational disadvantages are being overcome to some extent. These advances are transforming many sectors in the province's economy and eliminating many distance barriers. Still, they will not solely turn a small community into a "new economy" powerhouse. In fact, research into the locational decisions of high technology firms across North America and Europe confirms that "agglomeration" effects are still significant. The tendency of firms to cluster together so that they can better encourage, compete and feed off one another is even more pronounced in the new economy than it was in the older one. The province's entire economy is likely too small to become a significant centre for the new economy, but, as noted already, there are hundreds of firms now

active in the direct “high tech” sectors. In the rest of the economy, existing and new businesses must apply technology and make productivity gains. In other words, even without becoming major players in the core of the new economy, the businesses need to keep applying the technology to remain competitive in the global economy.¹⁸

In theory, one can do business anywhere with a cellphone and a laptop computer. In practice, these devices require expensive infrastructure that is not available everywhere. In particular, high-speed or broadband Internet access is seen as the critical new infrastructure to support a myriad of web-based applications. Such applications need people who are willing and able to use them. The reality is that the province has a major “digital divide.” The divide relates to age, gender and economic groupings; it is also social and geographical. Some communities are connected to broadband Internet, and some are not; within communities, some will use and apply the new technology in their daily lives, and some will not or cannot. It is an important indicator of adaptation to the new economy that only 58 percent of the provincial population has Internet access.¹⁹ We face a chicken and egg problem: lack of broadband service because of lack of customers; lack of customers because of lack of service. We may be able to look to the New Brunswick model of the 1980s. At that time the public and private sector made the far-reaching decision to place a digital telephone and fibre optic cable network throughout the entire province, which has reaped significant benefits since.²⁰

The federal government has recognized the promise of a national approach to the provision of broadband access to smaller communities, but so far has only been able to proceed with small pilot projects. What is needed is a more comprehensive national program, with flexibility for intergovernmental cooperation, that can integrate the needs of provincial government service provision with the developing private market in remote communities.

Conclusions

The new global economy is creating opportunities based on instantaneous communications, information and human resources. Newfoundland and Labrador has a cluster of strengths that, in a relatively small society, interact with one another to respond to this new generation of opportunity. They consist of the following:

- valuable and strategic natural resources
- a potentially sustainable environment of natural and human ecology that is unique in the world
- a determined people, with strong entrepreneurial drive and diverse work skills

If Newfoundland and Labrador is to take advantage of its location and compete in the global economy, it needs effective transportation and communications infrastructure. Since 1949, the federal and provincial governments have jointly undertaken the building and maintenance of that infrastructure. The federal government also has constitutional responsibilities with respect to the Gulf ferry. In the past decade, however, deregulation and privatization has put at risk the provision of a viable, accessible and affordable transportation network in this province. While these changes were made to increase Canada’s overall economic competitiveness, they have reduced the competitiveness of regions with widely dispersed populations such as Newfoundland and Labrador.

The Commission concludes that there are four key aspects of infrastructure to be addressed:

- There is a need for a new generation of highway investment in the Trans-Canada Highway, the Trans-Labrador Highway and the regional road system.
- Federal policies and programs must ensure a viable air transportation network to, from and within Newfoundland and Labrador.

- In addition to meeting its constitutional obligations, the federal government must recognize that investments in the Gulf ferry service are an essential component of economic development in the province.
- High-speed or broadband Internet access is critical new infrastructure. A more comprehensive federal government program for the provision of broadband access to smaller communities is required. This program should have sufficient flexibility for partnership agreements with the provincial government and the private sector.

Finally, the Commission recognizes the key significance of education and research in the ability of the province to participate in the knowledge-based economy. The kind of significant advances required to truly match the human resource potential of Newfoundland and Labrador calls for a concerted effort by both orders of government. Two key roles of the federal government are support for post-secondary students and support for research. The student debt burden is becoming a significant contributor to the out-migration of young adults from this province, and must be eased through reformed student aid programs. Efforts to make research funding to universities less tied to past research success, and more tied to emerging strengths, are also required.

Without reliable transportation and communications infrastructure and without an educated population, this province will not be able to fully participate in the new economy. It is in the best interests of the province and the country that both levels of government work together to ensure that these supports are in place in Newfoundland and Labrador.

“Small island economies such as Newfoundland have the opportunity and, generally , the necessity, of being open and connected to the rest of the world. The ocean has always been Newfoundland’s medium, metaphorically its highway, railway, airline, shipping, literary, telegraph and satellite connection. The sea does not represent a vast emptiness bordering the coast isolating and marginalizing a society. The sea has always been a prime measure of freedom and opportunity.”

Excerpt from the Public Consultations

“... Newfoundland and Labrador is isolated from mainland North America- and the high cost for people and goods to and from our province is costing multi-millions in lost opportunities. These excessive charges are stifling tourism based economic growth.”

Excerpt from the Public Consultations

“National research funding, transfers in support of educational funding, being part of a Canadian intellectual network - -all these have contributed to making Memorial University more than what it may otherwise have been in the absence of Confederation.”

Excerpt from the Public Consultations

“In the past 50 years the rise of a university -educated population in the province has resulted in a shift in the attitude of its people-- from a willingness to accept imported leadership in many sectors of our society and economy to a demand that leadership must come from within - that economic and social decisions affecting Newfoundland and Labrador would be made by the people of this place.”

Excerpt from the Public Consultations





Recommended Pathway to Renewal

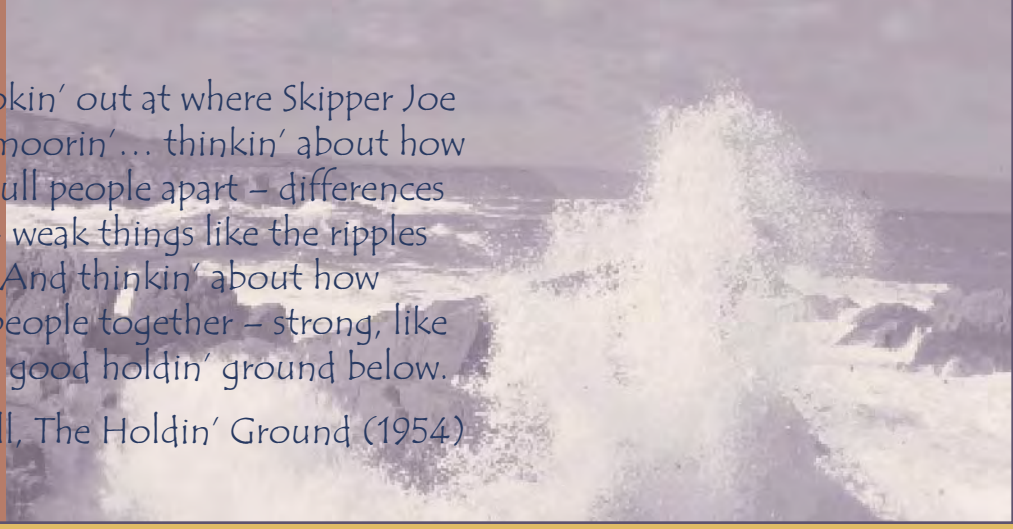
The Commission has been significantly influenced by the passion with which Newfoundlanders and Labradorians described their place in Canada, and the manner in which they articulated their views on the critical issues affecting their future as Canadians. There is a deep sense that a powerful set of circumstances has dominated Newfoundland and Labrador's relatively short history in Confederation, and that these circumstances cry out for accommodation. Newfoundland and Labrador has lost its fish, lost the profits from its hydroelectricity, is losing a large segment of its population and is now losing much of the benefits from its offshore oil. As a consequence, the province seems to have lost its place in Canada.

When Newfoundland and Labrador joined Canada, it expected to be a fully respected partner in the federation and to progress to the same standard of living as other Canadians. The province expected that it would not be dependent on the federation, but would derive its prosperity from its own abundant natural resources. It has been the Commission's challenge to take these expectations into account and to recommend a new pathway to renewal. This pathway is intended to tackle current realities and offer practical responses that are in the best interests of the people of the province.

The foundation for this pathway must be a different kind of relationship between the federal and provincial governments. The relationship between the two is not working. It has been characterized by blame and acrimony, confrontation and dismissiveness, legal threats and constitutional demands, lack of understanding and sensitivity and the failure to jointly address the major issues facing this province. A renewed partnership is a two-way street, and it needs to be pursued based on collaboration and a continuing commitment to understanding each other's expectations and challenges. The partnership must be strong enough to withstand disagreements, flexible enough to deal with distinct circumstances and creative enough to find approaches to unique needs and opportunities. The measure of a renewed relationship will not be whether the two governments are simply getting along. Rather, it will be the extent to which they jointly deal with the key issues facing the province and in the long-term best interests of the people of Newfoundland and Labrador.

The pathway deals with a comprehensive package of issues of paramount importance to the province. The Commission is confident that the elements in the pathway have great potential to renew and strengthen Newfoundland and Labrador's place in Canada – but *only* if the political will exists to move forward. Canada has a history of adapting itself to new realities, not always through constitutional arrangements, but often through negotiation and flexibility in government decision-making. It has a history of being guided by the shared values of equality, justice and respect. It is in this context that the Commission is hopeful that its Report will strengthen Newfoundland and Labrador's place in the federation.

In the following pages, the Commission outlines the findings, conclusions and recommendations that are the key elements in the pathway to renewal.



I'm sittin' on my stage-head lookin' out at where Skipper Joe Irwin's schooner is ridin' at her moorin'... thinkin' about how weak are the things that try to pull people apart – differences in colours, creeds and opinion – weak things like the ripples tuggin' at the schooner's chain. And thinkin' about how strong are the things that hold people together – strong, like Joe's anchor, and chain, and the good holdin' ground below.

Ted Russell, *The Holdin' Ground* (1954)

Recommended Pathway to Renewal

Confederation – a Partnership of Mutual Benefit

- Confederation was a moment of historic significance for Canada and an unprecedented opportunity for Newfoundland and Labrador. In joining, the province became a partner with nine others, an equal in a growing and prosperous nation. The province brought vast new riches into Confederation, including the diversity of its Aboriginal and non-Aboriginal cultures, the openness and warmth of its peoples, the beauty of its geography and landscape and the skills of a talented workforce of women and men. ***Although the people were few in number, only 350,000 at the time of Confederation, Newfoundland and Labrador entered Canada with much to contribute.***
- The province's contribution also included its strategic airspace and geographic location, one of the richest fishing resources in the world, powerful hydroelectric resources (particularly on the Churchill River), a massive continental shelf encompassing significant oil and gas reserves, forest resources on the Island and in Labrador and mineral resources, including the vast iron ore and nickel deposits in Labrador. ***There is no doubt that Newfoundland and Labrador has made a magnificent contribution to Canada.***
- Since 1949, Newfoundland and Labrador's economy has become more diversified, real personal incomes are higher and the overall level of education has risen. Important public infrastructure, including roads, schools and hospitals, has been expanded and improved. Newfoundlanders and Labradorians are benefiting from medicare, Canada Pension, employment insurance and other Canadian social benefit programs. Significant contributions to economic progress have come from Canada's development expenditures and from its investment in the Hibernia oil project. ***There is no doubt that Canada has made a magnificent contribution to Newfoundland and Labrador.***

Disconnect and Discontent

- There is a worrisome disconnect between the vast resources brought into Confederation and the relatively disadvantaged position of Newfoundland and Labrador compared to that of other provinces. It has the nation's highest unemployment rate, lowest per capita income, some of the highest rates of taxation, highest per capita debt, the weakest financial position, highest rate of out-migration and fastest population decline. ***Whatever else, the perpetuation of economic disparities was not the expectation of the people of Newfoundland and Labrador when they entered Confederation.***
- The troublesome irony which exists today is that Newfoundland and Labrador leads the nation in GDP growth at a time when it is desperately struggling with the painful loss of its once lucrative

fishery; it has lost an astounding 70,000 people, or 12 per cent of its population, to out-migration in the last decade; and it has experienced double-digit unemployment for each of the last 35 years. ***The collapse of the fishery, serious out-migration and unacceptably high unemployment have shaken the very foundation of Newfoundland and Labrador and fuelled discontent and frustration about its place in Canada.***

- This deep-rooted frustration is exacerbated by the inequitable outcome of the Churchill Falls project and the lack of development of the Lower Churchill. Furthermore, there is an unfolding realization that, despite the stated objectives of the Atlantic Accord, the province will not be the principal beneficiary of its offshore oil developments. ***In the absence of constructive changes in public policy, Newfoundland and Labrador's place in Canada appears destined to be one of disparity and discontent.***

No to Separation! No to the Status Quo!

- Newfoundlanders and Labradorians are proud to be Canadians. Based on all of its meetings, hearings, research and polling, the Commission has concluded that the issue of separation is not a priority for the large majority of people in the province. The poll indicated that only 12 per cent of respondents thought Newfoundland and Labrador should leave Canada and become an independent country. ***The overwhelming sentiment is against separation and in favour of improving our place within Canada.***
- Newfoundlanders and Labradorians do not believe that the province has yet found its full place in Canada. There is a strong sense that the fundamental issues facing the province are not well understood by the federal government, and are too often ignored or dismissed as “regional” and far less important than concerns seen as “central.” The overwhelming sentiment is that the status quo is totally unacceptable. ***Being entrenched at the bottom of the Canadian ladder in a cycle of dependency underscores the need to improve our place in Canada.***
- Under the Terms of Union, Newfoundland and Labrador accepted a place within Canada that was not materially different from that of other provinces. With the exception of Term 32(1), related to the Gulf ferry service, there are no significant clauses in the Terms of Union that can be called upon to renew and strengthen our place in Canada. ***What is needed is a new partnership, not changes to the Terms of Union.***

A New Partnership – a Two-Way Street

- The current federal/provincial relationship is in disarray. It is simply not working, and the best interests of the people of the province are not being served. A changed mindset, characterized by inclusion, cooperation, respect and accommodation, must guide the development of the new relationship between the federal government and the provincial government. ***Both governments must agree to the need for a changed relationship and make a commitment to creating a new partnership.***
- The recommended change to a collaborative relationship is not meant to apply only to Newfoundland and Labrador. The Commission believes such a change is being demanded by other provinces and by Canadians right across this country. ***The future strength of Canada depends on the ability of the provincial, territorial and federal governments to reshape the federation so that it works in the best interests of Canadians.***
- It is in Canada's best interest that this province find the way to build on its own strengths and break away from its cycle of dependency. The recommended pathway to renewal is key to this province's achieving prosperity and self-reliance. ***Newfoundland and Labrador has an***

opportunity to be seen as a test case of whether the political will exists in both the provincial and federal governments to break the pattern of confrontational federalism.

- Since the members of the Canadian Senate are not elected, the Senate lacks the democratic legitimacy to represent the interests of the provinces. An elected Senate, with equal representation of the provinces, would ensure that provincial issues receive greater federal attention. While this is a longer-term objective, the provincial government should join other provinces in advocating Senate reform. ***The Commission supports the calls for an elected and equal Senate in order to improve the representation of provinces in the federal parliament.***
- A properly balanced and well-functioning federation is the responsibility of both the federal and provincial governments. Currently, federal/provincial mechanisms are too ad hoc and dependent on the will of the federal government. Provincial and territorial governments should explore with the federal government more efficient mechanisms for strengthening federal/provincial relations. ***The Commission supports the need for more organized and regularly scheduled First Ministers' meetings for a better functioning federation.***
- Provinces are increasingly frustrated because their interests are not understood by the federal public service or reflected in federal policies and programs. This is exacerbated by the perception of many Canadians that the interests of central Canada are of greater importance than those of the other provinces. ***In order to improve federal administrative sensitivity to Canada's regional diversity, the federal government should implement policies to ensure that the federal public service understands and reflects that diversity.***

A New Way of Thinking and Relating

- An important step toward renewal would be the adoption of a new mindset which embraces the concept of being relentlessly “present-minded” in analysing challenges, and relentlessly “future-minded” in tackling them. ***It is time to adopt a new state of mind – one which looks to the future, refuses to dwell on the past and takes more responsibility for working cooperatively as a society.***
- Within Newfoundland and Labrador, the provincial government must build on initiatives related to social inclusion for all of its citizens. The pathway to renewal is based on a team effort involving Aboriginal and non-Aboriginal cultures, women and men, businesses, unions and tradespeople, volunteers, youth and seniors. ***The principles of social inclusion – equality, openness, dialogue, respect and trust – are seen as fundamental to renewal in governments' dealings with all aspects of society as well as in citizens' relationships with each other.***
- Unfolding social and economic circumstances have, in many respects, different impacts on men and women. Stronger policies must be implemented by the provincial government to facilitate the inclusion of women in decision-making, improve women's access to training and education and improve gender equality in the workplace. The Commission supports those calling on the Government of Canada to revisit the 1970 *Report of the Royal Commission on the Status of Women*. ***Governments at all levels must work more diligently to ensure that women's values, experiences, knowledge and skills are better reflected in policy formulation.***
- There is no single solution or template for the numerous complex issues confronting Aboriginal peoples. Priority attention should be given to the timely conclusion of Innu and Inuit land claims negotiations with the provincial and federal governments; the creation of federal reserves at the Innu communities of Natuashish and Sheshatshiu; access to federal programs by Mi'kmaq and Labrador Métis; and timely decisions by the federal government on Labrador Métis land claims application. ***The federal government, working closely with the provincial government***

and Aboriginal groups, must act to bring clarity to the rights and entitlements of Aboriginal peoples in the province.

- The undercurrent of alienation that exists in Labrador cannot be ignored. There must be ongoing consultation and focus on issues of vital importance to Labradorians. In particular, the Commission is recommending that attention be directed toward accessing Labrador energy for domestic and commercial use in Labrador, completing the Trans-Labrador Highway and securing the future of the Goose Bay airbase. On these issues, governments must address the interests of Aboriginal peoples as well as environmental matters. ***The provincial government must demonstrate an ongoing strong commitment to meaningful consultation with Labradorians, and their inclusion on key issues.***

Youth and Our Future

- With the out-migration of young adults and families with young children, many rural areas have lost almost their entire younger generation. This province needs young men and women if it is to build a stronger and more prosperous future and if it is to continue to have a strong culture and identity. It is recognized that some young people will always choose to move to broaden their horizons. ***The challenge for the province lies in ensuring that young people are not compelled to leave for economic reasons, but have a choice to stay or return home.***
- The Commission was encouraged by the importance that young women and men attach to education. Nevertheless, there is a need for increased counselling services during high school to enable youth to make better choices about their future careers and post-secondary education in university or community college. There is also a need for improved access to apprenticeship programs and support for training programs for women in areas in which they are under-represented. The Commission is aware of the irony that there is an imminent labour shortage in this province even as it experiences high unemployment. ***Young people are challenging government to find ways to ensure that they are fully aware of the employment opportunities existing in this province, and that the appropriate educational programs are in place for them to take advantage of these opportunities.***
- While every person must be encouraged to pursue his or her full potential, opportunity must be provided for that potential to be realized within Newfoundland and Labrador. Too many talented young people have to leave this province to secure employment, often because their student debt loads leave them no choice. ***The Commission concluded that student debt burden is becoming a significant contributor to out-migration, and that federal/provincial programs must be adapted to deal with this reality.***
- The Commission was reminded by young people that too much focus on the negative discourages them from believing in themselves and feeling confident about the future. They know that the image of the province will improve as the province's place in Canada improves. ***The optimism and energy of young men and women embody the new way of thinking needed to renew and strengthen our place in Canada.***

Fiscal House in Order

- Since Confederation, successive budgetary deficits in Newfoundland and Labrador have led to an accumulation of debt which, combined with unfunded pension liabilities, results in an overall taxpayer-supported debt burden in excess of \$10 billion. In 2003, the province budgeted for a deficit that is double the previous year's, and incorporates a shortfall of over \$100 million on current account. ***Newfoundland and Labrador's budgetary deficit trend is unsustainable.***

- The prospect of significant reductions in program spending presents major challenges to the government's ability to maintain existing service standards. Tax levels in this province rank amongst the highest in the country, and further tax increases would be counterproductive. ***The fiscal options are extremely difficult, but they must be addressed.***
- Offshore oil revenues are projected to increase significantly in the coming years. However, the net benefit of these revenues to the province will be substantially diminished through the loss of equalization payments, even after fully reflecting the revenue-protection arrangements set out in the Atlantic Accord. ***Offshore oil revenues under the current structure cannot be expected to eradicate the serious fiscal challenges confronting the province.***
- The Commission urges the provincial government to commit itself, through legislation, to balanced budgets within a specific time frame, and to take action to ensure that appropriate arrangements are in place to address its significant unfunded pension liabilities. Once fiscal balance is restored, there is still the need to address debt and ease tax burdens. ***Fiscal prudence dictates that the provincial government take the necessary steps to get its fiscal house in order.***

Fiscal Federalism

- The purpose of equalization is to ensure that provinces can provide reasonably comparable levels of social services at reasonably comparable levels of taxation. While it has been enormously beneficial, the equalization formula is not working as it was intended. ***The reinstatement of the ten-province standard, the inclusion of accommodation for population changes and the preservation of the generic solution are all critical if the equalization program is to meet its stated objectives.***
- The Canada Health and Social Transfer (CHST) is designed to support social programs in the provinces and territories. Despite the additional federal funding provided this year, CHST cash entitlements for this province remain below the level in effect in the mid-nineties. The Commission supports the position of the provinces and territories that, in order for social programs to be sustainable, the federal government must provide greater financial support. In addition, the Commission is recommending that accommodation be made to enable provinces to adjust for declining population over a reasonable period of time. ***Funding under CHST should be increased, and the arrangements altered to ensure that population loss can be equitably accommodated.***
- After many decades of federal and provincial governments cooperatively planning and jointly funding regional economic development programs, the federal government has abandoned this approach. Those cost-shared agreements provided critical funding for many strategic government and industry-specific initiatives in Newfoundland and Labrador. ***The Commission encourages the Government of Canada to reconsider its position and negotiate new cost-shared agreements with the provincial government.***

Last Chance for the Fishery

- The collapse of the groundfish fishery and the vulnerability of the crab and shrimp fishery are critical issues for the people of rural Newfoundland and Labrador and for the economy of the province. Priority must be given to the rebuilding of fish stocks. This requires a renewed emphasis on fisheries science, with the restoration of adequate federal funding for the Department of Fisheries and Oceans. ***There must be a collaborative approach to resource recovery that***

focuses on conservation, science and industry reform, and gives the province a meaningful say in its fishery.

- The rebuilding of groundfish stocks, the long-term sustainability of shellfish and the restoration of fisheries science are of the highest priority. An action plan is urgently needed to address the issues. This plan would be based on existing extensive research, and would incorporate a strategy to restore funding for fisheries science. ***The Commission recommends the establishment of an Action Team jointly appointed by the Prime Minister and the Premier, with a six-month mandate to develop a comprehensive action plan.***
- The provincial government must have direct participation in the management of its most important resource. The Commission recommends the negotiation of a new fisheries-management relationship between the two governments, leading to the development of mechanisms for joint management of the fishery, integrated policy development and implementation. ***Achieving joint management does not require constitutional amendment, and could follow the same route that led to the current joint management regime for offshore oil and gas.***
- The Commission recommends that the federal government develop a forceful plan to address foreign overfishing based on the reality that NAFO (Northwest Atlantic Fisheries Organization) simply is not working. It recognizes, however, that unilateral action by Canada to assume custodial management for areas such as the Nose and Tail of the Grand Banks poses serious legal, diplomatic and enforcement risks. Canada, therefore, should make a determined effort to strengthen NAFO. ***At the same time, Canada should prepare itself and the international community for the reality that strong unilateral action, including custodial management, will be necessary should efforts within NAFO fail.***

Rural Sustainability – an Unresolved Challenge

- The most significant social and economic challenge facing the province today is the survival of rural Newfoundland and Labrador. Any efforts to openly address this challenge are complicated by memories of the 1960s resettlement program, by fears that even discussing the issue will signal the end of rural communities, or by mistrust that decisions will be imposed on people in rural areas. Ignoring the challenge, however, discourages in-depth exploration of more creative approaches to rural sustainability. ***The people of the province must become engaged in an informed, public dialogue on the future of rural Newfoundland and Labrador as preparation for the development of a rural strategy.***
- In developing a rural strategy, the provincial government will need to go beyond a focus on jobs alone and explore more fundamental questions and options concerning the future of the province. These future options would include, but not be limited to, the pursuit of an urban agenda, a regional agenda or a rural agenda. Each of these options presents its own opportunities, comes with its own costs and has implications for public policy decisions and public expenditures. There are many possible models of citizen engagement that can be used by the provincial government to bring about informed public dialogue. ***It is imperative that the provincial government articulate a strategy for rural Newfoundland and Labrador.***

Regulation of Natural Resources

- The provincial government must constantly challenge itself to ensure the greatest possible returns from the development of the province's natural resources. The provincial government's current review of electricity policy provides a valuable opportunity in this regard. ***A key component of this review must be a careful consideration of the province's powers under the Constitution of***

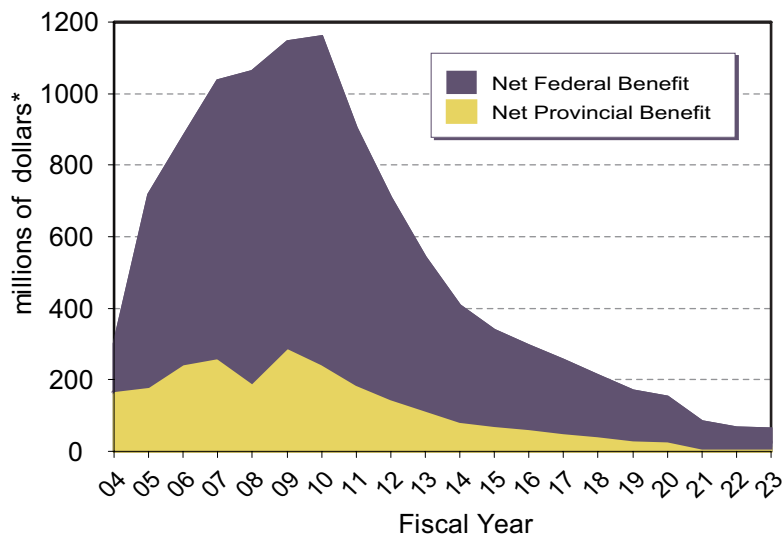
Canada, including those added by Section 92A, to derive important and needed benefits from electricity generated on the Island and in Labrador.

Offshore Oil – Principal Beneficiary

- The stated intent of the Atlantic Accord is that Newfoundland and Labrador is to be the principal beneficiary of oil and gas resources off its shores. The protection in the Atlantic Accord against equalization losses was based on the overly optimistic expectation that Newfoundland and Labrador would become a “have” province in a relatively short period of time. This situation did not materialize. Today, the federal government’s income tax revenues, coupled with its savings on equalization, are projected to total 75 to 80 per cent of combined federal/provincial oil revenues over the life of existing projects. The provincial government will be the net beneficiary of only 20 to 25 per cent of these revenues. ***Under existing arrangements, the principal beneficiary of offshore oil will be the Government of Canada and not the people of Newfoundland and Labrador.***
- The current arrangements yield a startling revenue split (see Figure 13.1). It defies all logic to say that the spirit and intent of the Atlantic Accord will be honoured under present sharing arrangements. ***The Commission recommends that the federal and provincial governments enter into immediate negotiations to revise the Atlantic Accord to ensure that a far greater share of net government revenues will be retained by the province.***

Figure 13.1

Net Sharing of Government Revenues from Offshore Oil



Source: Projections based on the existing projects (Hibernia, Terra Nova and White Rose). Data extracted from projections provided by the provincial Department of Finance.

***Note:** Constant dollars adjusted for inflation.

- The amended arrangements should ensure that the province will realize a higher net share of combined federal/provincial government oil revenues until it reaches the Canadian average on agreed-upon fiscal and economic measures. This is an essential ingredient to renewal. ***The existing revenue-sharing arrangements of the Atlantic Accord are no longer a valid means of***

achieving the objectives of the Accord, and they must be amended to enable Newfoundland and Labrador to become the principal beneficiary.

Churchill River

- The Churchill Falls development has profoundly shaped Newfoundlanders' and Labradorians' perception of their place in Canada. Nevertheless, it is crucial that the development of the Gull Island site on the Lower Churchill proceeds in a way that builds new relationships, both with Québec and the federal government. *After 30 years of unsuccessful negotiations, the time has come to develop the Gull Island hydroelectric site on the Lower Churchill River.*
- The development of the Gull Island site must result in this province's taking fair and reasonable benefits from the development of its resource. The federal government can bring balance to negotiations between Québec and Newfoundland and Labrador by agreeing to be a substantial financial backer of the project. Such a constructive role for the federal government would be entirely consistent with its constitutional commitment to "furthering economic development to reduce disparity in opportunities" under section 36(1)(b) of the Constitution Act, 1982. *The Government of Canada should be a key participant in the development of the Gull Island energy resource.*
- In moving forward with the Gull Island development, the provincial government must ensure that it takes no action that could prejudice its future ability to regulate more effectively the Churchill Falls resource for the benefit of the people of Newfoundland and Labrador. *In the view of the Commission, issues related to the Churchill Falls development should not be directly linked with negotiations to develop the Gull Island site.*

The Location Challenge – Global Competition

- Newfoundlanders and Labradorians expect that they should be connected through effective transportation and communication systems to the rest of Canada. The provincial government, as part of its renewal strategy, should seek new funding arrangements with the federal government for improvements to the transportation and communications infrastructure. These arrangements must address a new generation of highway investments and broadband Internet access in rural areas. *Joint federal/provincial funding for the improvement of key transportation and communications infrastructure in Newfoundland and Labrador is crucial to the province's future economy.*
- Under the Terms of Union, the federal government is required to provide a quality and affordable Gulf ferry service, without interruption, at a level able to meet demand. This important service, however, should not be viewed just as a constitutional commitment to be enforced and respected. *A renewed focus by the federal government on improving the Gulf ferry service is essential to strengthening the province's economy.*
- The Commission recognizes the significance of education and research in the ability of the province to participate in the knowledge-based economy. Efforts to make federal research-funding programs less tied to past research success, and more tied to developing research strengths, are also required. *Enhanced federal support arrangements for research will augment the province's ability to compete in the knowledge-based economy.*

Intergovernmental Relations Strategy

- The Government of Newfoundland and Labrador needs a strengthened and well-resourced intergovernmental affairs department with advisers who are knowledgeable and experienced

in federal/provincial and intergovernmental issues and relations. *The building of a productive relationship with the federal government and the other provinces and territories requires a strong team led by the Premier or a member of Cabinet designated as Deputy Premier.*

- Forging partnerships with other provinces in areas of mutual concern is in the best interest of the province. For example, the Commission encourages the building of a tripartite partnership with Newfoundland and Labrador, Québec and the federal government on new hydroelectric developments in Labrador. *Building alliances with individual provinces on matters of mutual interest should be an important element in the provincial government's intergovernmental strategy.*
- The Commission believes that a well-considered, long-term comprehensive intergovernmental strategy with clear goals and objectives is required. *The first action within the new strategy would be an early presentation by the provincial government to the federal government on "our place in Canada," using the Commission's recommended pathway as its foundation.*

Assessment of Progress

- If the pathway to renewal is having an impact, progress will be evident. It will be important, therefore, that a full assessment of the extent of progress be undertaken. The findings, conclusions and recommendations of the Commission can be used to benchmark such progress. *The Commission recommends that the provincial government undertake such an assessment and make a progress report to the people of the province on or before June 30, 2005.*

A Case for Renewal

The recommended pathway to renewal puts forth compelling arguments on how Newfoundland and Labrador can renew and strengthen its place in Canada. Much of the success of the pathway depends on renewed political will by both the Government of Canada and the Government of Newfoundland and Labrador to embrace the concept of accommodation. It represents an unprecedented challenge to both governments to take into account the powerful set of circumstances that has faced Newfoundland and Labrador since Confederation, and to pursue a renewal strategy based on doing the right things in the right ways for the right reasons for the people of Newfoundland and Labrador.

The Commission believes the pathway to renewal can be the first step towards Newfoundland and Labrador's achieving prosperity and self-reliance over the long term. If the federation is going to work, it is incumbent on the federal government to be just as concerned about the disparities facing Newfoundland and Labrador as is the provincial government. There are no magic or simple solutions within the pathway. It does not envisage Newfoundland and Labrador's becoming another Alberta or progressing so rapidly that it leaves other provinces in its wake. It deals, however, with the issues that require change if Newfoundland and Labrador is to improve its current and unacceptable place in Canada.

It will be the responsibility of the provincial government to make the case for renewing the province's place in Canada. That case should start with a comprehensive presentation to the Government of Canada outlining where Newfoundland and Labrador stands after 54 years in Confederation, where the challenges lie and the solutions exist. The Report of the Commission can be used as the basis for that presentation. It will then be the responsibility of the provincial government to pursue a strategy of renewal in a comprehensive, cohesive and consistent manner. The provincial government must organize from a ministerial and public service point of view, so that it can effectively pursue the strategy of renewal through reasoned argument and with a resolute approach.

The time for making the case is now. The Commission feels that arguments relating to renewing our place in Canada must be based on merit. It is essential to get on with making the case and to relentlessly pursue

it to a successful conclusion. The people of the province have told the Commission that the status quo must now be challenged, and they expect no less from their provincial and federal governments.

A Better and Brighter Future

It is the goal of this Report to provide each Newfoundlander and Labradorian with a greater understanding of the key issues that define their place in Canada, as well as a fuller acceptance of the kinds of things that have to be achieved in order for Newfoundland and Labrador to break out of its cycle of dependence. The pathway has been created in the expectation that this federation has the ability to accommodate change, to recognize the unique situations facing various provinces and territories, to honour the spirit and intent of national programs, to partner in major projects and to break the pattern of competitive and dismissive federalism. The pathway assumes that a better and brighter future for the country can be built on collaborative and cooperative federalism. This is a future worth pursuing with all the passion and intellect we can muster.

Consider these five examples from the pathway to renewal. First, the current environment of competitive, indeed, combative federalism seldom works to the advantage of the people of Newfoundland and Labrador. Confrontation by the provincial government is more often than not a response to the dismissiveness of the federal government. Reason dictates that both sides should commit to ending this counterproductive relationship. Second, it is unforgivable that, after more than a decade of moratoria on cod and other fish stocks, a plan for rebuilding has yet to be put in place. There is no conceivable reason why an Action Team, jointly appointed by the Prime Minister and the Premier, should not be created immediately. Third, it is distressing to see that, after 30 years of unsuccessful negotiations to get the Lower Churchill developments underway, the Government of Canada remains on the sidelines. It is entirely realistic to expect that Canada will partner with Newfoundland and Labrador and Québec in a joint effort to ensure that the Lower Churchill sites are developed as soon as possible. Fourth, it defies all logic to suggest that the principal-beneficiary objective of the Atlantic Accord will be met under current circumstances. Given this unanticipated outcome, there is every reason to expect that both levels of government would see the necessity of revisiting the Atlantic Accord. Fifth, it is distressing to see the province's continuing lack of direct involvement in managing its own fishery. Both governments must put aside political rhetoric in favour of immediate and realistic negotiations on joint management.

The pathway is built on the expectation that new accommodations can be reached based on fairness, equity, dignity and respect on the many issues requiring urgent action. These accommodations are not only between the two governments but involve Newfoundlanders and Labradorians pulling together to put an end to Labrador alienation; to meet the challenges of rural sustainability; to make social inclusion a way of life; to give young men and women the freedom to remain in or come back to the province; and to accept responsibility for the decisions necessary to put the province's fiscal house in order. The Commission has emerged from its deliberations with a renewed sense of hope and with realistic expectations that the key issues, pursued in an environment of reason and collaboration, will point the way in renewing and strengthening Newfoundland and Labrador's place in Canada.

That is what this pathway to renewal is all about. It is about getting on with those things that need to be done in a collaborative, cooperative and accommodating manner. It is about ending the kind of confrontational and dismissive federalism that has marked the relationship between the two levels of government for too long. It is about progress towards prosperity and self-reliance. It is about a better and brighter future for Newfoundlanders and Labradorians. It is about making certain that, after 54 years, Newfoundland and Labrador finds its rightful place in Canada.





ELIZABETH THE SECOND, by the Grace of God of the United Kingdom, Canada and Her Other Realms and Territories QUEEN, Head of the Commonwealth, Defender of the Faith.

Amos

LIEUTENANT-GOVERNOR:

TO ALL TO WHOM THESE PRESENTS SHALL COME,

GREETING;

A PROCLAMATION

WHEREAS 53 years ago the people of Newfoundland and Labrador merged their destiny with the people of Canada, a decision they took after vigorous debate and with firm faith in the future;

AND WHEREAS the people of Newfoundland and Labrador have a fierce determination to improve their province and all who live in it by striving to achieve prosperity and maintaining the spirit of self-reliance and belief in themselves which have sustained them for hundreds of years;

AND WHEREAS the Province of Newfoundland and Labrador has an ideal geographic location between two of the world's leading trading blocks, and the ability through natural resources, technology, reduced borders and other factors to seek opportunities in a more globalized world;

AND WHEREAS the people of Newfoundland and Labrador are determined to do so by developing all of their resources, human and natural, and by renewing and strengthening their place within the Canadian Confederation;

AND WHEREAS it is timely for the people of the Province to develop a broad consensus on a vision for the future and identify ways for Newfoundland and Labrador to achieve prosperity and self-reliance, and renew and strengthen our place in Canada.

NOW THEREFORE by Commission under the Great Seal and under the authority of the *Public Inquiries Act*, the Lieutenant Governor in Council appoints as Commissioners:

- Victor Young (Chairperson)
- Sister Elizabeth Davis
- Judge James Igloliorte

AND BE IT ORDERED that the Commissioners undertake a critical analysis of our strengths and weaknesses and make recommendations as to how best to achieve prosperity and self reliance.

Amos
MINISTER OF JUSTICE

AND IT IS FURTHER ORDERED, that in the process of making recommendations and without limiting the generality of the foregoing, the Commissioners specifically examine and report on:

1. the expectations of the people of Newfoundland and Labrador prior to joining Canada, and how Newfoundland and Labrador has changed since Confederation, with a review of how the prosperity and self-reliance of our people has been affected over time;
2. how Newfoundland and Labrador is viewed in Canada, in particular by the federal government and its institutions, and to recommend ways in which Canadians may obtain a better understanding of our Province;
3. the effect on the province of the Terms of Union as embodied in the Constitution of Canada and the evolution of these arrangements since 1949;
4. the special and unique contributions Newfoundland and Labrador has brought to Canada;
5. any arrangements with Canada which have or may hamper or detract from the ability of the people of Newfoundland and Labrador to attain prosperity and self reliance including, but not limited to, federal jurisdiction over natural resources; federal/provincial fiscal arrangements; and the application of federal government policies as they pertain to Newfoundland and Labrador;
6. demographic changes and the impact of these trends as they relate to challenges and opportunities for our youth and the future of the province; and,
7. the means by which Newfoundland and Labrador can take maximum advantage of its strategic location between the North American and European trading blocks and the challenges which must be met and the opportunities which can be seized by Newfoundland and Labrador in a global economy.

AND THAT, the Commissioners undertake their mandate in three phases:

1. a research phase, to be guided by public input, during which the Commissioners may enter into research contracts with qualified, objective groups and individuals and thus provide an information base for further discussion and a stimulus to that debate;
2. a roundtable consultation phase, during which the Commissioners shall consult with pertinent constituencies on relevant matters;
3. a formal public consultation phase, during which the Commissioners will use the necessary means and methods to ensure that meaningful consultation occurs with citizens of the province.

AND THAT the Commission shall consider whether a Newfoundland and Labrador Conference should be held prior to the submission of a final report;

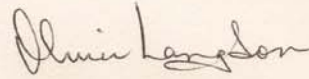
AND THAT the Commissioners are vested with the powers and authority set out in the *Public Inquiries Act*;

AND BE IT FURTHER ORDERED THAT, the Commission may provide interim or specific issue reports as appropriate and shall submit its final report with recommendations to the Lieutenant Governor-in-Council on or before June 30th, 2003.

WITNESS: Our trusty and well-beloved the Honourable A.M. House, Lieutenant-Governor in and for Our Province of Newfoundland and Labrador.

AT OUR GOVERNMENT HOUSE in Our City of St. John's this 19th day of April, in the year of Our Lord two thousand and two in the fifty-first year of Our Reign.

BY COMMAND,



REGISTRAR GENERAL

APPENDIX B

CONSULTATION PROCESS

In carrying out its mandate, the Commission listened to Newfoundlanders and Labradorians of all ages and backgrounds within and outside the province. This Appendix briefly outlines the processes used. The conclusions of the first four public consultation processes (public meetings, meetings with students, meetings with groups of women and visits to businesses) have already been summarized in *What We Heard*, a document made public by the Commission in February 2003. A copy of that document is also included as Appendix C. The next three processes (dialogues, roundtables and written submissions) are briefly described here, together with summaries of the conclusions.

Public Consultations

Public Meetings

Twenty-five public meetings were held throughout the province from September 30, 2002 to January 27, 2003, including one on the campus of Memorial University of Newfoundland and one at the College of the North Atlantic in St. John's. Over 1,400 people attended these sessions. An additional two meetings were held with expatriate Newfoundlanders and Labradorians in Fort McMurray, Alberta and Toronto, Ontario.

The goal of the public meetings was to encourage and provoke open discussion on all issues related to renewing and strengthening Newfoundland and Labrador's place in Canada. To encourage discussion by as many people as possible, a town hall approach was used. No formal presentations were read at the meetings. Participants were also asked at the beginning of each meeting to set the agenda and identify the issues they wished to discuss.

The following are the communities in which the public hearings were held:

Harbour Breton	Corner Brook
Grand Falls-Windsor	Baie Verte
Gander	L'Anse au Clair
New-Wes-Valley	St. Anthony
Carbonear	Port aux Choix
Placentia	Bonavista
Nain	Clareville
Labrador City / Wabush	Marystown
Happy Valley-Goose Bay	Cartwright
St. John's	Memorial University of Newfoundland (St. John's)
Mount Pearl	College of the North Atlantic (St. John's)
Trepassey	Fort McMurray
Port aux Basques	Toronto
Stephenville	

Meetings with Students

An important part of the public consultation process was meetings with students in elementary, junior high and high schools throughout the province. As the Commission's mandate was to develop a vision and plan for the future, it was especially important to meet with members of the younger generation to

understand their perspectives related to Newfoundland and Labrador's place in Canada and to get their views on the future of the province.

The Commission met with over 560 students representing 51 schools in all regions of the province. The following are schools visited and the communities in which they are located.

SCHOOL	LOCATION	SCHOOL	LOCATION
King Academy	Harbour Breton	Baie Verte High	Baie Verte
Fitzgerald Academy	English Harbour West	Indian River High School	Springdale
Exploits Valley High	Grand Falls-Windsor	Mountain Field Academy	Forteau
Point Leamington Academy	Point Leamington	Bayview Regional Collegiate	St. Lunaire-Griquet
Lewisporte Collegiate	Lewisporte	Harriott Curtis Collegiate	St. Anthony
Gander Collegiate	Gander	Roncalli Central High	Port Saunders
Lumsden School Complex	Lumsden	Plum Point Complex	Plum Point
Lester Pearson Memorial High	Wesleyville	Discovery Collegiate	Bonavista
Carbonear Collegiate	Carbonear	Clarenville High	Clarenville
Ascension Collegiate	Bay Roberts	Marystown Central High School	Marystown
Crescent Collegiate	South Dildo	John Burke High School	Grand Bank
Laval High School	Placentia	Henry Gordon Academy (Elem.)	Cartwright
Jens Haven Memorial (High)	Nain	Henry Gordon Academy (High)	Cartwright
Jens Haven Memorial (Elem.)	Nain	Holy Spirit High	Manuels
Menihek High School	Labrador City	Mount Pearl Senior High	Mount Pearl
Goose High School	Goose Bay	Bishops College	St. John's
Holy Cross Elementary	St. John's	Holy Heart of Mary Regional High	St. John's
MacDonald Drive Junior High	St. John's	St. Kevin's High	Goulds
St. Peter's Junior High	Mount Pearl	Queen Elizabeth Regional High	Foxtrap
Stella Maris Central High	Trepassey	Mobile High School	Mobile
Belanger Memorial	Upper Ferry	O'Donel High School	Mount Pearl
Piccadilly High	Piccadilly	Booth Memorial High School	St. John's
Stephenville High	Stephenville	Gonzaga High School	St. John's
St. James Regional High	Port aux Basques	Prince of Wales Collegiate	St. John's
Elwood Regional High School	Deer Lake	Holy Trinity High School	Torbay
Regina High School	Corner Brook	Brother T. I. Murphy Centre	St. John's
		École Française	St. John's

Meetings with Groups of Women

In the initial public sessions of the Commission, it was evident that the meetings were dominated in numbers by men. Even where there were significant numbers of women, they did not fully participate in the discussions. While in many later meetings this situation corrected itself, the Commission felt it was important to ensure that women's perspectives on renewing and strengthening Newfoundland and Labrador's place in Canada were heard and understood.

Nineteen sessions, either in person or by teleconference, were held with women's groups throughout the province. Over 170 women attended these sessions in:

Nain
 Labrador City
 Goose Bay
 Trepassey
 Port aux Basques
 Stephenville
 Corner Brook
 Springdale
 West St. Modeste
 St. Anthony

Port aux Choix
 Bonavista
 Clarenville
 Marystown
 Harbour Breton/Conne River/
 Grand Falls-Windsor
 New-Wes-Valley
 Cartwright
 Sheshatshui
 Placentia

Visits to Businesses

During the public consultation process, the Commission visited businesses in all areas of the province. The purpose of these visits was to obtain a better sense of current entrepreneurship, particularly in rural Newfoundland and Labrador.

Visits were made to 22 business enterprises representing entrepreneurial success stories throughout the province. These included primary and secondary processing of seafood, the production and marketing of wines from wild berries, the production of food products and syrups from wild berries, the manufacturing of windows, the manufacturing of industrial gloves and boots, the quarrying of dimension stone, the industrial sawing and polishing of dimension stone, the mining of iron ore, the manufacturing of cabinets, furniture and wood mouldings, the provision of eco-tourism services, the manufacturing of education software, the secondary processing of seal products, facilities associated with knowledge-based tourism, the production of fibreglass boats, the provision of aerospace services, and the use of information technology by Smart Labrador. The Commission also visited five historic sites, three of which were operated by Parks Canada and two by community organizations.

NAME OF BUSINESS	LOCATION
Fishery Products International	Harbour Breton
Superior Glove	Point Leamington
Gander Airport Authority Inc.	Gander
Briggs Aero Ltd.	Gander
Fiberglass Works Ltd.	Centreville
Beothic Fish Processors	Valleyfield
New Wood Manufacturing	Centreville
Terra Nova Shoes	Harbour Grace
Markland Winery	Whitbourne
Epoch Rock	Argentia
Torngat Ujaganniavingit Corporation	Nain
Smart Labrador	Nain
Iron Ore Company of Canada	Labrador City
Weathershore Windows	Trepassey
Starboard Woodcraft Ltd.	Doyles
Innova Multimedia Ltd.	Stephenville
Linkum Tours	Corner Brook
Caboto Seafoods Ltd.	Baie Verte
Forteau Food Processors	Forteau
Red Bay National Historic Site	Red Bay

NAME OF BUSINESS	LOCATION
L'Anse aux Meadows National Historic Site	L'Anse aux Meadows
The Dark Tickle Company	St. Lunaire-Griquet
Port aux Choix National Historic Site	Port aux Choix
Bonavista Historic Townscape	Bonavista
Sir William Coaker Heritage Foundation	Port Union
Paterson Woodworking	Upper Amherst Cove
FPI Burin Secondary Plant	Burin

Conclusion

The goal of the public consultation process was to encourage and provoke open discussion on all of the issues related to renewing and strengthening our place in Canada. The process was indeed a success, if success can be measured by the richness of the thoughts, ideas and passions openly and honestly shared with the Commission by so many people in Labrador and on the Island. The Commission is extremely grateful to all the individuals who participated in the public meetings, school visits, women's sessions and business discussions. Their input was invaluable to the work of the Commission.

Dialogues on the Future of Newfoundland and Labrador

An Overview

The province of Newfoundland and Labrador faces many challenges and has difficult choices to make over the next 10 to 15 years. To further help the thinking of the Commission, three "dialogues" on the future of Newfoundland and Labrador were developed. The Dialogues were developed by the Commission with the advice and support of the Canadian Policy Research Networks (CPRN).¹

The participants in each dialogue were asked to describe the future they wanted for Newfoundland and Labrador and how it might be achieved. They were also asked to explore some of the trade-offs that various approaches to shaping the province's future might produce. Their task was not to make decisions or develop specific recommendations, but rather to explore broad choices.

To focus the dialogue, three potential future directions were identified and placed before each of the three groups: (i) the pursuit of an urban agenda; (ii) the pursuit of a regional agenda; and (iii) the pursuit of a rural agenda. It was up to each group to decide whether it wanted to pursue one of these possible futures, or whether to pursue an alternative. The task was to design a future that could be implemented.

A total of 74 citizens (35 women, 39 men) participated in three separate dialogues held on March 8, 14 and 15, 2003.

Key Findings

To begin each session, participants were asked to introduce themselves and identify one concern regarding the future of Newfoundland and Labrador. In summary, the main issues participants raised were:

- **Out-migration:** Examples of out-migration spoken of included university graduates leaving to find high-paying jobs to pay off student loans, and grandparents leaving to re-join families that had already migrated. Some felt young people were being told to leave, but without really knowing why. Quote: "We've lost one generation; let's not lose another."
- **Identity:** The need to maintain and revitalize a sense of self and sense of place was seen as a high priority. Identity, pride, confidence, perception, attitude, image, social fabric, resilience, strength,

creativity were all evoked to describe our sense of who we are. Quote: “We haven’t figured out yet how to use our culture and identity to our social and economic advantage, and to transform us from being proud of who we are to being *confident* of who we are.”

Other key issues raised:

- the need to have control over our renewable and non-renewable resources;
- the need for new, bold, apolitical and cooperative approaches to planning and implementation, especially in regards to rural economic development;
- the need for better communication and cooperation among communities, agencies and governments at all levels;
- the need for a long term educational vision and plan.

Desirable Futures

In small group discussions, participants were asked to describe a desirable, but realistic, future for Newfoundland and Labrador: e.g., what do you want this province to be like 10 to 15 years from now? Common themes developed by each dialogue included:

- a positive attitude shift to move us beyond pride to a really confident society
- a long term strategic approach
- more control of our natural, human and cultural resources
- an understanding and celebration of our history and culture
- high standards of education combined with strong community input on attitudes, development and traditional values
- a more positive perception of Newfoundland and Labrador both within the province and across Canada
- cost-effective approaches to public services delivery and economic development
- a need for unity as a province; cooperation amongst communities, regions and governments
- a need for sustainable development and a more holistic approach to environmental, economic, cultural and social concerns.

How Do We Achieve this Future?

In reply, all three dialogues focused on the following:

- Education: increased funding and access; employment based training; more distance education; debt relief; culture and heritage courses and programs; entrepreneurial training; importance of Memorial University of Newfoundland as a partner.
- Economic Development: need for long term view; elimination of political interference; cooperation of federal/provincial agencies; re-examination of the role of boards and agencies; apolitical structures for implementation.
- Resource Ownership/Management: renegotiation with the federal government; use of money from non renewable for renewable resources (oil to education); secondary processing; new mechanisms for fisheries management (including custodial management).

- **Building Confidence:** promotion of successes; increased understanding of our cultures, history, and traditional values; investment in arts, culture and heritage.

Other key points: citizen participation; need for a new income security system; investment in tourism infrastructure; promotion of internal re-investment; small business forum; encouragement of immigration.

Underlying Values and Principles

It became clear in the dialogues that participants felt the following underlying values and principles were crucial when considering the future of Newfoundland and Labrador:

- **Passion:** The love of this place, of wanting to make a difference and build a better future emerged strongly, and in many ways, in the discussions.
- **Common Ground:** “We can do it. We can collectively sit down, discuss, and find common ground to build upon.”
- **We Must Do it Ourselves!:** It was recognized that we cannot blame each other and/or the federal government. Participants spoke of empowerment, continuing the dialogue, etc. – all healthy aspects of an engaged and participatory citizenship. Many stated that the final Report will only have impact if we move on it!
- **Time for Action:** “We consult and are consulted to death. We have no more time for talking. The time is now.” All the discussions pointed toward a frustrated, impatient people who feel that we need action – “just get on with it!”
- **Hard Truths and Hard Decisions:** We have hard truths to face and some difficult choices to make. It’s time to be bold and visionary in tackling the issues facing this province.
- **Respect of Choice:** Whether people choose to live in rural communities with declining services and infrastructure, or choose to leave them, we must respect their individual choices.
- **Confident, Proud and Positive:** We have a story – one that makes us proud, that underlies our identity and destiny. We can better understand this story if more investment is made in our culture and heritage, particularly through our educational system. Our pride must be turned into confidence. This was viewed as the key to a better understanding and relationship with the rest of Canada.
- **Education as a Building Block:** All three dialogues included extensive discussions regarding education and the role it should play in the province’s future – from the need for a strengthened curriculum in history and culture to the need for employment-based training. Above all, Newfoundland and Labrador needs a well-educated society.
- **Controlling and Managing our Resources:** Participants said that we are neither managing our resources to their maximum potential nor getting fair benefits from them. Some thought this was a result of a dysfunctional relationship with the federal government, while others felt it was within us to better manage our resources.
- **Balanced Approach – Regional with Rural:** Participants clearly stated that rural Newfoundland and Labrador is an integral part of our cultural, social and economic future. At the same time, there is a realization that rural communities that have lost their economic base (e.g., the fishery) may not survive. The discussions clearly indicated that people saw the delivery of public services in the future to those who choose to live in rural areas of the province will require great cooperation between regions.

Conclusion

The three Dialogues were an important part of the work of the Commission. The Commission is grateful to all those who participated in the Dialogues and shared their valuable insights with us.

Roundtables

Another important element in the Commission's consultations with the people of Newfoundland and Labrador was the holding of roundtables on selected issues. These meetings with small groups of people having expertise, specialized knowledge or experience in a particular area provided the Commission with valuable input and advice. Eight roundtables were held involving over 100 people in all. A summary of the discussion of each roundtable follows.

Roundtable on the Fishery

The purpose of this roundtable was to identify and discuss key issues in the fishery, a crucial sector when developing a vision for prosperity and self-reliance for the province. This roundtable was held September 9, 2001, early in the Commission's mandate. Its 10 participants included representatives of industry, fish harvesters, plant workers and public policy makers.

There was general agreement that both problems in, and solutions to the fishing industry were well known and documented, but the ability or will to implement the solutions does not yet truly exist.

Discussion focused on a number of key issues. Commitment to conservation was seen as fundamental, requiring increased funding for science and enforcement. There were a variety of views on how foreign overfishing should be addressed. While some felt the Government of Canada should address foreign overfishing on a priority basis, there was a recognition by others that the federal government could not implement custodial management; as it has no legal authority to do so, custodial management would be opposed vehemently by other countries. Moreover, there is little or no support in the rest of Canada, including the Maritime Provinces, for such action. One participant suggested a better approach would be if Canada was to promote the development of international fisheries law that would allow for the same treatment of groundfish species as pertains to sedentary species on the continental shelf.

Good management of the fishery in the future requires governments to set out a vision for the industry. Divided jurisdiction between the federal and provincial governments was seen by some participants as problematic, especially the lack of coordination of policies by both governments. A major component of a new vision must include harmonization of federal and provincial policies.

The significant amount of capitalization that has occurred in the fishing industry over the past number of years in the financing of new boats, plants and purchases of licenses was discussed extensively. The new investment in the fishery has not resulted in better wages for many workers, particularly not for plant workers, whose wages remain low. Governments must address this issue with adequate adjustment programs to deal with overcapacity in the industry. Any future new capital investments in the fishery must be concentrated in a limited number of communities. The need for regionalization of the industry and investments in it was strongly urged by a number of participants.

All participants recognized the importance of the crab fishery to the current prosperity of the industry and its workers. At the same time, it was noted that it was unreasonable to expect the crab industry to continue as lucrative and successful as it has been for the past several years. If there is a failure in the crab fishery, the effects will be greater than those of the cod moratorium.

The development of clear access and allocation principles was considered by some to be an issue of primary importance. In this context (as in others), de-politicization of decision making was seen as

desirable. A board at arms'-length from governments was proposed as one way to deal with future allocation and access issues in the harvesting and processing sectors.

Advisory Roundtable on Research

The purpose of this roundtable, held July 16, 2002, was to provide advice to the Commission on the development and implementation of its research plan and other research related matters. All eight participants had a long association with Memorial University of Newfoundland and had extensive experience either directly in research and/or directing research projects.

Participants reviewed and provided advice and comments on a draft outline of the research program the Commission had developed. They noted the comprehensiveness of the program and the great challenge to complete it within the short time frame of the Commission. Participants provided advice on the conduct of the research program, existing research that may be of benefit to the Commission, the recruitment of researchers and the publication of research papers. Participants also suggested ways in which the Commission might engage faculty and students of Memorial University of Newfoundland in the work of the Commission.

Roundtable on the Voluntary Sector

The purpose of this roundtable, held February 6, 2003, was to explore the role the voluntary sector plays in the province's communities, and opportunities for this sector to help strengthen Newfoundland and Labrador's place in Canada. Sixteen women and men from all regions of the province, all actively involved in the voluntary sector, participated.

All participants spoke of the extraordinary contribution volunteers and voluntary organizations make to communities in the province. They emphasized that the voluntary sector, along with business and government, is the third sector or pillar of society. In many cases, voluntary organizations provide necessary services that might be provided by government. In some cases, voluntary organizations are the first to identify needs in a community. With cutbacks in government programs and services, voluntary organizations are moving in to fill the vacuum. This province is sixth in the country in terms of numbers of volunteers per capita, but is first in the number of hours volunteered per capita.

There are, however, challenges to the sector. Out-migration has resulted in a decline in the number of volunteers, especially among young people. The effect of the declining population and changing provincial demographics, particularly in rural communities, has increased demands on volunteer community-based organizations. Fewer volunteers contributing more hours are suffering stress and fatigue as they try to cope with increasing expectations.

There was general consensus that funding for this sector is a major problem. Funding from the federal government is normally short-term, disappearing after a few years just as a service is beginning to become established. Core funding and funding for long-term projects are seldom available, and funding for coordination, facilitation, training and community development is especially difficult to access. The volunteer sector in this province has a greater dependency on government funding than provinces that have United Way or similar organizations, or a stronger business sector. Current fiscal arrangements, therefore, create instability and insecurity.

The Strategic Social Plan was extensively discussed. Participants spoke positively about the Plan's objectives and its innovative approaches. Some noted that the Plan has not yet permeated down to the grass roots.

To strengthen the volunteer community-based sector, participants said there needs to be better utilization of federal funding – a made in Newfoundland and Labrador funding policy or an innovation fund.

Continued investment in young people, by instilling in them a sense of community involvement and civic responsibility and valuing their contributions, will encourage more to stay. The value of rural communities should be recognized, but there must be more working together. Several participants cited the need to look at the number and geographic spread of our rural communities and the pressures this creates on the volunteer sector. The absolute value of the volunteer community-based sector to the vitality and sustainability of rural Newfoundland and Labrador communities was unquestioned.

Roundtable on Expectations of Confederation

The purpose of this roundtable was to capture and understand the expectations of Newfoundlanders and Labradorians at the time of Confederation in 1949, and the extent to which Confederation has met these expectations. Eighteen men and women, from all parts of the province, who were young adults in 1949, participated in this roundtable on January 16, 2003. It was an historic gathering which no other province of Canada would be able to convene.

Participants spoke of the controversy and bitterness surrounding the Confederation debate, which had divided many families and friends. Participants recalled that many people at the time lived in poverty, particularly in some rural areas of the province. Available means of communication were limited, and many Newfoundlanders and Labradorians did not even have access to radio to listen to the convention debates. People generally lacked knowledge of Canada and the Terms of Union. A participant spoke of Canada and Britain conspiring to get Newfoundland and Labrador into Confederation as payment of Britain's war debt.

The most common expectation of Confederation was an improvement in living conditions due to Canada's social programs – family allowance, old-age pensions, health and education services. The cost of living was also expected to decrease with the elimination of tariffs and customs on Canadian goods. At the same time, it was recognized that there would be a loss of local manufacturing with the lifting of duties and the influx of Canadian-produced goods. Economic benefits were expected to flow with the development of the province's rich resources, especially those in Labrador. Newfoundlanders and Labradorians expected to be treated "as equal partners and not poor siblings," and the Inuit people in Labrador expected that their language and culture would be recognized. Those who did not support Confederation expressed concern that the rural lifestyle would be lost to over-regulation, and "the time would come when you won't be able to jig a cod over the wharf without a license."

In 1948, the Newfoundland delegation responsible for negotiating the Terms of Union requested that three issues be addressed by the Government of Canada before full negotiations began. These were: (i) assurance that the Government of Canada accepted the Judicial Committee of the Privy Council's 1927 Labrador boundary decision, (ii) recognition that the Port aux Basques to North Sydney ferry was an essential part of Newfoundland within Canada and should, therefore, be taken over and paid for by the Government of Canada, and (iii) assurance that Newfoundland would be able to continue to manufacture and sell margarine in the province. The Government of Canada agreed to these terms and negotiations proceeded. In response to the Newfoundland delegation's list of demands, the Canadian negotiators advised that, since many of these demands would require constitutional change (The British North America Act, 1867), and since all provinces must constitutionally be treated equally, the Terms of Union should be limited to facilitating Newfoundland's transition to the status of a province on a basis equal to that provided for the other provinces. The only flexibility the Canadian delegation had was with respect to policy. Some participants observed that Newfoundland negotiated from a position of weakness and was outmatched by Canada.

There was general agreement that the province has benefitted greatly from Confederation in terms of improved standards of living and government services, and that expectations in these areas have been more than met. No one expected, however, to see the decimation of the fisheries, which some blamed

directly on mismanagement by the federal government, while others felt that the provincial government would not have done a better job if it had been responsible. Nor did participants expect to see the high levels of unemployment and out-migration. The clawback of resource revenues and the inequities of the Churchill Falls contract were cited as examples of failures of the federal system in Canada. Many felt that the self-reliance and work ethic of the people in the province have been lost as a result of easy access to government social programs, particularly employment insurance. Some felt that there is cultural genocide occurring in the province, for which the federal government must take some responsibility.

A number of suggestions were made on how the province's place in Canada could be strengthened. On the fishery, recommendations ranged from establishing a task force of fishery experts, to developing a plan to rebuild the fishery, to changing the Terms of Union to give the province control. Others noted that changing the Terms of Union would not be easy and, in fact, amendments may be an insufficient means of solving the issues facing the province today. Similarly, there was a range of suggestions about the Churchill River, from taking legal action under Section 92A of the Constitution, to the federal government declaring the project to be "for the general advantage of Canada," to forgetting about trying to right the wrongs of the Churchill Falls and focusing instead on developing the Lower Churchill. Other recommendations included extending broadband coverage to rural communities to enable them to take advantage of opportunities in the knowledge economy, support for development of the province's culture and arts, and restoration of the self-reliance of the province and its people.

Roundtable with Women

The purpose of this roundtable was to seek the views of women on the province's place in Confederation. Twelve women from all regions of the province, who play leadership roles in policy development pertaining to women, participated in the roundtable held on November 1, 2002.

There was strong consensus among all the participants that women's voices have been eroded over the past decade. One of the great achievements for women was the federal Royal Commission on the Status of Women. Its report in 1970 made 176 recommendations verifying many of the things women had been saying for some time. In recent years, the progress achieved as a result of that process has been chipped away. Women are not speaking out, participants said, for fear of reprisals – loss of funding, loss of promotion, fear of stereotyping or punishment.

Grass roots support for women's organizations by the federal and provincial governments began to decline in the late 1980s and early 1990s, when "core" funding for women's organizations was changed to "project" funding. The silencing of women's voices is multi-dimensional. With the weakening of women's organizations, such as the National Action Committee on the Status of Women, women have less opportunity to network. Women's views are sought less by public policy-makers. Gender analysis has not become an integral part of policy analysis and decisions. The conventional wisdom was that if women were elected to the House of Commons or provincial legislatures, things would change. This has not happened. Issues of particular importance to women are not given sufficient priority. Participants spoke of the continuing abuse and violence against women in society, sexual harassment, lack of women's shelters and inadequate child care services as evidence of this lack of commitment. Aboriginal women, it was noted, share the same experiences.

Part of the explanation for the regression in women's place in society, it was suggested, may be the mistaken belief that women have achieved equality and that there is no longer a need for special initiatives. This regression is not unique to Newfoundland and Labrador. Indeed participants noted that the level of leadership by women in this province is remarkable and above that in many other provinces. Women also play a major role in the arts in this province and derive significant employment from this area. However, this is now being threatened because of the expiration of the federal/provincial funding agreement which

had provided support to many arts and culture organizations, and the refusal of the federal government to enter into a new agreement.

Participants made a number of recommendations to the Commission. Governments must play a role in changing attitudes. This can be done in a number of ways. One is through legislation. One example would be the requirement to have gender inclusive analysis as part of all policy initiatives; another would be a guarantee of a certain number of seats in the provincial legislature. An omnibus review of all legislation was also proposed. Governments could also effect a change in attitudes through imposing conditions on the funds it gives to organizations. Consciousness raising and sensitivity training were other measures proposed. There was strongly voiced support for the need for another federal commission on the status of women.

Roundtable with Religious Leaders

The purpose of the roundtable with religious leaders was to obtain their views and those of their congregations about the place of Newfoundland and Labrador in Canada, and the challenges faced in strengthening both communities and the province. Fifteen leaders from thirteen different religious organizations participated in this roundtable on January 14, 2003.

All participants spoke of the rich quality of life in Newfoundland and Labrador, which cannot be compared to any other place in the country. Family, community, sharing and a safe environment were all considered cherished values of Newfoundlanders and Labradorians. Nevertheless, the pull of a materialistic society was recognized and the caution noted that there needs to be a balance of the spiritual and material if Newfoundlander and Labradorians are not to lose the social benefits of living in the province. Indicators of well-being should include not only economic measures, but measures of our social performance as well. Quality of life and success cannot be measured just in financial terms.

There is a negative image of the province in the rest of the country which must be changed. Negative images, it was suggested, were contributing to a lack of confidence in the people. Young people must be instilled with a sense of pride in being Newfoundlanders and Labradorians and in the province. The province has a lot of strengths. We need to accentuate and promote the positive aspects of the province. A number of participants spoke of the need to have a vision – not only for the province, but also for the country and the world.

Out-migration and the impact it is having on families and communities was extensively discussed. Concerns were expressed about the continued sustainability of many rural and coastal communities, particularly those which have depended mainly on the fishery. Resettlement, some said, is not necessarily a bad thing. Indeed, it was noted that Newfoundland and Labrador was settled by people emigrating from other communities. The movement of people from rural to urban centres is a worldwide phenomenon. Larger communities, it was suggested, may be more successful in attracting small industries and new businesses. While it was recognized that out-migration has been part of our culture for generations, it was also stated that people must be given the choice to either leave or stay. The ability to choose, participants agreed, comes with education.

A number of suggestions were made about what the province should do to encourage economic and business development. Many participants spoke of education as the key to the success and advancement of the province. Assistance to young adults for repayment of their student loans would encourage more to stay in the province. Programs to encourage immigration were suggested as a means of attracting investment to the province, as were programs to improve technology and funding to promote research and development. The high cost of transportation to, from, and within the province, is a deterrent to living and doing business here and needs to be addressed.

Participants spoke of the province's relationship with Canada. The people of Newfoundland and Labrador cannot lose faith in being a part of Canada. The banner of separation should not be raised. Newfoundlanders and Labradorians must convince Canada that we are an equal partner in the federation, and we must highlight the many contributions we bring to Canada. As a member of the Canadian family, we have obligations to Canada, just as Canada has obligations to the province. While we wish for a future when the province will not require equalization, our current inability to access revenues from our hydroelectric, oil and gas developments is a serious problem and needs to be addressed. One solution proposed was that the federal government allow the province to keep more of its oil and gas revenues until it has the opportunity to achieve a certain level of prosperity. The provincial government, a participant proposed, should adopt a less confrontational and self-centred approach to the federal government. Another participant expressed the hope that Newfoundland and Labrador would take ownership of our place in Canada and develop a comfort level with it.

Roundtable with Young Adults

The purpose of this roundtable was to record and understand the views of young adults regarding the future of Newfoundland and Labrador, our place in Canada and, in particular, on what can be done to encourage more young people to stay in the province. Fourteen young, professional, working adults from all regions of the province participated in this roundtable on January 13, 2003.

The majority of participants said they had made a conscious decision to stay or return to the province. Reasons cited for deciding to live in the province included lifestyle – the ability to balance work and leisure time, the distinctive natural beauty and culture of our province, and the support of family and friends. None said they stayed for the money. Volunteer experience helped many of the participants find or create work in their communities. “Social entrepreneurship” was cited by one participant as providing an opportunity to create jobs while strengthening communities.

Most participants cited the absence of adequate career development programs as one reason for so many young people leaving. In addition, young people are not aware of work opportunities. While underemployment or unemployment were also cited as the reasons many young people leave, some felt that out-migration was a direct result of a lack of self-esteem about the province and our culture. It was suggested that the source of this lack of self-esteem is to be found in ourselves and the media.

In envisioning the future for the Newfoundland and Labrador they would like to see, the participants made a number of recommendations. They emphasized that the future is dependent upon a strong population of competent, confident young people, and that programs to enhance self-esteem, self-confidence, mentoring and championing our strengths are needed. There is great strength in our sense of place and culture, and we must build on it. Education is key, and all young people must be encouraged to acquire post-secondary education, though not necessarily at the university level. There should be greater emphasis on career planning at the high school and post-secondary levels, government should offer economic incentives for students to stay and work in the province when they have finished their education, and business and voluntary sectors should link with educational institutions to provide career development advice and mentoring. One of the most important economic incentives required to entice young people to stay is student debt relief. Young adults must have a more meaningful input into the decision-making processes and be encouraged to become more involved in community leadership and volunteerism. Neither the fishery nor rural Newfoundland and Labrador must be forgotten. The Island and Labrador need to be brought together in a spirit of cooperation. There is too much alienation and competition between our urban and rural areas and between the Island and Labrador. Our energies must be combined for the good of the entire province.

Roundtable on Culture and Heritage

The purpose of this roundtable was to explore the province's rich culture and artistic heritage, and the ways in which it can play a meaningful role in the future of the province and in renewing and strengthening the province's place in Canada. Ten men and women from the Island and Labrador who are active in the culture and heritage community participated in this roundtable with the commissioners on March 10, 2003.

Funding by the federal and provincial governments for culture was seen by all participants as a priority. Participants questioned whether the commitments of the two governments to the support and promotion of our culture was adequate. The expiration at the end of March 2003 of the Comprehensive Economic Development Agreement, which has been the primary source of funding for the cultural community in recent years, and the failure of the federal government to renew this agreement were decried. Participants spoke of the lack of trust between the two orders of government, with each blaming the other. As many as sixteen cultural organizations depend on the agreement for their core funding. Lack of funding for infrastructure was also cited as a problem. Many participants spoke of the fragility of the arts/cultural community and the serious consequences for artists and cultural and heritage organizations if federal and provincial funding is not reinstated. The need to find new and innovative ways to fund culture was recognized.

Participants spoke passionately of the need to protect and preserve our culture, although participants had differing notions of what they meant by culture. The need to help youth find their own voice, identity and sense of place was thought by some to be imperative. Knowledge of our history and culture no longer occurs naturally. Young people do not know their history or culture or have pride in who they are and where they are from. The province's history is not adequately addressed in the school system; neither do we adequately tell our own stories.

In the first few decades following Confederation, our cultural policy was imported from Canada. In recent years, there has been a change, and the province's cultural policy is now in danger of becoming export-oriented. Newfoundlanders and Labradorians are measuring themselves by success outside the province. Culture and tourism have become closely linked. Some participants felt we should not be defining ourselves as an export-oriented culture. This has resulted in a devaluing of ourselves and our culture and the erosion of our identity. Other participants did not share the same level of concern.

While there was consensus among participants that our culture is basic to our survival, some participants felt that we do not have a full understanding and appreciation of it. We may be proud of who we are, but we are not necessarily confident of who we are. We have a strong culture, but we are not a confident society. Others felt that our identity is at risk and we are in grave peril of losing it.

Built heritage is an important part of our culture, yet it is constantly being threatened and destroyed because of a lack of commitment to its preservation and funding to restore and maintain it. Funding for preservation of Inuit built heritage structures is also difficult to secure.

Many participants spoke of how it is becoming more difficult to tell our own stories. As an example, it was cited that in the 1970s, Canadian cultural policy embraced the concept of a mosaic, in which the province's culture could find some expression. Today that has changed with the focus shifting to the large urban centres. Rural areas everywhere are fighting to survive and have no public voice.

Aboriginal culture in Labrador is not static, but it is not strong. There are not a lot of opportunities for the Inuit people to share their culture with people on the Island. If the Inuit export their culture, it is more often through Inuit people from other countries.

Many participants spoke of the need for the provincial government to have a well-defined, comprehensive cultural policy that embraces Aboriginal and non-Aboriginal culture.

Conclusion

The Roundtables were an invaluable part of the Commission's consultation process. The Commission acknowledges with grateful thanks the important contribution the participants' knowledge and insights made to the development of our thinking and conclusions.

Written Submissions

The Commission invited the public to send formal written submissions, letters or thoughts by mail or e-mail. In all, the Commission received 250 submissions between October 2002 and May 2003. The use of artistic expression was also encouraged, resulting in a small percentage of submissions using poetry, song lyrics and video to express their views.

Written submissions were received from individuals and organizations across the province. The majority of the submissions (177) were from individuals, including 40 submissions from high school, Memorial University of Newfoundland or other post-secondary students. A wide variety of associations and organizations made submissions, including: municipal and provincial organizations, educational institutions, women's groups, Aboriginal groups, unions, development associations, business/industry associations and arts and heritage organizations.

Submissions were received from all regions of the province, with both urban and rural areas strongly represented. Thirty-two submissions were from Labrador. Almost 8 per cent of the submissions were from individuals living in other parts of Canada, and several were from people in the United States. The number of submissions from men greatly outnumbered those from women.

Major Themes of Submissions

Fisheries Issues

The most commonly cited issues were custodial management, foreign overfishing, fisheries mismanagement and cuts to fisheries science.

- *Custodial Management* – One of the most often quoted statements made with respect to custodial management is that Canada should seek to gain control of the Nose and Tail of the Grand Banks for the purposes of greater conservation of the remaining fish stocks:

If the fishery is ever to make a comeback and benefit the many fishing communities in this province, Canada has to take complete control of the Grand Banks and find ways to stop the foreign overfishing on both fish banks before all the fish are gone.

Many of those who wrote on custodial management expressed anger about federal inability and/or unwillingness to address foreign overfishing. A few people linked this lack of federal response to a wider, underlying problem of federal disdain for the province:

The apparent inability or unwillingness of the Government of Canada to respond to the wishes and ambitions of the people of this province with regard to the issue of custodial management of what remains of our once vast fishery resource on the Nose and Tail of the Grand Banks, is symptomatic of the underlying problems which this province have been struggling to overcome, in

defining its place within Canada, since the signing of the Terms of Union with Canada on April 1, 1949.

- *Fisheries Mismanagement* – A number of submissions expressed the view that Canada had mismanaged the fishery inside the 200-mile limit. Many of those with fisheries concerns noted that fish stocks were abundant at the time of Confederation, but had dwindled to nothing during the following decades. It was a popularly expressed opinion that foreign fishing and fish quotas were “political” in nature and provided Ottawa with a “bargaining chip” in international relations.

Out-migration/Rural Newfoundland and Labrador

Concerns over the high level of out-migration and the related effects that this has, and will continue to have, on sustainability of rural communities were two of the most often cited concerns expressed in the written submissions. The loss of the cod fishery, the demise of rural Newfoundland and Labrador, the aging of the population and the loss of young people were often spoken of together.

Other submissions spoke of the ways that out-migration has affected the level of services and businesses and reduced the number of schools in particular areas due to the loss of young people and young families. A number of the submissions from students outlined the reasons why they felt that leaving the province was necessary:

What used to be a prospering fishing community is now a barely surviving community because of the cod moratorium. Because of the lack of jobs here, the town is mainly made up of older people. All the younger ones had to leave town and maybe the province to find work.

Other submissions outlined the ways that out-migration has strained the resources of those left behind. Rural women especially felt burdened as they struggled to fill volunteer and care-giving roles in communities with aging populations.

Natural Resources/Equalization

Concerns expressed included the need to respect the principles of adjacency and the need for greater local input and control over the management of resources. Natural resources and equalization “clawbacks” were often spoken of together. The current equalization formula was cited as punitive to provinces attempting to break their cycle of dependency. A small percentage of authors urged the Commission to recommend that the changes contained in the Senate Committee Report on “The Effectiveness and Possible Improvements to The Present Equalization Policy,” March 2002, be implemented. Other submissions specifically mentioned offshore petroleum. Comments ranged from those who believed that its development should be left for times when better deals could be had to those who pressed for secondary processing in the province.

Churchill Falls

Many submissions mentioned the Upper Churchill as a major injustice to the province and as how *not* to proceed with future developments. Most of the submissions concerning hydroelectricity on the Upper Churchill expressed outrage and indignation at the loss of profits, and the desire for the federal government to intervene on behalf of the province. Others noted the ability to transport oil and gas across provincial borders in other jurisdictions, underlying the injustice of the Newfoundland and Labrador situation.

Transportation Issues

Many authors felt that transportation costs were a major barrier to economic growth and equality with the rest of the country. The most common issue cited was the high cost of the Gulf ferry.

Other transportation concerns included the high cost of airfares, poor service and scheduling of air and marine transport, and the vital role that transport plays in Newfoundland and Labrador's tourism industry. A small percentage of the submissions called for a fixed link that would "physically and symbolically" unite Newfoundland and Labrador with the rest of Canada.

Image

The negative image of the province in the rest of Canada was raised in many submissions. People wrote about their anger and frustration regarding the negative attitudes and stereotyping by Canadians of the people and the province of Newfoundland and Labrador:

... until we can overcome, by one means or another, the huge, negative, patronizing, ignorant, disrespectful, and often derogatory, opinion of our province and thereby CHANGE THE IMAGE both abroad and within, we will not be on any decent footing to be able to discuss, or ultimately to negotiate, anything of substance with the rest of Canada or to be respectfully considered.

The concern about image and stereotyping was often accompanied by calls to educate other Canadians about the contributions that Newfoundland and Labrador has made to the rest of Canada in terms of natural resources, geography, culture, artistic talents, and workers (both skilled and unskilled). A few submissions suggested that an organization be established to correct incorrect statements and stereotypes in the media and to admonish those responsible. Several submissions focused on the need for people in the province to begin to "revalue" their own identity and culture. The presenters believed that this was at the heart of self-realization.

Education and Student Debt

Education was addressed frequently in the submissions and was often combined with the concern about student debt and support for Memorial University of Newfoundland.

Education was often viewed as crucial to the future and to the self-sufficiency of the province. As expressed by one author, "Education is necessary in order to renew and strengthen our place in Canada." Many of those who viewed education as key to the province's prosperity also advocated a high-quality, publicly funded system that would be universally accessible to all people. A few of those who mentioned education as a priority also advocated that students have greater access to computer technology.

High tuition and student debt were also mentioned as barriers to education and major factors leading to the loss of young, educated people from the province. As well, some submissions mentioned the importance of Memorial University of Newfoundland:

Memorial University of Newfoundland is perhaps the most important institution in our province. It continually struggles to attract and retain teachers, and to add necessary infrastructure and technological support. One reason for its struggle is federal policies which often require matching funds before making a contribution to post-secondary institutions, matching funds that wealthier central Canada schools, such as the University of Toronto, find much easier to provide.

Confederation

Comments on Confederation focused on expectations about the benefits of Confederation, the debates and negotiations surrounding Confederation, and pre-Confederation Newfoundland and Labrador. There were two main currents of thought: first, that Confederation was a good thing for the province, with the majority of these authors noting the poverty of the pre-Confederation era and the range of benefits and services ushered in at the time of union; the second reflected the opposite opinion on Confederation – that the province has not benefited from its union with Canada. These submissions spoke of the millions of dollars in the bank at Confederation, as opposed to the billions of debt the province currently faces. They also spoke of our rich natural resources and the fishery. Many who hold this second opinion, such as the author of the submission quoted below, weigh the benefits of Confederation against the current plight of the province:

What we did by joining Canada was trade all of our resources and our youth for a \$6.00 baby bonus and unemployment insurance.

Labrador

Many of these submissions mentioned the place of Labrador in relation to Newfoundland and what was felt to be an “extractive” or a “colonial” relationship. Some of the submissions advocated greater representation for the region and/or greater knowledge of the plight of Labrador by people from the Island portion of the province and the rest of Canada. A few submissions advocated that Labrador become a separate province or territory, believing this would bring them greater control over political decisions and natural resources.

Aboriginal People

Aboriginal issues were raised by both Aboriginal and non-Aboriginal people. Support for land claims in Labrador, the lack of recognition given Aboriginal people in the Terms of Union and the effect this has had on access to programs and services for Aboriginal peoples in the province, and the continued struggle of Aboriginals on the Island to gain recognition were the main themes addressed in these submissions.

Women

Submissions from women’s organizations cited a variety of ways to include women’s voices in the Commission’s final Report and ways to strengthen the voice of women in the province. A few of the submissions emphasized the lack of women in political decision-making bodies. In the case of Labrador, women noted that many of the political and economic decision-makers were from outside the Labrador region. It was also specifically requested that the Commission recommend that the federal government “revisit” the 1970 Royal Commission on the Status of Women.

Federal/Provincial Relations

There was a wide variety of comments about the relationship between the federal and provincial governments. Some submissions requested that the two levels of government cease their jurisdictional quarrels and concentrate on solutions to problems such as child poverty and other social issues that are too large for Newfoundland and Labrador, with its limited resources, to tackle alone.

Many of the submissions spoke to what they perceived as an imbalance in both decision-making and the presence of federal institutions in the province such as government offices and military operations. Many of these submissions called for greater Newfoundland and Labrador participation in the fisheries and fisheries management. Organizations such as the Newfoundland and Labrador Teachers’ Association

stated that, while they do not believe that the province should abandon its responsibilities for education, there is still room within federal/provincial schemes for sharing of resources for federal government to better assist the less able provinces in meeting the funding needs for these crucial services.

Newfoundland and Labrador's Contribution to Canada

Approximately one in ten submissions mentioned the ways that Newfoundland and Labrador contributes to Canada as a whole. This was expressed in many different ways, but most respondents referred to resources such as offshore petroleum, the fisheries, the mineral wealth of Labrador and the existing *and* potential hydroelectric power resources. Authors reminded the Commission that Newfoundland and Labrador was, and still is, highly strategic militarily. Other ways that Newfoundlanders and Labradorians felt that they contributed to the federation was in the form of a talented, mobile labour force who have contributed their talents to every part of Canada. Many submissions mentioned the artistic contributions made by this province that have shaped and influenced the country as a whole:

We have brought a rich culture that has spawned many of Canada's leading writers, actors, musicians and authors, people who have ultimately reinvigorated the Canadians arts community and our national sense of place.

Organizations That Made Submissions to the Commission

Municipal Governments

Town of Carbonear
 Town of Labrador City
 City of Corner Brook
 Town of Burgeo
 Town of Port Saunders
 Town of Deer Lake
 Combined Councils of Labrador
 Town of L'Anse au Clair
 Newfoundland and Labrador Federation of Municipalities
 Town of Burin
 Town of St. Lawrence
 Town of Happy Valley-Goose Bay
 Town of Channel-Port aux Basques
 Town of Bonavista
 Town of Trepassey
 Town of Port aux Choix

Provincial Government/Provincial Organizations

Strategic Social Plan, Labrador Region, Happy Valley-Goose Bay
 Northeast Avalon Strategic Social Plan, St. John's
 Central Region Steering Committee for the Strategic Social Plan
 Community Services Council
 Fédération des Francophones de Terre-Neuve et du Labrador
 Newfoundland and Labrador Health Boards Association
 Newfoundland and Labrador Youth Advisory Committee

Members of Parliament and Senators

Lawrence O'Brien, Member of Parliament, Labrador
 Senators William Rompkey, Joan Cook, George Furey and George Baker

Arts/Heritage Community

Resource Centre for the Arts, St. John's
 Association of Heritage Industries
 Association of Cultural Industries of Newfoundland and Labrador
 Association of Newfoundland and Labrador Archives
 Alliance of Cultural Industries of Newfoundland and Labrador

Aboriginal Groups

Ktaqmkuk Mi'kmaq Alliance, Grand Falls-Windsor
 Association of Aboriginal Artists, Conne River
 Labrador Inuit Association
 Ktaqmkuk Mi'kmaq Alliance, Kippens
 Federation of Newfoundland Indians
 Sip'kop Mi'kmaq Band, St. Alban's
 Innu Nation Women's Walk, Sheshatshiu
 Labrador Métis Nation

Labour Unions

Burgeo to Rencontre, Fish, Food and Allied Workers (FFAW) Inshore Council
 Newfoundland and Labrador Building and Construction Trades Council
 Chesley Cribb (FFAW/CAW), Marystown
 Newfoundland and Labrador Federation of Labour
 Fish, Food and Allied Workers (FFAW)
 Local 20 Union, Marystown

Educational Institutions/Associations

Labrador School Board, Labrador City/Wabush
 Labrador Institute of Memorial University of Newfoundland, Happy Valley-Goose Bay
 Northern Peninsula/Labrador South School District
 Avalon West School District, Bay Roberts
 Newfoundland and Labrador Teachers' Association
 Rushoon, Terrenceville and Burin-Marystown Branches of the NL Teachers' Association
 College of the North Atlantic
 Memorial University of Newfoundland

Development Corporations

Hyron Regional Economic Development Corporation
 Emerald Zone Corporation
 Southeastern Aurora Development Corporation
 Capital Coast Development Alliance
 Marine and Mountain Zone Corporation
 Irish Loop Development Board

Research Institutes

The North Atlantic Islands Programme

Business/Industry Associations

Hospitality Newfoundland and Labrador
 Newfoundland Ocean Industries Association
 Trepassey Fishermen's Association
 Labrador North Chamber of Commerce, Happy Valley-Goose Bay
 Port aux Basques & Area Chamber of Commerce

St. John's Board of Trade
Marystown-Burin Area Chamber of Commerce

Women's Organizations

Gateway Status of Women Council, Port aux Basques
Women in Resource Development, Labrador
Labrador West Status of Women Council
Bay St. George Status of Women
Mokami Status of Women Council, Goose Bay
Provincial Advisory Council on the Status of Women

Religious Organizations

Congregation of the Sisters of Mercy of Newfoundland and Labrador
Canadian Bahá'í Community, St. John's

Conclusion

The submissions gave the Commission invaluable information and assisted in a better understanding of many of the issues raised at the public consultations. Their creativity and scope were interesting in the perspective they gave on how individuals interpreted the mandate of the Commission and on what matters to organizations in this province. The Commission is grateful that so many took the time to respond to the request and thus add to the knowledge base on which its Report is written.

Meetings with Organizations and Individuals

The Commission met with many individuals and representatives of organizations, usually at the request of the Commission.

Provincial Government

Department of Labrador and Aboriginal Affairs
Department of Justice
Department of Fisheries and Aquaculture
Department of Finance
Department of Works, Services and Transportation
Treasury Board Secretariat
Intergovernmental Affairs Secretariat
Department of Industry, Trade and Rural Development
Department of Education
Department of Mines and Energy
Department of Health
Department of Tourism, Culture and Recreation
Department of Environment
Strategic Social Plan
Women's Policy Office

Joint Federal/Provincial Organization

Canada-Newfoundland Offshore Petroleum Board

MHAs, MPs and Senators from Newfoundland and Labrador

Loyola Hearn, M.P., St. John's East
Lawrence O'Brien, M.P., Labrador
R. John Efford, M.P., Bonavista-Trinity-Conception

Rex Barnes, M.P., Gander-Grand Falls
 Bill Matthews, M.P., Burin-St. George's
 Jack Harris, MHA, Signal Hill-Quidi Vidi, Leader of the NDP

Federal Government Ministers and Officials

Hon. Gerard Byrne, Minister of State (ACOA)
 Hon. Stéphane Dion, Minister of Intergovernmental Affairs
 Hon. Jane Stewart, Minister of Human Resources Development Canada
 Hon. Paul Martin, M.P.
 Stephen Harper, Opposition Leader
 Federal Deputy Ministers
 Atlantic Canada Opportunities Agency, Newfoundland and Labrador Office
 Health Canada, Atlantic Region

Provincial/Territorial Officials

Provincial and Territorial Intergovernmental Affairs Officials

Regional/Provincial Organizations/Groups

Atlantic Provinces Economic Council (APEC)
 Newfoundland and Labrador Youth Advisory Committee
 Newfoundland and Labrador Federation of Municipalities
 Newfoundland and Labrador Federation of Co-operatives
 Fédération des Francophones de Terre-Neuve et du Labrador
 Fisheries Crisis Alliance
 Advisory Council to Premier on Social Development (Sub-committee)
 Strategic Partnership Forum
 Executive Team from Memorial University of Newfoundland
 Representatives of Cultural and Heritage Community

Aboriginal Leaders

Peter Penashue, President, Innu Nation
 William Barbour, President, Labrador Inuit Association
 Todd Russell, President, Labrador Métis Nation
 Chief Miesel Joe, Conne River Mi'kmaq Band
 Chief Brendan Sheppard, Federation of Newfoundland Indians
 Chief Jake Davis, Sip'kop Mi'kmaq Band
 Chief Bert Alexander, Port au Port Mi'kmaq Band

Meetings with Individuals

Dr. Axel Meisen
 Hon. Brian Peckford
 Hon. Brian Tobin
 Hon. Bob Rae
 Edward Hearn, Q.C.
 Dr. Douglas House
 Hon. Peter Lougheed
 Dr. Peter Neary
 Craig Dobbin
 Veryan Haysom

Conclusion

These meetings were especially beneficial in helping the Commission understand specific issues or points of view. Appreciation is given to those who took the time to prepare for and attend these meetings.

NEWFOUNDLAND AND LABRADOR

ROYAL COMMISSION
ON RENEWING AND STRENGTHENING
OUR PLACE IN CANADA

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WHAT WE HEARD

February 2003

Under the Waves

Something is happening?

It doesn't look good.

I'm scared.

Did I become separated from the rest of my school?

The waters are so desolate these days.

My parents are gone and my friends are disappearing.

I am one of the very few left in my school.

Other schools seem to be getting smaller and smaller, but why?

I hear others complaining of the loneliness.

It's hard to keep up your spirits when so many of your friends are vanishing.

I keep trying to reassure the others that things will improve.

However, they aren't as optimistic as I am. But doesn't someone have to stay positive?

My hope is that one day, in the not too distant future, we will flourish again.

I am confident that when that occurs the loneliness will fade away.

- Anne Gregory

15 Years Old

St. Phillips, NL

Submitted to the Royal Commission on

October 3, 2002

“WHAT WE HEARD”

One of Many Building Blocks

On June 3, 2002, the Royal Commission on Renewing and Strengthening Our Place in Canada began its task of reflecting on and examining our place in Canada. After fifty-four years in Confederation, Newfoundland and Labrador has enjoyed an exciting five decades of social and economic progress and cultural achievement. It is our task as a Commission to assess where we have come from, how we got here and what needs to be done to achieve a more prosperous future. If we are to succeed, it will be because we have inspired a new way of thinking about our province and a new way of doing things.

Our work to date has consisted of five concurrent processes: (i) public consultations throughout the province (public meetings, visits to schools, meetings with women’s groups, meetings with aboriginal groups and visits to businesses), (ii) an invitation for formal written submissions (over 220 have been received), (iii) a series of roundtables on focused issues (e.g. expectations on entering Confederation, the state of the fishery), (iv) meetings with federal and provincial ministers, deputy ministers and senior officials, and (v) a formal research program consisting of thirty research papers.

This document, entitled “**What We Heard**”, gives an overview of the first process, the public consultations conducted from September 30, 2002 to January 27, 2003. During this time, we visited communities throughout the province and held twenty-five public meetings attended by over 1400 people. Twenty-three meetings were held in locations from Harbour Breton to Labrador City, from Bonavista to Nain and from Trepassay to Port au Choix. One of the public meetings was held at the St. John’s campus of Memorial University and another at the Prince Philip Drive campus of the College of the North Atlantic. We met with over 560 students representing fifty-five schools and held a further eighteen sessions either in person or by teleconference with women’s groups attended by over 170 women. We met with representatives of each of the aboriginal groups on the Island and in Labrador. We visited twenty-five business enterprises representing entrepreneurial success stories throughout our province.

The goal of the public consultation process was to encourage and provoke open discussion on all of the issues related to renewing and strengthening our place in Canada. The process was indeed a success if success can be measured by the richness of the thoughts, ideas and passions which were openly and honestly shared with the Commission by so many people in Labrador and on the Island. We are extremely grateful to all of the individuals who participated in our public meetings, our school visits, our women’s sessions, our meetings with aboriginal groups and our business discussions. Their input has been invaluable to the on-going work of the Royal Commission.

The process of consulting with the people and our assessment of “what we heard” contained in this document constitute crucial elements in our process. This document, however, is not an interim report. It is simply a reflection of what we have been told during our consultation process. It constitutes **one of many building blocks** leading towards our final report. The Commission has not yet reached any conclusions or adopted any recommendations. These steps can only be taken after we have had an opportunity to review all of the written submissions, complete our roundtable discussions and analyze the contents of our research papers.

This *What We Heard* document also fulfills a commitment made by the Commission at each public meeting that we intended to give timely feedback to the public about what we were told in our consultation process. We would encourage anyone who feels that we have missed important issues or misinterpreted others to get in touch with the Commission by letter, fax or e-mail expressing their point of view.

“SOMETHING WRONG WITH THIS PICTURE”

Public Meetings Perspectives

At our public meetings, the Commission adopted a process whereby the participants at each meeting were asked to set the agenda. The topics which emerged as the most important, in no particular order, were:

- Health care
- Education
- Transportation
- Custodial Management in the Fishery
- Culture of Out-migration
- Equalization / Atlantic Accord
- Rural Newfoundland and Labrador
- Overall State of the Fishery
- New Employment Opportunities
- More Influence in Ottawa
- Churchill River Benefits
- Marine Atlantic Gulf Ferry Service
- Labrador’s Contribution to Newfoundland
- Newfoundland and Labrador’s Contribution to Canada
- Urban/Rural Divide

From what we heard, it was clear that, after fifty-four years in Confederation, it is timely to conduct a critical assessment of where we stand relative to the rest of Canada. When the Dominion of Newfoundland joined Canada in 1949, by way of a popular referendum, it brought into Canada the vast richness of its people and its natural resources. In our public meetings, much was made of these significant contributions to Canada. With a population of less than 350,000 people at the time, Newfoundland and Labrador contributed to Canada one of the world’s most prolific and lucrative fishing resources along its coastline and on the Grand Banks. It brought into Canada the powerful hydro-electric resources of the Churchill River in Labrador, the massive iron ore deposits in Labrador, and the forestry resources on the Island and in Labrador. It brought to Canada its air space, its strategic location, its trade, and its distinct cultures, both aboriginal and non-aboriginal. In more recent years, it has brought to Canada a two hundred mile limit and all that it entails, not only for the fishery but also for the emerging offshore oil and gas industry. There has been the recent discovery of the largest nickel deposit in the world at Voisey’s Bay. From what we heard, people are proud of what Newfoundland and Labrador has brought to Confederation.

There was much discussion related to the disconnect between the resources the province brought into Confederation in 1949 and its relative position in Canada today. While Newfoundland and Labrador has led the rest of the country in GDP growth in three of the past five years, there was a sense that it falls far short in many other areas. For instance, it leads the nation in the rate of unemployment which today stands in the order of 18% for the province overall with 9.3% in the St. John’s area and over 22% in many rural

areas. In other words, in terms of employment, Newfoundland and Labrador is tenth on the Canadian ladder. In terms of per capita income, birth rate and fiscal strength, Newfoundland and Labrador is at or close to the bottom of the Canadian ladder, while in terms of per capita debt, rate of out-migration and tax burden, it ranks among the highest of the provinces. In our public discussions, there was a strong consensus that **“there is something wrong with this picture!”**

The awareness that there is something wrong led people at each of our meetings to focus on who must right the wrong. Participants held an expectation that federal and provincial governments have significant responsibilities in this regard. What the Commission was also told, however, was that the time had come for Newfoundlanders and Labradorians to “do it ourselves”, to determine what they want the future of their province to look like and to take the necessary steps to shape that future. Participants said that “doing it ourselves” means holding all levels of government accountable for their responsibilities, getting a better understanding of the challenges faced by rural communities, and working together with all who have a vested interest in the future of this province. As one post-secondary student told us, **“We must take charge of our own future. No one else will.”**

At our public meetings, we proposed to each participant, “As you think about renewing and strengthening our place in Canada, write a news headline which you would like to see in the year 2012.” The completed headlines envisioned a prosperous province with full employment, little out-migration, an increasing population, a restored fishing industry and the treatment of Newfoundland and Labrador as a full and equal partner in Canada. A few headlines foresaw Newfoundland and Labrador separated from Canada or Labrador designated as a fourth northern territory.

The public meetings helped us understand the challenges the people of our province face and the hopes they have for the future. The meetings with women, youth, entrepreneurs and aboriginal representatives deepened that understanding, enabling us to link the social, economic and environmental dimensions of the task we have undertaken.

“PEACE AND ECONOMIC JUSTICE”

Perspectives of Women

In the initial public sessions of the Royal Commission, it was evident that our meetings were dominated in numbers by men. Even where there were significant numbers of women, they did not fully participate in the discussion. While in many of our latter meetings this situation corrected itself, the Royal Commission felt uncomfortable with the unfolding situation. We decided, therefore, that in each community we visited we would ask for a separate meeting with women. Our objective was to ensure that we would get a greater understanding of women’s perspectives on renewing and strengthening our place in Canada.

These meetings proved to be a fruitful approach and an enriching experience. At our public meetings, people seemed reluctant to discuss in any great detail some of the major social issues facing our province and country even though education and health were two of the most important issues placed on the agenda by meeting participants. The meetings with groups of women helped to fill this void as women addressed openly and frankly the day-to-day realities faced by people, families and communities in this province.

In these meetings, women spoke about the inadequate supports in our province for persons with physical or mental disabilities. They discussed the prevalence of adult illiteracy, high unemployment, poverty, physical and sexual abuse and their impact on persons and families. We heard about the inadequacies of the justice system for women who face issues related to family violence and child support. We were told about the continuing failure of governments to provide daycare centres and early childhood development opportunities. In one session we were reminded that there is often talk about improving and expanding

food banks and building more women's shelters. The point is often missed that shelters and food banks are a sign of society's failure and the elimination of the need for such supports is the real objective.

In particular, we were given deeper insights on our culture of out-migration and its impact on the family and community. In our public meetings, participants discussed out-migration largely as an economic issue while in our meetings with women they discussed it from the point of view of its social impact. Out-migration, whether it refers to young people leaving or families moving away or spouses leaving temporarily for work, too often results in dysfunction in the family and in the community. These topics are dealt with more fully in our section on out-migration, but some comments from the women's meetings reflected the challenges in sustaining family and community life as out-migration continues.

One woman told us, "It breaks your heart to see your children leave, but it breaks your heart even more to see them stay in an environment where they have no opportunity." While there is a tendency to view Voisey's Bay as a great employment generator, women in Labrador reminded us about family tension created when the husband is absent for significant periods of time. In Port au Choix we heard that there was no longer enough men in the community between the ages of 18 and 35 to allow the continuation of the men's hockey league. In other areas, we heard of the recent discontinuance of teenage dances because there are too few teenagers. In many other areas, concern was expressed about the difficulty of maintaining a strong corps of volunteers.

Our meetings with women's groups allowed us a far greater appreciation of the reality that women's perspectives are essential if we are to fully understand our place in Canada. Through concrete expressions such as the month-long Minei-nipi walk led by Innu women, we learned about women's concerns for the health of our environment and the need always to consider the potential negative impacts of any development on our lands or waters. Participants at the meetings helped us see the links between the social and economic dimensions of the matters we are exploring. One woman stated, "**There can be no peace in a country or a province or a community where there is no economic justice.**" Women told us that to view Voisey's Bay as a generator of employment without understanding the potential negative social impacts, to consider the development of the Lower Churchill without reviewing the negative impact on the environment, to understand the economic effects of out-migration without appreciating its negative impact on family and community life, or to assess the statistical dimensions of unemployment without recognizing the differing impacts on women and men would result in an incomplete foundation for our final report and recommendations.

Women reminded us that, despite the federal Royal Commission on the Status of Women thirty years ago, their voices are still not being heard. They told us that, even though there have been advances in many areas, women in Newfoundland and Labrador and in Canada have still not achieved equality with men. We also heard that women are not considered when public policy is being developed. It needs to be said, therefore, as our Commission moves towards its final report, that we will do whatever is possible to ensure that the voices and diverse experiences of both women and men of Newfoundland and Labrador are reflected in our recommendations on renewing and strengthening our place in Canada.

"WE HAVE NO CHOICE BUT TO LEAVE"

Perspectives of Youth

Wherever the Commission visited, meetings with students in elementary, junior high and high schools were an essential step in our understanding the perspectives related to our place in Canada. It was particularly important for us to meet with the younger generation to get their views on the future of our province. On the Island, the overwhelming majority of young students proudly considered themselves

Newfoundlanders first and Canadians second. In Labrador, a similar overwhelming majority considered themselves Labradorians first, Newfoundlanders second and Canadians third.

In Point Leamington, elementary school children reminded the Royal Commission that a large number of their fathers had left the community to work in other provinces such as New Brunswick, Ontario and Alberta. They told us the Commission could only succeed in their eyes if we could find a way to have them employed at home. In New Wes Valley, when discussing the many ways in which the Royal Commission could pictorially reflect what was happening in our province, one young student suggested the picture of a U-Haul because it was such a prevalent sight in her own community.

In terms of cultural identity, whether it was urban or rural, the predominant message to the Royal Commission from youth was the crucial importance of their sense of place and their attachment to Newfoundland and Labrador as their home. In terms of image and how we are viewed in Canada, there was an overriding view that we are badly misunderstood though looked upon with affection. The determination of young students to improve this image was evident. What we heard was that they wanted to progress to higher levels of educational achievement, achieve success in the workplace and enjoy standards of living comparable with other parts of Canada. Without doubt, however, a most startling revelation for the Royal Commission was the almost unanimous view of young people that their opportunities for the future lay outside the fishery, outside rural Newfoundland and Labrador and outside their own province.

There was a sense that our young people's love of the province could be embraced by regular visits home but that their love of life would have to be fulfilled elsewhere. One student emphatically told us, **"We love home, but we have no choice but to leave."** This regretful lack of choice was a consistent message that the Commission received throughout our meetings with young students, a message which was confirmed in our meetings with women's groups and the public in general.

The level of understanding of our youth about their place in Canada can be described as encouraging. They did not hesitate to wade into issues such as custodial management, the state of the fishery, equalization or the joy of being part of a distinct society like Newfoundland and Labrador. Some of our most dramatic moments with students occurred during discussions regarding Churchill Falls where it was described variously as "a scam" or as "treachery". One student exclaimed in frustration, "it should have been ours". Whether they were in Labrador or on the Island, there was an understanding by the students that they were not just Newfoundlanders or Labradorians or even Canadians but young people whose opportunities were global.

"BEDROCK OF OUR SHARED FUTURE"

Aboriginal Concerns

The Commission heard from the Innu, Inuit, Labrador Métis and Mi'kmaq that Newfoundland and Labrador cannot effectively renew and strengthen its place in Canada without understanding, renewing and strengthening the relationships between the Province and aboriginal peoples. There was a sense expressed at our meetings that the Government of Canada wilfully ignored their responsibilities under the Canadian Constitution by not assuming jurisdiction for the administration and management of aboriginal affairs in Newfoundland and Labrador as they have done in every other province. Aboriginal peoples said that they were abandoned by the process leading to Confederation, and fifty-four years later they remain involved in a struggle to find their rightful place not only in Newfoundland and Labrador but in Canada.

Women in aboriginal communities told us that the voices and experiences of aboriginal women are not being given adequate consideration as land claims and economic development are being addressed. They spoke to us about the negative social impact of events such as the forced settlement of the Innu people in the 1950s and the forced resettlement of the Inuit people from Hebron and Nutak in the same time

period. They expressed concerns that current approaches are not addressing their desires to protect their connections to the land, their family structures, their values and their culture.

In Nain we were told, “**The bedrock of our shared future** lies in very fundamental principles - principles such as respect, dignity, land rights, self determination, sharing and mutual support - which need to be applied in daily life within the Province and within Canada.”

ENTREPRENEURIAL DRIVE

Business Visits

During our public consultation process, we visited businesses in all areas of the province to get a better sense of entrepreneurship, particularly in rural Newfoundland and Labrador. The business ventures were amazingly diverse and included primary and secondary processing of seafood, the production and marketing of wines from wild berries, the production of food products and syrups from wild berries, the manufacturing of windows, the manufacturing of industrial gloves and boots, the quarrying of dimension stone, the industrial sawing and polishing of dimension stone, the manufacturing of cabinets, furniture and wood mouldings; the provision of eco-tourism services, the manufacturing of education software, the secondary processing of seal products, facilities associated with knowledge-based tourism, the production of fibreglass boats, the provision of aerospace services and the use of information technology by Smart Labrador.

The Commission was struck by the innovation of the entrepreneurs we visited. They told us about the entrepreneurial spirit and drive needed to overcome the challenges of establishing and maintaining businesses in rural settings. Based on what we heard, many business enterprises were hampered by the lack of high speed internet services in rural areas. The lack of entrepreneurial training in our educational system was seen to be an obstacle to be overcome in a highly competitive and knowledge-based economy. While we were given some examples of government assistance in beginning or sustaining these industries, we were also told by many entrepreneurs that government officials do not have a good understanding of the supports needed for the development of businesses in this province.

OUR PLACE IN CANADA

“No Way to Run a Federation”

Throughout our public meetings, there was great affection expressed for Canada and great pride about being Canadian. Based on what we heard, Newfoundlanders and Labradorians are fully cognizant of the enormous contribution that Canada has made to the well-being of their province since Confederation. Expenditures on public infrastructure such as roads, schools and hospitals have resulted in tremendous social and economic progress. The ongoing services and programs to which all Canadians are entitled in terms of health care coverage, education, social services and employment insurance attest to the benefits of being part of a great country. Canada’s significant economic development expenditures, including its large investment in Hibernia, have contributed to the general level of prosperity being experienced in our province today. Based on what we heard, therefore, we believe that Canada is perceived as being good for Newfoundland and Labrador. It was also clear that people understood that, without equalization, Newfoundland and Labrador would be in dire straits.

This pride in being a part of Canada, however, was tempered by the consistent feeling that there is a lack of respect, on the part of the federal government and other Canadians, for the people of Newfoundland and Labrador and for the contributions they have made to Canada. People spoke to us, with both passion and frustration, about those contributions. In addition to making an incomplete nation whole with our

geography, we have brought a wealth of human and natural resources to our country. There is a belief that we are viewed by many in Canada as forever taking from Confederation while giving very little back in return. In almost every public meeting, the Commission was asked to set the record straight. We heard that there is an urgent need to conduct a comprehensive and independent assessment of Newfoundland and Labrador's contribution to Canada as part of our research program.

We also heard that the federal government consistently ignores the interests and ideas of Newfoundland and Labrador on key issues. During the short period of our public consultations, three federal Ministers carried out actions that people pointed to as examples of the lack of respect paid to Newfoundland and Labrador:

- First, the federal Minister of Transport appointed four new members to the Board of Marine Atlantic. None were from Newfoundland and Labrador. That decision, and the gulf ferry service in general, became a lightning rod at our meetings for articulating inappropriate treatment at the hands of the Government of Canada.
- Second, the federal Minister of Fisheries and Oceans, without even the courtesy of briefing the Government of Newfoundland and Labrador, informed the Liberal Atlantic Caucus about a potential closure of the fishery which, if implemented, would have disastrous consequences for many parts of rural Newfoundland and Labrador. This, too, produced a blistering backlash within our province regarding the kind of callous treatment we receive on crucial issues respecting our future and our place in Canada.
- And, finally, the federal Minister of Industry proposed that offshore oil and gas revenues associated with developments in Nova Scotia and Newfoundland and Labrador should be set aside for the benefit of the entire Atlantic Region. The reaction in our own province was as swift as it was negative. We were told that it was incredible that revenues from our resources were seen, in the eyes of the Government of Canada, to be useful for purposes beyond helping Newfoundland and Labrador achieve some reasonable level of prosperity. As one person put it, **“This is no way to run a federation.**

Our public meetings told us that there is a sense we gave up our nationhood only to become just another part of Atlantic Canada. We are treated on a formula basis as 1.7% of the population of Canada and as politically irrelevant with only seven seats in the House of Commons and six seats in the Senate. No one from this province has been appointed to the Supreme Court in fifty-four years. There were many suggestions for potential reform led by the articulation of the need for a “Triple E” Senate. Based on what we heard, there appears to be an undeniable sense that everywhere Newfoundland and Labrador turns within Confederation the odds are stacked against its achieving prosperity comparable with other provinces.

Fishery Calamity

One issue which arose consistently in all public meetings was a clear and deep understanding that the economy of rural Newfoundland and Labrador in the past, present and future depends on the fishery. Given the collapse of the groundfish in the late 1980s and the early 1990s and the lack of recovery since, participants told us that rural fishing communities remain in a state of crisis and severe agitation. The challenge presented by the continued decline in fish stocks has manifested itself in the demand for “custodial management”. It was a meaningful way for participants in our meetings to send out a loud wake-up call that without some kind of plan for a recovery in the groundfish fishery, **there will be an even greater calamity in rural Newfoundland and Labrador in the next decade.** At our meeting in Marystown, we were told that people in the fishery had lost their spirit to fight and were simply scared

about “who will be next”. This comment was in reference to further groundfish quota reductions and the vulnerability of the crab and shrimp stocks to future decline.

At many of our meetings, there were references to the causes of the groundfish demise including (i) inadequate science, (ii) improved technology, (iii) too many processing licenses, (iv) too many harvesters, (v) too much reliance on the fishery as an employer of last resort, (vi) heavy reliance on the employment insurance program to sustain communities and people, (vii) too much political pressure to keep quotas high, (viii) relentless foreign over-fishing, (ix) lack of action on seal populations, and (x) a general reluctance to come to grips with the reality of the declining resource because of the unthinkable result. In other words, there is recognition of a collective responsibility for the loss of the fishery.

Notwithstanding this collective responsibility, however, we heard that with Confederation the Federal Government assumed responsibility for the overall management of the fishery. Five decades later, under their stewardship, that fishery has for all intents and purposes disappeared. We heard that it is time for the Government of Canada to take overall responsibility for what has happened in the fishery, responsibility for doing whatever is possible to bring about a recovery in the fishery, and responsibility for dealing with the fallout should that recovery not take place. People continually told us that, in our relationship with Canada and our overall progress as a province since Confederation, there is no greater issue than the loss of the fishery and its impact on the fabric of our fishing society. Out-migration, dying communities, loss of a way of life, and loss of dignity in rural Newfoundland and Labrador were all articulated in our public meetings as part of the dynamic related to the mismanagement of the fishery by the Government of Canada.

Loss of Offshore Royalties

The sense that something is not quite right in the federation manifested itself in what we heard over and over again with respect to many issues but especially equalization, the Atlantic Accord, custodial management, and the Churchill River. With respect to equalization, the constant use of the term “clawback” reflected a general understanding that the equalization formula was not working as it could to the advantage of Newfoundland and Labrador. What we heard was that no matter how you look at it, the combined impact of the Government of Canada’s interpretation of the Atlantic Accord and the workings of the equalization formula results in over 80% of offshore taxes and royalties going to the Government of Canada.

We heard it remains exasperating to Newfoundlanders and Labradorians that the very equalization formula which was set up to help provide public services at a level comparable to the rest of Canada is now being utilized to ensure that this can not happen. We were also reminded that a recent Senate Committee Report calls for a change in arrangements with the offshore gas and oil producing provinces of Nova Scotia and Newfoundland and Labrador.

Churchill Falls Backlash

If there were expressions of frustration and in some cases outrage over the perverse impact of the Atlantic Accord and the equalization formula, there was an equally deep backlash over the historic inequities associated with the development of the Churchill Falls hydro-electric project. At most of our public meetings, the lost windfall profits from Churchill Falls, the total control exercised by Québec over the Churchill River, the failure of the provincial government of the time to negotiate a better contract and, just as significantly, the role played by the Government of Canada in the original deal by denying a power corridor through Québec, all emerged as significant issues. There is a sense that Ottawa has escaped any accountability for treating the transmission of oil and gas from Alberta in one way and electricity from Newfoundland and Labrador in another. There is also a strong feeling that, had the situation been

reversed, Canada would never have allowed Newfoundland and Labrador to have exercised a geographic stranglehold over Québec's hydro-electric resources.

In several meetings, we heard that Newfoundland and Labrador should pursue its constitutional rights under Section 92A of the *Constitution Act, 1867* to access power and energy from Churchill Falls for industrial purposes in Labrador and on the Island. In a dramatic discussion with students in Port Saunders, one young woman described the Churchill Falls contract as "Québecers mooching on Newfoundlanders." Another student, realizing that the contract would not expire until her fifty-eighth birthday, pleaded with the Royal Commission to "do something about this!"

OUR PLACE IN OUR PLACE

Our Sense of Place

Much of what we heard during the course of our consultation process focused on "our place in our place" and not just our place in Canada. We were told that Newfoundlanders and Labradorians consider themselves blessed with a sense of place and a sense of belonging. They have a deep rooted feeling that their province is the best place in the world to live and raise a family. They care about community and value a lifestyle which balances work and time with family and friends. People of our province have a passionate appreciation of their cultural and artistic heritage, and they enjoy a strong sense of connection to the land and the sea. They believe that their fishing history is an integral part of their very being. It was clear to the Commission, based on what we heard, that the sense of attachment to this place remains remarkably strong.

The Urban - Rural Divide

We were told, however, that the loss of the fishery has had a profound and dramatic impact on the psyche of all Newfoundlanders and Labradorians. It also has resulted in a dramatic disparity between rural and urban areas. This disparity was the focus of much discussion in many of the areas visited by the Commission. We were reminded so often that there is a significant economic divide between the communities in and around the capital city of St. John's and elsewhere in the province. At the present time, about 45% of the people in Newfoundland and Labrador reside within an hour's drive from St. John's.

It was also made clear that headlines like "the rock is on a roll" or "Newfoundland and Labrador leads the nation in GDP growth" have little meaning to people in rural areas on the Island or in Labrador. Indeed, on the Great Northern Peninsula, with one of the highest levels of out-migration and unemployment, there was an attempt to have people boycott our public meetings in order to bring greater attention to the economic disparity between that region and the rest of the province.

During the course of our public consultation process, the fiscal challenges facing Newfoundland and Labrador were also highlighted. Based on what we heard, people understand that the Province is experiencing significant fiscal deficits and an ever increasing debt load. The relatively weak fiscal capacity of the Province reflected itself in the major concerns expressed about the state of health care, the education system and municipal infrastructure. We heard that population decline means both a weaker tax base and lower equalization payments.

Culture of Out-migration

As a Commission, we heard many first hand accounts related to the impact of out-migration. In the last decade, over 60,000 Newfoundlanders and Labradorians have gone elsewhere to seek employment

opportunities. While out-migration from rural areas is a worldwide phenomenon, based on what we heard, it has had and will continue to have a disproportionate impact on this province.

Out-migration is found in many forms. In Newfoundland and Labrador, as elsewhere, it is primarily driven by the lack of employment opportunities and the need to move elsewhere to make a living and raise a family. From what we heard, there are also many youth who, heavily burdened with student debt, see opportunities to pay off that debt at a faster pace by out-migrating to other provinces where they can earn higher incomes and pay lower taxes. We heard that many men and women, sometimes with their families and sometimes without them, are leaving the province to work for extended periods of time elsewhere in Canada and that these forms of migrant work do not show up in economic statistics.

Given the manner in which our rural way of life, particularly in fishing communities, is such an incredibly rich and essential part of the fabric of our society, the message we received was that out-migration will be ignored at our peril. Based on what we heard, out-migration, low birth rates, low levels of rural services and high costs of rural transportation all present major challenges for the future of rural Newfoundland and Labrador.

In all of our school visits, it became extremely clear that our young students see their future careers outside rural Newfoundland and Labrador and, in many cases, outside their own province. Parents and teachers are encouraging youth to leave because of the lack of opportunities in their own communities. We were told that this environment was leading to a **culture of out-migration**. As one group put it in our public meeting in Clarendville, "What if we educate our youth and they leave? What if we do not educate our youth and they stay?" The Commission challenged with, "How do we educate our youth and create opportunities for them to stay?"

From what we heard, this whole process has been fast forwarded by the impact of the groundfish moratorium imposed in the early 1990s. The fishery, in particular, is no longer seen as a viable future employer for rural youth. Moreover, we were told that there is a "next wave" of out-migration which will escalate over the next decade as parents follow their children and grandchildren while maintaining their houses in Newfoundland and Labrador as vacation homes.

It is evident that Newfoundlanders and Labradorians always moved elsewhere to seek employment opportunities. Indeed, Fort McMurray, Alberta, was referred to in our public meetings as our province's second largest city because of the thousands of Newfoundlanders and Labradorians who have moved there and now call it home. The significant difference over the last decade is the dramatic decline in the birth rate which today is one of the lowest in North America. It is the combination of a high rate of out-migration and a low birth rate which has led to such a rapid population decline in recent years.

Undercurrent of Alienation in Labrador

There was a strongly held view that much remains to be done if Newfoundlanders and Labradorians are able to feel confident and comfortable in their own province. This kind of sentiment was frequently expressed in our public meetings throughout Labrador where 28,201 of the province's 521,200 people reside. To put it in the language of our public meetings, "Labrador feels as ignored by the Government in St. John's as Newfoundland and Labrador feels ignored by the Government in Ottawa." The views expressed reflected the concerns that unprocessed resources are being shipped out of Labrador. The power from Churchill Falls is being transmitted to Québec to create industrial jobs in that province. Wood from the forests in Labrador is being harvested and exported to sustain industrial jobs in the paper industry on the Island. Iron ore mined in Labrador is creating industrial jobs in Québec and Ontario. As one person told us, "The only railway in operation in our province today is the one taking iron ore from Labrador to Québec."

We also heard that the high cost of transportation, the lack of good air services, the lack of completion of the trans-Labrador highway, the high cost of electricity, particularly on the coast of Labrador, and a general feeling of being unappreciated dominate Labrador's place in Newfoundland and Labrador. It was made extremely clear to the Commission, therefore, that there is a strong **undercurrent of alienation** in Labrador.

There were, of course, very encouraging signs for Labrador, including the prospects for employment associated with Voisey's Bay. We were told that the prospect of the development of the Lower Churchill was supported by the business community, albeit conditional on significant power recall provisions for industrial and domestic purposes in Labrador. Many people were opposed to any further development of Churchill Falls based on environmental concerns. There were also many ideas proposed at our meetings for a fixed link from Labrador to the Island.

"WE SEEM TO HAVE LOST OUR PLACE"

Path to a Final Report

The Commission's mandate is to submit a final report by June 30, 2003. In this regard, our public consultation process has had a profound impact on our thinking. We were struck by the vast geography of the Island (111,390 km²), Labrador (294,330 km²), and our offshore waters (1,825,992 km²); the magnificent beauty of the landscape, the richness and diversity of our cultures, the openness and warmth of the people, their attachment to their province and country, and their passion and determination to make their place in this land a better one for their children and grandchildren.

We heard a strong sentiment expressed that Newfoundland and Labrador has been struggling through the severe impact of (i) the unbearable loss of its fishery resource and the unfolding demise of its rural fishing society, (ii) the highest rates of unemployment and out-migration and the lowest birth rate in the country, (iii) the weakened state of its provincial finances, (iv) the perverse inability to utilize its own oil revenues for its own economic prosperity, (v) the continuing loss of windfall profits to Québec from its Churchill Falls hydro-electric resource, and (vi) the failure of the federal government to treat the province as an equal partner in Confederation.

If this struggle could be summarized in a single phrase, it is perhaps that, after fifty-four years, **"we seem to have lost our place in Confederation."** Some people told us we have never found it. There were strong feelings expressed that the federal government views Newfoundland and Labrador as part of the Atlantic region and no longer as the equal partner which joined Canada in 1949. Based on what we heard, there is a sense of uneasiness that the bureaucratic and political process in Ottawa has a strong bias towards diminishing the role of provinces.

We heard also that there are troublesome questions being raised by Newfoundlanders and Labradorians about Canada's place in their province. Do other Canadians understand what is happening in this province and the implications for its future? Does the federal government have a vision for its role in the future of Newfoundland and Labrador? Do our partners in the federation understand the significance of the disconnect between the resource richness that the Dominion of Newfoundland brought into Confederation in 1949 and its relatively weak economic position as a province in Canada today?

During the course of our meetings, there were many angry references to separation as well as reminders of the processes outlined in the *Clarity Act*. The overwhelming sentiment, however, was in favour of trying to make things better within Canada. Nevertheless, we were told that what is happening in our province, after fifty-four years in Confederation, needs serious attention if we are to attain dignity as a people and prosperity as an equal and respected partner in Confederation. In other words, we were told that the status quo is not an option. Something has to change!

The challenge facing the Commission as we travel the path towards our final report is to integrate all of what we heard with the input from our roundtables, research, written submissions and discussions with government officials. As we develop our findings and recommendations, we will keep in mind the view expressed at our meeting in Marystown where one participant implored us to take chances in our report, make it radical by our standards, and put it in the face of criticism so it is not just “a small voice in the crowd”. We will also be guided by the many expressions we heard that, as Newfoundlanders and Labradorians, **“we must take our own destiny into our own hands.”**

Appendix D

Research Program

Research Papers

The Commission's Terms of Reference called for a research program to address key issues. In particular, the goals of the research program were (i) to provide information and an independent assessment of key issues in support of the analysis, conclusions and recommendations contained in the final Report; (ii) to generate fresh perspectives and new ideas on critical issues; and (iii) to provide the public with a body of information and analysis of important issues. The nature and extent of the Commission's research program were constrained by the time available and the requirement to have its final Report finished within a year of the Commission's beginning.

Most of the research contracted by the Commission consisted of research and analysis papers designed to provide a thematic overview of the issue to be addressed, a review of existing literature, an analysis of the state of knowledge on the issue, conclusions and, where relevant, policy options or recommendations for consideration by the Commission. A smaller number of research projects were more extensive and more original in research scope, including financial and economic analyses, and polls and other surveys. The externally contracted research projects were subject to peer review.

A total of 28 papers were commissioned, primarily from experts at either Memorial University of Newfoundland or other Canadian universities. In addition, a national opinion poll and a provincial opinion poll were commissioned. All of these papers are available in PDF file at www.gov.nl.ca/royalcomm. The views and analyses contained in these published papers remain the responsibility of the authors, and the views expressed do not necessarily reflect those of the Commission.

In addition to the published papers, the Commission received a number of background informational papers and presentations from government departments and agencies. The Commission expresses thanks to all those who prepared papers or made presentations. These were of significant assistance in the Commission's work.

List of Published Research Papers

Melvin Baker, Memorial University of Newfoundland, *Falling into the Canadian Lap: The Confederation of Newfoundland and Canada, 1945-1949*

Melvin Baker, Memorial University of Newfoundland, *History of Newfoundland and Labrador – Summary Chronology of Events*

Peter Gerald Bannister, Memorial University of Newfoundland, *The Politics of Cultural Memory: Themes in the History of Newfoundland and Labrador in Canada, 1972-2003*

Gerard Blackmore, *St. John's, Sense of Place: Loss and the Newfoundland and Labrador Spirit (Opinion Piece)*

Raymond Blake, University of Regina, *The Search Goes On: Rural and Regional Development Strategies in Canada*

Robin Boadway, Queen's University, *Options for Fiscal Federalism*

Craig Brett, Mount Allison University, *Demographic Trends and Implications for Public Policy*

- The Centre for Spatial Economics, Consultants, Milton, Ontario, *Newfoundland and Labrador: An Assessment of This Province's Place in the Canadian Economic Union*
- Jason Churchill, Cleo Research Associates, *Power Politics and Questions of Political Will: A History of Hydroelectric Development in Labrador's Churchill River Basin, 1949-2002*
- John Crosbie, Patterson Palmer, *The 1985 Canada-Newfoundland Atlantic Accord*
- Chris Dunn, Memorial University of Newfoundland, *Federal Representation of the People and Government of Newfoundland and Labrador*
- Gwynne Dyer, London, *Assessing the Strategic Importance of Newfoundland and Labrador to Canada* (Opinion Piece)
- Larry Felt, Memorial University of Newfoundland, *Small, Isolated and Successful: Lessons from Small, Isolated Societies of the North Atlantic*
- Roger Gibbins, Canada West Foundation, *Assessing Newfoundland and Labrador's Position on Canada's Evolving Federalism Landscape*
- Maura Hanrahan, Consultant, St. John's, *The Lasting Breach: The Omission of Aboriginal People from the Terms of Union Between Newfoundland and Canada and Its Ongoing Impacts*
- Joanne Hussey, Consultant, Clarenville, *The Changing Role of Women in Newfoundland and Labrador*
- Wade Locke and Scott Lynch, Memorial University of Newfoundland, *What Does Newfoundland and Labrador Need to Know About the Knowledge-Based Economy to Strengthen Its Place in Canada?*
- Stephen May, Patterson Palmer, *The Terms of Union: An Analysis of Their Current Relevance*
- David Norris, Consultant, St. John's, *The Fiscal Position of Newfoundland and Labrador*
- P. J. Gardiner Institute, Memorial University of Newfoundland, *Built to Last: Entrepreneurial Success Stories of Newfoundland and Labrador*
- Ross Reid, St. John's, *We Can Do Better, We Must Do Better.* (Opinion Piece)
- George Rose, Fisheries and Marine Institute of Memorial University of Newfoundland, *Fisheries Resources and Science in Newfoundland and Labrador: An Independent Assessment*
- Phillip Saunders, Dalhousie University, *Straddling Stocks: Policy Options*
- Donald Savoie, Université de Moncton, Les Consultations Julaux Inc., *Reviewing Canada's Regional Development Efforts*
- Denis Stairs, Dalhousie University, *The Conduct of Canadian Foreign Policy and the Interests of Newfoundland and Labrador*
- Stephen Tomblin, Memorial University of Newfoundland, *Atlantic Region Integration Options*
- David Vardy, Consultant, St. John's, and Eric Dunne, Consultant, St. John's, *New Arrangements for Fisheries Management in Newfoundland and Labrador*

Miriam Wright, Acadia University, *Background Paper – Newfoundland and Labrador History in Canada, 1949 - 1972*

Public Opinion Polls

As part of its research program, the Commission also commissioned two opinion polls: a national poll and a provincial poll.

National Poll

The poll was conducted by POLLARA Inc. Interviews were conducted with 1,275 adult Canadians living outside the province of Newfoundland and Labrador. The purpose of the survey was to explore attitudes and perceptions on the following issues:

- The image of Newfoundland and Labrador in Canada
- Perceptions of contributions of Newfoundland to Canada
- Perception of contributions of Canada to Newfoundland and Labrador
- Values of federalism
- Representation in the federation
- The economic and social status of rural and urban communities

Provincial Poll

The poll was conducted by Ryan Research and Communications. Interviews were conducted with 1,000 adult residents of Newfoundland and Labrador. The purpose of the survey was to:

- Investigate satisfaction with the province's place in Canada
- Investigate satisfaction with the province's relationship with the federal government
- Elicit input on the strengths and weaknesses of the province that should be focused on or addressed in order to achieve prosperity and self-reliance in the future.

The results of these polls are available in PDF file at www.gov.nl.ca/royalcomm

The Commission expresses gratitude to all those who prepared and carried out the two polls. These polls gave the Commission important perspectives from Newfoundlanders and Labradorians as well as from Canadians outside our province.

Appendix E

**STAFF OF
THE ROYAL COMMISSION ON RENEWING AND STRENGTHENING
OUR PLACE IN CANADA**

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James Feehan		Mabel Macpherson
Rhonda Burke		
Jodi Oliver		
PRODUCTION TEAM		LOGISTICS
Ronalda Steele		Roger Samson
Gerard Blackmore		

Endnotes

Preface - What Is This Place That Holds Fast Our Hearts?

1. Title taken from the song “What Is This Place?” Gerard Blackmore, 1999. Used with permission of the author.
2. The Centre for Spatial Economics, *Newfoundland and Labrador: Toward an Assessment of the Benefits of the Canadian Economic Union*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
3. Much of the historical detail in this chapter is to be found on the Web site entitled *Newfoundland and Labrador Heritage*, developed by Memorial University of Newfoundland and the C.R.B. Foundation, 1997, see: <http://www.heritage.nf.ca>.
4. Sandra Gwyn, “The Newfoundland Renaissance,” *Saturday Night*, April 1976, pp. 40-41.
5. Sandra Gwyn, 1976.
6. Gwynne Dyer, *The Strategic Importance of Newfoundland and Labrador to Canada*. Opinion Piece for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
7. POLLARA Inc., *A Report on Perceptions of Newfoundland and Labrador*. Prepared for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
8. Gerard Blackmore, *Sense of Place*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
9. Gerard Blackmore, 2003.
10. Written submission to the Royal Commission on Renewing and Strengthening Our Place in Canada from an individual.
11. Association of Heritage Industries, Newfoundland and Labrador, written submission to the Royal Commission on Renewing and Strengthening Our Place in Canada, 2002.
12. Gerard Blackmore, 2003.

Introduction

1. Taken from the title of the book *This Marvellous Terrible Place: Images Of Newfoundland and Labrador* by Yva Momatiuk and John Eastcott, Camden East, Ont.: Camden House Publishing, 1988.
-

Chapter 1 - A New Partnership

1. Ryan Research and Communications, *Provincial Opinion Study*. Prepared for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
 2. Ross Reid, *We Can Do Better, We Must Do Better*. Opinion Piece for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
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Chapter 2 - Expectations As We Joined Canada

1. Melvin Baker, *Falling into the Canadian Lap: The Confederation of Newfoundland and Canada, 1945-1949*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
2. See also: Peter Neary, *Newfoundland in the North Atlantic World, 1929-1949*. Montreal & Kingston: McGill-Queen's University Press, 1988; and John FitzGerald, ed., *Newfoundland at the Crossroads: Documents on Confederation with Canada*. St. John's: Terra Nova Publishing, 2002.
3. Both Newfoundland and Canada were described as Dominions in the Balfour Declaration of 1926 and in the Statute of Westminster of 1931.
4. James Hiller, "Confederation Defeated: The Newfoundland Election of 1869," in Hiller and Neary, eds., *Newfoundland in the Nineteenth and Twentieth Centuries: Essays in Interpretation*. Toronto: University of Toronto Press, 1980, pp. 67-94, referenced in Melvin Baker, *Falling into the Canadian Lap*, 2003. Talks between Canada and Newfoundland regarding Confederation failed in 1895. See: Melvin Baker, *Chronology of Key Events*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
5. Melvin Baker, *Falling into the Canadian Lap*, 2003.
6. Peter Neary, 1988, pp. 8-15; S.J.R. Noel, *Politics in Newfoundland*. Toronto: University of Toronto Press, 1971, pp. 149-214, discussed in Melvin Baker, *Falling into the Canadian Lap*, 2003.
7. Melvin Baker, *Falling into the Canadian Lap*, 2003.
8. Newfoundland Act, 1933 (UK).
9. James Hiller, *Confederation: Deciding Newfoundland's Future, 1934 to 1949*. St. John's: The Newfoundland Historical Society, 1998, p. 8.
10. The election of a Labradorian to the National Convention marked the first time Labrador had its own representative in a local elected body.
11. Paul Bridle, ed., *Documents and Relations Between Canada and Newfoundland, Vol. 2, 1940-1949*. Ottawa: Supply and Services Canada, 1984, p. 198.
12. Melvin Baker, *Falling into the Canadian Lap*, 2003.
13. Peter Neary, 1988, pp. 311-312.
14. Peter Neary, 1988, p. 317.
15. A summary of this cost-benefit analysis is provided in Melvin Baker, *Falling into the Canadian Lap*, 2003.
16. Stephen May, *The Terms of Union: An Analysis of Their Current Relevance*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003. A discussion of the dynamic of these negotiations is also provided in Melvin Baker, *Falling into the Canadian Lap*, 2003.
17. Term 2, as amended, says: "The Province of Newfoundland and Labrador shall comprise the same territory as at the date of Union, that is to say, the island of Newfoundland and the islands adjacent thereto, the Coast of Labrador as delimited in the report delivered by the Judicial Committee of His Majesty's Privy Council on the first day of March, 1927, and approved by His Majesty in His Privy Council on the twenty-second day of March, 1927, and the islands adjacent to the said Coast of Labrador."
18. Term 32(1) says: "Canada will maintain in accordance with the traffic offering a freight and passenger steamship service between North Sydney and Port aux Basques, which, on completion of a motor highway between Corner Brook and Port aux Basques, will include suitable provision for the carriage of motor vehicles."

19. Terms 46, as amended, says: “(1) Oleomargarine or margarine may be manufactured or sold in the Province of Newfoundland and Labrador after the date of the Union and the Parliament of Canada shall not prohibit or restrict such manufacture or sale except at the request of the Legislature of the Province of Newfoundland and Labrador, but nothing in this Term shall affect the power of the Parliament of Canada to require compliance with standards of quality applicable throughout Canada. (2) Unless the Parliament of Canada otherwise provides or unless the sale and manufacture in, and the interprovincial movement between, all provinces of Canada other than Newfoundland and Labrador, of oleomargarine and margarine, is lawful under the laws of Canada, oleomargarine or margarine shall not be sent, shipped, brought, or carried from the Province of Newfoundland and Labrador into any other province of Canada.”
20. For example, Prince Edward Island’s Terms of Union obligated the Government of Canada to operate a ferry service between P.E.I. and the mainland.
21. J.G. Channing, *The Effects of Transition to Confederation on Public Administration in Newfoundland*. Toronto: The Institute of Public Administration of Canada, 1982, p. 41.
22. The grants assured by Term 28 were transitional for a period of 12 years.

Chapter 3 - Experiences Within Canada

1. Statistics Canada, *Labour Force Survey*, May 2003.
2. The number of people employed in the province did increase somewhat, rising from 211.3 thousand in 2001 to 213.9 thousand in 2002. However, that increase in employment is only a little over 1 per cent. The unemployment rate increased because that modest employment growth was smaller than the increase in the size of the labour force.
3. Government of Newfoundland and Labrador, Strategic Social Plan Office, *From the Ground Up*. St. John’s: Government of Newfoundland and Labrador, 2003.
4. Lawrence Felt, *Small, Isolated and Successful: Lessons from Small, Isolated Societies of the North Atlantic*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
5. Miriam Wright, *Newfoundland and Labrador History in Canada, 1949-72*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
6. Jerry Bannister, *The Politics of Cultural Memory: Themes in the History of Newfoundland and Labrador in Canada, 1972-2003*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
7. For the most recent data, see the results reported by Ryan Research and Communications, *Provincial Opinion Survey*. Prepared for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
8. The following is based on the discussion in Peter Neary, *Newfoundland in the North Atlantic World 1929-1949*. Montreal & Kingston: McGill-Queen’s University Press, 1988, Chapter 12. See also Roger Gibbins, *Assessing Newfoundland and Labrador’s Position on Canada’s Evolving Federalism Landscape*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
9. See: Rand Dyck, *Provincial Politics in Canada*, 3rd edition. Scarborough: Prentice-Hall, 1996, p. 646.
10. Christopher Dunn, *Federal Representation of the People and Government of Newfoundland and Labrador*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
11. For the annual figures from 1981 to 2000, see Figure 4 in The Centre for Spatial Economics, *Newfoundland and Labrador: Toward an Assessment of the Benefits of the Canadian Economic Union*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
12. The Centre for Spatial Economics, 2003.

13. The Commission is aware that there is a considerable range for this estimate, and the paper by The Centre for Spatial Economics does incorporate lower-end and higher-end estimates. Nevertheless, this estimate is reasonable, and it is consistent with the findings of other independent studies that also conclude that the windfall resource revenues are several hundred millions of dollars annually. Jean-Thomas Bernard (*Hydroelectricity, Royalties and Industrial Competitiveness*. Discussion Paper No.93-04, School of Policy Studies: Queen's University, 1993), reports on the results of two such studies; one by Zuker and Jenkins (*Blue Gold: HydroElectric Rent in Canada*. Ottawa: Economic Council of Canada, 1984), and the other by Bernard, Bridges and Scott (*Our Evaluation of Potential Canadian HydroElectric Rents*. Resource Paper No. 78, Department of Economics, University of British Columbia, 1982).
14. Gwynne Dyer, *The Strategic Importance of Newfoundland and Labrador to Canada*. Opinion Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
15. See: Peter Leslie and Richard Simeon, "The Battle of the Balance Sheets," in Richard Simeon, ed., *Must Canada Fail?* Montreal & Kingston: McGill-Queen's University Press, 1977.

Chapter 4 - Population Loss, Out-Migration and Rural Newfoundland and Labrador

1. Economic Council of Canada, *Newfoundland: From Dependency to Self-Reliance*. Hull, Quebec: Ministry of Supply and Services Canada, 1980, p. 5. This report points out that in 1942 there was full employment, which was sustained by a revival of export markets after 1945.
2. John N. Cardoulis, in his book entitled *A Friendly Invasion II: A Personal Touch* (Creative Publishers: St John's, 1993, p. 67), places this number at 25,000 women, while Joey Smallwood (*The Book of Newfoundland, Volume IV*. Newfoundland Publishers: St. John's, 1967, p. 534) places this number much higher, at 31,000 by the year 1958.
3. Since 1949, only one other province has had a significant decline in population. From 1968 until 1974, Saskatchewan's population fell. It also fell again from 1987 to 1991. The proportional declines were in each case less than Newfoundland and Labrador's. In addition, the declines were reversed after a few years, whereas this province's population is projected to decline modestly for the next 15 years (Government of Newfoundland and Labrador, *Demographic Change: Newfoundland and Labrador Issues and Implications*. St. John's: Economic and Statistics Branch, Department of Finance, April 2002).
4. Craig Brett, *Demographic Trends and Implications for Public Policy*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003. A striking statistic about the loss of our educated young involves those who attend university outside the province. According to Brett (2003), only 11.5 per cent of the 1986 cohort of those graduates were residing in Newfoundland and Labrador five years after graduation, and the figures for the 1982 and 1990 cohorts were not much better at just over 20 per cent.
5. Leslie Bella, *Newfoundlanders: Home and Away*. St. John's: Greetings from Newfoundland Ltd., 2002, pp. xiii-xiv.
6. Craig Brett, 2003.
7. Government of Newfoundland and Labrador, *Overview of Demographic Change*. St. John's: Economics and Statistics Branch, Department of Finance, June 2002.
8. Craig Brett, 2003.
9. Economic Council of Canada, 1980, p. 25.
10. Parzival Copes, *The Resettlement of Fishing Communities in Newfoundland*. Ottawa: Canadian Council on Rural Development, 1972, cited in Craig Brett, 2003.

11. Economic Council of Canada, 1980.
12. Dr. House's own account of the ERC is provided in J.D. House, *Against the Tide: Battling for Economic Renewal in Newfoundland and Labrador*. Toronto: University of Toronto Press, 1999.
13. Raymond Blake, *Regional and Rural Development Strategies in Canada: the Search for Solutions*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
14. Lawrence Felt, *Small, Isolated and Successful: Lessons from Small, Isolated Societies of the North Atlantic*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003. Here Felt stresses that it is crucial to remember that societies are not interchangeable, standardized creations.
15. For more information on these projects see: *Coasts Under Stress*: <http://www.coastunderstress.ca>; the *Natural Resource Depletion and Health Project*: <http://www.mun.ca/cin/Depletion.html>; and *The Rural Economy*: <http://www.swgc.mun.ca/research/faculty-research.html>.

Chapter 5 - Social Inclusion In Newfoundland and Labrador

1. Jane Jenson, *Mapping Social Cohesion: The State of Canadian Research*. Ottawa: Canadian Policy Research, 1998, p. 6.
2. Steve Rosell et al., *Changing Maps: Governing in a World of Rapid Change*. Ottawa: Carlton University Press, 1995. as quoted in Judith Maxwell, *Social Dimensions of Economic Growth*. Eric John Hansom Commemorative Conferences, Vol. VII, University of Alberta, 1996.
3. Christa Freiler, *What Needs to Change? Towards a Vision of Social Inclusion for Children, Families and Communities – a Draft Paper Concept*. Toronto: Laidlaw Foundation, 2001, p. 35.
4. Government of Newfoundland and Labrador, *People, Partners and Prosperity: A Strategic Social Plan for Newfoundland and Labrador*, 1998.
5. Government of Newfoundland and Labrador, Strategic Social Plan Office, *From the Ground Up*. St. John's: Government of Newfoundland and Labrador, 2003. Introductory remarks by Roger Grimes.
6. David Vardy and Eric Dunne, *New Arrangements for Fisheries Management in Newfoundland and Labrador*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
7. Joanne Hussey, *The Changing Role of Women in Newfoundland and Labrador*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
8. David Vardy and Eric Dunne, 2003.
9. Joanne Hussey, 2003.
10. Joanne Hussey, 2003.
11. Joanne Hussey, 2003.
12. Bay St. George Women's Centre, *Taking Our Places: Phase 2. January to August 2002*, p. 21
13. Bay St. George Women's Centre, 2002, p. 21.
14. Christopher Dunn, *Federal Representation of the People and Government of Newfoundland and Labrador*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
15. Labrador Inuit Association, written submission to the Royal Commission on Renewing and Strengthening Our Place in Canada, 2002.

16. Maura Hanrahan, *The Lasting Breach: The Omission of Aboriginal People from the Terms Of Union Between Newfoundland and Canada and Its Ongoing Impacts*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
17. Maura Hanrahan, 2003.
18. Royal Commission on Renewing and Strengthening Our Place in Canada, *What We Heard*. Public Consultation Report of the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
19. Ryan Research and Communications, *Provincial Opinion Study*. Prepared for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
20. POLLARA Inc., *A Report on Perceptions of Newfoundland and Labrador*. Prepared for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
21. Gwynne Dyer, *The Strategic Importance of Newfoundland and Labrador to Canada*. Opinion Piece for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
22. POLLARA Inc., 2003.
23. POLLARA Inc., 2003.
24. POLLARA Inc., 2003.
25. Ross Reid, *We Can Do Better, We Must Do Better*. Opinion Piece for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
26. POLLARA Inc., 2003.
27. Ryan Research and Communications, 2003.
28. Gwynne Dyer, 2003.
29. Newfoundland and Labrador Building and Construction Trades Council, written Submission to the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003, p. 30.

Chapter 6 - Financial Position

1. These realities and our subsequent discussion of them in this chapter are based on the report of an independent fiscal advisor, David Norris, entitled *The Fiscal Position of Newfoundland and Labrador: An Independent Assessment of the Current State of and Prospects for the Province's Fiscal Position*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003. All charts and tables in this chapter are based on this report.
2. "Taxpayer-Supported Debt" is a concept used by various credit-rating agencies and financial analysts in assessing public-sector debt.
3. These comparisons exclude the debt of self-supporting Crown agencies, such as hydroelectric corporations. Newfoundland and Labrador's public-sector debt before this exclusion totaled \$7.9 billion as of March 31, 2003, which, combined with the unfunded pension liabilities, yields overall debt of \$11.3 billion, or more than \$21,000 per capita.
4. Fiscal capacity is a key determinant of a province's entitlement for transfers from the federal government under the equalization program, which will be discussed more extensively in Chapter 9.
5. This consolidated deficit of \$286.6 million does not include borrowing for the purpose of funding pension liabilities. The 2003 Budget estimates additional, off-budget borrowing of \$163.5 million for this purpose – see Statement II of the Budget. Some may argue that borrowing this \$163.5 million is not a true increase in debt, but a conversion of an existing unfunded liability into a funded liability; nonetheless, the 2003 Budget is projected to result in an increase in the province's funded debt of some \$450 million.

6. This assumption reflects the fact that the offshore projects are not “ring-fenced.” That is, projects do not operate in isolation from a corporation’s other operations throughout Canada. Corporate profits are determined on a Canada-wide basis, and these profits are then allocated to a province based on a formula. Corporate revenues, regardless of where earned in Canada, are offset against expenses, regardless of where incurred in Canada. Profit is determined on a corporate-wide basis, not on a project basis. Exploration or development expenses incurred elsewhere in Canada may reduce profit earned from a Newfoundland and Labrador project, reducing overall corporate profit levels. In addition, the formula used to allocate Canada-wide profits to individual provinces is an attempt to approximate where profits are earned, but is not precise. Against this background of external factors, it is difficult to assess whether or not the 25 per cent assumption will be indicative of the actual outcome.

Chapter 7 - Terms of Union

1. Since renamed the Newfoundland Act, 12 & 13, Geo. IV, c. 22, 1949 (UK).
2. Stephen May, *The Terms of Union: An Analysis of Their Current Relevance*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
3. This point is discussed in P.W. Hogg, *Constitutional Law of Canada*, 3rd ed.. Toronto: Carswell, 1992, pp. 102-103.
4. Stephen May, 2003.
5. *Re Mineral and Other Natural Resources of the Continental Shelf* (1983), 145 D.L.R. (3d) 9 (Nfld. C.A.); *Re Nfld. Continental Shelf*, [1984] 1 S.C.R. 86.
6. *Re Nfld. Continental Shelf*.
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8. *Re Upper Churchill Water Rights Reversion Act*, [1984] 1 S.C.R. 297.
9. *Re Upper Churchill Water Rights Reversion Act*, p. 333.
10. *R. (Prince Edward Island) v. R. (Canada)*, [1978] 1 F.C. 533 (C.A.). The term in question stated that the Dominion government was to assume and defray all the charges for a number of services, including an “Efficient Steam Service for the conveyance of mails and passengers, to be established and maintained between the Island and the mainland of the Dominion, Winter and Summer, thus placing the Island in continuous communication with the Intercolonial Railway and the railway system of the Dominion...”
11. For a more detailed discussion of Term 17, see Stephen May, 2003.
12. In particular, the Commission has benefitted from reading Edward Tompkins, *Pencilled Out: Newfoundland and Labrador’s Native People and Canadian Confederation, 1947-1954*. A report prepared for Jack Harris, MP, 1988; Stephen May, 2003; and Maura Hanrahan, *The Lasting Breach: The Omission of Aboriginal People from the Terms of Union Between Newfoundland and Canada and Its Ongoing Impacts*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
13. Edward Tompkins, 1988, pp. 11-27.

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2. Roger Gibbins, *Assessing Newfoundland and Labrador's Position in the Evolving Federal Landscape*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
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9. Christopher Dunn, 2003.
10. Christopher Dunn, 2003, Appendix 5.
11. This lack of federal presence outside Ottawa, compared with its concentration in the national capital, was recently stressed by federal Deputy Prime Minister John Manley in comments to the media in St. John's. VOXM "Open Line" program, Prime Communications Inc., "Electronic Media Transcripts," April 16, 2003.
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16. For more on this issue see Denis Stairs, 2003. In addition, the Institute of Intergovernmental Relations, Queen's University, has undertaken research on the implications of global and regional integration for Canadian federalism and mechanisms for collaborative federal/provincial relations. See: <http://www.iigr.ca>.
17. The newly elected Premier of Québec, Jean Charest, has recently repeated his party's position to formalize First Ministers' and other intergovernmental relations through a Council of the Federation, and to provide substantial support to these mechanisms through strengthened intergovernmental secretariats.
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3. Conference Board of Canada, *Vertical Fiscal Imbalance: Fiscal Prospects for the Federal and Provincial/Territorial Governments*. July 2002.
4. For example, see: Roger Gibbins, *Shifting Sands: Exploring the Political Foundations of SUFA*. Institute for Research on Public Policy, 2001; and Alain Noel, *Power and Purpose in Intergovernmental Relations*. Institute for Research on Public Policy, 2001.
5. The national average tax rate incorporates all ten provinces, and each national average tax rate is a weighted average, where the weights reflect each province's revenue from the corresponding tax. Also, note that the revenue sources are "standardized," so they do not exactly coincide with each province's tax bases.
6. How equalization treats provincial natural resource revenues is an ongoing debate in Canada. See: Robin Boadway, *Options for Fiscal Federalism*, Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003; and James Feehan, *Equalization and the Provinces' Natural Resource Revenues: Partial Equalization Can Work Better* (forthcoming through Institute of Intergovernmental Relations, www.iigr.ca, Queen's University, 2002) for recent perspectives. Also, see: Economic Council of Canada, *Financing Confederation: Today and Tomorrow*. 1982; Parliamentary Task Force on Federal-Provincial Fiscal Arrangements, *Fiscal Federalism in Canada*, 1981; and R. Boadway, F. Flatters and A. LeBlanc, "Revenue Sharing and the Equalization of Natural Resource Revenues," *Canadian Public Policy*, Vol.9, 1983.
7. See: Government of Canada, Department of Finance, *Federal Transfers to the Provinces and Territories*. February 2003, see: [http:// www.fin.gc.ca](http://www.fin.gc.ca)
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2. See Miriam Wright, *Newfoundland and Labrador History in Canada, 1949-72*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003. See also, Economic Council of Canada, *Newfoundland: From Dependency to Self-Reliance*. Ottawa: Minister of Supply and Services, 1980.
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7. George Rose, 2003.
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12. Philip Saunders, *Policy Options for the Management and Conservation of Straddling Fisheries Resources*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
13. David Vardy and Eric Dunne, 2003, Chapters 5 and 6.
14. See: Government of Newfoundland and Labrador news release and attachment of May 8, 2003, see: <http://www.gov.nf.ca/releases/2003>
15. David Vardy and Eric Dunne, 2003.
16. David Vardy and Eric Dunne, 2003.

Chapter 11 - The Regulation of Natural Resources, Atlantic Accord and Churchill River

1. Individual oil projects are not stand alone operations for tax purposes. Given the broad base of activities of most oil companies, the varying levels of profitability of their operations, as well as the numerous and diverse investment activities of the oil companies, it is extremely difficult to project the extent to which the taxes applicable to the income on any one project will be reflected in government's tax revenue receipts in any year. Accordingly, for the purpose of the analysis, a revenue stream based on 50 per cent of the full federal corporate income tax rate has been assumed.
2. Referenced in John C. Crosbie, *Overview Paper on the 1985 Canada-Newfoundland Atlantic Accord*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
3. John C. Crosbie, 2003. This paper suggests that, taking account of corporate income that may be attributed through the federal/provincial tax collection system to other provinces, the provincial government's share of overall government revenues would be 12 per cent.

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4. Gwynne Dyer, 2003.
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12. Newfoundland and Labrador Teachers' Association, written submission to the Royal Commission on Renewing and Strengthening our Place in Canada, 2002, p. 5.
13. Lawrence Felt, *Small, Isolated and Successful: Lessons from Small, Isolated Societies of the North Atlantic*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.
14. Wade Locke and Scott Lynch, *What Do We Need to Know about the Knowledge-Based Economy to Strengthen Our Place in Canada?*. Research Paper for the Royal Commission on Renewing and Strengthening Our Place in Canada, 2003.

15. Wade Locke and Scott Lynch, 2003.
 16. It is worth noting that governments in other remote North Atlantic locations, such as Iceland, Greenland and the Faroes, have been proactive in ensuring that they are well served by air transport, including state ownership in the airline sector. See: Lawrence Felt, 2003.
 17. Marine Atlantic, *Corporate Plan Summary 2003-2007*, p. 1.
 18. Wade Locke and Scott Lynch, 2003. See also: Mario Polese *et al.*, *Periphery in the Knowledge Economy – The Spatial Dynamics of the Canadian Economy and the Future of Non-Metropolitan Regions in Québec and the Atlantic Provinces*. Moncton: CIRRD, 2002.
 19. Wade Locke and Scott Lynch, 2003.
 20. Donald Savoie, *Pulling Against Gravity: Economic Development in New Brunswick during the McKenna Years*. Montreal: Institute for Research on Public Policy, 2001.
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Appendix B

1. CPRN is a national think tank whose mission is to help make Canada a more just, prosperous and caring society. The dialogues were an adaptation of Viewpoint Learning's propriety Choice Work Dialogue methodology. This adapted methodology was used with permission.

Acknowledgements

Many people provided assistance, support and advice to the Commissioners as we prepared this Report. We owe our deepest gratitude to the men, women, youth and children who attended our 25 public hearings, our meetings with women's groups and our school visits; the businesses who welcomed us to their premises; the participants in the three dialogues and the eight roundtables; the individuals and organizations who forwarded written submissions; the individuals and groups who met with us informally; the many people who sent e-mails or visited us at the office to give their support; the researchers who worked in such short time frames and produced such fine work; the individuals who gave us analysis and insight on our draft report; the many people who helped us prepare, organize and record our public hearings, dialogues and meetings in the Province, Ottawa, Toronto and Fort McMurray; the many friends who hosted us in their communities and their homes; the Sisters of Mercy, who generously gave us the ongoing use of their conference room; the RCMP, who provided transportation for us from Nain to Happy Valley-Goose Bay; the translators, proofreaders, editors and printers whose skill and attention to detail enhanced our work; the Provincial Archives and the Art Gallery of Newfoundland and Labrador who provided the imagery used in the Report; the writers and artists who gave us permission to use their works to reflect the messages of the Report; and the many officials from the public service who provided us with needed data and so graciously gave us the wisdom of their experiences.

Through the generous giving of your time, hard work and commitment to our province's future, you have played an important role in the completion of our task. While we take full responsibility for any inadequacies in the quality of the analysis and conclusions in the Report, we want to acknowledge our indebtedness to you for the insights, energy and encouragement you have provided to us.

We want to say a very special word of thanks to the people who worked most closely with us on a daily basis: Barbara Knight, Doug Brown, Jacquie Brown, Rhonda Burke, Jim Feehan, Mabel Macpherson, Brent Meade, Jodi Oliver and Adam Sparkes. We express gratitude to Ged Blackmore, Tim Madden, Dave Norris, Roger Samson and Ronald Steele. Thank you for being such an incredible team who gave well beyond the call of duty, created an enjoyable and sometimes hilarious work atmosphere and lived a collaborative effort every day.

We express appreciation to the Premier and the Government of Newfoundland and Labrador for placing their confidence in us, and for giving us the privilege of learning so much more about this wonderful place in Canada that we call home.

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ii	Provincial Archives of Newfoundland and Labrador (PANL): A18-173
iv	Top: James Igloliorte Bottom Three: Newfoundland and Labrador Tourism
vi	Top: Wayne J. Tucker Bottom: Newfoundland and Labrador Tourism
vii	Ode To Labrador: Dr. H.L. Paddon/Butter and Snow Productions
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24	Newfoundland and Labrador Tourism
35	Paul Chafe, The Muse
36	Newfoundland and Labrador Tourism
47	Far left: Strategic Social Plan, Labrador Region Middle: Newfoundland and Labrador Tourism Far right: Opening Doors Program, Government of Newfoundland and Labrador
48	PANL: VA19-137
59	Left: Marcia Porter Middle: Department of Education Right: Memorial University of Newfoundland
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80	Grand Concourse Authority
91	Right: Paul Chafe, The Muse Left: Health and Community Services, Government of Newfoundland and Labrador
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103	Left: Lynn Bryant Right: Gerry Boland/Department of Fisheries and Aquaculture
104	PANL: VA21-18
115	Right: Hibernia Management Development Corporation Left: Newfoundland and Labrador Hydro
116	Signing of the Atlantic Accord, 1985 Canadian Press/St. John's Telegram (Kay Norman)
127	Natural Resources Canada
128	Tim Madden
141	Newfoundland and Labrador Tourism
142	Newfoundland and Labrador Tourism
Voices of the People collage (end of chapters): Northern Pen, Newfoundland and Labrador Tourism, Memorial University	

A painting of a coastal scene. The foreground is dominated by dark, jagged rocks in shades of brown and black. The middle ground shows a vast, deep blue sea with white, frothy waves crashing against the shore. The background features a pale, overcast sky and a distant, dark landmass on the horizon.

Royal Commission on
Renewing and Strengthening Our Place in Canada
Newfoundland and Labrador



GOVERNMENT OF
NEWFOUNDLAND
AND LABRADOR

WHITE PAPER JOINT MANAGEMENT OF NEWFOUNDLAND AND LABRADOR FISHERIES

people



partnership



communities



management



strengthening





GOVERNMENT OF
NEWFOUNDLAND
AND LABRADOR

WHITE PAPER
JOINT MANAGEMENT OF
NEWFOUNDLAND AND LABRADOR FISHERIES

Letter from the Premier



The recent federal decision to close the Northern and Gulf cod fisheries is strong evidence of a need for an alternative to our present approach to fisheries management. There is a need for a more rigorous approach to fisheries management, one that ensures these stocks recover to their historic levels and that other fisheries do not fall to the same fate.

The Government of Newfoundland and Labrador is calling for a new approach to fisheries decision making: a joint management regime that would effectively integrate federal and provincial responsibilities, reduce federal-provincial conflict over fisheries policy, provide a stable framework for resource management and industry investment, and remove the potential for arbitrary or inconsistent fisheries management decisions.

While the approach set out in this paper is new, our commitment to joint management is not. Newfoundland and Labrador has been pursuing joint management for almost a quarter century and has a well-developed proposal to put this type of sustainable development structure in place. There is an urgent need to act, and this paper lays out a detailed plan which will form the basis for negotiations with the Government of Canada.

The fact that other partners are also dependent upon the resources adjacent to Newfoundland and Labrador must also be recognized, and this fact must not be used as an excuse for inaction. The proposal set out in this document respects and preserves the traditional and historic rights of non-Newfoundland and Labrador interests in our fishery. This plan is put forward as a basis for change. We will work with all our partners in the Federation to further develop and improve our joint management plan so that it can serve as a model for fisheries management right across our nation.

This call for joint fisheries management reflects the will and desire of Newfoundlanders and Labradorians to be engaged as equal partners in the Canadian Federation. It demonstrates the type of flexibility that is needed to ensure that governments remain adaptable and responsive to contemporary realities and the people they have been mandated to serve. I believe this type of flexibility must be the basis for renewal, growth and strengthening of our great nation.

In coming months the contents of this paper will stand as a basis for discussion and action. It is my hope that the Government of Canada will engage in discussions on the basis of this paper. I also look forward to hearing the views and concerns of Newfoundlanders and Labradorians as we seek to advance this issue so critical to our future.

Sincerely,

A handwritten signature in black ink, which appears to read "Roger D. Grimes". The signature is written in a cursive, flowing style.

Roger D. Grimes
Premier, Newfoundland and Labrador

Executive Summary

- On May 14, 2003, Newfoundland and Labrador's House of Assembly unanimously passed a resolution seeking negotiations between the province and the Government of Canada on the establishment of a joint management regime for fisheries. To ensure that both governments enter into this new arrangement as equal partners, the resolution also seeks changes to the Terms of Union that would provide the province with shared jurisdiction over fisheries in waters adjacent to Newfoundland and Labrador. These new arrangements would be entrenched in the Constitution through an amendment to the province's Terms of Union with Canada.
- Since 1497, the fishery has been prosecuted in the waters off Newfoundland and Labrador, flourishing for most of its 500-year history. In the latter part of the twentieth century, poor scientific research, predatory national and international fisheries policies, and superior harvesting technology combined to decrease many fish stocks to critically low biomass levels. Moratoria were imposed to call a halt to fishing from stocks that once were the most bountiful food resource in the world.
- The division of responsibilities between the Government of Canada and the provinces on the governance of fisheries is complicated and often contradictory. Lack of coordination, coupled with competition of interests, is a root cause of the situation we find ourselves in today. The closure of the Gulf and Northern cod fisheries is not the first instance of the Province's disagreement with the Government of Canada on fisheries management.
- For the past twenty-four years, successive Governments of Newfoundland and Labrador have sought to enter into joint management regimes with the Government of Canada to ensure the effective and sustainable management of our fishery resources. To date, unilateral federal management has not worked in the best interest of this Province or the adjacent fish stocks.
- Joint management would seek to eliminate policy duplication and contradictions, and provide for a more balanced approach to the management of fish stocks adjacent to provinces while still maintaining national interests. Joint management is not intended to usurp federal authority or exclude the interests of other provinces.
- The proposed joint management principles and framework contained within this paper recognize the common property character of the resource and the federal responsibility to ensure that the resource is properly managed on behalf of all Canadians.

- Integration of federal and provincial fisheries responsibilities through a jointly-managed Canada/Newfoundland and Labrador Fisheries Management Board would reduce federal-provincial conflict over fisheries policy, provide a stable framework for resource management and industry investment, allow the province to incorporate consistent fisheries policy into its broader economic and social plans, and remove the potential for arbitrary or inconsistent fisheries management decisions.
- The proposed Canada/Newfoundland and Labrador Fisheries Management Board would promote long-term sustainability of adjacent fisheries, conservation of fish resources and habitat, and understanding of ocean ecosystems.
- The Board's responsibility would include but not be limited to conservation and rebuilding plans, harvesting plans, consultation and fisheries management, and fisheries science. Authorities resting with the Board would include authority to establish Total Allowable Catches (TAC), as well as issuance, renewal or cancellation of harvesting licences. Currently, the first authority rests with the federal government. In conjunction with this, the Board would assume responsibility for licensing policy from the Province.
- In general terms, the Board would be responsible for all aspects of management of adjacent fisheries, including regulatory management and development of policy regarding inspection and enforcement responsibilities of the provincial and federal governments.
- Conservation must be the cornerstone of joint management. Scientific research in support of the conservation, management and development of ocean resources is exclusively a federal responsibility. Scientific advice in the late 1980s through the early 1990s called for dramatic quota reductions for Northern cod; but the federal government enacted only fractions of the recommended reductions, ignoring its own science. Despite the evolving fisheries crisis, funding for science within the Newfoundland and Labrador region has declined over the past ten years.
- This paper also proposes the formation of the Newfoundland and Labrador Fisheries Research Council. It is proposed that the current scientific function of the Department of Fisheries and Oceans be moved to this new entity. The Council would report directly to the Canada /Newfoundland and Labrador Fisheries Management Board and would be responsible for all scientific research currently undertaken by the Department of Fisheries and Oceans in adjacent waters. Transparency and accountability would be inherent to this new relationship.

- The Government of Newfoundland and Labrador holds the strong view that recovery of resources and sustainable fisheries cannot be achieved under the existing management approach.
- Nowhere has the impact of mismanagement been greater than in Newfoundland and Labrador. These changes must occur so that better decisions can be made in the future.
- In the coming months, the contents of this paper will stand as a basis for discussion and action. The Government of Newfoundland and Labrador will undertake to engage the Government of Canada in discussions on the basis of this paper. The Province will hear the views of Newfoundlanders and Labradorians as we seek to advance this critical issue.

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APPENDICES

- I. Resolution
- II. Bill
- III. Glossary
- IV. Map - Northwest Atlantic Fisheries Management Divisions

1.0 Introduction

On May 14, 2003, Newfoundland and Labrador's House of Assembly unanimously passed a resolution seeking negotiations between the province and the Government of Canada on the establishment of a joint management regime for fisheries. To ensure that both governments enter into this new arrangement as equal partners, the resolution also seeks changes to the Terms of Union that would provide the province with shared jurisdiction over fisheries in waters adjacent to Newfoundland and Labrador. These new arrangements would be entrenched in the Constitution through an amendment to the province's Terms of Union with Canada.

The pursuit of joint fisheries management has been a long-standing priority of the Government of Newfoundland and Labrador. The importance of this issue was most recently highlighted by the federal decisions to impose moratoria on the Northern (2J3KL) and Gulf (4RS3Pn) cod stocks. These are decisions that the people of Newfoundland and Labrador reject absolutely. In the late 1970s to mid 1980s, and again in the 1991-1993 period, the province promoted joint management as an option to improve fisheries management. Continued problems in the fishery prompted the Government of Newfoundland and Labrador to propose joint fisheries management in its 1999 strategic economic plan *Securing Our Future; The Renewal Strategy for Jobs and Growth*.

The Government of Newfoundland and Labrador's call for joint management is not intended to usurp the authority or exclude the interest of other provinces or territories with existing fishing rights in waters adjacent to the Newfoundland and Labrador coastline. The principles of adjacency and historical dependence would apply under joint management. Indeed, these principles would be applied with greater transparency and clarity under such a plan. Where non-Newfoundland and Labrador interests participate in fisheries, the current access and historical presence in fisheries would be respected.

The current system of Canadian fisheries management is meeting neither the needs of Newfoundland and Labrador, nor the needs of the country as a whole. Lack of a single policy framework to guide decision-making in the areas controlled by each separate order of government undermines effective industry development. Integration of federal and provincial responsibilities would enable a joint management authority to align harvesting and processing decisions, replacing conflict with consistency. A joint management system would institute coherence and cooperation in the implementation of all fisheries management decisions.

The fact that other provinces have interest in these resources should not be used as a reason for maintaining the status quo. Current arrangements are simply not sustainable. Rather, we should accept the challenge of finding better solutions, so that Canadian fisheries management is renewed and strengthened.

Joint management of the Newfoundland and Labrador fishery is the most effective way to achieve responsible fisheries management and related economic development. Integration of federal and provincial fisheries responsibilities through a jointly managed Canada/Newfoundland and Labrador Fisheries Management Board would reduce federal-provincial conflict over fisheries policy, provide a stable framework for resource management and industry investment, and allow the province to incorporate consistent fisheries policy into its implementation of broader economic and social plans. Furthermore, it would remove the potential for arbitrary or inconsistent fisheries management decisions.

A properly-managed fishery can contribute to the economic and social fabric of Newfoundland and Labrador in perpetuity. The wealth generated by the rich biological marine resources of the Grand Banks can continue to benefit the people of this province and this nation long after non-renewable resources such as oil and mineral deposits are extracted and consumed. Our renewable marine resources must be protected, fostered and encouraged to grow: it is our

duty to preserve these resources for future generations of Newfoundlanders and Labradorians, for Canadians and for humankind.

In coming months the contents of this paper will stand as a basis for discussion and action. It is the Province's hope that the Government of Canada will engage in discussions on the basis of this paper. We look forward to the support of Newfoundlanders and Labradorians as we seek to advance this issue, which is so critical to our future.

2.0 Historical Contexts

The Newfoundland and Labrador Fishing Industry

For most of its 500-year history, the Newfoundland and Labrador fishing industry flourished, providing bounty for the world's great fishing fleets. Indeed, our abundant cod stocks and prosperous fishery were the drivers for both historical and modern-day settlement of the province. They were - and remain - the very fibre of our social, cultural and economic fabric.

Almost immediately following John Cabot's voyage to Newfoundland and Labrador in 1497, the great fishing fleets of Europe could be found off our shores exploiting then-abundant Northern cod stocks. The French, Spanish and Portuguese concentrated on the Banks of Newfoundland where fish was salted aboard ship and brought directly back to the European market. The English, lacking access to abundant supplies of salt, developed a system which combined light salting, followed by washing and then drying fish in the open air. The English would harvest from small boats close to shore, returning at evening to process their catch. Processing operations were established on shore in areas closest to the fishing grounds. On these sites fishermen built bunkhouses and stages for splitting, curing and drying fish. These sites developed into settlements circumscribing the coast of Newfoundland and Labrador.

Over the past century, the Newfoundland and Labrador fishery changed substantially: what was once a trade in salt cod developed into a modern, competitive industry based on fresh and fresh frozen multi-species products. At the turn of the last century, cod was the primary harvest species; at the outbreak of World War I, some 40,000 Newfoundlanders and Labradorians secured their livelihoods from the fishery. The 1949 entry of Newfoundland and Labrador into Canada - and thus the mainstream of North America - precipitated application of new technology and provided opportunity to introduce new types of fish products to a new and much enlarged marketplace. The industry continued to produce salt cod together with the fresh and frozen products that would eventually dominate all other forms of production.

An appetite for fresh fish was the key driver for introducing new harvesting technologies in the predominant inshore sector, as well as for establishing large processing facilities dependent on an offshore trawler fleet for its supply. Foreign offshore trawlers, however, decimated fish stocks through uncontrolled and unregulated fishing on the Continental Shelf. In time, this overexploitation had an impact on cod, flatfish and other groundfish stocks, from which most have never recovered.

Throughout the 1960s and early 1970s the large foreign presence in waters adjacent to the province resulted in record catches. At peak, throughout the late 1960s, the annual catch of all species totalled over 1.7 million tonnes - almost 3.7 billion pounds of fish. Stocks could not sustain this level of harvest and, since that time, most have collapsed.

In 1977 a Canadian 200-mile limit was established, leading to unprecedented expansion in the domestic fishery. Optimistic estimates of resource availability pushed expansion in both the processing and the harvesting sectors. With an anticipated catch of more than one million tonnes of groundfish as stocks were brought under clear Canadian control, domestic harvesting and processing capacity expanded. Stocks, did not increase as expected, however, and over-capacity remained in the groundfish industry.

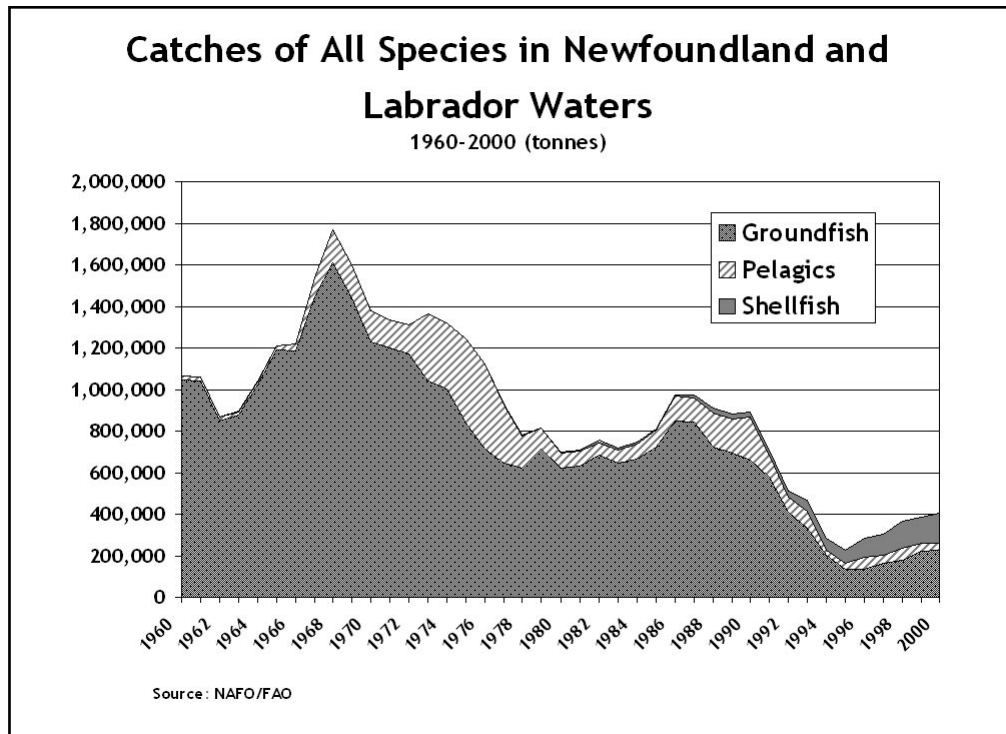


Figure 1

This situation continued until 1992, when a fishing moratorium was imposed on the once-great Northern cod stock. Moratoria on other groundfish soon followed. Over the past ten years, the fishing industry has been transformed from dependence on groundfish to a more diverse utilization of less abundant species such as snowcrab and shrimp, especially where groundfish stocks have not recovered.

Consequently, Newfoundland and Labrador's fishing industry is now much smaller than it was ten years ago. Shellfish processing is less labour intensive than groundfish processing, which has resulted in a decrease of close to 15,000 in processing sector employment and localization of processing activities in fewer communities.

Yet the fishery remains the single most important industry in Newfoundland and Labrador. The future of communities unable to benefit from the expanded shellfish industry therefore rests with the recovery of groundfish stocks, especially Northern and Gulf cod stocks. The province, however, does not have any meaningful input into or authority over decisions related to these resources. As a result, the fear remains that federal management could again lead to collapse, wiping out the new industry we have fought to build since the groundfish moratoria of the early 1990s.

Today, there are more than 40 commercial marine species harvested in waters adjacent to this province. Many of these once-healthy stocks are now in jeopardy. Most groundfish stocks have been decimated. Indeed, one of the largest single fish stocks in the Northern hemisphere, the Northern cod, has been managed to commercial extinction. Besides cod, many other fish stocks are under moratoria or in decline and appropriate measures have not been taken to ensure their recovery.

Table 1 illustrates the large number of species under moratoria or in decline. Clearly, federal fisheries management since 1949 has failed miserably, particularly since 1977 when Canada assumed complete control of fisheries management within the 200-mile limit. Federal fisheries management has worked neither for this province, nor for Canada as a whole.

Summary of Major Fisheries Under Moratoria or Declining in Waters Adjacent to Newfoundland and Labrador

Species	Average Annual Catches 1981-1990 (tonnes)	NAFO Area	Status
Northern Cod	214,000	2J3KL	No Directed Fishery
Gulf Cod	82,000	3Pn4RS	No Directed Fishery
3Ps Cod	42,500	3Ps	15,000
3NO Cod	35,000	3NO	No Directed Fishery
Redfish	17,000	2+3	No Directed Fishery
Gulf Redfish	25,000	4RS	Index fishery 2,000
American Plaice	40,000	3LNO	No Directed Fishery
Witch Flounder	8,500		No Directed Fishery
Haddock	9,600	3Ps/3LNO	No Directed Fishery
Snow Crab		2J, 3PS	Reductions in 2J, 3Ps
Subtotal	473,600		
Capelin	60,000	Adjacent	30,000
Total	533,600		

Table 1

Conservation

The Government of Newfoundland and Labrador has an extensive record of support for conservation. In fact, the province raised concerns regarding Northern cod management several times prior to the first moratorium in 1992. In 1990, the federal government released the Harris Review Panel's *Independent Review of the State of the Northern Cod Stock*. In response, Newfoundland Fisheries Minister Walter Carter stated: "The province's position on the TAC for the 2J3KL stock has consistently been conservation-oriented to permit rebuilding and stability. Current evidence suggesting recent harvesting levels beyond F_{max} give rise to major concerns." In January 1990 Premier Clyde Wells raised concerns about the Total Allowable Catch (TAC) of 197,000 tonnes for Northern cod announced in the Atlantic Groundfish Management Plan. Premier Wells stated that "the basic guideline here should be conservation and, in the context of the work of the Harris Review Panel, the province would have been more comfortable with a TAC of 190,000 tonnes." He went on to say that "it should be part of an overall plan to reduce the TAC further in future years so as to ensure proper restoration of the stock."

Scientific research in support of the conservation, management and development of ocean resources is also a federal responsibility. Despite the major transformations that have occurred in the fishery, and the serious crises facing some fish stocks, funding for science within the Newfoundland and Labrador region has declined over the past ten years. The interrelationship between species such as seals and groundfish are often ignored. Research on capelin, a key food source for groundfish, has been virtually eliminated. The industry is now almost completely dependent on shellfish stocks, yet scientific information on these fish populations is very limited and little is known about the interrelationships between all species populating the waters adjacent to this Province.

One of the most important innovations in fisheries management to come out of the groundfish crisis has been creation of the Fisheries Resource Conservation Council (FRCC). The FRCC seeks to integrate industry knowledge gained from day-to-day working experience with scientific advice emerging from research. The province has consistently supported the work of the FRCC, as well as the fact that its decisions are consistently conservation-directed.

Additionally, as recently as last month, despite the hardship imposed by crab quota cuts on the south coast and southern Labrador, the province supported the Department of Fisheries and Oceans (DFO) decisions to reduce the TAC for these stocks as necessary conservation measures.

Proposing Joint Management

The division of fisheries-related authorities and responsibilities between the provinces and the federal government is complex. The Parliament of Canada has legislative authority for seacoast and inland fisheries under section 91(12) of the *Constitution Act, 1867*. The Government of Canada exercises this jurisdiction in part through its *Fisheries Act*, which provides for the federal minister's significant authority and discretion over virtually all resource and harvesting matters. Provincial constitutional authority is conferred by section 92 of the *Constitution Act, 1867*, which relates to property and civil rights in the province. By virtue of this power the province regulates all aspects of fish processing. Unfortunately, conflicting policy interests have placed detrimental pressures on fish stocks. Newfoundland and Labrador's proposal of joint management seeks to eliminate policy duplication and conflict. It also seeks to bring appropriate balance to national and provincial interests in the management of stocks adjacent to provinces.

Since the late 1970s successive Governments of Newfoundland and Labrador have sought joint fisheries management with the Government of Canada in order to ensure effective and sustainable management of our living marine resources.

Between 1979 and 1986, the Government of Newfoundland and Labrador proposed concurrent jurisdiction over fisheries management. Concurrent jurisdiction would have required a new division of powers through an amendment to the Canadian Constitution. Agreement was not reached on this matter during the constitutional negotiations.

In 1986 the *Fisheries Policy and Community Development: Proposal for a Revised Approach to Managing the Inshore Fisheries in Newfoundland* established by Newfoundland's Royal Commission on Employment and Unemployment recommended that a Canada - Newfoundland Fishery Policy Board, similar to the Canada - Newfoundland Offshore Petroleum Board, be established. "*Building on our Strengths: Report of the Royal Commission on Employment and Unemployment in Newfoundland*" also recommended establishing a Canada - Newfoundland Fisheries Policy Board. During the 1987 - 1989 period, the Province revised its policy position to support this recommendation.

From 1990 - 1996, the Government of Newfoundland and Labrador maintained this position. Joint management was pursued with vigor, particularly following the moratorium on the Northern cod fishery in 1992. The position was supported on various occasions by independent panels commissioned by either the federal or the provincial government.

In 1989 the DFO commissioned the Harris Review Panel on Northern cod. Its 1990 "*Independent Review of the State of the Northern Cod Stock*" recommended that the Governments of Canada and Newfoundland establish a Board or Commission to manage the fishery. The recommendation has never been acted upon by the Government of Canada, although it received the support of the Government of Newfoundland and Labrador.

In 1990 the Maloney Commission's "*Report of the Commission of Enquiry into the Alleged Erosion of the Newfoundland Fishery by Non-Newfoundland Interests*" recommended the establishment of a joint management board or commission.

In 1991 the province released *Effective Fisheries Management: Joint Management and Government Cooperation in the Newfoundland and Labrador Fishery* as further evidence of the province's continuing commitment in pursuit of this goal.

Similarly, in 1992 the Strategic Economic Plan "*Change and Challenge: A Strategic Economic Plan for Newfoundland and Labrador*" was released, stating: "The Province will aggressively pursue the implementation of a joint fisheries management board (modeled on the Canada-Newfoundland Offshore Petroleum Board) whereby a comprehensive development plan can be put into effect." In 1993 the Government of Newfoundland and Labrador expressed continued commitment to the establishment of a Canada - Newfoundland Fisheries Management Board in its report "*Changing Tides: A Consultative Document on the Fishery of the Future*."

From 1996 to 2001, the Province pursued increased cooperation and coordination with the federal government. Several important agreements were signed, including the *Agreement on Interjurisdictional Cooperation* and the *Canada - Newfoundland MOU on Emerging Fisheries Development*.

This approach has also met with some measure of support within the federal government. In 1998 DFO released its Panel study on *Partnering in Canada's Fishing Industry*. It recommended against going forward with partnering legislation in favour of pursuing co-management.

In 2001 the Government of Newfoundland and Labrador again called for joint management, in response to DFO's release of "*The Management of Fisheries on Canada's Atlantic Coast: A Discussion Document on Policy Directions and*

Principles”, as part of the Atlantic Fisheries Policy Review. This position was echoed in the province’s March 2001 final report on the *Renewal of Jobs and Growth*. Again, the province committed to vigorous pursuit of a Canada-Newfoundland Fisheries Management Board.

In November 2001 the province released the *Report of the Special Panel on Corporate Concentration in the Fishing Industry*. The panel called for the establishment of a Canada - Newfoundland and Labrador Fisheries Policy Coordination Council.

These reports clearly demonstrate that the pursuit of joint fisheries management is not a whim or simple fancy on the part of this province or its people. The need for a new way - a joint and collaborative way - of managing the fishery has been a long-standing priority. Building on this large body of work, the later sections of this report lay out the basic elements of joint management and the principles that should guide this arrangement.

3.0 The Current Decision-making Process

Canada’s fisheries management and administration occur within a distinct legal framework. The authority of the federal government in fisheries matters is embodied primarily in two statutes: the *Department of Fisheries and Oceans Act*, R.S.C. 1985, c.F-15 and the *Fisheries Act*, R.S.C. 1985, c.F-14. The province’s jurisdiction over fish processing matters is exercised mainly through the *Fish Inspection Act*, R.S.N. 1990, c.F-12 and the *Fish Inspection Regulations*, C.N.R. 1141/96.

The current system is flawed. The federal minister’s complete authority opens the access and allocation process to pressure from interest groups and effectively prevents establishment of an open and transparent access and allocation process. In practice, federal criteria for resource allocation are applied inconsistently,

discrediting management planning and consultation, as well as creating unpredictable demands on the resource.

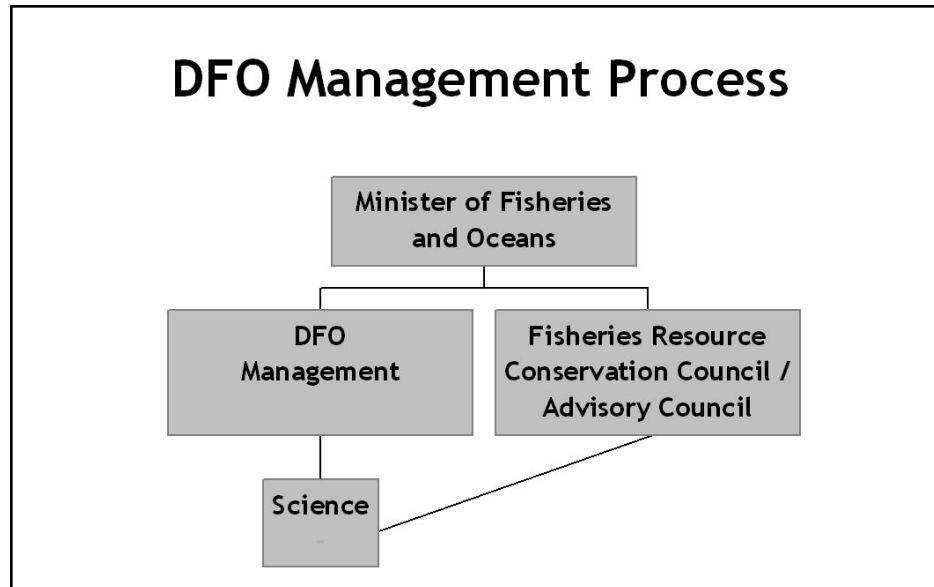


Figure 2

Lack of a single policy framework to guide decision-making in the areas controlled by each separate order of government impedes coordinated industry development. Integration of federal and provincial responsibilities would enable a joint management authority to align harvesting and processing decisions, replacing conflict with consistency. A joint management system would institute coherence and cooperation in implementation of all fisheries management decisions.

4.0 Moving Forward

Advantages of an Open and Transparent System

A transparent fisheries management system will provide a predictable policy and regulatory environment. Clear rules that are consistently applied would

assist stakeholders in making business and investment decisions. While the federal government has attempted to bring a degree of transparency to fisheries management through the establishment of advisory committees and the FRCC. The Minister of Fisheries and Oceans has no obligation to follow advice provided through this process. Fair, predictable and transparent decision-making is essential to the future of the fishery. This can be achieved only by ensuring that decision-making policies and procedures are laid out in legislation and that regulations are available for all to see.

Of particular concern are the rules related to access to resources. Decisions relating to access to resources must be clear and transparent. If they are made without justification or advisory committee support, they encourage individuals or special interest groups to demand similar treatment. This can create a confrontational atmosphere. Such confrontation leads to wasted time and energy, leaving important conservation and management issues insufficiently attended.

Respect for the Rights of Adjacency and Historic Interest

It is the long-standing position of the Government of Newfoundland and Labrador that respect for historic interests and adjacency must form the foundation of fisheries management. The province advocated these principles to the Independent Panel on Access Criteria that was established by the Minister of Fisheries and Oceans in 2001. In the absence of a federal commitment to these principles, the Government of Newfoundland and Labrador is relegated simply to the status of a special interest group, in the management of fisheries immediately adjacent to its shores, and has no voice, despite the critical impact that management decisions have on the provincially-managed processing sector. Joint management would remedy this by ensuring that the province has a direct say in the decisions taken on its adjacent fisheries.

Joint management would establish basic rules and procedures for stock allocation, protecting access for adjacent and traditional resource users. Affirmation of this basic principle is essential for all those who depend upon the resources in the waters adjacent to Newfoundland and Labrador.

A new joint management regime would protect allocations in waters adjacent to the Newfoundland and Labrador coastline where non-Newfoundland and Labrador interests have historical dependence. Joint management would bring greater fairness and certainty in the decision-making process.

This measure of protection is important: it would provide consistency and thus support industry investment; it will also enable more productive economic development planning in rural areas of Canada in greatest need of economic growth and diversification.

5.0 Joint Management

As noted above, the goals of joint management would be to establish a more predictable and open system, to improve industry efficiency and stability, to coordinate federal and provincial economic and social policy related to the fishing industry, and to protect the health of fish stocks while ensuring that people dependent on marine resources can derive a living from them.

A more predictable system would enable governments and industry to properly plan their activities. Uncertainty increases the business risk associated with harvesting and processing fish resources; decreasing the stability of the industry can increase the cost of doing business. Large investments can be placed at risk if new entrants can access the resource at any time, potentially requiring operators to recoup capital investments over a shorter period than in other industries.

Current fisheries management practices, combined with inconsistent federal and provincial policies, have created a high degree of uncertainty in relation to resource health and availability of raw material. From year to year, harvesters and processors seldom can predict with certainty the amount of product that will be harvested and sold. Additionally, new entrants are often added to the system, and often in a haphazard manner, thereby reducing the certainty that existing players in the industry should enjoy and upon which they have based their investments.

5.1 A New and Clear Approach

The foundation of the Government of Newfoundland and Labrador's position on joint management may be found in the resolution adopted by the House of Assembly on May 14, 2003. This position combines past approaches into a single integrated plan. The plan would make both governments equal partners by putting them on an equal constitutional footing and would establish a joint management board, through an amendment to the Terms of Union, by which these partners could exercise their authorities.

However, joint management is not simply about a division of powers - "who does what" and "who has a say" in the fishery. It is about ensuring a more effective and transparent conservation strategy for guiding and rebuilding fish stocks. Core priorities for any joint management regime must include:

- *development and implementation of a conservation and re-building plan aimed at the achievement of long-term sustainability of the fisheries in the waters adjacent to Newfoundland and Labrador and in particular a plan that would achieve the recovery of the ground fish stocks;*

- *development and implementation of fisheries harvesting plans, including the establishment of Total Allowable Catches, based on the principles of conservation, sustainability, adjacency and the long-term well-being of the fishing communities of rural Newfoundland and Labrador;*
- *establishment of programs in Newfoundland and Labrador to enhance knowledge and understanding of the ocean ecosystems adjacent to Newfoundland and Labrador through the encouragement and support of scientific research and the utilization of customary and experiential knowledge of the fisheries possessed by fish harvesters.*

5.2 Shared and Equal Authority

As previously stated, the constitutional division of powers allocates authority to Parliament for seacoast and inland fisheries and to the province for all aspects of fish processing. Over the past 50 years, however, the need for coordination of policies and increased responsibility for the province has been clearly recognized in successive independent reports. Effective coordination of policies would reduce federal-provincial conflict.

The approach proposed by Newfoundland and Labrador is consistent with international convention. Had the province remained an independent nation, it would now have the right to manage its fishing resources to 200 miles. Newfoundland and Labrador reluctantly gave up its right to fisheries management when it joined Canada, under assurance that the resources would be managed for the benefit of the province. This has not been the case. Therefore, it is important that appropriate authority for the resource on which its main industry is based be returned to Newfoundland and Labrador, so that it has an equal say in fisheries management.

Under this proposal shared jurisdiction would include:

1. **All fisheries in the territorial sea - that is, within 12 miles of land as defined for national jurisdiction;**
2. **All fisheries for sedentary species on the continental shelf in adjacent areas; and,**
3. **Within 200 miles, all fisheries in adjacent areas where Newfoundland and Labrador historically has a preponderance of the total allowable catch.**

These definitions follow from the United Nations Convention on the Law of Sea (UNCLOS). Under the Convention, coastal states hold complete control over the territorial sea, over sedentary species on the continental shelf and over all fisheries within 200 miles. While Canada is not a signatory to UNCLOS, it accepts its principles as part of customary international law. Indeed, these general definitions are for the most part contained in the federal *Oceans Act*.

UNCLOS uses the adjacency principle as its first criterion in establishing state boundaries at sea. Twelve-mile territorial limits (Article 2-16), 24-mile contiguous zones (Article 33) and Exclusive Economic Zones [EEZ] (Articles 55-75) are defined with reference to waters adjacent to coastal states. Thus, coastal states have the right to use for their benefit the living and nonliving resources in adjacent waters within these boundaries (Article 56).

UNCLOS gives priority resource access to adjacent states and denies access, even if there is a surplus, to other interests when an adjacent state's coastal communities are heavily dependent on the resource. Under UNCLOS, community dependence can be further interpreted as dependence on the living resources in general, rather than dependence on any single species. This is important when resource use changes from one species to another.

UNCLOS obliges coastal states to properly manage resources within their jurisdictions (Article 61). Conservation is central to proper management, on the principle that the coastal state holds stewardship of the resource not only for its own people but for successive generations of humankind. The importance of conservation is reaffirmed in the 1995 *Agreement on Conservation and Management of Straddling Fish Stocks and Highly Migratory Species*, which recognizes the importance of proper resource management and the potential impact of fisheries outside a state's 200-mile limit on resources within the EEZ.

The possible areas that could be covered by a Canada - Newfoundland and Labrador Fisheries Management Board would be determined through negotiation between the two orders of government. On a preliminary basis, it is assumed that this would include the current NAFO area designations immediately adjacent to the Newfoundland and Labrador coastline.

Some of the fisheries in these adjacent waters are prosecuted by other Canadians. As noted previously, their access to marine resources would be respected under this proposal for joint management.

5.3 The Canada/Newfoundland and Labrador Fisheries Management Board

In order to administer shared and equal joint management of adjacent fish stocks, a Canada/Newfoundland and Labrador Fisheries Management Board (CNLFMB) should be established. The resolution for establishment of this Board also requires that the Board and its authority be enshrined in the Terms of Union. Enabling legislation would have to be passed by both orders of government with respect to its operations. This would necessitate reopening a section of the Canadian Constitution. As part of this process, appropriate consultations and negotiations with other provinces will be initiated and will likely take an extended period.

The proposed Canada/Newfoundland and Labrador Fisheries Management Board would promote long-term sustainability of adjacent fisheries, conservation of fish resources and habitat, and understanding of ocean ecosystems. A council would be established to provide scientific and management advice in support of this function. The CNLFMB would also promote recognition of the historical and current socio-economic dependence of communities on fisheries.

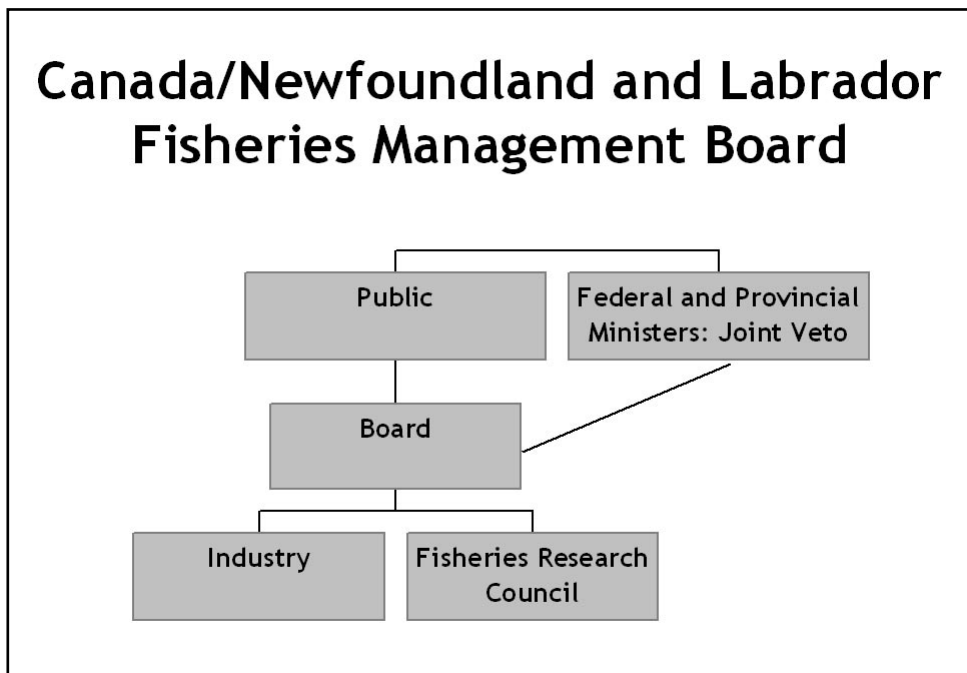


Figure 3

A key function of the Board would be to implement fair and equitable principles to govern the management of resources. These would recognize the traditional and internationally-used principles of adjacency and historical dependency, as well as the economic dependency of resource users on fish stocks.

The Board's responsibility would include but not be limited to conservation and rebuilding plans, harvesting plans, consultation and fisheries management, and fisheries science. Authorities resting with the Board would include authority to establish Total Allowable Catches (TAC), as well as issuance, renewal

or cancellation of harvesting and processing licenses. Currently, the first authority rests with the federal government and the second with the provincial government.

In general terms, the Board would be responsible for all aspects of management of adjacent fisheries, including regulatory management and development of policy regarding inspection and enforcement responsibilities of the provincial and federal governments.

Specific responsibilities would include:

- (a) establishing and implementing integrated fisheries management, conservation harvesting and recovery plans for fish stocks;*
- (b) establishing total allowable catches for fish stocks;*
- (c) distributing allocations within the allowable catch;*
- (d) opening and closures of fisheries;*
- (e) conservation and habitat preservation measures;*
- (f) issuing, renewing, transferring and cancelling licenses to harvest fish;*
- (g) issuing, renewing, transferring and cancelling licences to process fish;*
- (h) enhancing knowledge and understanding of the ocean ecosystems supporting adjacent fisheries; and*
- (i) integrating scientific research with knowledge and data gathered by resource users.*

The criteria and policy directions for the Board in relation to licensing of processing would be established by both orders of government through the initial Board design.

Enforcement functions could remain within each government department, but with general policy coordinated by the Board. The Department of Fisheries and Aquaculture would be responsible for the enforcement of processing regulations and quality standards. The Department of Fisheries and Oceans would maintain its current enforcement role.

While the province is requesting authority to manage its fisheries jointly with the federal government, there are many aspects of oceans management that should appropriately remain within the federal purview. Canada has international commitments and obligations, which the province recognizes must be fulfilled at the national level. The federal government would retain jurisdiction over international negotiations, international surveillance, enforcement, port access, transport and international trade, among other critical responsibilities.

Newfoundland and Labrador Fisheries Research Council

It is proposed that the current scientific function of the Department of Fisheries and Oceans be moved to a new entity: the Newfoundland and Labrador Fisheries Research Council. The Council would report directly to the Board and would be responsible for all scientific research currently undertaken by DFO in adjacent waters. The level of research would be determined by the Board, operating under consensus guidelines and policies developed by both orders of government.

The Council would be responsible for scientific research on all stocks, including groundfish, shellfish, pelagics and marine mammals. Its research would provide the scientific basis for conservation and sustainable use of fishery resources. This would include advice on conservation objectives and marine ecosystem issues.

The Council would report to the Board, and the information provided would be used as the basis for fisheries management decisions. The Board would have authority to request particular research; however, conventional peer review processes would remain in place. It is important that scientists remain independent from management, while vested with a degree of accountability.

Board Decision Making

The Board would follow management policies and principles established by both governments. These policies or guidelines would provide a system of accountability and would guide the actions of the Board. The Chairperson would have the deciding vote. Should either government disagree with a decision of the Board, both governments would have to agree to veto or refuse a decision.

One of the difficulties associated with shared and equal jurisdiction lies in dealing with decisions that may be contrary to the positions of either government. The proposed model will require that fundamental decisions of the Board would stand, unless both responsible ministers agree to overturn them. Any fundamental decision could be reversed only by the Board or a joint decision of both governments.

The Board would remain at arms-length from both governments. Governments would not make decisions in relation to the day-to-day operations of the Board, rather input would be provided in the development of guiding principles and policies in the initial design of the Board. These policies would define conservation requirements, criteria for harvesting, license allocation and TACs, and other Board operations.

All decisions of the Board would be made public, and the Board would be required to provide, in writing, reasons for its decisions. This would ensure that the Board operates in an open and transparent manner.

Board Composition

It is proposed that the Board consist of seven members, with three representatives appointed by the Minister of Fisheries and Oceans and three appointed by the Minister of Fisheries and Aquaculture. The Chairperson would be appointed jointly by both orders of government. In the event that the governments cannot agree on a Chairperson, a three-person panel would be established to select the Chairperson. All members on the Board would be required to have experience and or knowledge of the fishing industry. No members of the Board could be government employees.

The Board would meet at least once a month. Other meetings could be called to review a specific issue at the discretion of the Board, at the request of at least two members or at the request of either the federal or the provincial minister.

6.0 Conclusion

Clearly, unilateral federal management has not worked in the best interest of this province or the adjacent fish stocks. The Government of Newfoundland and Labrador is of the strong view that recovery of resources and sustainable fisheries will not be achieved under the existing management approach or structure. Lack of transparency and openness in the current system creates undue pressure and conflict among those involved in the industry, too often resulting in decisions and actions that compromise rather than promote conservation. Nowhere has the impact been greater than in Newfoundland and Labrador. Changes must occur, so that the people of this province and this country can be assured that future decisions will be made with their best interests in mind.

APPENDICES

APPENDIX I

RESOLUTION

Be it resolved by the House of Assembly as follows:

WHEREAS the seacoast fisheries of Newfoundland and Labrador were brought into this nation with Newfoundland and Labrador's accession to Canada;

AND WHEREAS the Government of the Dominion of Newfoundland held and exercised responsibility for the management of seacoast fisheries prior to Confederation;

AND WHEREAS the *Constitution Act, 1867* vests in the Government of Canada exclusive authority over the fishery;

AND WHEREAS under current International Law an independent Newfoundland and Labrador would control its adjacent resources including the fishery;

AND WHEREAS federal management of seacoast fisheries since 1949 has failed to adequately protect or develop the principal fisheries adjacent to Newfoundland and Labrador;

AND WHEREAS failed federal fisheries management has led to the complete collapse of the Northern Cod fishery and other ground fish stocks, the basis for Newfoundland's colonization and the mainstay of its economy for 500 years;

AND WHEREAS the federal government has failed to adopt a comprehensive plan for stock recovery since the groundfish moratoria were declared in the early 1990s;

AND WHEREAS it is recognized and accepted that the Government of Newfoundland and Labrador has maintained and continues to exercise primary regulatory authority over the fish processing industry in this Province;

AND WHEREAS new fisheries for species such as crab and shrimp have developed in the wake of the collapse of ground fish stocks and solid, sustainable management practices are vital to the future of these fisheries;

AND WHEREAS it is accepted that the regulation of fish harvesting and processing should occur in a seamless and integrated way;

AND WHEREAS the Government of Newfoundland and Labrador has consistently requested a greater say in fisheries management since 1949 and has identified this as a priority in *Securing our Future: The Renewal Strategy for Jobs and Growth*;

AND WHEREAS the fishery remains an economic mainstay and principal industry of Newfoundland and Labrador and the economic and social foundation of most of its rural communities;

AND WHEREAS federal management of fisheries adjacent to Newfoundland and Labrador does not give due regard to local experience and considerations;

AND WHEREAS the advice of the Fisheries Resource Conservation Council (FRCC), which was established to integrate practical knowledge derived from local experience and scientific information on resources, has been largely ignored in the federal government's recent declaration of a moratorium for 4RS3Pn Gulf cod;

AND WHEREAS the recent decisions of the Government of Canada on 2J3KL Northern Cod and 4RS3Pn Gulf cod were undertaken without proper consultation with the Government of Newfoundland and Labrador and the people who depend upon these resources and with disregard for the recommendations of the Fisheries Resource Conservation Council;

AND WHEREAS these decisions have further undermined the confidence of Newfoundlanders and Labradorians in the effectiveness of federal fisheries management;

AND WHEREAS other provinces control their main resource industries;

AND WHEREAS significant and decisive action is required to address this concern;

THEREFORE BE IT RESOLVED THAT this House call on the Government of Canada and direct the Government of Newfoundland and Labrador to begin negotiations leading to the establishment of a joint management regime over the fisheries adjacent to Newfoundland and Labrador;

AND BE IT FURTHER RESOLVED that the principal elements of such a joint management regime include

(1) the establishment, through an amendment of the Terms of Union, of shared, equal, constitutional authority by the Province of Newfoundland and Labrador and Canada over the fisheries adjacent to the province;

(2) the establishment through an amendment of the Terms of Union of a joint fisheries management board and the delegation to that board by the governments of Newfoundland and Labrador and Canada of sufficient of their authority to permit that board to successfully implement this joint management regime.

(3) the development and implementation of a conservation and re-building plan aimed at the achievement of long-term sustainability of the fisheries in the waters adjacent to Newfoundland and Labrador and in particular a plan that would achieve the recovery of the ground fish stocks;

(4) the development and implementation of fisheries harvesting plans, including the establishment of Total Allowable Catches, based on the principles of conservation, sustainability, adjacency and the long-term well-being of the fishing communities of rural Newfoundland and Labrador;

(5) the establishment of programs in Newfoundland and Labrador to enhance knowledge and understanding of the ocean ecosystems adjacent to Newfoundland and Labrador through the encouragement and support of scientific research and the utilization of customary and experiential knowledge of the fisheries possessed by fish harvesters.

APPENDIX II

BILL

**An Act Respecting Joint Management Of
The Fisheries Adjacent To The Province
Of Newfoundland And Labrador**

A BILL

AN ACT RESPECTING JOINT MANAGEMENT OF THE FISHERIES ADJACENT TO THE PROVINCE OF NEWFOUNDLAND AND LABRADOR

Analysis

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| 1. Short title | 19. Storage of information |
| PART I | 20. By-laws and guidelines |
| INTERPRETATION | PART III |
| 2. Definitions | BOARD JURISDICTION |
| 3. Application | 21. Fisheries management |
| 4. Approval for making regulations | 22. Fundamental principles |
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| BOARD | 25. Notice of fundamental decisions |
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| 11. Absence or incapacity of chairperson | 28. Chief executive officer |
| 12. Term of office | 29. Staff of the board |
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| 16. Meetings of board | 33. Annual report |
| 17. Quorum and majority vote | PART V |
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| | 34. Research council |
| | 35. Regulations |
| | 36. Commencement |

*Be it enacted by the Lieutenant-Governor and House of Assembly
in Legislative Session convened, as follows:*

Short title

1. This Act may be cited as the *Canada-Newfoundland and Labrador Fisheries Management Board Act*.

PART I INTERPRETATION

Definitions

2. In this Act

- (a) "adjacent fisheries" includes all fishing activity in the NAFO Convention Area Divisions 2G, 2H, 2J, 3K, 3L, 3O, 3N, 4R and Subdivisions 3Pn and 3Ps
 - (i) that occurs within the territorial sea of Canada as defined in the *Oceans Act* (Canada),
 - (ii) that occurs within the exclusive economic zone of Canada as defined in the *Oceans Act* (Canada), where the province historically has the preponderant share of the total allowable catch in a fishery, and
 - (iii) for sedentary species.
- (b) "board" means the Canada-Newfoundland and Labrador Fisheries Management Board established by the joint operation of section 5 of this Act and the federal Act;
- (c) "chief executive officer" means the chief executive officer of the board appointed under section 28;
- (d) "federal Act" means the Act of Parliament that jointly with this Act establishes the board;
- (e) "federal government" means the Governor-General in Council;
- (f) "federal minister" means the Minister of Fisheries and Oceans of Canada or another minister of the Crown in right of Canada that may be designated under the laws of Canada as the minister responsible for the federal Act;

- (g) "fish" includes
 - (i) parts of fish,
 - (ii) shellfish, crustaceans, marine animals and any parts of shellfish, crustaceans or marine animals, and
 - (iii) the eggs, sperm, spawn, larvae, spat and juvenile stages of fish, shellfish, crustaceans and marine animals;
- (h) "fishing" means fishing for, catching or attempting to catch fish by any method;
- (i) "fundamental decision" means a decision made by the board
 - (i) approving or amending an integrated fisheries management, conservation harvesting or recovery plan that increases or decreases the total allowable catch for a fish stock,
 - (ii) to open or close a fishery,
 - (iii) respecting the issuance, transfer, or cancellation of a harvesting or processing licence,
 - (iv) establishing or amending the principles governing allocation of resources described in section 34; and
 - (v) respecting the exercise of a power or the performance of a duty under the regulations that expressly provides that it is to be exercised or performed subject to section 25 of this Act;
- (j) "government" means the federal government, the provincial government or both, as the context requires;
- (k) "minister" means the federal minister, the provincial minister or both, as the context requires;
- (l) "NAFO" means the Northwest Atlantic Fisheries Organization established under the Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries;

- (m) "provincial government" means the Lieutenant-Governor in Council;
- (n) "provincial minister" means the minister of the Crown in right of the province appointed under the *Executive Council Act* as the provincial minister for the purpose of this Act; and
- (o) "sedentary species" means a species of living organism that, at the harvestable stage, either is immobile on or under the seabed or is unable to move except in constant physical contact with the seabed or subsoil.

Application

3. (1) This Act applies to adjacent fisheries.

(2) The federal government and the provincial government may jointly make regulations prescribing the statutes and regulations of the province and of Canada which shall not apply to adjacent fisheries.

Approval for making regulations

4. Before a regulation is made under this Act, the provincial minister shall consult the federal minister with respect to the proposed regulation and a regulation shall not be made without the approval of the federal minister.

Precedence over other Acts

5. In case of an inconsistency or conflict between

- (a) this Act or regulations made under this Act; and
- (b) any other Act of the legislature that applies to adjacent fisheries or regulations made under that Act,

this Act and the regulations made under this Act take precedence.

PART II BOARD

Jointly established board

6. (1) There is established, by the joint operation of this Act and the federal Act, a board, to be known as the Canada-Newfoundland and Labrador Fisheries Management Board.

(2) The board shall be treated as having been established under a law of the province.

(3) The board has the legal powers and capacities of a corporation incorporated under the *Canada Business Corporations Act* (Canada), including those set out in section 20 of the *Interpretation Act*.

(4) The board may only be dissolved by the joint operation of an Act of the Parliament of Canada and an Act of the Legislature.

Members of board

7. (1) The board shall consist of 7 members.

(2) Three members of the board are to be appointed by the federal government, 3 by the provincial government and the chairperson of the board is to be appointed by both the federal government and the provincial government.

(3) One or 2 members of the board may be designated to be vice-chairpersons of the board if they are so designated by both the federal government and the provincial government.

(4) The designation of a vice-chairperson of the board under subsection (3) is effective after both governments have each made the designation.

(5) Each government may appoint 1 alternate member to act as a member of the board in the absence of a member of the board appointed by that government.

(6) Notwithstanding subsection (2) or (5), a member or alternate member of the board may be appointed by both the federal government and the provincial government.

Qualifications of members

8. (1) A member of the board shall not, during the term of office of that member on the board, be employed in the public service of Canada or be an employee of the province.

(2) In this section, "public service of Canada" has the same meaning as in the federal Act.

Consultation and appointment of chairperson

9. (1) Consultation between the 2 governments with respect to the selection of the chairperson of the board is considered to begin

(a) 6 months before the expiration of the term of office of the incumbent chairperson; or

- (b) where applicable, on the date of receipt by the board of notice of the death, resignation or termination of appointment of the incumbent chairperson,

whichever occurs earlier.

(2) Where the 2 governments fail to agree on the appointment of the chairperson of the board within 3 months after the beginning of consultation between the governments, the chairperson shall be selected by a panel, consisting of 3 members and constituted in accordance with this section, unless, prior to the selection of the chairperson by the panel, the 2 governments agree on the appointment.

(3) One member of the panel shall be appointed by each government within 30 days after the 3 months referred to in subsection (2).

(4) The chairperson of the panel shall be appointed

(a) jointly by the 2 members of the panel appointed under subsection (3) within 30 days after the later of the 2 appointments made under that subsection; or

(b) where the 2 members of the panel fail to agree on the appointment of the chairperson of the panel within the 30 day period referred to in paragraph (a), by the Chief Justice of Newfoundland and Labrador within 30 days after the expiration of that period.

(5) The chairperson of the board shall be selected by the panel within 60 days after the appointment of the chairperson of the panel.

(6) The decision of the panel selecting a chairperson of the board is final and binding on both governments.

Terms and conditions of appointments

10. (1) The salary and other terms and conditions of the appointment of the chairperson of the board or other members or alternate members appointed by both governments, including the effective date of the appointment, shall be fixed by an order of the federal government and an order of the provincial government after agreement has been reached by both governments on the salary and other terms and conditions.

(2) The salary and other terms and conditions of the appointment of a member appointed by either the federal government or the provincial government shall be agreed on by both governments.

Absence or incapacity of chairperson

11. The board shall designate a member to act as chairperson of the board during an absence or incapacity of the chairperson or vacancy in the office of chairperson, and that person, while acting as chairperson, has and may exercise the powers and perform the duties and functions of the chairperson.

Term of office

12. (1) The first chairperson of the board shall be appointed for a term of 7 years.

(2) The first 3 members of the board to be appointed by each government shall be appointed for terms of 4, 5 and 6 years, respectively.

(3) On the expiration of the initial terms of office referred to in subsections (1) and (2), the chairperson and members of the board shall be appointed for terms of 6 years.

(4) A member of the board, including the chairperson, shall hold office during good behaviour, but may be removed for cause

(a) where that member is appointed by either government, by that government; or

(b) where that member is appointed by both governments, by both governments.

(5) On the expiration of a term of office, the chairperson or a member of the board is eligible for reappointment.

Conflict of interest and insurance

13. (1) Members of the board, including the chairperson, and the chief executive officer appointed under subsection 28(1) shall be subject to conflict of interest guidelines established jointly by the federal minister and provincial minister and are not subject to conflict of interest guidelines established by the provincial government.

(2) The board shall purchase and maintain insurance for the benefit of a person who is a present or former member, officer or employee of the board, and the heirs and legal representatives of that person, against any liability incurred by that person in the capacity of such

a member, officer or employee, except where the liability relates to a failure to act honestly and in good faith with regard to the best interests of the board.

(3) The expenditures of the board associated with purchasing and maintaining the insurance referred to in subsection (2) shall form part of the budget or revised budget of the board in respect of a fiscal year.

(4) Notwithstanding subsection (2), where the board has established to the satisfaction of the provincial board the impossibility of purchasing and maintaining the insurance referred to in subsection (2), the government of the province shall indemnify a person who is a present or former member, officer or employee of the board, or the heirs or legal representatives of that person, against all costs, charges and expenses, including an amount paid to settle an action or satisfy a judgment, reasonably incurred in respect of a civil, criminal or administrative action or proceeding to which that person is a party by reason of being or having been such a member, officer or employee, where that person

(a) acted honestly and in good faith with a view to the best interests of the board; and

(b) in the case of a criminal or administrative action or proceeding that is enforced by a monetary penalty, believed, on reasonable grounds, that the conduct in issue was lawful.

(5) Where the board has purchased and maintained insurance referred to in subsection (2), the government of the province shall indemnify a person referred to in that subsection, or the heirs or legal representatives of that person, for any liability incurred by that person in accordance with this section to the extent that the insurance purchased for the benefit of that person does not cover that liability.

(6) The government of the province is not obliged to indemnify anyone under subsection (4) against an amount paid to settle an action unless the amount so paid was approved by the government of the province.

(7) Where the Government of Canada has indemnified a person referred to in subsection (4), or the heirs or legal representatives of that

person, under the federal Act, the government of the province may pay to the Government of Canada 1/2 of the amount so indemnified.

(8) An amount payable in respect of indemnification under this section may be paid out of the Consolidated Revenue Fund.

Functions of board

14. (1) The board shall perform the duties and functions that are conferred or imposed on the board under this Act and regulations made under it.

(2) The board may make recommendations to both governments with respect to proposed amendments to this Act, the federal Act and regulations made under those Acts.

Access to information by governments

15. The federal minister and the provincial minister are entitled to access to information or documentation relating to adjacent fisheries that is provided for the purposes of this Act or a regulation made under this Act and that information or documentation shall, on the request of either minister, be disclosed to that minister without requiring the consent of the party who provided the information or documentation.

Meetings of board

16. A meeting of the board shall be held

(a) once a month unless the members of the board unanimously agree to defer a meeting; and

(b) at other times

(i) at the call of the chairperson of the board,

(ii) on the request of 2 members of the board, or

(iii) on the request of the federal minister or the provincial minister to review a matter referred to it by that minister.

Quorum and majority vote

17. (1) Four members constitute a quorum of the board.

(2) Where, in the absence of unanimous agreement, a vote is required to be taken in respect of a decision of the board, the decision shall be made on the basis of a majority vote of the members of the board.

Locations of offices and staff

18. The principal office and staff of the board shall be located in the province.

Storage of information

19. The board shall establish, maintain and operate a facility in the province for the storage and curatorship of all records relating to adjacent fisheries and scientific research in relation to those fisheries and the waters and ocean ecosystems that support them.

By-laws and guidelines

20. The board may

(a) make by-laws respecting

(i) the members, officers and employees of the board,

(ii) the attendance and participation, including voting rights, at meetings of the board of alternate members of the board appointed under subsection 7(5),

(iii) the manner of appointing the officers and employees of the board on the basis of merit, including the holding of open competitions for appointing the officers and employees,

(iv) the procedures to be followed in the performance of the duties and functions of the board,

(v) the conduct of meetings of the board,

(vi) the manner of dealing with matters and business before the board, and

(vii) generally, the carrying on of the work of the board and the management of internal affairs of the board; and

(b) establish conflict of interest guidelines respecting persons employed by the board under subsection 29(1).

PART III BOARD JURISDICTION

Fisheries management

21. (1) The board shall be responsible for all aspects of management of adjacent fisheries in accordance with regulations made under section 35, including

- (a) establishing and implementing integrated fisheries management, conservation harvesting and recovery plans for fish stocks;
- (b) establishing total allowable catches for fish stocks;
- (c) distributing allocations within the allowable catch;
- (d) opening and closures of fisheries;
- (e) conservation and habitat preservation measures;
- (f) issuing, renewing, transferring and cancelling licenses to harvest fish;
- (g) issuing, renewing, transferring and cancelling licences to process fish;
- (h) enhancing knowledge and understanding of the ocean ecosystems supporting adjacent fisheries; and
- (i) integrating scientific research with knowledge and data gathered by resource users.

(2) The board shall make policies respecting the inspection and enforcement responsibilities of the provincial and federal governments and monitor and report on the effectiveness of those activities.

Fundamental principles

22. In carrying out its duties and functions under this Act the board shall promote

- (a) long-term sustainability of adjacent fisheries and in particular the recovery of the ground fish stocks;
- (b) conservation of fisheries resources and habitat;
- (c) understanding of ocean ecosystems; and
- (d) recognition of the historical and socio-economic dependence of communities within the province on fisheries.

Allocation principles

23. The board shall establish principles to govern the allocation of resources which recognize:

- (a) adjacency of resource users to fish stocks;
- (b) historical dependency of resource users on fish stocks; and
- (c) economic dependency of resource users on fish stocks.

Board's decision
final

24. Except with respect to a fundamental decision, the exercise of a power or the performance of a duty by the board under this Act is final and not subject to the review or approval of either government or either minister.

Notice of funda-
mental decisions

25. (1) Where a fundamental decision is made by the board, the board shall, immediately after making the decision, give written notice of that decision to the federal minister and the provincial minister.

(2) A fundamental decision shall be implemented by the board unless the federal minister and the provincial minister advise the board, in writing, within 30 days after receipt of a notice under subsection (1), that they both disapprove that decision.

(3) A fundamental decision may be implemented by the board before the expiry of the 30 days referred to in subsection (2), where the federal minister and the provincial minister advise the board, in writing, that they do not intend to disapprove the decision.

(4) Where the federal minister and provincial minister advise the board under subsection (2) that they disapprove of a fundamental decision, the federal minister and provincial minister may by order require the board to implement a substitute decision within the time and on the terms and conditions specified in the order.

Ministerial direc-
tives

26. (1) The federal minister and the provincial minister may jointly issue to the board written directives in relation to

- (a) fundamental decisions;
- (b) public hearings conducted under section 27; and
- (e) studies to be conducted by the board and advice with respect to policy issues to be given by the board to the federal minister and the provincial minister.

(2) The board shall comply with a directive issued under subsection (1).

(3) Directives issued under subsection (1) are not subordinate legislation for the purposes of the *Statutes and Subordinate Legislation Act*.

(4) Where a directive is issued under subsection (1), a notice shall be published in the *Gazette* that the directive has been issued and that the text of it is available for inspection by a person on request made to the board.

Public hearings

27. (1) The board may hold a public hearing in relation to a decision to be made or implemented by the board under this Act where the board is of the opinion that a public hearing is in the public interest.

(2) Where the board holds a public hearing, the members of the board have the powers of a commissioner appointed under the *Public Inquiries Act*.

PART IV STAFF AND ADMINISTRATION

Chief executive officer

28. (1) There shall be a chief executive officer of the board who,

(a) where both the federal government and the provincial government appoint the chairperson as chief executive officer, is chairperson of the board; or

(b) in other cases, is to be appointed by the board by means of an open competition.

(2) The appointment of a chief executive officer under paragraph (1)(b) is subject to the approval of both governments.

(3) Where either government fails to make an appointment under paragraph (1)(a) or to approve the appointment of a chief executive officer under paragraph (1)(b), the chief executive officer shall be appointed by both the federal government and the provincial government after having been selected in accordance with section 8 and that section applies, with the necessary changes, to the selection of the chief executive officer.

(4) Subsection 10(1) applies, with the necessary changes, to the appointment of the chief executive officer under paragraph (1)(a) or subsection (3).

(5) The board shall designate a person to act as chief executive officer during an absence or incapacity of that officer or a vacancy in the office of chief executive officer and that person, while acting as chief executive officer, has and may exercise the powers and perform the duties and functions of that office.

Staff of the board

29. (1) The board may, on the recommendation of the chief executive officer, employ other officers and employees that are necessary to properly perform the duties and functions of the board under this Act.

(2) A person employed under subsection (1) shall be appointed on the basis of merit.

(3) Except as provided in subsections (4) and (5), a person employed under subsection (1) is considered not to be employed in the public service of Canada or of the province.

(4) Notwithstanding the *Public Service Commission Act*, for the purpose of being eligible to enter competitions under that Act and for the purpose of section 12 of that Act, a person who, immediately before becoming employed by the board, was employed in the public service of the province shall be considered to be a person employed in the public service in the province in a position of an occupational nature and at a level equivalent to the position in which that person is employed by the board.

(5) Notwithstanding the *Public Service Commission Act*, for the purpose of being eligible to enter competitions under that Act and for the purpose of section 12 of that Act, a person who, immediately before becoming employed by the board, was not employed in the public service of the province shall, 2 years after becoming employed by the board, be considered to be a person employed in the public service of the province in a position of an occupational nature and at a level equivalent to the position in which that person is employed by the board.

Auditor

30. The board shall appoint an auditor of the board, for the term that is set by the board, for the purposes of auditing the financial statements of the board.

Budget and appropriation

31. (1) The chief executive officer shall, in respect of each financial year, prepare a budget for the board sufficient to permit the board to properly exercise its powers and perform its duties and functions.

(2) Following approval of the budget by the board, the budget shall be submitted to the federal minister and the provincial minister, at the time that may be specified by each minister, for their consideration and approval.

(3) Where it appears that the actual aggregate of the expenditures of the board in respect of a financial year is likely to be substantially greater or less than that estimated in its budget in respect of that financial year, the board shall submit to both ministers for their consideration and approval a revised budget in respect of that financial year containing the particulars that may be requested by either minister.

(4) The provincial government shall pay a percentage of the aggregate of the expenditures set out in the budget or revised budget, where applicable, submitted and approved under this section in respect of each financial year, that is commensurate with its share of the total federal and provincial expenditures on fisheries management in the fiscal year preceding the year this Act comes into force.

(5) Subject to another Act of the Legislature that appropriates money for the payment required by subsection (4), the sums required for that payment shall be paid out of the Consolidated Revenue Fund as required.

Access to books and accounts

32. The federal minister and the provincial minister are entitled to have access to the books and accounts of the board.

Annual report

33. (1) The board shall, in respect of each financial year, prepare a report and submit it to the federal minister and the provincial minister not later than 90 days after the expiration of that financial year.

(2) Each annual report submitted under subsection (1) shall contain an audited financial statement and a description of the activities of the board during the financial year covered by the report.

(3) The provincial minister shall lay the report referred to in this section before the House of Assembly within the first 15 days during which the House of Assembly is sitting after the day the report is submitted to the provincial minister.

(4) Where it is not possible to lay the report before the House of Assembly within 30 days after the day the report is submitted to the provincial minister, the provincial minister shall publish that report within that 30 day period.

PART V GENERAL

Research council

34. (1) The Newfoundland and Labrador Fisheries Research Council is established to provide the board and the provincial and federal governments with information and advice on the scientific aspects of the management of adjacent fisheries.

(2) The council shall

(a) advise the board on requirements for research and investigation;

(b) review data gathered by the council and other agencies and advise the board on data collection methodologies;

(c) conduct and review scientific research and resource assessments; and

(d) make public recommendations to the board and ministers.

(3) The council shall consist of not more than 10 members appointed by the board.

(4) There shall be an equal number of members on the council representative of industry and the scientific community.

(5) The terms and conditions of appointment to the council shall be in accordance with the regulations.

Regulations

35. (1) The Lieutenant-Governor in Council shall make regulations delegating the authority to the board that is necessary to permit the board to carry out its functions and duties under this Act and the regulations made under it.

(2) The Lieutenant-Governor in Council may make regulations

- (a) for the proper management and control by the board of adjacent fisheries;
- (b) respecting the conservation and protection of fish;
- (c) respecting the catching, loading, landing, handling, transporting, possession and disposal of fish;
- (d) respecting the operation of fishing vessels and the use of fishing gear and equipment;
- (e) respecting the issue, transfer, suspension and cancellation of licences by the board to harvest fish and the terms and conditions under which a licence may be issued;
- (f) respecting the keeping of records in relation to fishing and fish processing;
- (g) respecting the conservation and protection of spawning grounds;
- (h) respecting the issue, transfer, suspension and cancellation of licences by the board to handle, process, store, grade, transport and market fish;
- (i) respecting the licensing of establishments used in or in connection with handling, processing, storing, grading, transporting or marketing fish;
- (j) respecting standards for establishments and of vehicles or equipment used in connection with an establishment referred to in paragraph (i);
- (k) respecting the construction, manufacturing, importation, distribution, purchase or sale of fishing vessels or hulls to be outfitted as fishing vessels and materials to be used in the construction, repair or modification of those vessels; and
- (l) respecting the terms and conditions of appointments to the council established under section 34.

Commencement

36. This Act comes into force on a day to be proclaimed by the Lieutenant-Governor in Council.

APPENDIX III

GLOSSARY

Access	The opportunity to harvest or use the fisheries resource, generally permitted by licences or leases issued.
Allocation	The amount or share of the fisheries resource or allowable catch that is distributed or assigned to those permitted to harvest the resource.
Banks of Newfoundland	Grand Banks of Newfoundland.
Coastal State	Nation or territory immediately adjacent to a sea or ocean.
Conservation	Sustainable use of a resource, that safeguards ecological processes and genetic diversity for present and future generations.
Constitution	The Constitution of Canada, as set out in the <i>Constitution Act, 1867</i> and the <i>Constitution Act, 1982</i> , as amended.
Custodial Management	Management by the adjacent coastal state of designated fish stocks that straddle the 200 mile Exclusive Economic Zone (EEZ), for the purpose of applying consistent conservation-based measures.
<i>Fisheries Act</i>	An Act governing the management of fisheries in Canadian waters.
F_{max}	A rate of mortality through fishing that will result in no change in the stock.
FRCC	<i>Fisheries Resource Conservation Council</i> : an independent panel established by the Minister of Fisheries and Oceans to provide advice and recommendations to the minister on the various groundfish stocks in Atlantic Canada.

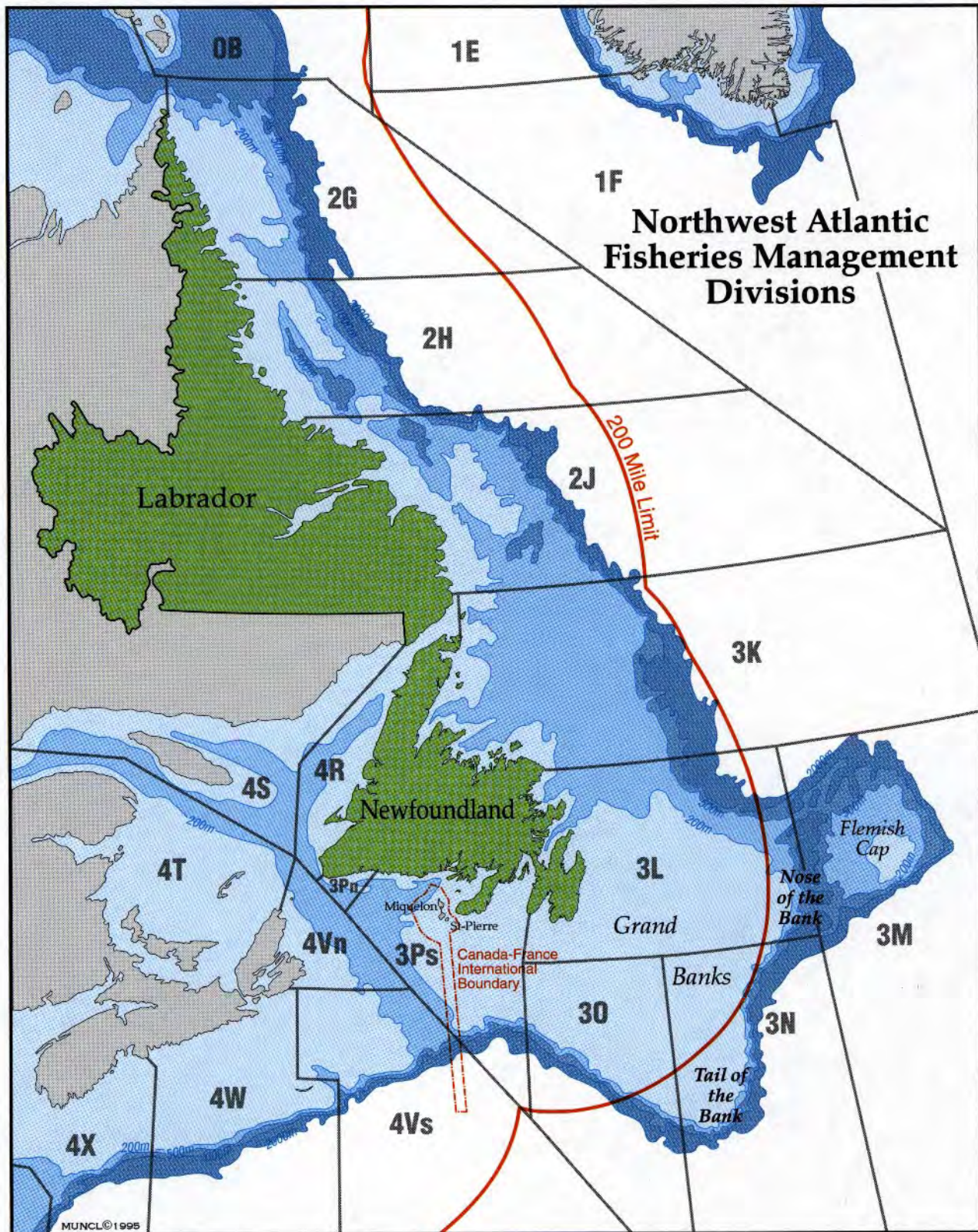
Groundfish	Species of fish living near the ocean bottom, such as cod, haddock, halibut and flatfish.
Gulf Cod Stock	Cod (<i>Gadus Morhua</i>) in Northwest Atlantic Fisheries Organization (NAFO) divisions 3Pn+4RS.
Inshore Sector	The sector of the fishery comprising vessels under 65 feet.
Moratorium	Prohibition or suspension of fishing.
Northern Cod	Cod (<i>Gadus Morhua</i>) off Southern Labrador and Eastern Newfoundland in NAFO divisions 2J+3KL.
Northern Shrimp	Northern or pink shrimp (<i>pandalus borealis</i>).
Sedentary Species	Species including those organisms that, at the harvestable stage, live on or just below the ocean floor and those that are unable to move except in constant physical contact with the sea bed or subsoil. Examples include snowcrab, clams, scallops and lobster. Under Article 77 of the United Nations Convention of the Law of the Sea, the coastal state has sovereign rights for exploring and exploiting sedentary species on its continental shelf, both inside and outside the 200-mile limit. Canada's continental shelf includes the Nose and Tail of the Grand Banks and the Flemish Cap.
Shellfish	Shelled molluscs and crustaceans. Examples include snow crab, shrimp and scallops.
Sustainability	See <i>sustainable development</i> below.
Sustainable development	Development that meets the needs of the present generation without compromising the ability of future generations to meet their needs. This implies a specific commitment to the management of coastal regions and resources in an environmentally-responsible manner that defines and acknowledges risk.

Stock	A population of one species found in a particular area; the basic unit for fisheries management (Note: all of the individuals in a stock should have similar growth and migration patterns).
TAC	Total Allowable Catch: the total amount allowed to be caught from a particular stock during a particular period of time. Normally, the collective quota for Canadian fishers is equal to the TAC. However, in some cases, the TAC includes international allocations or foreign quotas and quota designated for other users.
Terms of Union	Memorandum of Agreement entered into on the Eleventh day of December 1948, between Canada and Newfoundland. Newfoundland and Labrador's Terms of Union with Canada are a schedule to the <i>Newfoundland Act, 12-13 Geo. VI c. 22 (UK)</i> . The <i>Newfoundland Act</i> forms part of the Constitution of Canada.

APPENDIX IV

Map

Northwest Atlantic Fisheries Management Divisions



Report of the Chairman RMS Review Committee



Richard Cashin
November 2005

Report of the Chairman RMS Review Committee



Richard Cashin, Chairperson
November 2005

**REPORT OF THE CHAIRMAN
RMS REVIEW COMMITTEE**

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EXECUTIVE SUMMARY

This report fulfils the mandate I was given by the Premier of the Province to review the pilot project on Raw Material Sharing (RMS) in the crab fishery and to recommend on the future of this approach. I was also mandated to recommend on any other matters related to this issue as appropriate. I have held extensive discussions with representatives of all parts of the industry, both collectively and individually. I have reviewed a variety of past reports that have already examined many of these same types of fishery issues. A variety of new and current information was also assembled for my review and use. I have received additional advice from the three-member committee that was established to assist and advise me.

Early on, I came to a conclusion that RMS was a seriously flawed concept in its proposed application to the crab fishery. It had been promoted as a cure-all for the instability and inefficiencies of that sector. In my view, it has been badly oversold in some respects and in a manner that has resulted in many parties not being convinced it has any merits. Indeed, support for it has actually declined over the last six years or so while opposition to it has clearly increased. It did little or nothing to affect such outcomes of the 2005 crab fishery as: the length of operating times, improved product, or the levels of prices paid. In the latter case, it had neither a positive nor a negative effect; market conditions and forces and exchange rate fluctuations are the cause of changes in the annual levels of crab prices. I conclude that, in the changed nature of today's crab fishery, RMS will not provide the claimed stability or the necessary efficiency improvements. Therefore, it should be dispensed with immediately. The only alternative to RMS that was suggested was some form of limitation on production; a notion that appears to have little, if any, support from either party.

The case for RMS is similar to that used in support of IQs/ITQs in harvesting. I am not convinced that even there the claimed beneficial results always occur especially as it relates to conservation. A current example is the case of 3Ps cod where the expected

decrease in this stock's TAC for the next fishing season is because of increased concentration of fishing effort on the older and more productive year classes in that stock. When IQs were adopted in this area, a major switch to gillnets occurred as a logical economic decision because the only effective price differential for cod was based on size. However, nothing has been done about this since the late 1990s and now it could be having an effect on conservation.

I examined and recommended on other underlying causes of much of the current problems in this fishery. Solving these will go a long ways towards eliminating most of the reasons why some processors proposed RMS. I have recommended that the collective bargaining provisions of the Fishing Industry Collective Bargaining Act be strengthened and updated to ensure that fish prices are settled before the best opening times for various fisheries. This should also include the changes necessary to ensure that collective bargaining in the harvesting sector is carried on under the same types of provisions that apply to the conduct of labour relations in the province generally.

I have concluded that instability in the crab industry is seriously affected by creeping corporate control of harvesting and the resulting predatory practises, and the levels of excess capacity in both the harvesting and processing sectors. The first of these causes might have been somewhat reduced by RMS but not eliminated. Most of this instability is caused by a combination of increasingly shorter fishing seasons, DFO's failure to properly enforce its Fleet Separation Policy, decreased access to independent financial resources by harvesters, and possible under-reporting of catches and production. I have proposed a series of measures to address these matters, including all parties exploring a production limitation system and encouragement of increased cooperation in transferring, distribution, and sharing of available raw material. I also suggest the administration of the Fisheries Loan Guarantee Program be examined to ensure it is contributing to, and not hindering, the independence of individual harvesters. I also feel the continuing reports of under-reporting warrant some renewed attention.

Both levels of government have contributed to the level of excess capacity in this sector. The Provincial Government, in the mid 90s, drastically increased crab processing capacity by licensing some 17 additional operations. Harvesting capacity has not been reduced over the last ten years because the Federal Government's vessel replacement rules require individual fleet rationalisation plans to be adopted before much needed measures as combining of enterprises and larger vessels can be achieved. This is hampered because the lack of enforcement of Fleet Separation Policy is permitting more company control of fishing licences even though such ownership is supposed to have been frozen at the level it had reached in 1979. All of these matters have a connection back to the current instability, the dysfunctional state of collective bargaining and various destructive predatory practices.

I have become really struck by how so much of the underlying causes of the current problems in this sector were initially caused by uncoordinated management decisions by the two levels of government, each acting in isolation in its own sphere of influence. The continuance of these problems also is due, in large part, to the same lack of co-ordinated, or indeed any action, on finding solutions. When each level of government makes isolated decisions in its own sphere of influence, the results are the current conditions we find in this sector. The causes of the present state of affairs are so intertwined that a classic case for joint management of the two sectors is obvious.

My recommendations to deal with these related problems also include an immediate joint Federal/Provincial capacity reduction project, adoption of proper enforcement and related measures to support Fleet Separation, encouragement of fleet rationalisation plans and, interim financing to both harvesters and processors to undertake internally funded capacity reduction activities in their respective sectors. I have also indicated that temporary combining of any size of enterprises should be permitted in 2006 if present resource and market conditions do not improve. More importantly, I am proposing that the Provincial Government seek a longer-term

solution to these problems by developing a joint management arrangement for both the harvesting and processing sectors with the Federal Government.

The fishing industry is suffering from a significant structural problem caused by the changing global marketplace for seafood, the severe processing competition from low cost economies and an aging and surplus labour force where many remain who were not able to leave when groundfish stocks collapsed. A labour reduction strategy is badly needed if this industry is to retain younger workers who will be in critical demand in the near future. I have suggested this should be treated as similar to the situation faced by the textile industry and must involve financial participation by both levels of government and the industry.

Finally, I proposed that a renewed commitment to this industry is needed by all parties and I have recommended that the Provincial Government become the catalyst and assume a leadership role. There is an urgent need for this in the current crisis facing this industry, rural communities and the province as a whole.

1.0 INTRODUCTION

On March 2, 2005, the Minister of Fisheries and Aquaculture announced that government would proceed with a two-year pilot project on Raw Material Shares (RMS) in the Newfoundland and Labrador snow crab fishery. A condition of the crab processing licence would cap the amount of raw material that seafood producers could process. Government would develop and implement the shares through a process that included an arbitration procedure. An arbitrator would determine the final shares of crab raw material at 90% to 105% of the previous three-year average. As well, historic dependence and adjacency were to be recognized. A requirement that at least 75 percent of the crab landings in each of four geographical areas be processed there was also part of the overall project design. There would be no permanent transfers and in-season/temporary transfers only under specific extenuating circumstances.

A monitoring arrangement would be required of industry while the government would institute an administrative penalty system for breaches of the terms and conditions of the pilot project. Government also proposed establishing a transparent price setting mechanism that would involve checking prices paid against actual receipts from sales to the markets. A formal review of the RMS system would take place after the two-year trial.

The Association of Seafood Producers (ASP) welcomed the announcement but expressed a caveat about the practicality of the proposed price setting mechanism. The Fishermen, Food and Allied Workers Union (FFAW) immediately rejected the proposal outright and a series of protests commenced on March 9. These would continue until close to mid-May. By April 29, three members of ASP had left that association because of dissatisfaction with some features of the pilot project. By this time, government was offering to reduce the pilot project to one year and to appoint an independent committee to oversee the implementation and monitoring of the RMS system. This committee would have representatives from processors, harvesters, government and a mutually accepted independent third party chair who would have

the mandate and authority to recommend to government whether the RMS should be continued after the one-year trial.

On May 10, Premier Williams asked me to review the crab RMS project with a clear mandate to decide the future of RMS. Government would abide by my findings and recommendations. On May 13, FFAW crab committees commenced price negotiations with crab processors and reached a tentative agreement on May 17. On May 19, harvesters voted to go fishing but also to oppose any future attempts to institute RMS. Fishing commenced over the following weekend and continued until July 31 when all fisheries had exhausted catch quotas or already closed in accordance with the 2005 Crab Management Plan.

AN RMS Monitoring Committee was established, consisting of Reg Anstey as the nominee of harvesters, Derek Butler as the processors' nominee and Eric Dunne as government's representative. Their role was to assist and advise me in my evaluation of the pilot project and the development of my recommendations. My Terms of Reference are:

“The mandate of the Chairman of the Raw Material Shares Monitoring Committee is to evaluate the snow crab raw material shares pilot project and make recommendations to government on a future course of action.

The work will consist of four components:

- ***Monitoring of the system throughout the balance of the season;***
- ***Evaluating the RMS at the end of the season;***
- ***Recommending a future course of action to Government on the RMS system; and,***
- ***Recommending on such other related matters as may be appropriate.***

The Committee will take into account the views of all interested parties.”

This report is based on extensive fact-finding, discussions with harvesters and processors, assessment and analysis of conditions in the crab sector, and the fishing industry more generally, and input and advice from Committee members. The next section will review and evaluate the RMS concept from its first appearance in the early

1990s, the several attempts to introduce it over the next ten years or so, the experience with it in the shrimp fishery and its current status with crab sector parties. It will also address the rationale of government for the application of this concept to the crab fishery in 2005. It will cover, in general terms, the salient points of the views and positions of the industry on the RMS concept, as expressed publicly earlier this year. It will then identify and evaluate some of the more prominent and current claims for and against this concept by proponents and opponents. These tend to fall into the following main categories: the “real” intentions of industry and government; concentration or shift in control of the crab sector; industry stability, efficiency and rationalization; prices received and paid; marketing of crab product and length of operating seasons.

Section 3 will describe the results of the 2005 crab fishery that took place under the RMS arrangement. It will evaluate such factors as the length of the harvesting and processing seasons, the various (real and claimed) economic effects on processors, harvesters, plant workers and others, and the effect on marketing the 2005 crab production.

Section 4 will provide an overview of the development and status of collective bargaining in the harvesting sector of the fishing industry. This matter is one that is inextricably tied into the current dispute and the general state of affairs that exists in the industry today.

Section 5 will outline and critically review some of the main issues surrounding this concept and possible options available to government for 2006 and beyond. This also involves examining other factors related to the RMS issue, especially those of industry instability and inefficiency, rationalisation of capacity in both harvesting and processing, collective bargaining mechanisms, corporate concentration/control and excess processing labour.

The report will conclude with conclusions and recommendations in Section 6. Because I was appointed by the Premier, all of my recommendations will be directed to the Provincial Government; though at times I will be urging action that must be taken by the Federal Government.

2. A REVIEW AND EVALUATION OF THE RMS CONCEPT

This section will review the development of the RMS concept from its early theoretical beginnings and the growth of adherence to it in this province. It will then trace the events leading to the RMS project in crab and examine the various positions taken by supporters and opponents at that time. The two-year project in shrimp will be covered to ascertain how that contributes to the scheme of things. The positions of industry at the time of my consultations will then be outlined and the section will conclude with my analysis of the present state of the concept.

Development of the Basis for RMS

The theoretical basis for the use of individual raw material shares in management of the fish processing sector is similar to that advanced for use of individual catch quotas in the harvesting sector. In the latter case, limited entry achieved minimal success in controlling the tendency to over invest in vessels and gear and to overfish stocks. Overcapitalisation and excessive harvesting had been hallmarks of open-entry fisheries and fleets. By the early 1980s, it became obvious that limited-entry regimes, even with added capacity control rules, only restricted these problems to the limited number of licence holders but did not eliminate them. The search for alternatives to this approach resulted in the adoption of IQ-type measures or regimes. The objective became to change how harvesters behaved when using the resource by giving them a share of it.

The first Canadian example of this approach was the Enterprise Allocations (EAs) introduced in the Atlantic offshore otter trawl fishery in the early 1980s. Over the next decade and a half, a variety of fleets on both the Atlantic and Pacific coasts adopted similar regimes. By the late 1990s, most significant fisheries, except lobster, operated under some form of individual share arrangement. Some have various transferability provisions, but none on the Atlantic Coast allow completely free and unlimited sale of

individual shares. Most of the so-called ITQ arrangements have transferability or accumulation limits of two to three times an individual share, or require Ministerial approval, as with offshore groundfish EAs. The professional literature is rife with argumentations for and against the use of IQ/ITQ systems and the benefits and failings of them. A detailed elaboration of these here will serve no real purpose. It is sufficient to note that these claims range from IQs/ITQs being a complete solution to all fishery management problems to the complete opposite. In addition, they have not been in existence long enough to produce a complete second generation of operators. It would be then most of the claimed benefits or faults would appear.

The December 1992 report of the ad-hoc Federal/Provincial Government/Industry Tri-Partite Committee first introduced the concept of using individual shares in management of the processing sector in this province. This committee was struck in the early days of the groundfish moratoria to address the issue of processing sector rationalisation. It proposed the concept of individual plant production quotas as a possible option for management and rationalisation of the processing sector. The Committee described production quotas as being analogous to IQs/ITQs or EAs in the harvesting sector. It also envisaged transferability of production quotas as providing a self-rationalisation mechanism that would spare government the agony of deciding which operations must be eliminated. For a variety of reasons, neither level of government of the time acted on any recommendations of this Committee.

This approach was next proposed in the interim report of the Federal/Provincial Fishing Industry Renewal Board (FIRB) in April 1996. The FIRB indicated that several concerns of harvesters and plant workers required negotiations between parties before such a management system could be established. These concerns included too much control over harvesting activities by processors and the resulting lower prices. Processing workers' concerns centred on fewer total jobs and a transferring of work from unionised plants to non-unionised ones. A clear price setting system and IQs for fishermen were seen as preconditions of individual raw material shares.

A pilot project was conducted in the 1996 capelin fishery to test the raw material sharing system proposed in the FIRB interim report. Most parties, for a variety of different reasons, deemed the overall outcome of the pilot project unsatisfactory. These included a premature opening of the fishery, lower prices to fishermen, excessive dumping and high-grading, the actual setting of the shares, increased control of the fishery by companies and inefficient operators being maintained in the industry. As no evidence of benefits of raw material shares emerged from this experiment, the FIRB dropped the concept from its final report later that year.

In July 1999, the Fisheries Association of Newfoundland and Labrador (FANL) proposed that government establish a raw material sharing system in the inshore shrimp processing sector. At that time, the sector was characterised by over-capacity, high seasonality, intense competition for raw material, high levels of trucking, and poor quality landings and products. However, the proposed system did not materialise because licence holders could not agree on individual shares, although the Union had agreed to its introduction. A similar proposal by the shrimp sector in 2001 for the 2002 season was unsuccessful for much the same reason, as well as concerns that a sharing system would be used by government to justify adding more plants to the sector. Again, the Union was in agreement with the trial.

In April 2002, the Inshore Shrimp Panel recommended that both FANL and FFAW develop a raw material sharing system for the inshore shrimp sector. The Panel saw these shares as production caps similar to the landing caps on harvesters administered by FFAW. They would be enforced under the collective agreement for shrimp between the two parties. In this context, the Panel did not advocate the use of these shares for other than a means of controlling the processing frenzy that then existed in the inshore shrimp sector.

In October 2003, David Jones produced a report on collective bargaining arrangements in the inshore fishery sector. Amongst his many recommendations was

one calling for implementation of a system of raw material shares with the agreement of fish harvesters and processors.

The Report of the Fish Processing Policy Review Commission (Dunne report), submitted in December 2003, recommended a pilot project be conducted to determine whether any of the various claims for and against raw material sharing were actually valid. The Commission's view was, while no other concrete approach to dealing with operating chaos had been proposed, there were no instances where a sharing system in the fish processing sector existed to judge the claimed merits or demerits. This report also advised that when processor groups proposed any raw material sharing system for any species they should be required to satisfy the Minister that they represented almost all processors and that "no substantive and reasonable objections from plant workers and harvesters" existed or would emerge. The report also recommended that the pilot project on raw material shares should be monitored and evaluated by an independent review and evaluation committee against a set of performance criteria established by the Minister before commencement of the project.

The Lead-up to the 2005 Crab RMS

In releasing the Commission's Report on February 4, 2004, the Minister of the Department of Fisheries and Aquaculture called on processors to propose a pilot project to test the merits of this concept. However, he warned that there must be "*...no substantive and reasonable objections from plant workers and harvesters...*" There was also to be assurance of a fair price to harvesters.

However, a proposal from crab processors for a pilot project did not meet these two main tests. Too many processors disagreed with their proposed share; and harvesters would not even consider supporting the approach. The Minister advised industry in May 2004 that conditions were simply not right to attempt such a project in crab for that season. With the encouragement of government and the non-opposition of the FFAW, almost all crab processors agreed to cooperate in the sharing,

distributing and transferring of raw material in an informal arrangement for the 2004 season.

The same opposition still prevailed when the Minister announced government's intention to proceed with a two-year pilot project on crab RMS on March 2, 2005. The government was concerned about the level of instability that could arise in the crab sector *"...from overcapacity, a declining resource base, weakening markets, an underutilized labour force, the appreciation of the Canadian dollar against other currencies and an inefficient distribution system."* It felt that: *"The failure of government to find a solution to problems plaguing the sector would only result in uncontrolled plant closures, displaced plant workers, lower raw material prices and the potential for our reputation in the marketplace to be damaged."* This expectation of a very volatile situation and *"...the critical importance of the crab sector to the fishing industry and the economy of rural areas..."* led government to conclude it had *"...no choice but to act in the public interest and impose stability."*

Government decided to undertake the setting of shares based on the average of the last three years of production because processors couldn't agree and there were legal concerns about delegating ministerial powers. An arbitration process was provided for those who felt their initial share was inappropriate or improperly calculated. A regional processing balance factor required that at least 75 percent of the landings in each of four regions in 2004 be available for processing there in 2005. The arbitrator could refine the initial calculated share in a range of 90 to 105 percent. This could be based on historical purchases, economic viability requirements, legal agreements with harvesters, regional balance considerations and errors in Departmental data as well as individual extenuating circumstances. The arbitrator submitted the final shares to the Minister by May 9, 2005, who advised the processors of them shortly thereafter. These shares became a condition of the licence issued to each crab processing facility for 2005.

The disapproval of harvesters quickly became publicly apparent after the March 2 announcement and persisted until an agreement to start the fishery in late May. A war of words ensued between the Union, processors and the government that is displayed in press releases or statements of the next two and one half months.

In its first press release on March 3, ASP supported the Minister's decision to proceed with an RMS in crab but indicated *"...one area of concern for processors has to do with the Minister's idea of price setting based on after-the-fact auditing of actual sales invoices. This is seen as an unnecessary change from the current price to market formula, and very problematic administratively given the wide variety of products and marketing practices employed."*

In its April 7 release, ASP claimed that Raw Material Shares would: *"...help bring stability to the fishing industry; allow him/her to plan and optimize production performance; give value to the producer's enterprise; and permit talent, previously consumed in procurement and related crisis management, to be spent on marketing and other constructive initiatives designed to increase the size of the pie for the benefit of everybody."*

ASP also argued that prices paid harvesters would be a "full price" based on value. There would not be a minimum price and there would be no other payments. *"For harvesters, the pricing structure would be transparent,negotiated, and ...equitable for all harvesters."* They could still sell to the producer of their choice. *"The only significant difference for harvesters is that there would be no 'under the table' payments beyond the negotiated price structure, and there would be no so-called 'free market system for harvesters' in addition to the formal and legislatively-regulated collective bargaining system."*

RMS would benefit plant workers *“...because of the stability and planning that would derive from a sure knowledge of the amount of product in a given year that would be ascribed to their plant.”*

Later, in an April 20, 2005 news release, ASP reiterated its support for the RMS pilot project and pointed out it considered the alternative to the government’s proposal for crab to be an unregulated fishery that is totally determined by the free market forces. It claimed *“...given severe overcapacity and a declining crab resource, the consequences would be very dramatic.”* These consequences were indicated as possibly including: *“No collective bargaining, and no Fishing Industry Collective Bargaining Act; Rapidly escalating prices followed by price collapses; Further serious damage in the market place; survival of the fittest, with forced bankruptcies, plant closures; Significant social and economic fallout; and, Fewer plants in fewer communities.”*

The Union’s press statement on March 11 took exception to several aspects of the RMS proposal and the reasons advanced by government for proceeding. These included the claimed chaos in crab price setting as being *“...a work of fiction propagated by the crab processors.”* It pointed out that the Final Offer Selection (FOS) arrangement introduced in 1998 produced price settlements for six years without the strike/lockout system of previous years. Even when FANL was disbanded and FOS ended in 2003, prices were set in 2004 through collective bargaining and no “destructive price competition” occurred. The FFAW claimed the processors’ tactics since 2003 had been to destabilise collective bargaining to force government into instituting RMS. The tactics also include dividing harvesters and plant workers by promising improved employment arrangements that are not possible from a declining crab resource. When RMS become transferable, jobs would be sold out from under some plant workers. Moreover, many harvesters, small vessels operators particularly, will lose leverage in respect of commercial services and the selling of their other less valuable species.

The FFAW also claimed at this time that there were other alternatives to an RMS system. These included *“...a full or partial auction, a return to final offer selection, a modified form of FOS, or doing nothing and let the chips fall where they may.”* It also dismissed the claim that RMS was needed because of negative market and currency trends and an expected decline in quotas by pointing out that *“The price-to-market formula that has been in use in the crab fishery for years adjusts the raw material price in accordance with market and currency changes.”*

Finally, in its June 7 press release, the FFAW added the following points of opposition: *“Production quotas - euphemistically called raw material sharing - are designed to limit the freedom of harvesters to sell where and when they choose. If implemented on a permanent basis they would greatly reduce the value of fishing enterprises by putting value on processing quotas. Money that had previously been used to buy crab from harvesters would now be used to buy up available crab production quota. And with fixed quotas, there would be very little incentive for processors to compete on the wharf for raw material.”*

It also pointed out that *“Plant workers are also leery of production quotas, because it is an open secret that transferability of quotas is part of the plan for the long term. Plant workers are very concerned that the plant owner could essentially sell their jobs by transferring his production quota to another operator.”*

Dissatisfaction on the part of some crab processors became evident over the course of April when several left ASP. Two companies filed requests for injunctions with the courts against the government’s proceeding with RMS; these were all rejected. Several companies also filed statements of claims against the institution of RMS based on their individual circumstances. The courts ruled against all of these; however, two appeals are still pending.

Collective bargaining began on May 13 and an agreement was reached on May 17. The crab fishery finally started on May 22 with an overall agreement that included a negotiated starting price, the continued use of a price-to-market formula to determine

in-season changes, a post-season audit of prices actually received from the market, an RMS arrangement based on government imposed arbitrated shares and the establishment of an RMS Monitoring Committee. In spite of this eventual agreement to begin the 2005 fishery with RMS in place for one year, the gap between proponents, opponents and the government remained a wide one.

RMS in the Inshore Shrimp Fishery

The 2004/05 RMS arrangement in the inshore shrimp fishery had been put in place with support of harvesters and pre-dated the decision to proceed with the pilot project in the crab sector. Since many of the same harvesting and processing operators participate in both sectors, a review of the shrimp case may shed some light on the acceptability of this concept to the overall industry.

Raw material sharing in the inshore shrimp sector was instituted in conjunction with the Implementation Plan prepared by the Shrimp Industry Working Group (Working Group). This had been created by agreement between FFAW, FANL and DFA in mid-2003 after a period of disruption in the 2003 shrimp fishery. The Working Group's report was ratified by ASP; however, the FFAW did not take it to its members claiming they were now opposed to the plan. The Minister of DFA indicated that either the industry implemented the plan they developed or a shrimp auction would be established to let market forces repair the industry. After much debate, the majority of shrimp harvesters (with 3K operators abstaining) voted to accept the plan. The parties agreed to the arrangements on vessel scheduling, sharing, allocating and transferring landings (as well as other aspects of the plan) in an MOU and a Collective Agreement between shrimp processors and the FFAW for 2004 and 2005.

The Plan proposed a series of measures to improve the operational efficiency of the inshore shrimp sector, including such items as scheduling and trip limits, handling and transporting arrangements, quality and seasonality and pricing. The main purpose of these provisions was to co-ordinate landings with processing capacity. The

scheduling, transferring and distributing arrangements are the ones most relevant to the use of RMS in the shrimp fishery.

A Shrimp Coordination Center (SCC) was established to balance landings and processing capacity within and among geographic regions; to distribute, trade and transfer shrimp supplies between processors; and to coordinate vessel scheduling in combination with the administration of harvesting 'caps'.

Preference for allocating landings within a region would be based on the relationship between harvesters and processors and the transfer arrangements between plants as registered with the SCC. Landings from harvesters aligned with a particular processor would be directed to that processor whenever possible. Landings exceeding the capacity of that processor would be redirected to other plants within the region. Shrimp would be transported to the plant closest to the landing. Interregional trades and transfers would occur when landings exceeded processing capacity within a region.

The stated purpose of these arrangements was to ensure plants in closest proximity to landings would “*...process the raw material in a timely manner, optimize handling and transportation, improve quality and significantly enhance the overall value of the industry. Harvesters would benefit because of greater flexibility in trip limits (subject to quality considerations only), reduction in costs due to more efficient harvesting (fewer trips to catch the same quantity) and, increased trip limits would encourage larger vessels to fish in the spring, thereby improving the scheduling of smaller vessels during the summer period.*” The benefits expected from such arrangements were seen to be significant and processors were reported to have “*...agreed in principle that upon negotiation, shrimp prices would be adjusted through collective bargaining to reflect a reasonable sharing of these benefits.*”

However, the contract to establish the SCC was not finalized until late in June and it did not start operations until July 14, 2004. As well, Labrador did not take part nor did

vessels from Quebec; and one Newfoundland and Labrador harvester refused for privacy and confidentiality concerns. In addition, processors had become reluctant to allow SCC to schedule vessels with which they have arrangements; they took over scheduling their own aligned vessels in conjunction with SCC. Another departure from the original intent and the contract was that processors settled accounts for landings and transfers directly and not through SCC as initially called for.

A review of the 2004 shrimp arrangements by Burke Consulting Inc. concluded that some of the more relevant outcomes were the following:

- Quality of landings and of product was reported to be improved from previous years.
- After SCC started operations, serious glut problems were avoided.
- Some complaints existed about unevenness in scheduling and undue downtime for some harvesters. This varied between vessels aligned with different processors. Harvesters feel every one should be able to sail in their turn. This issue was described as serious enough to jeopardize harvesters' support for the plan.
- Non-aligned harvesters were not accorded the same priority in scheduling as those with firm commercial arrangements. This appears to apply to shrimp harvesters without a crab allocation.
- Some processors did not achieve their assigned shares, even though the total quota was taken for the first time in several years.
- Not all transfers of shrimp between companies were registered with SCC as required.
- The SCC was not provided information on processing activity that had occurred before its start-up.
- The SCC was not able to monitor the achieving of individual raw material shares for these reasons.
- Not all harvesters observed the various "hail-out" and "hail-in" requirements of the Agreement.

- Difficulties with implementing operational management decisions by the SCC board were also claimed.
- Provisions for penalties in the Agreement were not enforced in 2004.

In 2005, either through mutual consent or the absence of opposition, the SCC arrangement was dropped. While agreement between government and industry was for a 2-year pilot project, two of the largest shrimp processors, operating five shrimp plants, were no longer part of ASP and were now opposed to RMS in shrimp and crab. They were not interested in participating in the SCC for 2005 and their lack of participation would have made implementation of the overall model difficult. There were also outstanding bills to the SCC for 2004 and the general dissatisfaction of harvesters with the RMS for crab. Furthermore, FFAW members were not willing participants for 2005. Government had cited the shrimp RMS of 2004 as a qualified success, but the FFAW, which had been a reluctant participant even in that year, did not like this claim of a “successful” shrimp project to justify the application of RMS to crab. With no agreed arrangement to coordinate the overall operation of the RMS regime, the shrimp raw material shares issued in 2005 as a condition of license were really processing caps or maximum processing levels.

In 2005, processors initially undertook the scheduling of their own aligned harvesters’ landings within these purchasing/processing limits. The latter were not reached as several processing operations stopped before most individual limits and the total catch quota were approached. Before these early shutdowns occurred, there was more downtime for individual harvesters and some (especially those without crab licences) had difficulties making any landings at all. Anecdotal accounts claim downtime in vessel scheduling in 2005 was variable amongst processors and ranged from 3-4 days to as high as 13-14. In these circumstances, and with some 17,000 mt of inshore shrimp uncaught as of mid-September, the DFA Minister advised processors that the processing caps were suspended for the remainder of the season.

Other significant elements of the plan also lapsed, making it impossible to evaluate the overall outcomes of the 2005 phase of the pilot project. This shrimp plan was meant to address severe structural issues in the sector. None of the major issues in the sector has been really dealt with; therefore, it is likely the inshore shrimp sector will continue to drift from crisis to crisis and to be yet another marginal commodity producing activity for its participants.

The following are my overall conclusions regarding the testing of RMS in the inshore shrimp fishery:

- Harvesters generally did not like the inequitable scheduling aspects of the 2004/05 arrangements. The scheduling of boats was likely more equitable in 2004 than in 2005 as the SCC helped narrow the gap amongst participants.
- Processors did not want an independent entity that oversaw the scheduling of harvesting, transfers and allocation of landings from aligned vessels and the payments of them.
- The departure of two major processors from ASP made this problematic in any case.
- Harvesters did not like, or approve of, the power RMS gave processors in the shrimp sector. They claimed that once the RMS was in place relationships with processors deteriorated.
- For a variety of reasons, all parties effectively walked away from the arrangement in 2005. Several significant processors were not involved, individual processor/harvesters arrangements arose, some operators ceased production early and the government suspended the limitation of individual shares in mid-September.
- The shrimp sector is almost the exact opposite of the snow crab sector: a high level of resource availability and a global oversupply of product versus a declining resource base and low levels of competing supplies from other countries.
- Both sectors suffer from much the same operational problems: temporary

landing gluts, poor quality output, inconsistent and often below-par returns from the market place, uncoordinated movement of raw material over considerable distances etc.

- Both sectors have acrimonious industry relations that did not improve during the two-year pilot project in shrimp or the 2005 crab RMS.
- Overall, I find it difficult to see any justification for continuing an arrangement that lacks the support of most harvesters and at least several significant processors. It is equally disconcerting to observe the general lack of discipline on all sides that still exists in this troubled sector.

The Current Industry Views

The current claims for and against the RMS concept revolve around the “real” intentions of industry and government for industry stability, efficiency and rationalization, concentration or shift in control of the crab sector, the effect on prices received and paid, and the length of operating seasons.

During my consultations, the main concerns for the majority of harvesters are much the same as they have been for the past decade. These are centred on the increasing control of the harvesting sector by processing companies. They see this only resulting in lower prices paid and fewer jobs overall. Generally, plant workers concerns and positions are influenced by the particular circumstances at individual plants, such as loss of vessels to other operators or the shipping away of landings for processing elsewhere. Most harvesters are still convinced they will be told when to fish and where they can sell their catches. As a result, some fear they would not be able to fish certain quotas in the only season they may be able to operate, and that, in some cases, they will be denied sales by processors who no longer need or can process any more raw material. They also fear a lessening of commercial services from processors and a “downloading” of certain operating costs. The experiences in the shrimp fishery of 2004-05 do nothing to dispel these fears.

In particular, many harvesters believe there currently is a scheme by processors to de-stabilise collective bargaining and weaken the union by creating a condition of continuous chaos, especially in crab and shrimp. They view the current unsatisfactory state of collective bargaining arrangements as one indication of this strategy. They feel that a return to something similar to the FOS system of 1998-2003 would resolve many of the instability problems now caused by delayed starts to fishing activities, the resulting harvesting and processing frenzy and the inevitable damage to market returns and incomes of all industry members. They support maintaining competition in the industry while ensuring that the price setting system produces timely starts to fishing activities. They feel this would resolve many of the recent industrial relations issues.

In the majority, they remain opposed to the further application of RMS systems, not having been convinced there is anything in it for them. Above all else, they see this concept as only resulting in less revenue for harvesters. They believe this will occur by processors gaining the upper hand in the setting of fish prices and by less money being available to pay for fish because the purchase of transferable RMS will become a new expenditure and cost. In reality, the opposition of harvesters to this concept has increased since 1999 when shrimp fishermen first agreed to a trial implementation of RMS in that sector. The basic position of some harvesters is that they must be part of the designing of such systems and involved in the development of the various aspects of them.

Earlier this year, it appeared most major crab and shrimp processors favoured RMS as the best or only viable means of achieving industry stability, efficiency and rationalization. The supporters of RMS still claim it would bring efficiencies to the sector and produce increased returns for all because time and effort now spent acquiring and ensuring raw material supplies would be directed to improving operations, product development and marketing. They also feel this is a tool that could allow the industry to rationalise in a controlled manner and prevent chaos that would arise in the bloodbath of unrestrained competition they have been predicting

since 2003. They also look to RMS to provide a more rational or orderly operating season by removing the need to process as fast as possible for fear of losing raw material to other operators.

The supporters also believe the FFAW has not given crab RMS any opportunity to be tested, even to the point of refusing to negotiate when the concept was raised for discussion. They feel that, as a result, the concept has never been properly debated or looked at on its own merits. They also feel the government botched the implementation of RMS this spring by the manner in which it calculated shares, especially the loss of share by some plants because of past transferred landings and the treatment of new entrants. They think that this will not proceed in the current absence of cooperation in the industry. They believe that without RMS in 2006, the uncontrolled competition for supply will result in the crab fishery shutting down after two weeks because companies will not be able to continue to pay the going prices.

The industry ranks now appear seriously divided; several significant players have clearly withdrawn previous support for RMS in both crab and shrimp. There are a variety of declared reasons for these withdrawals but the more significant ones are the perceived or real loss of position in the industry from the calculation of individual shares, possible surrender of control over aligned vessels and the implicit application of this system for industry rationalisation. The main reasons of many processors for supporting the implementation of RMS were that it would be primarily a means to achieve annual “peace and stability” and to add value to their operations.

There also is a concern by some processors without crab or shrimp licences that the institution of RMS will take place in the more lucrative sectors first. They fear this will allow those processors to then encroach on the less valued species and gain control of those sectors as well because of their stronger financial position from having gained RMS in the more lucrative species first. This is another version of the concerns expressed by harvesters regarding increased corporate concentration in the industry.

A Current Evaluation of RMS

In my view, supporters of RMS have not made a convincing case for its application in the crab (or the shrimp) sector. To justify this system as a means of achieving seasonal operating stability is one thing; to intend it really as a rationalisation mechanism that would provide compensation to those exiting the industry is another matter entirely. Apart from raising fears of corporate concentration and predatory take-overs, transferability of raw material shares would also create a perception (and a reality) that these are quotas assigned to each processing community. This would render their use in removing capacity very problematic for government; it would become the obvious target of communities who would see “their” RMS being acquired by, and moved to, other locations. In my view, this means these RMS would never become transferable, thus making them un-usable as a rationalisation measure, and drastically lowering the potential value they are envisioned as adding to company assets.

Moreover, the claim of producing annual operating peace and stability would also run afoul of two pertinent facts. The present lack of a timely price setting mechanism almost definitely ensures that early starts to the two main fishing activities will not occur in the current climate of mutual distrust. As well, the various soft-shell conservation measures, that are now a continuing feature of crab management, will override any tendency to the slower pace of operations that was to be the main hallmark of RMS in that fishery. DFO advised harvesters in its 2005 Backgrounder to the Crab Management Plan that *“There will be no season extensions; Individual Quotas (IQs) are not a guarantee that the fisher will land that amount of crab.”* The experience of 2005 is a perfect example of the outcomes that now flow from a late start to the fishery and a rush to harvest and process for fear of being shut down by soft-shell closures. In essence, there now are no operative fishing IQs in the snow crab fishery. The fact that this is the “bread and butter” activity that supports many other operations only re-enforces this tendency to rush to harvest and process. It would not be removed by RMS.

Therefore, I find these two main elements of the poorly argued case for RMS in crab to fail because of these over-arching facts. I am likewise not convinced of other parts of the overall argument as to why RMS should be instituted in crab. I will address just a couple of these to make the point. I am completely unaware of any performance record of this industry that would support the claim that the time and expertise freed up by RMS will improve product development and marketing efforts. We remain almost exclusively a commodity producing industry that cannot point to any great record of accomplishment of product development or secondary and further processing of raw material. This has been the case over a long period, most of which was characterised by longer operating seasons than we can now ever achieve in crab. There are now at least seven months of downtime in the crab sector; some of that must be available for these activities even without RMS.

A related claim is that RMS would allow industry to concentrate on other useful activities “to grow the size of the pie” for all to share. The problem I have with this point is that examples of such prospective actions are sparse. The industry will remain a price-taker rather than a price-setter in the global seafood market. While we may be a major supplier of snow crab we are not so in seafood overall. Our ability to squeeze more from the markets is limited by what consumers are willing to pay for the type and quality of our products. When we exceed an acceptable price level, as we did again in the case of crab in the US in 2004, demand shifts off to other seafood alternatives until the supply and demand forces in the market make the necessary corrections. Generally, any processor’s individual share in almost all commodity product markets is mainly determined by the amount produced and not by any specific marketing strategy, initiative or brand reputation.

In addition, I must comment briefly on ASP’s fondness for selectively quoting Dr. Scott Matulich of Washington State University in support of their case for RMS. The specific point they reference is his conclusion that granting IQs only to harvesters “...*will result in an unintended and unnecessary transitional, and possibly long run,* (my

emphasis) *wealth transfer from processors to harvesters. In the long run, processors generally will be forced to exit the industry without compensation, and remaining processors can be either better or worse off.*"

Dr. Matulich's basic assumptions and rationale for these conclusions are as follows: The transferable Individual Fishing Quotas (IFQs) rationalise the fishing fleet and make it smaller and more efficient. Processing plants then have excess capacity that was initially installed to handle glut landings from the open derby style fishery conducted by the larger pre-IFQ fleet. Prices are bid up to acquire sufficient supply from the smaller number of harvesters for this excess plant capacity. Without Individual Processing Quotas (IPQs), entry to the processing sector remains open and new buyers and processors enter and further reduce returns to the original surviving processors. The share of the surviving processors from the sales of the fishery is reduced, while that of harvesters increases. On the other hand, exiting harvesters have been fully compensated when IFQs were traded but processors have no such recourse. The fishing season is "elongated" as harvesters no longer have to rush to acquire their share of the quotas thus creating further strains on the excess processing capacity. He further concludes that fishing and processing should both be given IQs at the same time in **future rationalisation programs** but that existing IFQ regimes should not be undone because investments have already been made under existing rules and to change them in mid-stream creates another group of losers.

The actual situation in the crab fishery for which ASP uses Matulich's analysis to justify RMS is the complete opposite of his basic assumptions: The Newfoundland and Labrador crab IFQs are non-transferable. They also have not rationalised the fishing fleet, as accumulation/combining of IQs is not permitted; only take-overs and continuance of existing enterprises are now possible. No inshore fleet has become smaller in number through transferable IFQs, with the exception of the original 4R shrimp fleet. Current plant capacity is a function of additional licences issued in the late 1990s and individual additions to plant capacity to secure market share. It was not in response to glut landings in an open entry crab fishery where the fleet has since

been rationalised and those who left were compensated through the sale of transferable IQs. Entry to the provincial crab processing sector has always been limited even though additional licences have been issued on occasion. In addition, fishermen cannot ship their crab landings out of the province, and landings in Labrador must be processed there. IFQs in crab are now inoperative and will not prolong fishing seasons because of soft-shell closure concerns.

Matulich's analysis is based on the U.S. Pacific Northwest and Alaska where there are definite differences in industry structure, fleet configuration, regulatory approaches and policy objectives from this province. Also, I understand that his conclusion of simultaneous introduction of IQs in harvesting and processing being necessary so that neither party is worse off than before is based on certain basic principles of welfare economics. These principles and argumentation can be extended to justify providing similar protection for crewmembers, fish processing communities, other special interest groups and areas. This is where the Alaska Crab Rationalisation Program has gone with Matulich's input. That Plan provides simultaneous and multi-layered IQ allocations to harvesters, processors, crewmembers and community development. Fishing IQs are also divided into portions for processing at sea and for landing on shore. There is an additional requirement for landing certain portions of IQs in two processing regions. Moreover, some specified crab processing communities have a right of first refusal to acquire any IQ that may be put up for sale before it can be transferred away. Selective use of this type of rationale to justify processing IQs (RMS) might develop into a case of "being careful what you wish for". In effect, this rationale could be used to justify far more government intervention in the fishery than processors would ever support. However, I do not think that this government is likely to adopt the relevant principles of welfare economics as a basis for its fish processing policies.

While I have found the main elements of the processors' case for RMS to be unproven, I also must observe that many of the adverse affects that harvesters and plant workers claim will definitely flow from RMS are not substantiated either. Many of

them probably would happen if there were absolutely no constraints or limitations placed on the functioning of an RMS regime. There surely would be such measures; either imposed by government as part of its public policy for the fishery sector or negotiated between industry parties in the case of those that fall in the category of commercial arrangements. Simply to take a position that the concept is not open for discussion or negotiation is to ignore or miss the opportunity to determine what gains are possible from an initiative that the processing sector clearly wanted.

An underlying factor in the Union's rejection of RMS and their earlier ambiguous approach, if not outright opposition, to accreditation is rooted largely in the concern of some boat owners, particularly in the larger fleets, that all of this would somehow threaten the bonus payment system. As well, the circumvention by some processors of the Federal Government's Fleet Separation Policy has given them, in the minds of some, an unfair advantage in the implementation of bonus payments. The fact that the negotiated price is a minimum one has in the past given processors latitude to indulge in this practice; and has contributed to general acrimony and the inability of the parties to achieve more success in collective bargaining. In 2004, an upward adjustment in the "price-to-market" formula reduced the opportunity of bonus payments; this adjustment was continued in the 2005 collective agreement for crab. Some of these fears go to the very centre of relationships between harvesters and processors; some aspects of which normally could be handled in collective bargaining.

Summary

Overall, I find the concept of RMS to be now a very marred and problematic notion that has more downsides than positives to commend it as an instrument of public policy. In spite of the 2005 crab fishery, it remains an untried approach, except for what became an abortive attempt to apply it in the shrimp fishery. There, in essence, all parties effectively abandoned it as a management and stabilisation mechanism and appear to have opted for the same individual processor/harvester arrangements

that were so decried in the past. It now has less support from harvesters, plant workers and processors than even a year ago. It was badly promoted by companies and too quickly adopted by government against obvious and strong opposition. If supporters had waited first to see how it worked in shrimp, it might have been easier to implement it in the crab fishery. Harvesters' support for RMS in both shrimp and crab has been eroded by how the actual attempt to apply it in shrimp turned out and the way in which it was then imposed in crab. All of this contributes to it now being an impractical proposal to use for almost all the reasons advanced in support of it.

All recent recommendations to government on RMS or similar systems, either implicitly or explicitly, envisaged the terms, conditions and general parameters being negotiated by industry members. In light of the 2005 crab RMS experience and the outcome of the two-year project in shrimp, I believe individual raw material sharing arrangements in the processing sector are likely to re-emerge only if the various parameters of them can be negotiated and enforced as part of collectively-bargained agreements. I say that on the premise there must be something in this for everyone involved; otherwise, such arrangements will never come to pass.

This is an even more complex matter than IQs in fish harvesting because the processing and marketing of raw material are not quite the same activities as fish catching operations. It is also pertinent to note that inshore sector harvesting IQs were designed, agreed to, implemented and monitored by harvesters themselves because DFO considers such arrangements not necessary for conservation. It only supports them through conditions of licensing and is really only concerned with enforcing the global quotas for such fisheries. In the case of crab RMS, several significant processors did not even agree on the individual shares that were proposed for them.

The theoretical basis of the argument for RMS is essentially the same as that which is used to justify IQ/ITQs in the harvesting sector. While these usually produce an immediate reduction in the pace of harvesting, there are often exceptions such as we

are now seeing in the crab fishery. As well, the jury is still out on the overall and long-term effects of IQ/ITQs, especially whether they produce all or any of the claimed positive benefits. In addition to increased economic efficiency, improved adherence to conservation is claimed as another feature of these regimes. This may not always happen as witnessed by the almost complete switch to gillnet fishing when IQs were adopted in the 3Ps cod fishery. While this may have been a logical decision by harvesters because the only real price differential was based on fish size, it meant the fishery concentrated on a narrow range of the larger and more productive year classes. Ironically, this increased concentration of these year classes is apparently the reason for the expected reduction in that quota for the next fishing season.

There are only two outcomes that can now be definitely expected from RMS in any part of the processing sector. The first is that it would reduce some of the predatory actions now involved in “the competition on the head of the wharf” for raw material supplies. The second is that it would add some value to the assets of processing enterprises. In the first case, it would reduce, but not eliminate, the level of extra payments that some harvesters will be able to extract from some processors. In the second, it would add value to a processing enterprise because of the assured share of supply but only to the extent that some other processor or investor is willing to pay to continue operating in the licensed location.

3. RESULTS OF THE 2005 CRAB FISHERY

This section will examine the results of the 2005 crab fishery in relation to those of 2003 and 2004 and of previous years where information permits. This will be done on the basis of various indicators including changes in length of fishing season, opening and closing dates, levels of quotas and catches, fishery management measures, prices, markets returns and employments levels. The extent to which these differed in 2005 from previous years will be assessed to identify the effects, if any, of RMS on this year's fishery. These factors will be used in the absence of any performance criteria having been set in advance for this pilot project.

The Fishing Operations

The main parameters of crab harvesting operations in each of the last ten years are shown in Table 4.1 on the following page. The earliest legal opening date in the last three years occurred in 2005 because that was the earliest DFO had announced the annual Crab Management Plan since 2002. The latest actual start time in the last three years also occurred this year because protests against RMS delayed the reaching of a collective agreement. The start of the main fishing season also became progressively later over the last three years and are the latest since 1996 and 1997. In 1996, the start was one month later than in 2005 and in 1997, it was two months later. It is significant that these really late starts occurred before and after the use of FOS to settle crab prices.

This later start, combined with earlier fixed closing dates, reduced catch quotas and more stringent rules for soft-shell closures, produced the shortest crab fishing season in many years, if not ever, in many fishing areas. Some fleets in 2HJ were permitted only a maximum of a four-week fishery and all harvesting activities were finished there by July 6. Closures under the new soft-shell crab protocols and the filling of individual fleet or area quotas meant all harvesting in 3K was finished by July 22. In 3LNO, all quotas were taken on or before its fixed closing date of July 31. Activities in 3Ps and

4R ended at the pre-set closing date of July 15 with quota remaining in the water.

Division/Year	Legal Opening Date¹	Start of Main Fishery²	Last Closing Date³	Total Quota (Mt.)	Total Catch (Mt.)
1996	May 16	June 18	Aug 25	37,664	38,069
1997	April 10	July 21	n/a	44,515	44,676
1998	April 01	April 15	n/a	48,724	52,049
1999	April 14	April 15	Nov 8	61,561	68,670
2000	April 13	April 04	Nov 15	55,359	55,428
2001	April 18	April 21	Aug 31	55,256	56,460
2002	April 06	April 08	Oct 22	56,981	59,321
2003	April 21	May 03	Sept 09	56,250	58,362
2004	April 23	May 06	Oct 15	53,590	55,658
2005	April 09	May 22	July 31	49,978	43,976

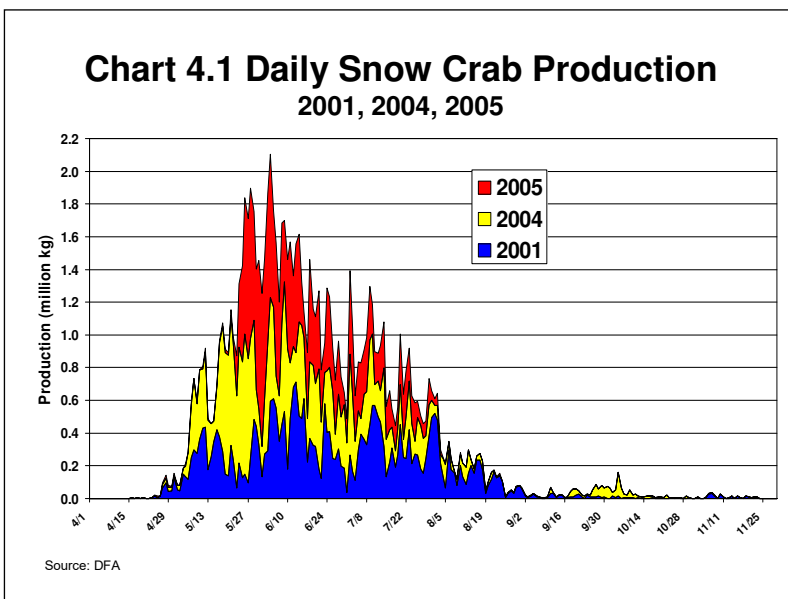
Notes: (1) Legal start date as set by DFO
 (2) Start date under Collective Agreement
 (3) Last area quota closing date set by DFO

Source: DFO; FFAW

The 2005 season also saw another decline in total annual quotas, continuing the trend downward from the peak of 61,561 mt in 1999. Total quotas are now almost 20 percent below that peak level; most of the decline having occurred in 2J (-74%), 3K (-29%) and 3Ps (-48%). Moreover, this was also the first time in some years that the total assigned quotas were not reached. Since 1996, the final catch exceeded total allocations by varying amounts each year until 2005. This year, the total harvest fell about 12 per cent (6,000 mt.) short. Most (4,160 mt.) of the absolute shortfall occurred in 3K where soft-shell crab closures curtailed fishing opportunities; 3Ps and 4R accounted for a shortage of 1,900 mt. (The other two main quota areas together contributed an over-run of about 300 mt.)

One of the consequences of these new fishery management measures, coupled with the delayed start to the main fishery and claimed needs to generate cash flow in a deteriorated market, was a faster than usual pace of harvesting and processing in the

early weeks of the season. As Chart 4.1 shows, by the middle of June the total level of daily production was almost three times the rate of 2001 and almost twice that of 2004. By the end of June the daily rate, while decreasing, was still higher by the same relative levels from 2001 and 2004. The pace of activity continued to decline for the rest of the season as quota and soft-shell closures began to affect both the rate of total harvest and production. By mid-July, production rates had fallen back to the comparable levels of 2001 and 2004 when earlier starts to the season had taken place. The season would end two weeks later with most quotas already closed and the total catch and output some 12 percent below the level of 2004. This all occurred in a season that started two weeks later and ended four weeks earlier overall than in 2004.



Markets and Prices

Since 1998, crab collective agreements have contained a provision to use a “Price-to-Market” Formula to determine changes from the agreed starting price during each crab season. An independent marketing analyst provides and analyses the necessary data in regular market update reports. These data provide some useful insights into annual and intra-year trends in the crab markets that influence returns to processors and the price received by harvesters.

Table 4. shows the last three years’ data on the pertinent parameters of the formula. The FOB prices at Boston for truckload lots of Combos and U.S. Sections and contract prices for Japanese Sections together with their “Market Shares” (really

percentages of total production) are used to calculate a “Market Price Factor” (MPF) in US dollars. That is then converted to Canadian dollars by the current exchange rate. The resulting “Market Price Factor” determines the “Reference Price” for landed crab at the start of the following week from a collectively bargained formula table.

Table 4.2						
Selected Market and Price Indicators, Snow Crab, 2003 to 2005						
	2003 Season		2004 Season		2005 Season	
	Start	End	Start	End	Start	End
Market Prices						
Combos (\$/lb.)	8.45	10.15	9.65	9.65	8.95	8.50
US Sections (\$/lb.)	4.10	4.25	4.25	4.25	3.23	3.24
Japan Sections (\$/lb.)	3.85	4.05	4.35	4.35	3.20	3.25
Market Shares (%)						
Combos	2.85	1.49	1.03	1.42	1.55	1.44
US Sections	71.40	73.37	66.32	64.73	65.75	62.07
Japan Sections	25.75	25.15	32.65	33.85	32.70	36.48
Market Price Factor						
\$US	2.41	2.52	2.65	2.66	2.00	2.02
Cdn \$ Exchange	1.42	1.39	1.38	1.28	1.26	1.22
\$Cdn.	3.44	3.52	3.66	3.39	2.53	2.45
Reference Price (\$/lb.)	2.12	2.18	2.47	2.22	1.45	1.39
Source: Crab Market Update- Seafood.com						

These market price data reflect the seasonal and annual fluctuations in market demand for the selected product types. The trend from the start of the 2003 season has been an upward movement that continued to the end of the 2004 season but which then declined dramatically by the start of the 2005 season. This upward price movement proved too much to sustain demand in the U.S. market. Indeed, the significant decline between the end of the 2004 season and the start of the 2005 season continued with no real overall recovery by the end of this season. The normal market reaction when prices reach unsatisfactory levels is for restaurants to remove

crab from menus and for major promotions to cease. This continues until prices decline to a point that will clear inventories and then stabilise at a level more acceptable to consumers.

This latest market backlash began in the 2004 season when a higher price was achieved for sales to Japan and an increasing percent of production was then directed to that market. This forced the prices for US sections upwards over the course of the 2004 season. By the end of 2004, shipments of sections to Japan had increased by 33 percent (over 2003). Over the same period, the percent of section production going to the US fell by some 15 points. Demand in the Japanese market remained more buoyant than US demand in 2005, though at lower prices than in 2004. This latest decline in US demand for snow crab may not be reversed until sometime in 2006.

Table 4.3 Trends in Market Price Factor and Port Prices (Season Start and End Values)				
Year		Market Price Factor		Port Price (\$C)
		\$US	\$Can	
1998	Start	1.24	1.78	.80
	End	1.39	2.14	1.08
1999	Start	1.80	2.64	1.48
	End	2.21	3.24	1.96
2000	Start	2.38	3.50	2.16
	End	2.41	3.70	2.32
2001	Start	1.99	3.13	1.88
	End	1.93	2.96	1.74
2002	Start	1.91	3.03	1.80
	End	1.98	3.14	1.88
2003	Start	2.41	3.44	2.12
	End	2.52	3.52	2.18
2004	Start	2.65	3.66	2.47
	End	2.66	3.39	2.22
2005	Start	2.00	2.53	1.45
	End	2.02	2.45	1.39

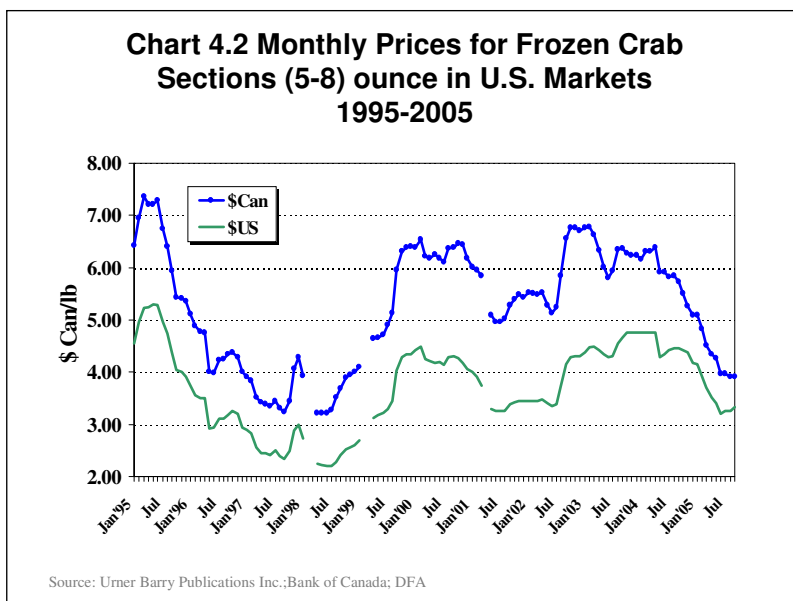
Source: Crab Market Update-Seafood.com

The rise in market prices through the 2003 and to the end of the 2004 season produced an increase in the Market Price Factor (MPF) (in \$US) of some 11 percent over that period. However, by the start of the 2005 season, this indicator was down almost 25 percent from the peak levels of 2004. Over the same period, the Canadian dollar rose against the U.S. currency by some 13 percent. As a consequence, the MPF in \$Cdn fell 33 percent by the end of the 2005 season from the peak of 2004 (the negotiated 2005 “first trip” price was 35 percent below the beginning port price of the previous year). Therefore, even if the demand backlash had not occurred in the U.S.

market, port prices would have been lower in 2005, at least in proportion to the appreciation in the Canadian dollar.

The increased attempts to make early sales in 2005 helped prevent market prices from improving during the 2005 fishery. The aftermath of high prices in 2004 and allegedly deficient product also contributed to the depressed prices and demand levels in the US market. The late start to the Newfoundland and Labrador fishery allowed product from the Maritimes and Quebec to enter the US early in the 2005 season; this also helped prevent any early price recovery. In a declining US market, prices previously obtained for sales to Japan could not be maintained in 2005.

The conditions that prevailed in the snow crab markets from 2003 to 2005 have re-appeared on a somewhat regular basis for at least the past ten years. Table 4.3 and Chart 4.2 show these trends. The trend that re-occurs is two to three years of a rising



market, followed by about a two-year decline, before a rising market appears again. The Alaska fishery became less of a factor after 1998 when quota cuts meant lower supplies from that source. The upward price movement of the next two years was caused by the lower overall supply and strong market demand that

had been built up during the 1996-98 period of high supply and lower consumer prices. However, toward the end of the 2000 season the market price had reached a level that consumers were no longer willing to pay. This complete sequence of events would be repeated twice, and for much the same reasons, over the next five years. A period of reduced market demand and prices occurred in 2001 and 2002; another

rising market existed in 2003 and most of 2004. This changed to a downward movement again in late 2004 and all of 2005. This latter downturn in market demand and prices was coupled with a rise in the Canadian dollar; further contributing to the decline in market returns and the port prices received by harvesters.

Some of the more significant snow crab market factors and conditions that emerge from the data in Tables 4.2 and 4.3 and Chart 4.2 can be summarized as follows:

- Demand, prices and returns have been quite cyclical over most of the last decade. Rising demand generates increasing market prices that eventually limits the willingness of consumers to continue buying crab at such prices. The market then goes through an adjustment period where prices are reduced and returns to processors and harvesters decline accordingly.
- In the late 1990s and early 2000s the exchange rate contributed favorably to total returns from the market; at times masking the downturns in demand and prices. During the current market decline a rising Canadian dollar has added to the reduction in returns. Most of the significant in-season changes in crab port prices, especially over the last five years, have been the result of changes in the exchange rate rather than in market prices.
- Generally, little of the major market changes occur during the increasingly shorter crab fishing seasons. Market adjustments (both upward and downward) seem to begin between processing seasons and then continue until a stabilized market is reached.
- The US market price for 5-8 ounce sections has fluctuated up and down over the past ten years. Since 1996, there has been a noticeable downward trend in market returns and prices. Since the adoption of FOS in 1998 there has been a very slight upward trend. These market prices are currently at a level that is only marginally higher than in 1998.
- The crab sector, from 1998 to early 2004, enjoyed high market and port prices,

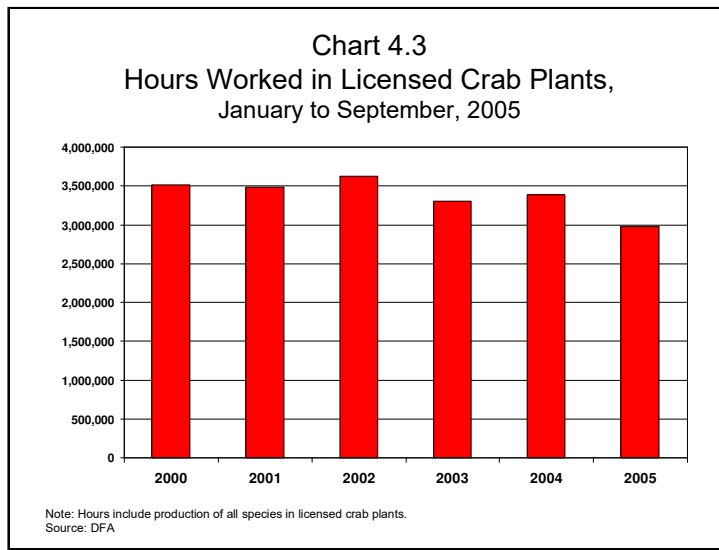
high levels of resource abundance and favorable exchange rates. All of this changed downwards in 2005.

In 2005, harvesters received an average of \$1.45 per pound compared with an average of \$2.45 last year, equivalent to a 41 percent drop. Port prices were at their lowest level since 1998. The market value and the landed value of snow crab will be significantly lower than in 2004. DFO estimates landed value to be \$139.7 million, compared to a landed value of \$300.6 million in 2004. This suggests that final product value will be \$250 million in 2005 compared to \$470 million last year.

On balance, I can find no evidence or convincing argument that RMS had any positive or negative effect on the 2005 decline in prices and market. The seeds of this decline were actually sown in 2004 even though most processors had agreed to cooperate in the distribution and transferring of crab landings during that season. The series of fluctuations in market and port prices, which have produced three major downturns since 1995, have been caused by a variety of reasons. These include often uncoordinated harvesting, processing and marketing activities.

Crab Processing Employment

Chart 4.3 shows the effects on total hours of employment in one of the shortest crab processing seasons on record occurred in 2005. While the total numbers of workers was much the same as in 2004, they worked some twelve percent fewer hours during the main crab processing season. While number of hours worked was the lowest in at least the last six years, it still takes significant hours to process the current daily or weekly volumes of crab. The high daily and weekly volumes of landings in June and July required substantial processing labour because plants operated at full capacity working around the clock. This resulted in a concentration of work in a shorter period of time and crab workers qualifying for EI with about the same number of total hours but substantially less weeks from crab processing. This shorter working season creates a double whammy for EI qualifications: the “divisor rule” means lower benefits can be received for a shorter period.



Luckily this year some of these crab employment effects were offset in some plants by improved employment opportunities in the processing of pelagic species, especially capelin and mackerel. Both of these enjoyed better market situations than has been the case for some years. In many cases, the take-up on the

government's Crab Workers Support Program was less than expected. However, the hardest hit area was Labrador, where pre-set closing dates and 20 percent lower locally available raw material significantly shortened the crab processing season. It was not the beneficiary of these improved pelagic opportunities. These are not likely to ever have much effect on the Labrador problem and are really an opportunistic event in most cases.

Crab RMS in 2005

The institution of RMS in the crab sector in 2005 was intended to provide "peace and stability" in what was expected to be an otherwise chaotic season. The government was concerned about the level of instability that would arise from the declining resource, weakening markets, excess processing labour, a rising Canadian dollar and an inefficient distribution system. Recent seasons were marked by intense "head of the wharf" competition for raw material and a rush to harvest and process. The negotiated higher starting price for 2004 and an alteration in the "Price-to-Market" formula reduced the potential of making "bonus payments" by increasing the share of increasing markets prices that went to harvesters. This, together with the informal

arrangement to share and distribute raw material amongst most processors reduced some of the former effects in 2004.

The 36 active crab facilities averaged 95 percent of their allowable RMS, with 29 plants reaching over 90 percent of their assigned RMS. Two plants processed less than 70 percent of their RMS. One ceased production due to quality issues while another did not get sufficient raw material, likely due to 3K closures.

In 2005, crab prices were again set through regular collective bargaining between the FFAW and individual companies. A negotiated start price of \$1.60 applied to the first trip and then the negotiated "price-to-market" formula picked up the effects of reduced market demand and prices and the appreciating Canadian dollar. Processing and selling activities in the 2004 season caused the lower market situation that existed at the start of the 2005 fishery. Market indicator prices remained virtually unchanged over the course of the 2005 season at about a dollar below the 2004 close. The landed price for the first trip started at 62 cents below the 2004 close and declined another 21 cents by season's end. Almost this entire decline was due to the rise in the Canadian dollar over the course of the fishing season. RMS had neither a positive nor a negative effect on the level of prices received in 2005; these were caused solely by market reaction to high prices paid in 2004 and the rising value of the Canadian dollar.

The Canadian dollar continued its rise in line with international currency parameters; snow crab production in Newfoundland and Labrador has no influence on these but is affected by the changes in them. While "on-the-wharf" competition to gain increased raw material supplies may have been reduced by RMS, the rush to harvest and process was not. The late season start, a need for cash flow and concerns about potential soft-shell crab closures (combined with early fixed closing dates), resulted in one of the shortest processing seasons on record. The continuing negative effects on processing workers have already been described. With the current declining crab

resource and the excess processing capacity, RMS will do little to resolve this problem of excess processing labour.

One positive aspect of this season's crab RMS project was that the clearing-house arrangement instituted for transfers of raw material acted as a "glut desk" by facilitating the movement of crab between plants with temporary surpluses and those with shortfalls. Under this arrangement, these transfers were required to go to the nearest plant in need of raw material. This would have reduced some of the uncoordinated trucking that has taken place in the past. In total, processors received some 7.3 percent of raw material processed by transfer and the remainder by direct purchases. It is not known how much of the latter amounts were trucked and over what distances.

In summary, the main outcomes of the crab RMS system in 2005 were improved coordination of raw material distribution from processors with temporary surpluses to those with shortfalls and some unknown lessening of "on-the-wharf" competition, which had been already achieved to some extent in 2004. There was probably some reduction in the trucking of crab, but I cannot verify the extent of it. The rush to harvest and process remained a feature of the fishery; any stabilising that may have occurred in the market occurred from its built-in adjustment processes. It did not improve operating efficiency or lengthen the duration of the processing season and of plant employment. It is highly unlikely that crab RMS will accomplish any of these positive outcomes while the sector faces ongoing soft-shell management measures, a declining resource, excess processing capacity and surplus labour.

It is also likely that the 2005 season would have been delayed at least as late as 2004 even in the absence of the proposal for RMS. The alleged broken promises to pay bonuses in 2003, and the demise of FANL and FOS, translated into a very difficult collective bargaining scene in 2004. It is by no means clear that the level of mistrust caused by this would have diminished by 2005, even in the absence of the RMS

project. Indeed, the indications are that this mutual acrimony remains at a high level; and could be a significant factor in creating further instability in 2006.

4. COLLECTIVE BARGAINING IN THE INSHORE FISHERY

This Section will review the development and status of collective bargaining in the inshore fish harvesting sector. The provisions for setting fish prices and related matters have long been a crucial part of the framework in which this industry operates. They are inextricably tied into the present RMS issue and the overall state in which the industry still finds itself.

For almost a decade, intense debate, significant changes and continuing disagreement have marked the functioning of the collective bargaining process for harvesters and fish processors. Since 1997, the legislative provisions for collective bargaining between harvesters and processors have been the subject of two major studies and reviews and several legislative amendments. Almost all of the recommendations of the first major review were implemented and used for some six years. Few, if any, of the recommendations of the second major review have been yet acted on.

The Beginnings

The provincial government passed the Fishing Industry Collective Bargaining Act (FICBA) in 1971 thereby granting harvesters the right to regular collective bargaining for fish prices and related matters. The proposal to government to establish collective bargaining in the fishing industry, in which I was involved, called for a specific mechanism for the resolution of disputes and the setting of fish prices. An independent entity would set fish prices when there was no agreement between parties. The proposal also called for an arrangement to provide appropriate commercial information such as market conditions and returns, costs and revenues of harvesting and processing activities. The intent of these was to allow informed bargaining to take place but for settlements to be made in a binding and timely manner. It was clear to me at the time that Premier Smallwood liked the proposal for such a binding arbitration mechanism to settle fish prices. I did not have the

wherewithal or resources to draft the appropriate legislation. Instead, the proposal was passed on to the bureaucracy and resulted in the Fishing Industry Advisory Board (FIAB) being established as a separate stand-alone entity that had no legislated function in the collective bargaining system. This lack of a clear and definitive legislation provision for informed bargaining and timely and binding dispute settlement is still a significant shortcoming.

The FICBA of 1971 allowed the Newfoundland Fishermen, Food and Allied Workers Union (NFFAWU) to seek certification on a regional basis; and by the late 1970s, it was certified to represent all harvesters except those north of Makkovik and on Fogo Island. The Union negotiated the first collective agreement covering fish prices in Bonavista North in 1972. The contract language in Appendix A of that initial Agreement, as proposed by the processor and accepted by the Union, referred to agreed fish prices as being the minimum prices. These minimum prices, with very rare exceptions, remained the *de facto* prices paid by all buyers for most species until the late 1980s. Deviations from this practice then began to arise when some larger inshore vessels began prosecuting a new cod fishery on more middle distant grounds in 3L. The negotiated price then became more clearly a minimum one. While a major strike occurred in 1981, there were otherwise only some minor local disputes over the almost two and a half decades of traditional collective bargaining for fish prices and related matters.

While the legislation made provision for buyers or processors to organise an association to collectively bargain with harvesters, it made no clear provision for accreditation of such a group at that time. In 1977, the main fish processors association, FANL, acknowledged the FFAW as the bargaining agent for harvesters and engaged in yearly collective bargaining for all species except lobster.

FANL attempted (with the support of FFAW) to get accreditation by an amendment to the legislation in 1991. However, the proposed bill died on the Order Paper because of successful lobbying by non-FANL members to kill the legislation. Amendments to

the legislation in 1998 did provide for accreditation of a processing organization for collective bargaining, but only for accreditation covering all species. FANL applied for accreditation on the basis of a single species in 2001 and all species in 2002. In 2001, the Labour Relations Board ruled the legislation did not allow for single species accreditation. FANL eventually withdrew the 2002 application and chose instead to opt out of the FOS model and structured collective bargaining and later to disband. Accreditation of a processor group has not succeeded to date.

The FOS Period

This traditional collective bargaining arrangement functioned more or less satisfactorily in the years before the groundfish moratoria when the industry was predominantly a groundfish-based activity. By the mid-1990s, when crab and shrimp had clearly replaced groundfish as the basis of the industry, the opening of one or both of these fisheries was delayed in three of the five years from 1993 to 1997. The major delay in the opening of the crab fishery in that latter year led to the appointment of the *Task Force on Fish/Crab Price Settlement Mechanisms in the Fishing Industry Collective Bargaining Act* in September of 1997.

This Task Force reported in January 1998 and recommended the trial of an interest-based method of collective bargaining termed “Final Offer Selection”. Under this approach, harvesters and processors are compelled to bargain under strict time-lines and to use final offer selection arbitration to decide any unresolved points (usually price) so that a timely start to the major fisheries was ensured.

A Memorandum of Understanding (MOU) was an important feature of the model. It was the Terms of Reference for collective bargaining and had to be agreed to by the parties by December 31. The MOU provided an overview of the collective bargaining model, the role of the arbitrators in the process, guidelines for arbitration, arbitration procedures and outlined the dispute resolution process to be used during the conduct of fisheries. Harvesters and processors then had to use the MOU as the basis for

bargaining for the upcoming season. In the absence of the parties agreeing on any of the components of the MOU, an independent third party, whom harvesters and processors had identified, would arbitrate the issues. Other parameters, such as the schedule of negotiations and choice of a facilitator, had to be completed by February 1.

One key feature of FOS was the interest-based bargaining aspect. Harvesters and processors met prior to actual price negotiations to discuss issues related to the fishery. These included timing of fisheries, grading methods and protocols and trip limits etc. At the start of collective bargaining, an independent person provided an overview of markets including prices and other factors affecting those markets. This was a critical feature in settling prices. Previously, harvesters and processors could not agree on an assessment of the actual market situation. In a declining price market, harvesters did not believe the claimed magnitudes of price declines, and in increasing price markets, harvesters did not trust the price increases reported by processors. The substantial levels of mistrust on this point alone contributed to the major crab disputes of 1996 and 1997.

Another key feature of interest-based bargaining was the appointment of a facilitator who ensured all the necessary work was done for the negotiations to proceed, e.g., the MOU, scheduling of negotiations, etc. He chaired the interest-based phase of negotiations and the actual price negotiations. The facilitator also kept the arbitrators informed about negotiations and provided regular verbal and written updates. He was the liaison with government ensuring that market reports were prepared and ready for each set of negotiations.

This approach was evaluated after two years (in 1999) and the legislation amended in early 2000 to permit its continuation on two-year cycles unless one or the other party used the opting out provision. The FOS approach continued towards the end of 2002 when FANL invoked the optioning-out clause citing dissatisfaction with the continuing inability to enforce terms of collective agreements and the inability of FOS to produce

a fair and final price. The government extended the arrangement for one more year; the FOS model then terminated at the end of 2003. By that time, FANL members had disbanded that association. The new organisation that emerged was not given a mandate by its members to bargain collectively as an association.

Under the FOS arrangement of 1998 to 2003, the parties negotiated 56 collective agreements. They achieved 31 of these through negotiation while the FOS arbitration procedure was used to settle price in the other 25. In 11 of these cases, the arbitrator selected the final offer of FANL and that of FFAW in the other 14 cases. The most significant outcome was the more timely start of this major fishery from 1998 to 2002.

The Current Arrangements

In 2004 collective bargaining reverted to individual targeted negotiations, which in the case of crab, all major processors joined at an early stage. The main 2004 crab fishery started on May 6; while the 2005 season, because of the protests against RMS, did not commence until May 22. (Processors and harvesters on the West Coast started operations earlier in both years, as appears to be the general practice in that area.) In the six years when FOS was used, the main crab fishery started at various dates in April, ranging from as early as the fourth to as late as the 21st. Start times in the two years prior to FOS were mid-June in 1996 and July 21 in 1997. An early April start-up in the crab fishery enables larger vessels to begin fishing before the smaller vessels are capable of operating. This creates a more natural flow to the fishery so that operations extend over a longer period; most large vessels also then are ready to begin fishing shrimp in May, allowing that season to be extended at the front end.

The 1998 Task Force proposed the FOS interest-based model be tried on a two-year pilot project with provision for a review after the end of the first year. It also recommended the establishment of an auction on a pilot project basis. It was not clear as to what it thought should happen after that point, whether FOS should be continued or whether fish auctions would be the preferred course of action. The

opting-out provision of FOS implied it would only work as long as the parties wanted it to work. Furthermore, in the then buoyant crab market conditions, harvesters and processors were dividing increasing wealth. However, as markets declined, the sharing of decreasing returns would become more difficult. This was already evident in the shrimp fishery. The first real test of the model would take place in that fishery and it failed there in 2001. On the other hand, because crab prices generally remained at historically high levels from 1998 to 2004, there were no major disputes until during the 2003 season. There has proven to be no real desire to adopt fish auctions; nor are there concrete indications that this would be a really viable way to set prices in the inshore sector. As mentioned in the previous section, the threat by the Minister to introduce an auction to the inshore shrimp fishery in 2004 hastened adoption of the “Gregory/Broderick” operational plan.

The status of collective bargaining in the fishery now is that the industry has reverted to the traditional model of strike or lockout to settle differences. In the major fishery (crab), with potentially shorter seasons becoming the norm, a system that does not force timely settlements to enable early starts to the season is a recipe for disaster for the rural economy. The loss of interest-based bargaining is actually a bigger problem. It makes it much more difficult to incorporate such matters as quality grading and measures for orderly conduct of the fisheries into collective agreements. Resolving this issue in a manner that provides the greatest public good should be a high priority for the government. I will return to some specific matters on collective bargaining in Sections 5 and 6 below.

5. ISSUES FOR 2006 AND BEYOND

In this Section, I will outline the most significant factors underlying the current crab sector crisis that have brought it, and the industry generally, to the dismal situation in which it is now finds itself. These have all contributed to processors' demands for the use of RMS. These include past actions or positions taken by government and industry members that have caused many of the chronic problems of this industry to persist and create the current state of the industry. In doing this, I will almost be assigning blame when it is deserved, which will be largely across the board. The causative factors include the development and maintenance of excess capacity in the harvesting and processing sectors, hidden corporate control of harvesting, the inadequacies that have developed in the collective bargaining and price setting arrangements, the problem of excess pools of processing labour and the "talqual culture" of the industry. These factors have all combined to produce a situation that made adoption of RMS a panacea for certain industry players and almost a complete anathema for most harvesters.

When I accepted the invitation of Premier Williams to inject myself into the fishery after some considerable absence, I was not surprised, but unfortunately disappointed, to find that the more things had changed the more they remained the same. This is at least the fifth major fisheries crisis that I have been involved with in the past almost forty years. Many of the issues are still the same, except in some ways, they have gotten worse. Therefore, I am fearful for the future of this industry if we allow the significant underlying problems of the past to remain unsolved. This situation is exacerbated by the considerable and debilitating distrust that still exists between the parties and the uncoordinated management decisions and actions of both levels of government.

Management of Processing Capacity

When the Fishing Industry Renewal Board submitted a report in 1996 on management of the fish processing sector, one of the issues was the demand for new crab licences. The report cautioned against a wholesale increase in crab processing capacity. Instead, it recommended consideration for new licences be given only to three major fishing centers (Twillingate, La Scie and St. Anthony) that then did not have crab licences. There is no doubt in my mind that the Wells government, which commissioned that report, intended to implement it generally as it was presented.

Unfortunately, Premier Wells stepped down. It is ironic that his successor, Premier Tobin, proceeded in 1996 and 1997 to do the exact opposite of what he had done as Minister of Fisheries and Oceans in 1993 and 1994. Then he had been the recipient of the Atlantic Task Force on Incomes and Adjustments in the Fishery. He also was mainly responsible for getting billions of adjustment dollars spent to deal with aftermath of the cod fishery closures in Atlantic Canada, mostly in Newfoundland and Labrador. The primary problem in the industry then had been the considerable redundant capacity created by these closures. Problems in the ranks of harvesters and plant employees were addressed in part. The newly redundant capacity in the processing sector was not. In 1996-97, that provincial government, with the full knowledge of the mess we had been in only four or five years earlier issued 17 new crab licences. Three more licences were issued from 1998-2000 and another six would be added in 2001.

This undisciplined response to the increases in the crab and shrimp resource and harvesting licences of the mid to late 1990s contributed to the build-up in crab (and shrimp) processing capacity and in a significant way to the crisis we have today. The additional processing licences were issued for both species with complete disregard for such basic factors as total resource requirements versus availability, economics of location and the general viability of processing operations. This was a singularly unprecedented ignoring of the processing over-capacity problems that still lingered in

the industry from the groundfish collapses of the early 1990s. Indeed, some of the crab licences issued never operated; resource availability was already inadequate even before the declines of this decade began. The main results of that abdication of responsible public policy included the maintenance of some operations that would, and should, have left the industry, the establishment of other facilities in uneconomic locations and even the entry into the crab processing sector of new operators. The overcapacity created by these licensing actions drove the various industry-led attempts to find rationalisation measures and plans for the crab and shrimp sectors over the last six years or so; these usually featured RMS as the preferred solution of processors.

Management of Harvesting Capacity

While the provincial government significantly increased processing capacity in the last ten years, no real progress has been made in reducing unnecessary capacity in the inshore harvesting sector over the same period. The fleet restructuring issue in the inshore sector has become a complex one involving various and related parts of DFO's licensing policy. These primarily include the rules relating to vessel replacement, fleet separation, owner/operator and leasing or temporary registration of vessels. Vessel replacement rules govern the size of new vessels by limits on cubic capacity and length barriers at 35, 45, 55 and 65 feet LOA. DFO policy currently allows individual fleets to submit proposals for increasing vessel sizes beyond these limits provided a rationalisation plan is part of the proposal. To date no such fleet proposal has been submitted except for the Union's proposal for a fleet funded and controlled buyout of under 35 ft. snow crab licences. This in fact was a condition of these licences being converted from "temporary seasonal permits".

The fleet separation policy was intended to freeze processor ownership of inshore fishing licences at the level it had reached in various fisheries as of 1979. Essentially, no additional licences could be issued to, or acquired by, processors after that point. Related, and complementary, to that policy was the requirement for the owner of a

fishing licence to operate the vessel authorised by that licence. Finally, the provisions for leasing of vessels are designed to give harvesters the flexibility to acquire emergency or short-term replacement units. While a replacement lease for a lost or destroyed vessel can be approved for up to two years, there is also provision for two harvesters to pass the registration of the same vessel (lease) between their enterprises every 11 months. The current policy for “combining” of licences or enterprises only permits temporary “buddying-up” of two such units, mostly in the under 35 ft. crab fleets. There is no permanent combining that results in one licence being cancelled and a larger vessel being used by the newly combined enterprise.

In any event, the present vessel replacement and associated rules are ones that were designed and instituted in a nearshore groundfishery. These are not suitable to deal with the current situation where inshore vessels are really conducting offshore fisheries in both crab and shrimp. Despite safety concerns and well documented shortfalls in vessel design and operating efficiencies, the inshore fleet remains hampered by these outdated replacement rules for a variety of other reasons.

While some harvesters favour combining of enterprises to create larger and more efficient operations, the majority of FFAW members continue to oppose this approach because of a fear of increasing corporate control of fishing enterprises. To avoid this eventuality, the FFAW’s proposed rationalisation plan for the under 35 ft crab fleet calls for internal fleet financing of IQ buy-outs for re-distribution on some pro-rata basis to remaining operators. This, at best, will be a very long-term process whereas improvements in economic efficiency of these fleets are needed now. While there are some grounds for the concern of increasing company control of inshore licences, it should not result in the complete rejection of controlled combining and transferring of individual licences or quota shares. The very increasing of the size of an enterprise does not automatically mean a processor will become the owner of it. Conversely, improving the efficiency of an enterprise should make it more capable of remaining independent.

At this point, I cannot help but observe how so much of this industry is engulfed in subterfuge. The bonus payment system itself falls into that category. An even more striking example is the position of many harvesters and the Union in opposing consolidation in the harvesting sector. The argument they make, which has validity, is that as long as the Federal Government does not enforce its policy of fleet separation, their accepting or approving fleet consolidation would only give processors a continued chance to increase control of the harvesting sector by the use of trust agreements or beneficial use contracts.

Of course, I have been around long enough to know something of the darker side of ourselves. The opposition to fleet consolidation is based on more than just the fear of corporate concentration. There is also a negative reaction towards those who might better themselves by getting bigger boats and more quotas. We don't always enjoy seeing others getting ahead. This is probably a contributing factor as to why so many harvesters oppose combining.

Yet, while this is the official position of the Union, some harvesters use a back door around the current "no combining" policy. Two licence holders fish their quotas with one vessel registered to one of them for this season. The next season the vessel is registered (leased) by the other and again is used to fish both sets of quotas. This can go on indefinitely. Thus, the underlying cause is not tackled head on but is handled through the back door. This is simply another example of blindfolding the devil in the dark and of DFO, and perhaps all in the industry, taking the course of least resistance.

In addition to FFAW members' unease with transferring and combining of fishing licences, some of the rationale and support for RMS by processors, also has been caused by the increasing corporate control of fishing enterprises through the use of "trust agreements" or "beneficial use" contracts. Some processors are reported to have used this approach rather successfully, and thereby increased their share of raw material at the expense of other processors who cannot, or will not, do the same. This

“stealth approach” to acquiring control of raw material fuels the views of some processors that an uneven playing field exists in the procurement of raw material in addition to harvesters’ concern of creeping corporate control of transferable licences or IQs. The response in the first case is to favour the introduction of individual raw material shares for processors; and in the second instance to support non-transferability of fishing licences and IQs.

In a very real sense, DFO has contributed significantly to the present problems of the industry by the way in which it abandoned or ignored the policy of fleet separation. At the same time, it has a related policy to permit more flexibility on size and capacity of replacement vessels contingent on self-rationalisation proposals by individual fleets. They must know, or ought to know, that the Union will be opposed to such a policy as long as fleet separation policy remains in limbo and is not really enforced.

This lack of action and clarification has contributed to the present problems in dealing with over-capacity and operating inefficiencies in crab and shrimp, and indeed the whole inshore harvesting sector. This situation can only be remedied by DFO’s enforcing its fleet separation and owner/operator provisions of licensing policy in accordance with its original rationale and intentions. The provincial government and the industry should seek a clarification of that department’s intentions on this point. Related, and even basic, to all this issue is the fact that the level of overcapitalisation in the 35-65 ft. harvesting sector is creating a demand for excessively high levels of prices compared to what the market can deliver on a continuous basis.

These persisting levels of over-capacity in harvesting and processing and the resulting inefficiency continues to condemn the industry to being a multiplicity of under-financed operations producing commodity items for an increasingly competitive global seafood market. With a declining crab resource on the one hand and a world over-supply of shrimp on the other, a way must be found to reduce this capacity in an effective but controlled manner that most can live with. The solution must fall

somewhere between the completely unfettered use of so-called free market forces and the complete opposition to rationalisation on the other.

As I examined the various underlying causes of the present industry problems, it became apparent to me how many of these were the result of years of uncoordinated management decisions and actions by both levels of government. These were taken in isolation in each sphere of authority and resulted in excess capacity in both sectors with no immediate action underway to remedy them. It is obvious to me that this is a classic case calling for some form of coordinated management arrangement to address a jointly caused problem in a set of circumstance unique to this province. It is tempting to speculate, had such an integrated arrangement been in place over the last decade whether the industry and province would be facing the current problems caused by overcapacity in the harvesting and processing sectors.

The Collective Bargaining Scene

The demise of FOS in 2003 put the setting of fish prices back to where it was before 1998. The current legislation enables only targeted or individual company bargaining; and strikes or lock-outs are the only means of settling disputes that are not resolved in negotiations. The industry arrived at this situation because FANL opted out of FOS. It was then disbanded and replaced with an organisation that was not given a mandate to bargain collectively. The main reasons given for processors taking these steps were the inability of a non-accredited industry association to enforce provisions of collective agreements, negotiated prices being only minimum prices, an increasing share of industry revenues being appropriated by harvesters and a desire to obtain an RMS system.

There is a great deal of frustration among fish processors caused by the inability to deal with the major problems they perceive, i.e. predatory pricing and related practices. These problems are exacerbated by the abysmal failure of the Federal Government to enforce its fleet separation policy and to advance the introduction of

fleet rationalisation plans. It was ably assisted by the folly of the Tobin administration in the astonishing increase it created in processing capacity in the late 1990s.

In good times processors lived with this situation. Indeed, at least five of the major Newfoundland processors did so well in the crab fishery in the late 1990s and early 2000's that they were able to considerably expand their operations into the Maritime Provinces.

They believe, as I do, that the success of FOS was helped by their informal sharing programs, which ultimately were sacrificed on the altar of Newfoundland egalitarianism. An investigation of the so-called cartel, in which they were ultimately exonerated, led to the end of these arrangements in 2003.

Some outside observers believe processors' absolute frustration with the collective bargaining process is due in part to having been outmanoeuvred by the Union. However, they also perceive the Union to be unable or unwilling to deal with the problems of bonus payments and consequential predatory pricing and related practices. The obvious solution to this lay in achieving accreditation and doing openly what they had been doing covertly, i.e., have some sort of sharing system. They assert that, if they are forced to negotiate prices through collective bargaining, they have a right to some sort of coordinated guarantee of supply. As best as I can see, the Union's response to accreditation did not help them, but then again, they did not help themselves either. They failed to properly use collective bargaining to address these problems in part because of the previous government's failure to move on their accreditation application. This led them to seek government's intervention to do by legislation what they could not do at the bargaining table.

A more orderly system of bargaining that could deal with these issues is the answer for both parties. Processors continually blaming the Union for something they as a group, or at least some of them, helped create is not sufficient reason for the government to incur the wrath of harvesters by being perceived as the "agent of the

fish companies". The popular Newfoundland practice of engaging in duplicity can be laid at the doors of both parties. The RMS had two basic objectives, industry rationalization and the orderly sharing and distribution of raw material. The real reason was to find a way to stop predatory pricing and associated raiding practices; practices facilitated by the Federal Government's failure to enforce its fleet separation policy.

I indicated earlier that accreditation of a processor organisation was not possible under the legislation until 1998. The second attempt at accreditation by FANL following the 1998 amendment was opposed by the FFAW. While that application was withdrawn, this opposition by the FFAW was an unprecedented withdrawal from the field of collective bargaining. An accredited processor organisation would provide a variety of benefits to the commercial operations of both harvesters and processors. One of the more significant would be the potential to negotiate and enforce fish prices based on real differences in quality. Then those who produce superior products would be paid accordingly; and such initiatives could not be short-circuited by rogue harvesters or processors. This could also eliminate the issue of negotiated prices being only minimum ones. That situation really amounts to money being left on the table, or collective bargaining only operating on the basis of some "talqual" approach to setting prices at the lowest common denominator level. The overall industry should be able to negotiate and enforce prices based on quality if we are ever to be more than a commodity producer forever at the mercy of a more efficient global seafood industry.

Having said all that, the present legislation provides for fish prices to be set through collective bargaining. It will, and has continued to, take place even with the ending of FOS. It is complete naivety for fish processors to think they can completely withdraw from collective bargaining; it will happen either individually or with groups as in the case of crab in the past two years. This course of action so far has only served to create more instability in the important fisheries and has gained processors nothing because of their overall approach to gaining RMS in crab.

The claim that “the wealth” in the industry has shifted in favour of harvesters only appears true to the extent that landed value is now a higher percentage of final product value. The overall industry now mass-produces more semi-finished products with the processing activity accounting for less added-value than in times past. However, this only indicates the changes in the shares of gross returns; a proper evaluation of a real shift in wealth would require detailed information on actual costs and revenues, which neither processors nor harvesters are disposed to reveal. Without such data, it cannot be shown if either party is getting less of the total net returns from the industry than previously, or in comparison to what is needed.

In addition, the price-to-market formula used in the crab fishery collective agreements since 1998 gives harvesters almost all of the increase (now 90%) in market return above an agreed base. This means that in a rising market more of the changes in marginal revenue would appear to be appropriated by harvesters. In a declining market, the reverse would be true. I have the distinct impression that many processors and fishermen do not understand this aspect of their collective agreements.

There was a time when the main role of the Union was to negotiate a price, which then was generally the price paid for all landings. Other activities involved ensuring that fishermen and plant workers got their fair share whenever government bailed out the industry as they did in the 1970s and 1980s. That had not been the case in the first bailout I witnessed in the late 1960s when the price received by fishermen was a totally separate and unrelated matter as far as those in power were concerned.

The companies now perceive the Union as being unable to address some of the major issues confronting the industry. A prime example is how their attempts to develop raw material sharing were viewed with such hostility by many fishermen, particularly those who were the primary beneficiaries of the bonus payment system. This is all an example of the talqual mentality of guaranteeing a minimum price to all fishermen and

then allowing competitive forces to generate, for certain fishermen, an extra payment. As this is a direct result of negotiating a minimum price, the industry is doing by the back door what it can't do by the front. It is clear that the value of all crab is not the same because of such factors as appearance, "meat fill", available volume, proximity to the plant, etc. These quality factors in crab have proven too difficult for the parties to negotiate. If this, and similar matters are not addressed, we are in danger of continuing to have the same instability in the future as we have had in the past.

I understand why individual harvesters would be concerned that an RMS system and the orderly supply of raw material could negatively affect their economic interests. However, the institution of RMS, in and of itself, does not remove power from harvesters as a whole; they have a union that does bargain for them. Indeed, collective bargaining could easily be used to deal with a variety of commercial arrangements that are critical to both harvesters and processors.

Surely, the ingredients are now there to develop a model that will virtually guarantee a fair price for all. It is largely a matter of having the will to adopt the appropriate formula. The change negotiated in the "price-to-market" formula in 2004, which by making the minimum price higher, reduced the ability to pay bonuses, is a small step in the right direction. In the future bargaining process, parties should move towards maximizing the initial price for crab thus reducing the potential for bonus payments. However, there are legitimate factors, such as volume and quality that could, if not easily, be part of a bargaining process that would allow for price differentials.

The options for restoring a level of stability in this area include re-instating the FOS model, adopting a more traditional form of compulsory and binding arbitration and establishing a standing panel (with a research staff) that could decide prices and other unresolved issues. These three options would have an imperative of reaching binding decisions by some pre-set date prior to the opening of major fisheries, unless the parties mutually agreed on matters before then. Government should give careful but timely consideration to adopting appropriate measures to resolve the present impasse

over the way in which collective bargaining should proceed in this industry. In so doing, it should take steps to counteract the high level of misunderstanding I believe exists in many quarters over the actual effects of some of the needed updating of this legislation. This is especially true of the question of accreditation of a processor association; it is widely misunderstood, misconstrued and frequently subjectively opposed by both processors and harvesters.

The Processing Labour Force Issue

The other major problem in the industry remains the existence of excess local or regional pools of processing labour. Almost all of these are really carry-overs from the days of a groundfish-based processing sector. In this case, we are still living with some of the aftermath of the cod collapse. We have workers in the fish plants who just missed qualifying for one or other of the exit programs of NCARP and TAGS. I do not need to go into great detail on this issue, which has been dealt with in other reports and is not unfamiliar to those knowledgeable of the industry. However, I find the following points to be especially significant:

- A 1998 Report by HRDC reviewed TAGS and other labour market programs and concluded: “Clients and their industries and communities face enormous adjustment problems which will take decades to address.”
- Other findings from that report included:
 - 72% of TAGS clients had less than high school education
 - 67% were over 40 years of age
 - Have limited transferable skills
 - Live in small, rural and often remote communities in areas of high and entrenched structural unemployment
 - Have strong social, economic and cultural ties to communities
 - Workers over 50 are less likely to take part in training or other adjustment activities.

I find the following points are relevant to this issue.

- A July 2002 report prepared for the Forum of Labour Market Ministers (FLMM) noted that 55-64 year olds generally experience greater labour market difficulties since they are often concentrated in traditional industries. The reality is that employers don't want older workers. In addition, at least 60% of new jobs require post-secondary education.
- The fishing industry is in a transition period. While nationally we are experiencing a skills shortage, the fishery sector problem is one of too many older workers, the short duration of processing jobs and the resulting low incomes. We can't attract young people to seasonal work. This has huge implications for the future of rural Newfoundland and Labrador where the fishery remains the main economic engine.
- Reducing excess labour makes economic sense in terms of a longer work year for those who are left, less money being drawn from the E.I. Account, more stable incomes, increased living standards etc. The younger workers who would remain are more capable of meeting the changing demands of fish processing jobs.
- The different products now demanded by seafood markets have created significant technological change in most processing plants. This advanced technology has resulted in higher productivity, increased profits but less total work. It also means seafood processing employees are now working harder and faster with more serious wear-and-tear on their bodies.
- When processing plants reduce workforces, the older workers stay and the younger workers leave. Family and household commitments constrain mobility.
- In essence, workers who could not leave the more labour-intensive industry before the groundfish collapses are now part of a surplus labour pool in a more capital intensive sector that cannot provide a sufficient number of well paying jobs.

- The declining crab resource means that this sector will need less total labour than in the recent past unless there is a major (and unlikely) shift in market demand away from the present commodity product (sections). Only when some new product is demanded that can be fully processed only close to the location of landings will further processing lend any solution to this dilemma. A smaller number of better paying jobs could result only from a sector producing the current level and type of output over a longer period in fewer plants. In the meantime, the processing season is highly seasonal with most activity taking place in a four month period.
- In some cases, usually offshore plants, workers are job-sharing across two or more shifts simply to qualify for Employment Insurance (EI).
- Most plant labour forces consist of disproportionately older workers with long-term attachment to that operation. In most cases, one shift would be able to work for a more meaningful period if surplus workers could be removed with dignity.
- In almost all cases, these surplus workers would not be replaced if they were to be assisted out of the industry. The one unfortunate exemption may be the case of some crab plants that use casual workers to handle periodic gluts caused by the rush to harvest and process.
- However, it is irresponsible to suggest or imply that the current numbers of processing workers attached to most plants can be accommodated in the stable industry that was to emerge under RMS or any other form of streamlining. It is not happening in the offshore sector where a different form of RMS has been in place since the early 1980s.

In many ways, the situation faced by the province's fish processing sector is not unlike that faced by the Canadian textile industry. Changing market requirements, a strengthening Canadian dollar and extreme competition from lower cost economies (especially China) have all produced a structurally changed fish processing industry with considerable excess labour. This similarity could be used to gain federal

participation in a labour force restructuring program caused by circumstances beyond the Province's control.

Summary

In summary, the present state of the crab sector (and the inshore fishery generally) is one where even improvements to the current price setting arrangement to provide timely starts to the crab fishery alone would not remove all of the underlying instability that has existed since the late 1990s. Other conditions also must be changed if this sector is going to continue to carry much of the rest of the industry. The crab (and shrimp) processing sectors must be streamlined to correct the results of irresponsible licensing actions of the late 1990s. The current ability of more aggressive processors to increase direct control of harvesting capacity must be curtailed or eliminated to create a more even playing field in the acquisition of raw material and to remove an impediment to improving the efficiency of the harvesting sector. Then responsible leadership can encourage harvesters to design and adopt measures to improve the operating efficiency and financial circumstances of their individual enterprises and fleets. The existence of excess processing labour remains another carry-over problem from the groundfish collapses that RMS will not solve in a sector now impacted more by a declining crab resource than its excess capacity. Finally, the need for more coordinated federal/provincial decision-making just jumps off these pages. I will suggest some possible courses of action to deal with these matters in the next section.

6. CONCLUSIONS AND RECOMMENDATIONS

Based on extensive discussions with numerous industry members and groups over the past six months, extensive assembled information, data and advice from my RMS Committee members, I have come to seven groups of major conclusions and associated recommendations. While I was asked to examine issues related to RMS in the crab sector, all of these findings, by extension, are applicable to the whole inshore industry.

Some Background and Context

However, I first cannot help but comment on how the current situation in the crab fishery has heightened attention to the crisis in rural Newfoundland. Most of rural Newfoundland and Labrador has been in crisis of various degrees through most of our history. Indeed, it was the history of these crises in rural Newfoundland, or outport Newfoundland, as it was then known, that propelled us into Confederation. One thing we ought to have learned over the 50 years or more since then is that we have not, we cannot and we will not solve all of the problems in all of what is now considered rural Newfoundland. This was known to the Government 50 years ago. It had a strategy to develop outport Newfoundland around some of the historically significant fishing towns, and in some cases, the creation of newer major locations known as growth centres. Some of these, such as Burin, Grand Bank, Bonavista, and Twillingate, had been such centres throughout most of our history. Others, such as Marystown, were the direct result of government policy. There was a recognition that the dynamic of outport Newfoundland could be revitalized around such major centres where people could be provided employment opportunities and modern amenities.

The Fishing Industry Renewal Board followed that notion of key strategic centres when it recommended that additional crab processing licences be considered only for three of our most significant fishing communities (Twillingate, La Scie and St. Anthony). I believe the Wells administration, had it remained in office, would have

developed the crab fishery in a more sane and orderly way. It is a tragic example of the absence of reflection and depth in the recent politics of this place, that Mr. Wells' successor, Brian Tobin, should have then proceeded, through his Fisheries Minister, to double capacity in the crab fishery, thus perpetuating a vision of rural Newfoundland that condemns us to an ever increasingly precarious existence. It is ironic that he did so soon after having been the recipient of the *Atlantic Task Force Report on Incomes and Adjustment in the Fishery* that referred to the state of the industry as "a catastrophe of biblical proportions." What that administration did was another classic example of the pandering that has become a touchstone of political life. Instead of trying to develop a fishery rationally, we try to be all things to all people. The net result of this abuse of the egalitarian notion is to condemn us to have less meaningful jobs and more outward migration.

One of the most significant issues facing outport (rural) Newfoundland today is the same as it was more than 50 years ago. That issue is how we maintain a dynamic outport society. It was known then, as it is known now, that not all outport communities will survive. What is needed now, as was needed then, is a number of places that provide meaningful employment and the range of modern amenities. This challenge from the past remains the challenge of the present. It is both ironic and unfortunate that the inheritors of the legacy of the past squandered this in the late 1990s. Of course, it is a challenge for politicians who are continually pressured to be all things for all people. Leadership is about rising above that and providing a focus for development. The absence of such leadership will do nothing to stop the outflow of people from the many communities that now are being temporarily preserved. This truth is a difficult one, perhaps more so today than it was 50 years ago, but the result will be the same.

There is a great deal of cynicism generally regarding both levels of government's intentions for the fishing industry. Reduction of capacity in the harvesting sector has really not occurred through recent policy. The collapse of groundfish stocks led to fishery and plant closures and resulted in federal government intervention to assist

harvesters, plant workers and attempts to reduce harvesting capacity. However, when there was a glimmer of hope, the provincial government issued additional processing licences.

I am concerned that the manner in which Ottawa approaches public policy may have an implicit negative impact on our province's ability to deal with some of the serious issues and problems in the fishery. One systemic problem is the inappropriate way in which the Federal Government divides the nation into regions. Prior to Confederation, the three maritime provinces comprised a region. The addition of Newfoundland to this grouping created an artificial Atlantic region. In many ways we have more in common with more northern and isolated areas of eastern Canada, yet we are doomed to have either Moncton or Halifax considered the centre of our region. This greatly impedes local DFO officials, our Provincial government and our industry in designing a strategy to address the real problems of our fishery. We must have an application of the fleet separation policy that reflects our needs and a vessel replacement regime that is more open and allows fishermen, over time, to acquire larger vessels up to and including 100 ft, but to do so under the umbrella of fleet separation and the other rules applying to their current vessel size class.

In my years of involvement with the fishery, people from all parts of this province, have, at different times, continuously espoused the conspiracy theory. My response, as often as not, is that we should never overlook the possibility of incompetence. My conclusion, in the present situation, that DFO, in many cases, over the years has fostered the conspiracy theory. Certainly, the failure to deal with the fleet separation issue is a good example. There are those who feel the real objective is to undermine this policy.

Much of today's fishery crisis is exacerbated by the lingering effects of the last great crisis: the groundfish moratoria. This should be addressed by both levels of government working in tandem. The Federal Government can accomplish a great deal of improvement in the over-capacity of the harvesting sector for far less cost than

their programs under the previous moratoria. Moreover, they can do it with more significant and beneficial long-term impacts than were achieved previously.

The Federal Government has to understand the nature of the problem and deal with it. They simply have to make practical and straightforward decisions by becoming unencumbered by extraneous and irrelevant diversions over possible effects elsewhere in the Atlantic area. The Federal Government, in a way, is guilty, as are many in this society, of not being straightforward. Ottawa too often uses the conjured implications of Newfoundland policy proposals on the Maritimes and Quebec as an excuse to do nothing. We have a different problem and a different situation that requires a separate solution. I believe I am laying out a reasonable path for both governments to take; they just have to find the political will to do the job that needs to be done. They have to understand the problem, understand the solutions and act accordingly. We do not need another eight years of unproductive policy review in this crisis.

The combination of the resistance by harvesters to any reduction of harvesting capacity and DFO's mishandling of fleet separation policy means that nothing is being accomplished in this area. Thus, we are experiencing a genuine failure of leadership at all levels. Ten or so years ago, harvesters were right in seeking a greater distribution of emerging resources among all inshore vessel classes. Bonafide harvesters who had lost their livelihood through collapse of the cod fishery were given an opportunity to participate in the expanding crab and shrimp fisheries. That took vision, leadership and determination to depart from the standard national approach of DFO. This form of reverse sharing did not happen at all in the Maritimes. That it was done here is a reflection of the leadership of that time. Well, the situation has changed and a new vision is now required. This vision must include allowing existing harvesters to combine their enterprises thus reducing capacity but allowing a smaller number to actually survive. One approach is the current FFAW internal fleet self-rationalisation proposal for under 35 ft. crab licences. However, adoption of that should not in any way prevent individual harvesters in all fleets from combining up to

some reasonable limit on vessel size and/or total allocations. We should not allow our fear of someone getting farther ahead to stand in the way of doing what is right.

We must get beyond all that and move forward to design and adopt fleet replacement plans that allow combining of enterprises or allocations and provide greater flexibility on vessel sizes. The current size classes are no longer appropriate for the types of vessels needed to properly conduct today's fisheries by all fleets. The matter of resource allocation amongst fleets has really been settled for some years now and should be accepted by all as a given parameter. The principle that any future larger vessels retain the licensing and allocation privileges and related limiting conditions of their present size class appears to be one that needs some special assurance. This is especially applicable to the passage of vessels into the 65 ft. and over size class. It must be enshrined that these then create a special class of 65-100 ft vessels that retain the privileges and limitations assigned in their original size class. It does not mean that current 65-100 ft. vessels suddenly are part of the allocation pool attained by such former under 65 ft. vessels. Surely the linear thinking that fuels this concern can be overcome. As well, special consideration will have to be given to the access arrangements in the few fisheries still under global quotas; these generally apply to fairly small numbers of the vessels in question.

It is a time to develop a strategy for rural (outport) Newfoundland that recognizes a choice between perpetuating a culture of victim-hood, based on blaming outsiders for our problems and wallowing in our own self-indulgence, and that of a dynamic rural society that sees opportunities beyond the so-called and mythical "food fishery". Such panders are really the prophets of false hope. If we allow these apostates to perpetuate their unrealistic and romantic vision of outport Newfoundland, then we are forever doomed. Indeed, we must get beyond all that if we are to maintain any semblance of dynamism in our outport fishing economy.

On a related point, I note also that many of our public figures spend a great deal of time talking about the conspiracy theory and the failure of Ottawa to deal with foreign

overfishing. I have always felt this was greatly overstated. For example, the present mess in which we find ourselves has nothing to do with foreigners.

The coast of Labrador and much of the north and east coast must now face what the south coast and parts of the east coast of Newfoundland faced in the aftermath of the groundfish collapse. Before that time, a dozen ports provided close to year-round employment to over five thousand Newfoundlanders and Labradorians. These jobs are gone forever. A viable crab fishery in the future must have fewer plants and fewer harvesters so that there is more meaningful employment for those who remain. That is where we are headed. The Federal and Provincial Governments have a choice: to have this crisis dealt with in an orderly manner or through an uncontrolled bloodletting. To avoid the latter, they must work together with policies that have the same objectives. The path is there for them, they just have to get on with the job.

In this regard, I am more convinced than ever that coordination of management actions for each sector is a definite part of the long-term solution to this overall problem. This approach would avoid the mistakes of the past but also provide the basis for effectively dealing with a serious capacity and efficiency problem that has been either jointly created or mutually left unresolved.

MY CONCLUSIONS AND RECOMMENDATIONS

Based on all that I have found and have been told regarding the current situation in the inshore fishery sector I find seven major conclusions to be inescapable. They focus on those critical matters most in need of immediate decision and action by both industry and government. My recommendations, in turn, flow from these major conclusions and are intended to address the problems identified in them.

RAW MATERIAL SHARING

Conclusions

The RMS concept is now seriously flawed and damaged as a possible instrument of fisheries policy. This is because of the following factors:

- The manner in which the processing sector pursued this concept and its failure to mount a convincing case for application of it to the fishery of this province.
- The outright refusal of FFAW members to even entertain discussions of it at the bargaining table.
- The attempt of government to institute it in the crab fishery before the RMS project in shrimp was concluded.
- The changed dynamics of crab fishery management now mean RMS will not slow the pace of harvesting and processing, thus having little or no effect on stability and operating efficiency.
- The new management measures for soft-shell crab means the IQs, which harvesters themselves, and not DFO, instituted are no longer a guarantee that a harvester will be able to catch his assigned share.
- Without increased stability and operating efficiency, the claims of diverting energies to increasing overall financial returns from the resource cannot be accepted as likely or even possible.
- It is highly unlikely that RMS would ever be allowed to function as an industry rationalisation or “exit compensation” mechanism because allowing transferability of RMS would immediately create perceived (and in reality) community quotas.
- The trial use of RMS in the shrimp fishery, that preceded the imposition of this concept in crab, was effectively abandoned by all parties in the second year of an agreed project.

Of all the claims made, I can see only two outcomes likely to come from RMS in crab. The first is some reduction in the so-called “head of wharf” competition to attract harvesters away from their present buyer. The second is that it would give some added value to company assets. However, I cannot conceive of these shares becoming freely transferable in any way, shape or form. They are more likely to entrench current operations because the RMS will be considered a community quota. Therefore, they will not contribute to industry rationalisation or increase the value of assets to the extent that transferable RMS might. As well, this second claimed outcome is a private benefit versus a public good and I do not feel government is obligated to grant it. No human measure can completely eliminate the causes of the first problem, but some other actions, short of RMS, could reduce them in the crab sector. Among them, I would include ensuring that the price-to-market formula moves toward maximum rather than minimum pricing, a system of production limits and reduction of both harvesting and processing capacity as possibilities.

Recommendation:

- 1. I recommend that government terminate this project in crab and abandon the concept totally until, and unless, the overall industry mutually agrees to some variation of it in the future. This approach, as currently proposed, can only work to the extent its parameters, scope, terms and conditions, limitations etc. are first agreed in the collective bargaining arena.**

COLLECTIVE BARGAINING

CONCLUSIONS

The current provisions for setting fish prices by collective bargaining, especially in crab and shrimp, are completely inadequate to ensure timely starts to the most critical fisheries of this province. This, above all else, is the one situation that must be addressed **immediately** so that an improved price setting system is in place to ensure a timely start to the 2006 season.

By the mid 90s it was clear that collective bargaining, particularly in the crab fishery, was no longer working. A single price for crab meant a number of issues with significant economic consequences were not dealt with in collective bargaining. This resulted in fishermen and processors undertaking additional bargaining based on factors like volume, proximity to the plant or quality of the catch. The talqual mentality that I mentioned earlier has long been one of the main factors preventing such matters being dealt with through the bargaining process. This is clearly a negative side of egalitarianism that, even in the days of an accepted single price for all fish, made it very difficult to explore ways in which a premium price could be paid for quality characteristics of landings. In the crab sector, this inability to address these issues in the collective bargaining process produced the problem of bonus payments going to some but not all harvesters.

DFO's failure to maintain or implement its policy of fleet separation has allowed a number of processors to acquire assured supply through direct control over harvesting enterprises and licences. This gave them an additional unfair advantage over other processors in using the bonus payment system to attract additional fishermen and product to their plant. These factors led parts of the industry to surreptitiously develop a raw material sharing program to fetter such predatory practices and create a more level playing field. This is something that should have been possible to do legally at the bargaining table. Some people, independent of but knowledgeable about the industry, have suggested to me that the stability created by this sharing program was a contributing factor to the success of FOS.

While the attempt to institute crab RMS has proven to have been well intentioned but inopportune, the main factors in the fishery that led to it, continue. Some fish harvesters want to retain the possibility of receiving additional monies by bargaining outside the regular price setting system. I am fearful that none of this will change unless it is spoken about, and dealt with, openly. It is quite legitimate for processors to try to work out some sharing and distribution arrangement for available raw material. It is similarly legitimate for harvesters and processors to agree that, under

certain conditions, some catches or landings should receive extra money. Therefore, if these types of issues cannot be dealt with in regular collective bargaining, they may have to be handled in some expanded form of FOS that imposes a settlement where the parties cannot agree. This settlement must be arrived through a transparent process that is clear and available for all to see and understand. I am not as sure as I would like to be that all harvesters and processors ever fully understood the finer details of the FOS system.

There is a great deal of frustration among fish processors because of the inability to deal with what they consider their major problems. These include predatory pricing and related practices brought on by the abysmal failure to enforce the federal government's fleet separation policy and the reckless licensing of production capacity in the late 1990s. They believe that FOS worked partly because of the informal sharing system they were able to operate, until it was sacrificed on the altar of Newfoundland egalitarianism even though no basis for the allegations of a cartel was found.

Generally, fish processors believe the Union is unable or unwilling to deal with these problems of minimum prices, bonus payments and consequential predatory pricing. They assert that if they are forced to collectively bargain to set fish prices they have a right to some assured source of raw material supply. They feel they were denied the obvious solution to this issue by being unable to achieve accreditation because of government's failure to administer the provisions of the legislation and the Union's opposing it as well. However, they did not help themselves either in their failure to effectively use the collective bargaining process to address these problems. Their consequent blaming the Union for situations that they, in whole or in part, created is not sufficient reason to have the government incur the wrath of harvesters by being perceived as "the agents of the fish companies".

The central issue in the inshore crab (and shrimp) sector is how we get these fisheries back on an even keel and starting in an orderly and timely fashion. There are those

who feel that the current crisis has to get worse before this situation can be rectified. This would not be good for processors, harvesters, the industry and the Province as a whole. The Union seems to be indicating publicly they are willing to accept some form of mandatory price-setting system. I believe a number of processors wish to return to a voluntary FOS-like approach; although some of them want this only as a price setting mechanism with other arrangements involving the operation of the fishery being a separate matter between individual harvesters and processors.

Ideally, I believe the government's role should be to provide the framework that allows and encourages the parties themselves to come to their own collective agreement(s). If the industry as a whole proves unwilling to pursue this course, the institution of a permanent and binding price setting mechanism is then the only responsible option for government to adopt. In the current dysfunctional state of the industry, the need for the latter course action may be already upon us.

I have given some considerable thought and attention to the position of industry and the FFAW with regard to RMS. I found that by the end of my consultations the official position of most crab processors remained that without RMS there is no willingness to consider anything else. Conversely, the Union's position is still that anything resembling RMS is beyond their consideration or acceptance. It appears likely that if government does nothing, some processors, with an agenda for their own aggrandizement and increased position in the industry, will attempt to seek a settlement with the Union on fish prices. Others will take the opposite approach: refuse to negotiate in the hope they can do legally in 2006 what they found was illegal in 2003, i.e. to stop buying crab very early in the season.

This leaves the government with two basic choices: let the parties fight it out, or impose some orderly way to start, and proceed with, the fishery that would include compulsory arbitration in settlement of the price. This appears to be a position acceptable to the Union but not one acceptable to the majority of fish processors. However, government must act immediately to establish a more workable form of

price setting and collective bargaining that will ensure timely starts to the major fisheries. Despite the consideration being given by some to refusing to negotiate crab prices in 2006, and thus creating chaos and subsequent closures in the fishery, several industry members have expressed an interest in bargaining, under a voluntary use of FOS-like arrangements for facilitation and arbitration, to set prices for 2006. This will still be possible under the more permanent arrangement I am recommending as the more immediate and safer course of action for 2006 and beyond to ensure that at least the fishery starts on time.

Recommendations:

A New Price Setting Mechanism

2. Therefore, I strongly recommend that government take the following actions immediately:

❖ Establish a Special Standing Fish Price Setting Panel that:

- **Consists of three permanent members, including a chair, appointed by government.**
- **Is given the necessary scheduling, facilitation and arbitration powers and capabilities to have prices and other matters settled through collective bargaining by specified dates. These scheduling, facilitation and arbitration activities should be assigned to a permanent staff member.**
- **Has access to adequate market research, assessment and monitoring capability to provide the parties with appropriate market and related information. For example, in the case of crab, this would be the same, or a similar, service that seems to have been satisfactorily provided by John Sackton since 1998.**
- **In addition, and most importantly, has the complete authority to set prices unilaterally if parties cannot agree by specified “drop dead” dates. If no collective bargaining is taking place or no agreements binding on all operators are being reached by these dates, the Panel should**

schedule a “Price Setting” hearing at which all parties could make appropriate presentations to it before it takes the final and binding decision on price. In the case of crab, this hearing date should be such that a price is set in time for the fishery to commence on April 1.

- Is empowered to deal with any unresolved matters pertaining to the conduct of the fishery that either party or the government may refer to it for a binding decision. These would include inter alia: trip limits, quality requirements, marketing strategies, the use of tied sales conditions, sharing arrangements etc. that influence the commercial conduct of harvesting and processing operations.
 - Has the authority to institute monitoring and penalising of specified predatory practices.
3. Restore the legislative provision that collective agreements reached with processors accounting for at least 50 percent of the previous year’s production of a species become binding on all processors licensed for that species.
 4. As well, I recommend that government clearly specify that under this permanent Panel arrangement, while individual harvesters and processors retain the right to refrain from fishing or processing under any individual price, organised work stoppages would be illegal.

Improvements in the Collective Bargaining Provisions

5. I also recommend that government immediately commence the necessary legislative arrangements to make the following amendments to the FICBA that will correct certain current deficiencies and bring the provisions for collective bargaining in the fishing industry up to the general standard of labour relations in the province. I understand these items were the subject of considerable

consultations and discussions with industry leaders earlier this year. The recommended amendments are the following:

- ❖ To provide for the accreditation of processor organisations on the basis of a single species. Indeed, I recommend further that Labrador should always be excluded from accreditation of Island-based processor organisations. This will simply take account of the special provisions that now exist, and should continue, vis-à-vis processing activities in that area.
 - ❖ To improve access to the Labour Relations Board so that all fishing industry parties have the same privileges as other employers and employees and the right to appeal to the Board to make a determination regarding the binding effect of a collective agreement.
 - ❖ To allow either party to a collective agreement, to request appointment of an arbitrator to resolve an outstanding grievance and to enable the immediate filing of the arbitrator's decision with the Supreme Court of Newfoundland and Labrador, Trial Division, and to ensure it is enforceable 48 hours after doing so.
 - ❖ To provide the Labour Relations Board with the authority to declare an unlawful work stoppage and to issue a cease and desist order, which is enforceable as an order of the Supreme Court within 48 hours.
 - ❖ To increase fines and penalties for unlawful work stoppages.
 - ❖ To allow an accredited processors' organization to recover negotiating costs from all processors who benefit from the negotiations and to whom the resulting collective agreement would apply.
6. Finally, I recommend that government make these changes to the collective bargaining framework for the fishery by acting quickly and authoritatively.

INDUSTRY STABILITY

Conclusions:

While I am convinced RMS as proposed cannot succeed, the only proposal made to me for measures to improve operating stability in the crab sector was for production caps based on the 2005 RMS. I have rejected this as being essentially the same as RMS. Last Spring the Union proposed a system that allowed a ten percent flex on the RMS numbers; this no longer appears to be their position. I have re-examined this concept and believe it is possible to develop a production limit system that would permit varying degrees of competitive flexibility while restraining some of the more aggressive practices. Such a system could provide some semblance of order to this sector to protect the continuing independence of the inshore fleet. If not, there will only be a greater opportunity for some processors to increase their control of harvesting enterprises, thus expanding a hidden form of vertical integration. However, I find this approach, at the moment, has little support on either side. I conclude that such arrangements can only be achieved through collective bargaining when the industry becomes better organised to handle such matters in that way.

In the course of my various discussions and consultations, I was told, on many occasions, about the unreported catches of crab that are landed and processed. I was also told the many companies felt their calculated share under the RMS sharing exercise was at least 20 percent lower than they believed it should be. This complaint is apparently different from that of not being given credit for purchases not processed but transferred to other plants. I have also been told that that recent enforcement measures have greatly reduced these occurrences. However, I am still concerned that there may still be some substance to these longstanding anecdotal reports of “midnight crab” that continue to circulate.

Therefore, I am fearful that this situation may be similar to what occurred in the 4R inshore dragger fishery in the early 1980s when tremendous levels of mis-reporting of cod catches were taking place. At that time, I was involved in making a proposal to

government that would have stopped this malpractice. This proposal, supported by fishermen and some major companies, was to require that all cod landed in that fishery go through a single weighing and receipting desk before being transported to processing plants. This never happened and the eventual outcome of that fishery is now well known. I am worried that a similar destruction of the crab resource may be taking place through lack of responsible reporting by crab industry members.

Another major problem that was brought to my attention is the increased difficulty of getting loans approved under the government's Fisheries Loan Guarantee Program. I have been told that this has developed to the point that the only way harvesters can get loans approved is for a processor to co-sign the application. This further undermines the ability of harvesters to maintain their independence. This has already been damaged by the increasing incidences of trust agreements, a failure to enforce federal fleet separation policy and closure of the Fisheries Loan Board. I believe government may help this matter by ensuring commercial lenders are aware of the importance it attaches to the even-handed administration of this loan guarantee program.

Recommendations:

- 7. I recommend that government encourage, assist and, if possible, enable industry participants to increase cooperation in the sharing, distributing and transferring of raw material supplies, especially in times of temporary over-supply. The minimum element of such an approach would be a "glut desk" arrangement for crab initially, followed by any other species on which industry participants mutually agree.**

- 8. I recommend that at such time that the processing sector is organized to do so, the following proposal for production caps become a matter for collective bargaining. This production limit system ($P_{lim.}$) could be based on elements such as the following:**

- ❖ Each licensed plant would be assigned an annual production limit, expressed in the equivalent of round weight landings.
 - ❖ That limit would represent the maximum amount each licensed plant could purchase and process but would not limit its total buy. (Surplus purchases would have to be transferred.)
 - ❖ This individual plant production limit would be the higher of the percentage assigned under the 2005 RMS, the percentage representing the three-year average of purchases processed in 2002 to 2004 or that represented by the “best year” of 2002 to 2004 and increased by a ten percent “flex” for plants whose above three year average was less than 2,000 tons and by a five percent “flex” for those exceeding that amount. This particular formulation produces a total flex of 13.4%; selecting other basis, such as the individual ones mentioned above, would produce total flexes ranging from +7% to +22%.
 - ❖ The $P_{lim.}$ would not be a guaranteed level of supply, but a limit each plant could aim for until it is reached or catch quotas close.
 - ❖ This arrangement should not prevent companies from moving raw material from plant to plant as would be possible in the absence of such a regime.
9. I recommend that government, in conjunction with DFO, investigate the validity of reported crab catches and production and ascertain whether the need exists to establish the type of mandatory centralised purchasing arrangement purposed for 4R cod over 20 years ago.
10. I recommend that government review the administration of its Fisheries Loan Guarantee Program to ensure that it is contributing to, and not hindering, the financial independence of individual harvesters.

INDUSTRY CAPACITY

Conclusions

The current level of processing capacity is too high and the numbers of processing facilities are far too many and ought to be reduced through some manner of consolidation. A similar situation in the harvesting sector must also be addressed. Only increased profitability of harvesting and processing will change some of the deficiencies that continue to plague this sector. There are too many shades of the past in the present industry, especially the continued existence of a multiplicity of under-financed harvesting and processing operations producing commodity products.

The Provincial Government, in conjunction with licensed processors, must take action to reduce capacity in the processing sector, which it has authority to manage. As well, it should encourage and assist the industry to achieve the necessary adjustments to federal licensing policy that would allow a more efficient fleet configuration to emerge in all parts of the inshore fleets. It would be advisable to consider a joint federal/provincial initiative to develop a “made-in Newfoundland and Labrador” solution to these co-dependent overcapacity problems.

Recommendations

11. I recommend the government enter into a joint industry capacity reduction exercise with DFO that takes a coordinated approach to addressing this problem in the inshore harvesting sector and its co-dependent processing sector.

12. I recommend that government assume leadership and join with industry in pressing DFO to adopt suitable measures to uphold and fully enforce its Fleet Separation and Owner/Operator policies to remove some existing impediments to fleet rationalisation. Once adequate enforcement of the Fleet Separation Policy is achieved, it should then encourage and assist the development and adoption of self-rationalisation plans by individual fleets to improve their

operating and financial efficiency. Such plans should include acquiring larger, more suitable and safer harvesting platforms through the transferring and combining of individual licences and IQs within realistic accumulation limits. This approach must also include removing, or changing drastically, the current length barriers in vessel replacement. It also must permit the short-term temporary combining of any size of enterprises in 2006 if resource and market conditions do not improve.

13. I recommend that government provide interim financing where it is necessary to enable the development and adoption of fleet self-rationalisation plans by harvesters. This could take the form of interest-free, or low-interest, loans to fleet organisations to be re-paid from the proceeds of re-sale of surrendered IQs or licences.
14. I recommend that government provide the basis for industry funded buyouts of processing capacity. This would involve the purchase and removal of processing licences through a reverse auction, or other agreed system, that is designed and managed by the industry, who would be the main beneficiaries of reduced capacity. Government would provide the up-front financing for the buyouts and recover the funds used in a given year by a pro-rata levy on the respective species licence fees for the following year's renewals. It would also commit to cancel the licences removed and not issue any others.

COORDINATION OF FISHING INDUSTRY MANAGEMENT

Conclusions

As I examined the various underlying causes of the present industry problems, it became apparent to me the extent to which these were the result of uncoordinated management decisions and actions by both levels of government. These decisions and action were taken in isolation in each government's sphere of authority over the last decade; and resulted in the current excess capacity in both sectors with no

immediate action in sight to remedy them. I became gradually convinced that this is a classic case of the need for some form of coordinated management arrangement to address a jointly caused problem in a set of circumstances unique to this province.

I had been laying blame at the feet of both levels of government for either causing parts of the current problems or not moving on necessary solutions. Then I realised that coordination of management actions for each sector is a definite part of the long-term solution to this overall problem. This approach would avoid the mistakes of the past but also provide the basis for effectively dealing with a serious capacity and efficiency problem that has been either jointly created or mutually left unresolved.

RECOMMENDATION

- 15. I recommend the Provincial Government seek a workable arrangement with the Federal Government for coordinated and joint management of the harvesting and processing sectors. This would be an arrangement where the decision-making powers of both governments are delegated to a single management authority. This authority should administer an agreed set of management policies.**

EXCESS PROCESSING LABOUR

Conclusions

The persistent problem of excess regional or local labour pools can only be solved by streamlining the processing sector so that fewer workers can work longer periods in fewer plants. Some form of safety net, or labour exit strategy, will be needed for those who cannot continue in this industry. A special case must be made to convince the federal government to become involved in a final remedy to an industry structural problem that is due to several parts of its fisheries, fiscal and trade policies. Earlier I likened this situation to the similar problem faced by the country's textile industry.

Recommendations

16. I recommend that government, as part of an overall effort to re-structure the inshore sector through the actions recommended above, develop an adjustment strategy for removal of excess labour. The government should seek financial participation by the federal government and the provincial industry in this exercise. This labour adjustment program should be designed in timing and scope to complement and assist the reductions in capacity that are needed in the inshore processing sector. The analogy of the Canadian textile industry should be employed in this endeavour.

A NEW COMMITMENT

Conclusions

A renewed commitment is needed from government, processors and harvesters “to pull this industry up by its boot straps”, eliminate the debilitating “talqual mentality” that has for too long prevented real prosperity and increase the contribution of this industry to the provincial economy even beyond the significant level it has reached in recent years. The industry is currently seriously wounded by divergent actions that have been taken by some industry participants on both sides in the last few years. Some of these have prevented resolving issues that have brought this sector virtually to its knees in 2005. It is in time of crisis that leadership is tested. The real crisis we now face is that rare opportunity for real leadership to come forth.

Recommendations

17. I recommend that government take the lead in re-establishing responsible action that is so badly needed in this industry. Government should do this by first clearly stating its policy intentions to control processing licensing and capacity; and taking a firm and responsible position on the legislative provisions for conduct of collective bargaining in the inshore harvesting sector. It should also encourage harvesters and processors to re-assess their recent

approaches to industrial relations and the general directions in which these are taking the industry. This revitalisation of active leadership is crucial in this sector because of its influence on the economic state of such large geographical parts of the province.

I hope this report outlines the depth and the nature of the crisis that needs to be addressed. We currently have before us a recipe for disaster. Nevertheless, I also think that we have equally the opportunity for a solution. Now is the time for action. This places an extra burden on the Provincial Government to focus their attention on what, in my view, is not only an obvious solution to the present crisis but a new strategy for the fishery of the future. In moving towards that goal, it will face the same negativism, nay-saying and pandering that arises in any crisis situation.

APPENDIX 1
SUMMARY LISTING OF RECOMMENDATIONS

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RAW MATERIAL SHARING

1. I recommend that government terminate this project in crab and abandon the concept totally until, and unless, the overall industry mutually agrees to some variation of it in the future. This approach, as currently proposed, can only work to the extent its parameters, scope, terms and conditions, limitations etc. are first agreed in the collective bargaining arena.

COLLECTIVE BARGAINING

A New Price Setting Mechanism

2. Therefore, I strongly recommend that government take the following actions immediately:
 - ❖ Establish a Special Standing Fish Price Setting Panel that:
 - Consists of three permanent members, including a chair, appointed by government.
 - Is given the necessary scheduling, facilitation and arbitration powers and capabilities to have prices and other matters settled through collective bargaining by specified dates. These scheduling, facilitation and arbitration activities should be assigned to a permanent staff member.
 - Has access to adequate market research, assessment and monitoring capability to provide the parties with appropriate market and related information. For example, in the case of crab, this would be the same, or a similar, service that seems to have been satisfactorily provided by John Sackton since 1998.

- In addition, and most importantly, has the complete authority to set prices unilaterally if parties cannot agree by specified “drop dead” dates. If no collective bargaining is taking place or no agreements binding on all operators are being reached by these dates, the Panel should schedule a “Price Setting” hearing at which all parties could make appropriate presentations to it before it takes the final and binding decision on price. In the case of crab, this hearing date should be such that a price is set in time for the fishery to commence on April 1.
 - Is empowered to deal with any unresolved matters pertaining to the conduct of the fishery that either party or the government may refer to it for a binding decision. These would include inter alia: trip limits, quality requirements, marketing strategies, the use of tied sales conditions, sharing arrangements etc. that influence the commercial conduct of harvesting and processing operations.
 - Has the authority to institute monitoring and penalising of specified predatory practices.
3. Restore the legislative provision that collective agreements reached with processors accounting for at least 50 percent of the previous year’s production of a species become binding on all processors licensed for that species.
 4. As well, I recommend that government clearly specify that under this permanent Panel arrangement, while individual harvesters and processors retain the right to refrain from fishing or processing under any individual price, organised work stoppages would be illegal.

Improvements in the Collective Bargaining Provisions

5. I also recommend that government immediately commence the necessary legislative arrangements to make the following amendments to the FICBA that will correct certain current deficiencies and bring the provisions for collective bargaining in the fishing industry up to the general standard of labour relations

in the province. I understand these items were the subject of considerable consultations and discussions with industry leaders earlier this year. The recommended amendments are the following:

- ❖ To provide for the accreditation of processor organisations on the basis of a single species. Indeed, I recommend further that Labrador should always be excluded from accreditation of Island-based processor organisations. This will simply take account of the special provisions that now exist, and should continue, vis-à-vis processing activities in that area.
 - ❖ To improve access to the Labour Relations Board so that all fishing industry parties have the same privileges as other employers and employees and the right to appeal to the Board to make a determination regarding the binding effect of a collective agreement.
 - ❖ To allow either party to a collective agreement, to request appointment of an arbitrator to resolve an outstanding grievance and to enable the immediate filing of the arbitrator's decision with the Supreme Court of Newfoundland and Labrador, Trial Division, and to ensure it is enforceable 48 hours after doing so.
 - ❖ To provide the Labour Relations Board with the authority to declare an unlawful work stoppage and to issue a cease and desist order, which is enforceable as an order of the Supreme Court within 48 hours.
 - ❖ To increase fines and penalties for unlawful work stoppages.
 - ❖ To allow an accredited processors' organization to recover negotiating costs from all processors who benefit from the negotiations and to whom the resulting collective agreement would apply.
6. Finally, I recommend that government make these changes to the collective bargaining framework for the fishery by acting quickly and authoritatively.

INDUSTRY STABILITY

7. I recommend that government encourage, assist and, if possible, enable industry participants to increase cooperation in the sharing, distributing and transferring of raw material supplies, especially in times of temporary over-supply. The minimum element of such an approach would be a “glut desk” arrangement for crab initially, followed by any other species on which industry participants mutually agree.

8. I recommend that at such time that the processing sector is organized to do so, the following proposal for production caps become a matter for collective bargaining. This production limit system ($P_{lim.}$) could be based on elements such as the following:
 - ❖ Each licensed plant would be assigned an annual production limit, expressed in the equivalent of round weight landings.
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COORDINATION OF MANAGEMENT

15. I recommend the Provincial Government seek a workable arrangement with the Federal Government for coordinated and joint management of the harvesting and processing sectors. This would be an arrangement where the decision-making powers of both governments are delegated to a single management authority. This authority should administer an agreed set of management policies.

EXCESS PROCESSING LABOUR

16. I recommend that government, as part of an overall effort to re-structure the inshore sector through the actions recommended above, develop an adjustment strategy for removal of excess labour. The government should seek financial participation by the federal government and the provincial industry in this exercise. This labour adjustment program should be designed in timing and scope to complement and assist the reductions in capacity that are needed in the inshore processing sector. The analogy of the Canadian textile industry should be employed in this endeavour.

A NEW COMMITMENT

17. I recommend that government take the lead in re-establishing responsible action that is so badly needed in this industry. Government should do this by first clearly stating its policy intentions to control processing licensing and capacity; and taking a firm and responsible position on the legislative provisions for conduct of collective bargaining in the inshore harvesting sector. It should also encourage harvesters and processors to re-assess their recent approaches to industrial relations and the general directions in which these are taking the industry. This revitalisation of active leadership is crucial in this sector because of its influence on the economic state of such large geographical parts of the province.



Report of Fish Price-Setting Strategic Review Team

October 31, 2023



October 31, 2023

The Honourable Bernard Davis
Minister of Environment and Climate Change
Minister Responsible for Labour
P.O. Box 8700
St. John's, NL
A1B 4J6

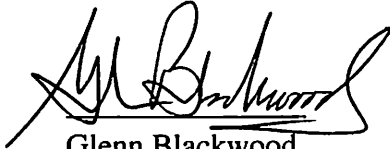
Dear Minister Davis:

Thank you for the opportunity to conduct the Strategic Review of Fish Price Setting in Newfoundland and Labrador. The attached report fulfills the Terms of Reference that we were given on September 6, 2023, and more importantly presents a unique means to Fish Price Setting, particularly focused on the snow crab industry. The formulative approach ensures a fair price that is directly associated with the market value. If implemented we feel this formula-based framework will lead to stability in regard to pricing of crab, it will also facilitate more disciplined scheduled landings through the harvest season. The framework developed can also be adapted and applied to other species that require the development of a reliable database to inform formula-based market pricing.

Given the very tight time constraints, this Report would not have been possible without the full cooperation of everyone involved, and we would like to thank the industry, the Panel, and others for their input. We would also like to thank officials in your Department and the Department of Fisheries, Forestry and Agriculture for their support and commitment.

We trust that the Provincial Government will work with industry to adapt and implement the findings of the Fish Price Setting Strategic Review Team and provide the leadership necessary to bring stability to an industry which is critical to the future success of Newfoundland and Labrador.

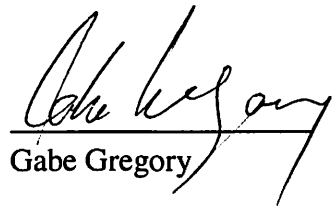
Sincerely,



Glenn Blackwood
(Chair)



Bill Broderick



Gabe Gregory

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Executive Summary

1. On September 6, 2023, The Honourable Bernard Davis – Minister responsible for Labour announced the establishment of the Fish Price Setting Strategic Review Team (Review Team) to assist with the development of a formula-based framework for fish price- setting, and other potential mechanisms, to address ongoing issues with the current price- setting process. The Strategic Review Team’s mandate includes economic analysis, stakeholder consultations and review of current legislation, policy and regulations, with the objective of finding a solution that reflects the respective roles and values of the harvesting and processing sectors.
2. The Strategic Review Team has concluded that the current fish price setting process is flawed and in its current form requires that the Standing Fish Price-Setting Panel (Panel) establish fixed seasonal prices that account for a multitude of dynamic market factors that are beyond any reasonable measure to predict with accuracy. The Review Team has concluded it is an impossible task. Furthermore, the mechanisms of the law, regulation and arbitration processes are not working as intended in Newfoundland and Labrador.
3. The Review Team found that there is a willingness and need within the industry to adopt a new framework for formula driven market based price-setting. Formula based pricing requires certain key elements that are not present for most species harvested in Newfoundland and Labrador.
4. The Strategic Review Team agrees with all the parties to collective bargaining - Fish, Food and Allied Workers (FFAW), Association of Seafood Producers (ASP) and the Panel, that the fact-finding and reporting leading up to negotiation is deficient. There needs to be much more comprehensive and detailed market intelligence -data on pricing, demand, inventory, supply, and other associated market and industry risks for the various Newfoundland and Labrador Products in international markets. These requirements will be event more critical with the adoption of formula driven market based price-setting as recommended by the Review Team.

5. The review of historical pricing in the industry indicates that there is much more stability in price-setting when market factors and harvester prices are linked as is the case for species such as lumpfish roe, halibut and lobster.
6. Formula based pricing requires a common set of elements. These key elements include: a reliable independent market price index that is reflective of the market for the products produced in Newfoundland and Labrador for any given species; the exchange rate risk is a variable for all species that are traded in export markets; a starting harvester price needs to be established that varies based on market and exchange rate changes; an advance payment system is required whereby the risks during the harvest season is shared between harvesters and processors; and a settlement price mechanism is established to average the market returns and harvester final price on a periodic basis. There will always be risks that remain with the buyers and processors, however, a seasonal market based approach to pricing, if practical, is a far superior approach.
7. The Strategic Review Team concluded that the 2023 crab crisis was caused by a lack of responsiveness within the industry itself. The analysis shows that the seeds for the crisis started in late 2021 to early 2022 when market indicators first showed a sharp drop in demand and a very concerning price decline. At this same time, supply was dramatically increased and export markets were distorted resulting from the Ukrainian war. This was followed by a harvest season where market prices were in free-fall, inventory was building and the market was dysfunctional. Throughout this period the industry was unable and unwilling to address the changing market reality. In 2022 and 2023, the market challenge was exacerbated by a further increase in supply (TAC for snow crab increased by 44 percent) while the industry was holding abnormally high seasonal inventory. This all culminated into an historic collapse of the crab market.
8. A comprehensive analysis of the historical UB market price for 5 to 8 ounce Newfoundland and Labrador crab sections indicates that there is a very strong correlation between this market index and the price paid for Newfoundland and Labrador crab over a period of approximately 15 years from 2006-2019 and 2023. There is little to no correlation during the Covid-19 period 2020-2022.

9. The Strategic Review Team examined a number of different approaches to establishing a formula framework for crab. It established a formula based market pricing framework through extensive modelling and analysis using the UB average weekly price data, the currency exchange rate between the US and CDN dollar, and the weekly harvester prices paid in the Newfoundland and Labrador industry over the period 2006-2023. The framework presented is a model that the Review Team is recommending that the parties adopt and modify as necessary to reach an agreement that should form the basis for pricing snow crab in the coming 2024 season. Such a framework should be established for a two to three year initial period followed by a comprehensive review with the objective to adopt this as the price-setting mechanism for crab for the long-term.
10. The Review Team suggests that, where the parties are unable to agree on any one of the key elements to establish a formula based pricing for crab prior to the 2024 season, the Fish Price Setting Panel should separately arbitrate each of various elements that are in disagreement. In addition, these framework elements should be settled, along with any of the other terms and conditions of the crab schedule, well in advance of the planned opening of the season (these issues should be resolved by an agreed prescribed timetable on or before January 31, 2024). This initiative requires immediate and sustained attention of the FFAW, ASP and Government in partnership. Only the opening minimum price should be outstanding in the immediate weeks prior to the start of the 2024 crab season.
11. The Review Team concludes that the legislation, regulations and policies governing the fish price setting process and the Panel be modified as necessary to ensure that the Panel has all the powers necessary to facilitate the formula based pricing framework envisioned. Government should assess the need to strengthen its legislation such that it is more consistent with the intended objective to have various fisheries start in a timely manner.
12. The Review Team has concluded that the current structure of fish pricing setting is not conducive to maximizing the inherent value of the resource. There is significant economic

opportunity to be gained from a market based approach driven by a focus on improving the quality of the harvest and the products derived there from.

13. The Review Team repeats the recommendations from a number of prior reports that fish prices reflect the inherent market value of products produced in the industry. As noted in our report, market value for most species is a function of size and quality characteristics. These attributes are best determined through independent dockside grading that correlate and reward attributes that give rise to increased market returns that can increase and improve the long- term viability of the entire industry. There is much more to share when value is maximized. The industry needs to establish clear and attainable goals over the short and long-term. These should be empirically measured and the benefits shared as gains and milestones are achieved.
14. The Review Team recommends that the FFAW, ASP and the Government take an active role in implementing a formula based pricing framework for crab and that this process be a mechanism that can be modified and adopted to achieve other improvements in regard to the price-setting for other species in future years.
15. The Review Team has concluded that the crab industry is currently highly dependent on the retail segment of the US market. It is recommended that the Government support industry led initiatives to diversify the US market and enable it to re-establish and expand Asian and other markets.
16. The Review Team has concluded that much of the disruption in the industry through the current crisis was avoidable, however, to avoid such outcomes, an independent fisheries management structure is required. Such a management structure was recommended by Vardy and Dunne (2003) and Cashin (2005). The review team concurs with their recommendation that the Government of Newfoundland and Labrador seek a workable arrangement with the Federal Government for coordinated and joint management of the harvesting and processing sectors. This would be an arrangement where the decision-

making powers of both governments are delegated to a single management authority. An authority similar to that utilized in the oil and gas sector.

17. The Review Team is grateful for the cooperation and support we received from the leadership of the FFAW, ASP, officials of the Department of Fisheries, Forestry and Agriculture and the Department responsible for Labour, and present and past members of the Standing Fish Price-Setting Panel, as well as the work of others who prepared electronic submissions. Your assistance was vital to our work and your insights were invaluable in guiding us through our mandate.

Introduction

The Newfoundland and Labrador inshore-based fishery is dominated by snow crab. In many ways, it is the foundation of the rural based fishing economy of the Province, just as cod was prior to the groundfish collapse three decades ago. The value of the industry has been setting records year after year up to 2022. Higher value has generated much higher incomes for participants as compared to the times when the industry was dependent on cod. The shift to crab generally has also meant an international diversification of the industry with important markets in Asia, as well as in the US.

There has been a significant recent shift occur in respect to market diversification as the Asian market, particularly Japan, has contracted due to recent higher product prices, shifting trade patterns due to increased supply and export restrictions associated with Russian production. In addition, the Covid-19 period has caused a marked increase in demand in the retail sector of the US market at the expense of the industry's more diverse presence in the foodservice sector – (restaurants, casinos, cruise lines, etc). Today one would characterize Newfoundland's industry as being very highly dependent on one species (snow crab), one market (US), and one market segment (US retail sector). So to speak, the industry is critically weak. Its dependence today is so concentrated at a time when market pricing has virtually collapsed, demand is relatively slow, and supply is at record levels. Needless to say, the industry needs rebuilding.

The risks the industry is enduring includes a period of unprecedented environmental and climatic change. Hardly a week goes by that there is not a new record in oceanographic or climatic terms. Our ocean temperatures are warming, currents are changing, and foreign species to our waters are appearing. All these changes have yet to visibly change the crab abundance, however, resource change is occurring. Once abundant shrimp resources that exploded following the groundfish decline have come and gone, while lobster populations may be benefiting from warmer waters, especially on the south and west coasts of the island.

During the Review Team's review of fish price-setting, it became painfully obvious to all of us that there is no overall management of the Newfoundland and Labrador fishing industry. Decisions are made that are not in the best interests of harvesters, processors, or the economy in general. The Review Team believes the crisis arising from the changing market dynamics is much deeper and

much more economically damaging than would otherwise have been the case had there been a better decision-making process for the whole of the industry's best interests. This issue was addressed in the 2003 Royal Commission on Strengthening our Place in Canada. At that time the report on "New Arrangements for Fisheries Management in Newfoundland and Labrador" by Vardy and Dunne recommended:

"a major restructuring of fisheries management, with the creation of a federal Atlantic Fisheries Management Commission, a joint Canada/Newfoundland and Labrador Licensing and Allocations Authority, along with a joint federal-provincial policy board"

Two years later in 2005, Cashin recommended the creation of the Standing Fish Price Setting Panel but was also very critical of the lack of an overall management regime and recommended that:

"the Provincial Government seek a workable arrangement with the Federal Government for coordinated and joint management of the harvesting and processing sectors. This would be an arrangement where the decision-making powers of both governments be delegated to a single management authority. This authority should administer an agreed set of management policies."

In the 18 years since that report, there has been no movement on these key recommendations and given the current crisis in the Newfoundland and Labrador fishery, it is very apparent the effect that a lack of overall management has on the industry. The Review Team believes it is time to revisit and explore the option of establishing a comprehensive management authority to govern the industry.

Background

Understanding the market dynamics and the inability of the Newfoundland and Labrador industry to respond to the market are fundamental to understanding the challenges the industry now is experiencing. It is important that the Strategic Review Team outline the recent market dynamics that have brought the Newfoundland and Labrador industry into the 2023 crisis.

Market Price Trend

For months leading up to the scheduled start of the Newfoundland and Labrador snow crab season (April 2023), there were apparent warning signs of the crisis that was about to unfold. First and foremost, the US market price for snow crab from Newfoundland and Labrador, which has been independently monitored for decades, was literally free-falling. UB reports bi-weekly the quoted market price of Newfoundland and Labrador snow crab sections (5- 8oz). ¹ In more recent years, this product was selling between US\$5 to 8.00 /lb. It reached an all-time high in November, 2021 at US\$16.80 /lb, due to high retail demand during the Covid-19 pandemic, and the product maintained that price until the week ending January 22, 2022. However, from that point forward, for a period of 67 weeks, the product experienced precipitous decline, reaching a low in the week of May 6, 2023 at US\$4.65 /lb. A price decline of 72.3 percent. This market collapse was the largest market correction in the history of the snow crab industry.

Throughout the 2022 crab season, market prices (5-8oz section) were steadily falling, dropping from US\$12.62 at the start (April 2022) to US \$7.05 at the end (July 2022). A price drop of US \$5.57 /lb in four months, or 44.1 percent. Incredibly, during the 2022 snow crab season the market collapse was not reflected in the raw material price paid in the industry. Processors chose to disregard market reality and continued to buy at the prices established in April/May by the Standing Fish Price-Setting Panel (Panel). The declining market price and declining demand did not cause a needed response within the industry and the harvester prices exceeded the market return. This situation affected the start of the 2023 fishery when the combination of unsold product from 2022 and another significant Total Allowable Catch (TAC) increase caused further market deterioration.

Crab Production and Market Dynamics

In order to understand the scope of the market shift, an analysis of Newfoundland and Labrador crab production and its export is necessary. The Department of Fisheries, Forestry and Agriculture maintains data on the total crab production and exports of the Newfoundland and Labrador industry (see Appendix B). The table below highlights select data for the period 2018-2022:

¹Urner Barry US average weekly market prices for 5-8 sections see Appendix A

NL Crab Production and Exports (kgs) (2018-2022)					
Year	2018	2019	2020	2021	2022
Production	19,343,443	19,009,863	21,073,154	27,146,354	35,083,562
Exports	16,247,092	16,658,037	18,946,227	26,159,178	25,535,137
Exports as a % of Production	84.0%	87.6%	89.9%	96.4%	72.8%

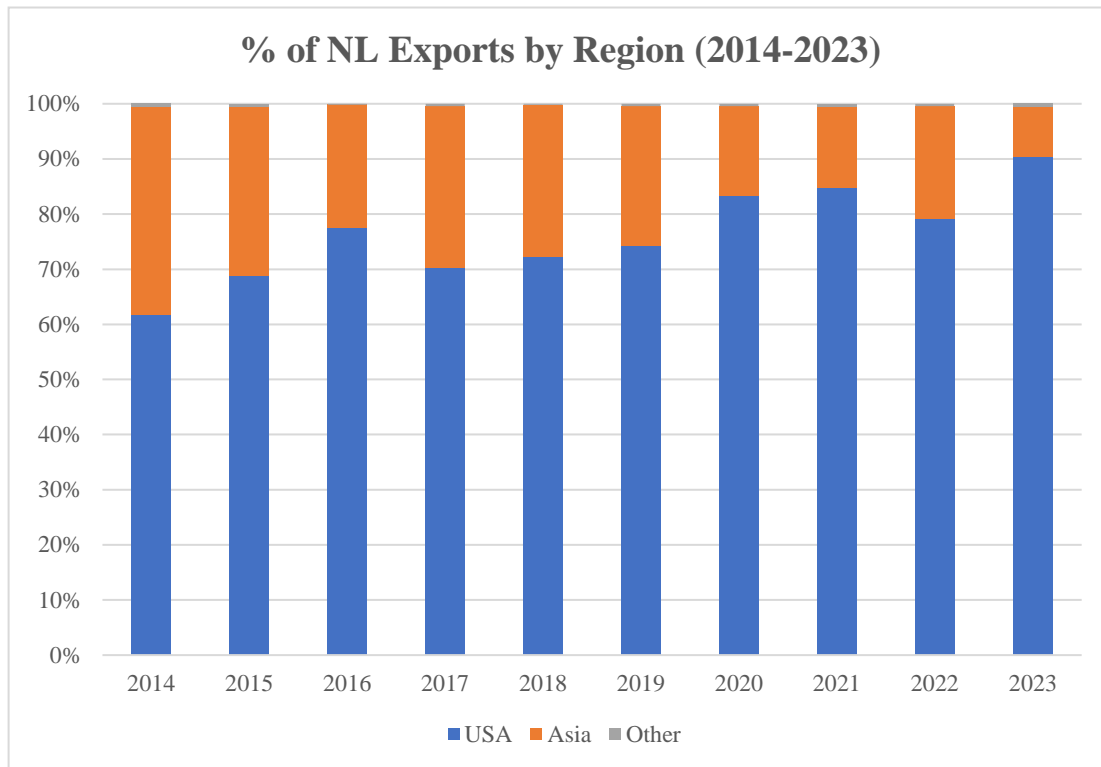
For the period 2018 to 2020, exports during the year had been tracking several years prior at 84 to 89 percent of production. However, in 2021 there was a significant shift higher to 96.4 percent, indicating that the Newfoundland and Labrador industry was exporting more to the US market driven by high retail demand and high market pricing in that sector. In 2022, there was a dramatic drop in exports from Newfoundland and Labrador to international markets as total exports for the year declined very sharply by some 23.6 percentage points. This percentage decline was on much higher production (over 35,000 tonnes). Clearly, the data shows a very high build of Newfoundland and Labrador crab inventory during 2022. Based on the percentage decline from 2021, the inventory build in Newfoundland and Labrador can be estimated at 8,285,417 kgs, or 18,266,030 lbs. Note this estimate does not account for the inventory that built during this period in the export markets, which were generally known to have high inventory holdings as well.

The 2023 export data for the first seven months to July show a very significant shift to the US market. In fact, Newfoundland and Labrador exports of crab to the US set an all-time record of 53.1 million lbs. to July. This is more crab than in any other full year. The export quantities to July, 2023 exceeded the prior record year (2015), by 27 percent. This is indicative of the large quantity of Newfoundland and Labrador crab from 2022 that had been in cold storage for months, carried over from the prior season.

Analyzing the Newfoundland and Labrador crab exports by country also shows a very dramatic shift in export markets. In 2014, Asian markets represented 37.7 percent of Newfoundland and Labrador crab exports. However, the trend has been a fairly steady decline to 2023 (see chart below), where thus far to July 2023, only 9.0 percent of total Newfoundland and Labrador crab exports are to Asia.

As market prices increased and market flows shifted, due to the Covid-19 shutdowns in the food

service sectors of the economy, Newfoundland and Labrador crab exports became very highly concentrated in the US market. Within that market, Newfoundland and Labrador crab has become very dependent on the retail food sector.



Some processors recognized the predicament the industry was in, early in the 2022 crab season, and temporarily stopped production. But local competitive factors caused them to restart their processing activity, despite knowing that it made no economic sense. The industry also knew well, at the time, that US based retailers, who had become dominant in the market early in the Covid-19 period, had curtailed buying snow crab due to the high financial risks posed by the declining prices relative to their high-cost inventory from 2021. As reported by John Sackton, cold storage space became more and more challenging as inventory from the production facilities all over Atlantic Canada were at a premium. As evidenced, the seeds for the unfolding crisis were planted and growing long before the 2023 season. It was the perfect storm.

In May, 2022 the Panel reduced the price to harvesters from \$7.60 to \$6.22 /lb in May, as a result of a reconsideration request by ASP. However, the price adjustment was not reflective of the overall continuing decline in demand and the resulting drop in market prices that occurred during

the processing season. The market price continued to fall as noted earlier. Producers were building inventory, the food service industry was virtually closed due to Covid-19, the Ukraine war had shifted global trade and Russia began shifting its exports to Asia.

The collapse of Alaskan snow crab in the market due to an ongoing resource crisis failed to alleviate the glut of snow crab in the US market. In addition, the decline in demand for NL crab in Asian markets had already taken hold. These market dynamics continued to prevail through to the start of the 2023 season. When yet again, the industry ignored all market signals, including the glut of unsold high-priced crab from the 2022 season, and unbelievably, substantially further increased supply from Atlantic Canada by increasing Total Allowable Catches (TAC).

Consequently, the Newfoundland and Labrador 2023 industry started, in an almost impossible situation. During collective bargaining, the parties attempted to cover the risks by negotiating a formula for price-setting. They made some progress agreeing on some general principles, but remained far apart in regard to pricing for raw material. The parties were destined for arbitration. The Panel process had just been renewed and a new format for the Panel had been established by Government, following the Conway report in the fall of 2022.

The Panel was challenged to deal with the “next to impossible” task of predicting the future and establishing a price to start the snow crab fishery in April. The Panel set the price based on the best indicators of market realities at that point in time and which also reflected the prices paid for snow crab throughout the remainder of Atlantic Canada.

Unfortunately, there was no acceptance of the market reality in the industry. The high degree of mistrust and the dramatic rise and fall of prices resulted in chaos and economic fallout that will affect the industry for years to come.

In the seven-week standoff at the start of the season, the Province intervened to get the fishery started and the Government committed to another review of the price-setting process which the Strategic Review Team is now undertaking.

Fish Price-Setting Strategic Review Team

On September 6, 2023, The Honourable Bernard Davis, Minister responsible for Labour announced the establishment of the Strategic Review Team to assist with the development of a formula-based framework for fish price-setting, and other potential mechanisms, to address ongoing issues with the current price-setting process. The Strategic Review Team's mandate includes an economic analysis, stakeholder consultations and review of current legislation, policy and regulations, with the objective of finding a solution that reflects the respective roles and values of the harvesting and processing sectors.

The strategic review team consists of three members (Glenn Blackwood-Chair, Gabe Gregory and Bill Broderick) appointed by the Lieutenant-Governor in Council, based upon nominations from Fish, Food and Allied Workers – Unifor, the Association of Seafood Producers Inc., and the Provincial Government.

The mandate and objectives of the Strategic Review Team follow.

Mandate and Objectives

The Strategic Review Team will make recommendations to the Minister responsible for Labour about matters regarding the process for fish price-setting as outlined in the Act, including the recommendation of a new formula-based framework. The objective is to find a solution that reflects the respective roles and value of the harvesting and processing sectors, and leads to a fair and balanced distribution of the market value to all participants in the fishery. To complete the work, the Strategic Review Team will:

1. Consult all interested parties such as the respective organizations of fish harvesters and processors, and consider these views in the recommended framework;
2. Consult current and past members of the Panel;
3. Consider current relevant legislation, regulations, and policy;
4. Consider the findings of reports, previously prepared for the Province, about the Act and fish price-setting;

5. Complete economic analysis of historic pricing structures for various species;
6. Examine pertinent formula-based approaches applied in the fishing industry in other jurisdictions;
7. Report on the type and rationale for each variable that should be considered in a new formula for determining annual fish prices, such as price to harvesters, labour cost, yield, market prices and exchange rates;
8. Develop and test formulaic approaches to price setting and seasonal adjustments, including economic modelling cases depicting how the recommended formula framework will function under various scenarios of fluctuating market conditions and for different species;
9. Outline any important considerations for implementation of the recommended formula (e.g., time period for applying the formula and any potential interruption mechanisms such as seasonal adjustments);
10. Report observations to the Minister regarding potential impacts to industry parties under different possible scenarios and at different stages of formula implementation; and,
11. Provide recommendations regarding other considerations for fish price-setting that are identified through the review process.

Review Team Approach

The Review Team was initially requested to submit their report, including a recommended formula-based framework, by October 12, 2023. While the Review Team commenced immediately to review all the relevant background legislation, regulations and policy governing the industry, it was unable to complete the terms of reference within the established timeframe and requested and was granted a 19-day extension to October 31, 2023. The review included the study of all past decisions of the Panel, as well as past reports prepared for the Government in relation to the issues of Fish Price Setting in Newfoundland and Labrador, including reports by Vardy in 1998, Cashin in 2005, Jones in 2003, Gardner Pinfold in 2014 and Conway in 2022.

Similar to all past reports, this report is commissioned at a time of dispute and crisis between the harvesting and processing sectors, regarding snow crab. For the past 30 years, snow crab has been and continues to be the most valuable species landed in the Province. It is the mainstay for the large majority of participants that derive a livelihood from the industry. The current Review Team

creation results from the most disruptive breakdown in collective bargaining since 1997 and was commissioned following what some describe as the “worst crab season ever.”

Following the review of past reports, the Review Team consulted the respective parties to collective bargaining, the current and past members of the Panel, including the Government appointed Panel facilitator and researched the pertinent formula-based approaches applied in the fishing industry in other jurisdictions. Furthermore, the Review Team sought and considered broad input by way of written submissions from interested parties through strategicreview@gov.nl.ca, a Government e-mail site established for that purpose. The Team was assisted by officials of the Department of Fisheries, Forestry and Agriculture who supplied data on the markets, local industry, and various other relevant factors that required study and consideration for the Review Team’s analysis and understanding.

Concurrent with the period of consultations, the Review Team undertook an extensive historical analysis and developed a data set of economic indicators that could be analytically modeled using various statistical and mathematical techniques. It then tested various formulas that could be best suited to form the basis of a framework to serve the industry and enable a process of resolution and agreement between the parties during collective bargaining.

Following the analysis and development of formula-based approaches the Review Team undertook a process of consultation with the leadership of the FFAW and ASP. This process included a comparative analysis of their respective positions in bargaining during the spring of 2023. The result of the entire process has led to the conclusions and recommendations regarding a formula-based framework adopted in this report.

Considerations of Legislation, Regulations and Related Reports

The *Fishing Industry Collective Bargaining Act* (the “Act”) has been governing the price setting in the Newfoundland and Labrador inshore fishery since 1971. Since 1993, the Act has been amended 14 times, most recently in 2022, following the Conway report. The adoption of the Final Offer Selection process followed the Vardy report in 1998 and the Cashin Report of 2005 recommended the establishment

of the Standing Fish Price-Setting Panel. Since that time, the intent of the Act and regulations has been to disallow strikes and lockouts in the fishery and establish a process of binding arbitration to set the price for various fish species in any instance that the FFAW and the ASP are unable through collective bargaining to agree to a price for any species.

The many amendments to the Act in the period since 1998 have resulted primarily from attempts to resolve issues arising from public disputes and disruption within the snow crab sector of the inshore fishery. There have been frequent disruptions caused by the parties to collective bargaining not abiding by the intent of the Act and its regulations, including most recently in 2023. The most recent amendments followed the 2022 Conway Report and were intended to resolve an ongoing problem of the fisheries not starting in a timely manner, even though a binding collective agreement and price had been set by the Panel.

Final offer selection arbitration is intended to cause parties to negotiate seriously through an interest-based bargaining process facilitated by an independent Government official and supported by a fact finding and issue identification phase prior to the face-to-face negotiation by the parties. Arbitration by this process intends that each party shall submit their final offer to arbitration knowing that if the other party's final offer is selected, it is final and binding on all parties. Fundamentally, this is where the process continues to fail as the parties do not abide by the arbitration decisions. In 2023, the system failed in regard to snow crab, shrimp and lobster.

The 2023 snow crab disruption was very damaging to the industry. It had many negative effects, among them:

- Long delay in the start of the fishery;
- Loss of market access;
- Loss of resource due to soft-shell issues;
- Disruption and displacement of other fisheries opportunities within the industry;
- Loss of employment and serious disruption to the livelihoods of many employees directly in harvesting and processing as well as many industries supplying and servicing the industry;

- The delayed and compressed season resulted in gluts at the processing plants which struggled to deal with high levels of landings for prolonged periods, which negatively affecting the quality of landings and products;
- Loss of productivity - both in yield and performance due to continuous stress on those employed; and harvesting and transporting the raw material during seasonally hot and humid periods that should and could have been avoided;
- General societal disruption even to the point of causing those dependent on the industry to seek employment elsewhere;
- Much personal strife and acrimony among participants; and
- Added significant economic losses and costs during a year that was already economically challenging.

The mechanisms of the law, regulation and arbitration processes are not working as intended in NL. It has been suggested that there are no timely consequential remedies when the parties collectively choose to disregard the outcome of final offer arbitration. A party can present a final offer that is not reflective of the combination of facts present and prevailing at the time of final offer arbitration. These circumstances become very challenging to resolve in a timely manner in order to start fisheries. Government will have to take a more active role to ensure the legislation and regulations are functioning as intended.

All of the parties to consultations highlight that the process of collective bargaining needs to be improved. The FFAW, ASP and the Panel all highlight that the fact-finding and reporting leading up to negotiation is deficient. They point to a need for more detailed market intelligence - data on pricing, demand, inventory, supply, and other risks for varying Newfoundland and Labrador products in international markets is necessary. Market trends and informed market analysis that predict market trends with probability-based forecasts that are specifically related to Newfoundland and Labrador industry and its products will be even more critical with the adoption to market based formulas for price-setting. More transparency on aggregate industry costs of harvesting and processing, including productivity factors and risks for both sectors of the industry, are also required.

There is general and accepted recognition by the parties that the industry needs facilitated independent resources to enable it to work together and share information. There is also a need for independent and objective analysis and intel from sources affiliated with the industry but not with vested interests in the outcome of collective bargaining. For example, officials and professionals in industry and Government attend many international trade shows that assimilate, monitor, and digest intel on current market dynamics that can independently verify market trends and current risks.

Independent industry surveys and data collection would be useful tools to provide insight on current market trends, industry costs, financial and business risks. There are a variety of tools that can enhance collective bargaining and better inform the arbitration process.

The Panel will always be challenged to make a so-called “right decision” that will be judged to be satisfactory to both parties in collective bargaining. This is an inherent challenge for any Panel. This is so because it is an impossible task to accomplish with accuracy and precision. Let’s reflect on the task and the parameters the Panel has to consider to decide between the final offers:

- The price to be arbitrated has to reflect the minimum price for the entire season and all landings, often irrespective of quality or size considerations which profoundly affect market value depending on the species. The tendency is for industry interests to focus on the ‘spot market price’ in March or April as though it will prevail through the fishing season;
- The market is dynamic and ever changing;
- The landings, and consequently the supply, is highly seasonal, unpredictable and subject to last minute quota changes that can have very significant impacts on markets;
- The market is for wholesale trade in a diverse international commodity form;
- The timing of export and sale are generally not the same unless the product is fresh or in whole form. For example after processing, frozen snow crab sections are generally exported within days or a couple of weeks of being processed, but its actual sale in the market could be weeks and several months from its date of export. Therefore, final pricing is not timed to the period of harvest nor production;

- The markets are export-oriented and dependent on a combination of foreign exchange risks across several foreign currencies;
- The Panel has prescribed limits on its decision time – it gets final offers at a 4 pm deadline and has to make a determination within hours on a matter that involves tens and/or hundreds of millions of dollars of business covering the livelihoods of thousands of people and hundreds of businesses.
- Complex analysis and reasoning are required to arrive at decisions that are primarily economically intricate;
- There are many risk factors that are not well-defined or delineated; (Note this shortcoming could be avoided as it would be in any final offer arbitration of this magnitude.)
- The arbitration process is lacking in its procedural rules, timing, and preparedness. (Note the characteristics of similar arbitration in any other aspect of business would involve days/weeks/months of preparation by financial experts/lawyers; expert reports and testimony; processes of discovery, cross-examination, and questioning of witnesses; these processes crystalize the facts and inform the adjudicator and the final decision. The arbitrator or a judge would also have the authority to force the parties to abide by the decision within very limited time periods to avoid the type of collateral damage that arises in the fishery when there is a work stoppage.)

The Panel process by its nature is impossible to get right because if it were possible then such a complex process of decision-making would be capable of foreseeing the future of market prices and thus such an arbitration would be equated to only buying winning stocks in the stock market. That is clearly not attainable, nor is it possible to set the price of any given species of fish in NL for the coming season with a host of uncertainties and accurately set the raw material price to the market. The Panel's best chance at being "right" for the season would be under conditions that the market is highly stable, currency fluctuations are minimal, and there is little to no uncertainty and business risk. Market demand would have to be buoyant across diverse international markets. Rarely, if ever, do such circumstances exist.

Some suggest that the Panel process would improve if the Panel was able to pick a price between the two final offers. Such suggestions are flawed because choosing in the middle would only cause the parties offers to consider this possible outcome. Then both parties would clearly be motivated to hedge their offers to reflect that middle of the road outcome from arbitration rather than their definitive final position. In conclusion, such a process would only weaken an already imperfect system. An intermediate position between the parties does nothing to change the factors noted above or deal with any of the inherent risks of predicting with accuracy what the final market price of a commodity will be and its corresponding raw material price. It will always be imperfect at best.

Historical Pricing Structures

Fish pricing in Newfoundland and Labrador L since 1971 has been governed by the Act. Collective bargaining under the Act for the period to 1998 was characterized by a traditional model whereby harvesters, as represented by the FFAW, and buyers/processors, (mainly through some non-accredited association) negotiated the main species of groundfish through face-to-face bargaining. This process was ad hoc and usually only governed some of the main species harvested within the inshore fishery such as cod, flounder, and other then abundant, groundfish species. The price of many species was dealt with between individual buyers/processors and the harvesters themselves. There was a master collective agreement in effect as there has been for decades, but the schedules to the master collective agreement that covered individual species were relatively limited. There were several long disputes principally relating to the price for cod in the 1970s and 1980s which arose due to strikes and lockouts by either party to collective bargaining.

In 1997, a long dispute related to snow crab prompted the Government to appoint a Task Force (Vardy) to review the Fishing Industry Collective Bargaining Act and examine other mechanisms for dispute resolution in the inshore fishery. The Vardy report recommended that the Government change the Act to prohibit strikes and lockouts and that collective bargaining adapt to an interest-based negotiation approach facilitated by the Department of Labour. The report also recommended that a process of final offer arbitration be instituted where the parties were unable to reach a negotiated settlement. Other recommendations of the Vardy report included that "...a price-to-market formula be used to reward quality and improve transparency" and "the Task Force

recommends to the parties the development of a pricing structure that recognizes and rewards high quality crab”.

The Government adopted some of the recommendations of the report and changed the Act accordingly. Strikes and lockouts were prohibited and an arbitrator-in-waiting was appointed to settle the price for a species that the negotiation process failed to settle. The arbitration was a single professional arbitrator that made a selection of one of the final offers, of one of the parties. This process worked for a period and soon after, the parties adopted and developed a price-to-market formula-based pricing system for snow crab. The pricing formula derived specified prices for raw material which changed every two weeks of the fishery while the harvesting activity was taking place.

The price to market formula was based on the percentage of production produced in the industry of three different product forms (US sections, Japanese sections, and combo meat). John Sackton, a US based market consultant, was contracted to report on the market price of the three products every two weeks. Depending on the changing US dollar pricing for the three products, the US to Canada foreign exchange rate, and the percentage weighting of production, the raw material price changed at every two-week interval. The system worked effectively until the Pricing Panel ruled to throw out the price to market formula in favour of a fixed price as proposed by the FFAW. This resolved the issue of crab prices dropping after the first few weeks of the season but created a much larger issue of the perception about fair sharing when market prices rose during the season such as happened in 2020 and 2021, or when market prices declined dramatically during the season, as happened in 2022.

At the time, differing bi-weekly pricing favoured harvesters that were able to fish early in the season. The snow crab fishery, starting in April, has a tendency to have a higher opening price than when the bulk of supply enters the market. When the entire harvesting fleet becomes active round mid-May, and other Atlantic Canadian supply is also coming on stream, market prices have the tendency to decline.

The fixed price structure did not work for long because it was unable to respond to the changes in the dynamic market as described earlier. Following disputes within the industry the Government amended the *Act* to allow either party to revert to the Panel for a further arbitrated decision when the Panel deemed the fishery was in jeopardy during the season. This led to both parties seeking reconsiderations throughout the season as every time the market or currency changed materially, one party or the other was seeking a new arbitration depending on the movement up or down in market trends. The reconsiderations got out of hand naturally and caused even more dispute.

Next, the structure governing the Panel was changed to allow each party only one reconsideration request during any year for any given species. Requests for reconsideration were restricted to only consider material changes in the market pricing during the season. This assisted but, in each season, there was a contest between the FFAW and ASP as to when the best opportunity to utilize its one request to change the raw material price would be used. If one chose too soon after the opening to request reconsideration, there was the possibility that the Panel would not award a change in the price.

In other instances, the party that chose to request first may have been awarded a change, but of course, as soon as the market dynamics shifted, the other party was back to the Panel to reverse the change. There could be no further opportunity to modify the price no matter how much the market had shifted once reconsideration was done. This was indeed what occurred in 2022 when the market went into free-fall. the ASP used their one chance to adjust the price and then were stuck paying a harvester price that exceeded the market return for the remainder of the season.

The consequence of the 2022 season was the Conway review, which changed the structure again. Despite the changes and the reversion back to having a professional arbitrator chair the Panel, the Review Team has concluded there was no decision, or price formula, that could have enabled the fishery to start on time in 2023. The harvesters had taken a position contrary to the prevailing declining market position the industry was facing. There was a rejection of the Panel decision and it was not until May 19 that the price (\$2.20 /lb) was accepted and fishing started at the price established over six weeks earlier by the Panel.

Historical Pricing Analysis

Historical prices and analysis for many species harvested in Newfoundland and Labrador is not readily available. There are some exceptions – lumpfish roe, halibut, lobster, and snow crab.

Lumpfish roe

Lumpfish roe is extracted by harvesters by capturing the lumpfish in nets in coastal inshore waters in the spring. The roe is sold directly to processors who process and salt cure it in large plastic barrels at processing plants. The barrelled roe is then exported to western European buyers where it is further processed into various roe products and distributed primarily to markets in western and northern Europe.

The pricing to harvesters in Newfoundland and Labrador for lumpfish roe has been formula-based since the 1990s. Harvesters are advanced a price /lb for the roe as it is landed in the spring to summer period. In recent years, the advanced price has been \$1.35/lb. In the summer and early fall, the roe is exported to Europe and the price is settled with buyers/processors there.

The collective agreement has a price setting formula whereby when the market for a barrel of roe is above CDN \$840 cif Europe, then the price is adjusted upward depending on the average actual prices settled for the roe from processors in Newfoundland and Labrador. In each fall, the settlement is made retroactively on the price when market prices exceed the established average threshold. Average market prices are determined based on actual sales reports from select Newfoundland and Labrador processors that represent the vast majority of sales volume. Verification through an independent audit of prices is at the discretion and cost of the FFAW.

Halibut

Halibut has a similar pricing structure to lumpfish roe in that harvesters are initially advanced a price based on current market indicators and then four weeks later when the buyers/processors have sold the halibut and received final payment, the harvester price is adjusted and paid. This price is determined from actual market returns. The buyers/processors of halibut provide their invoiced receipts to an independent accounting firm who compiles and averages market return on

an industry basis. The firm then informs the industry as to the final price to be paid for halibut purchased four weeks earlier. The initial buyer/processor retroactively compensates the difference between the advance and the final average settlement price to the harvesters.

Lobster

Lobster is the second most valued species in the Newfoundland and Labrador inshore fishery, second only to snow crab, which is by far the largest component of the industry. Lobster is also settled on a formula-based pricing mechanism, and it was most recently adjusted in early May 2023 following a dispute over pricing. A seasonal pricing challenge caused the buyers/processors to stop buying lobster early in the 2023 season.

The lobster pricing formula was derived from the UB market online quoted prices for lobster, referred to as American Hard 1¼ lbs., Quarters, FOB New England. Traditionally, the market price leading up to Mother's Day, a peak period of US market demand, has been seasonally very high. The price formula in Newfoundland and Labrador had been set based on the most recent weekly quotes of market prices. This timing caused Newfoundland and Labrador buyers/processors to pay high prices in early season that would not be sustained and the traditional market correction following Mother's Day would ensure they could only incur losses during the early weeks of the season. This caused the industry to stop buying in early 2023 and the parties then negotiated an adjustment to the pricing formula to enable it to remain competitive.

The history of the lobster prices in Newfoundland and Labrador is tabulated in Appendix C of this report. Appendix C outlines the weekly price from 2011 (the year the formula-based pricing was adopted) up to the end of the 2023 season in Newfoundland and Labrador. The table shows the yearly pricing by week (Sunday to Saturday) for each week the harvesting season was active. The yearly data shows the week, the average UB market price in US\$ /lb, the average weekly foreign exchange rate CDN\$ to US\$, the CDN\$ average market price, and the corresponding formula derived price paid to NL harvesters per pound landed weight.

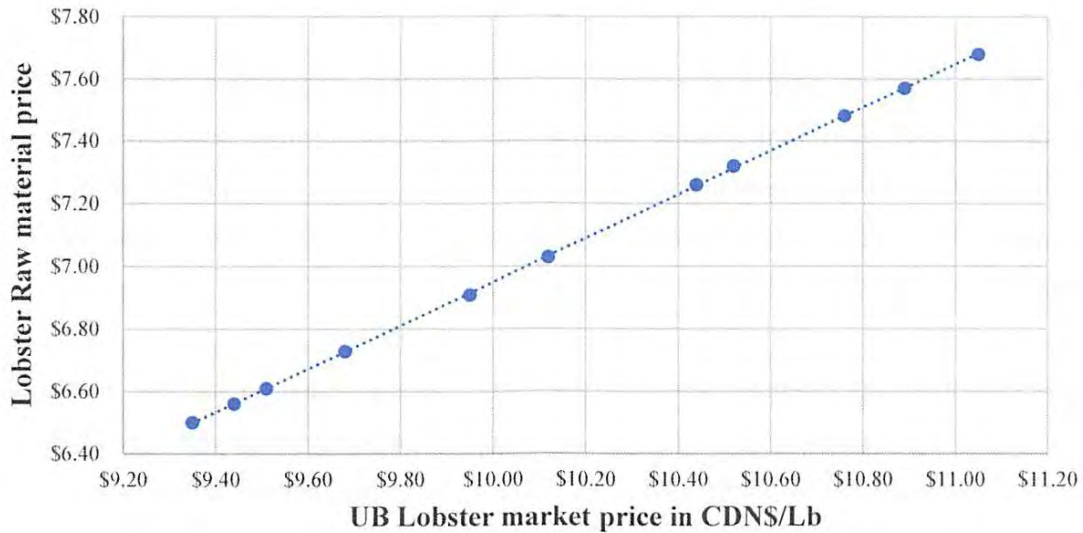
The formula-based lobster pricing model is a linear formula whereby the buyers/processors have a set margin at a starting point. Beyond that point, as the Canadian equivalent market price

Increases, the value accruing to the harvester is set at a fixed percentage. Prior to May 2023, the harvester obtained 80 percent of all market price improvement beyond the threshold and the buyer/processor obtained 20 percent.

After May 7, 2023 the parties agreed to adjust the price formula whereby of the first \$5.00 in market value, \$3.25 went to the harvester and \$1.75 went to the buyer/processor. The next dollar of market value was split 70/30 in favour of the harvester; the next two dollars of market value, between \$6.00 and \$8.00, the split was 80/20 in favour of the harvester; and beyond \$8.00 the market value is split 70/30 in favour of the harvester.

The Review Team compiled all the data on the lobster pricing formula since 2011 in relation to the average weekly market prices from UB and completed a regression analysis which depicted the linear relationship between the market price and the raw material price for lobster. This chart is shown in Appendix C attached. Depicted below is a chart of the UB Lobster Price converted to CDN\$ to the raw material price paid in 2023 since the May adjustment. The linear relationship is clearly shown by the line that can be drawn through the points on the chart. There is a direct relationship between the market price in CDN\$ to the price paid to harvesters for their catch on a weekly basis.

UB Weekly Lobster Market Price to Raw Material Price May 2023 to Present in Cdn \$ per pound



Formulaic approaches are relatively easy to develop for species such as lumpfish, halibut and lobster. All these species involve generally minimum processing activity and the weight of the product traded and sold more closely approximates the landed weight purchased. While there are quality and yield losses, they are not of the magnitude experienced when a landed pound of a species goes through a processing transformation as it would for cod, shrimp, or snow crab.

The buyer has market risk with all species, however, the formula or final settlement prices to harvesters enable the buyer to maintain a margin to cover handling, logistics, weight loss, and quality risks. The key in the development of the formulaic approaches to these species is to establish a fixed initial margin that covers both harvesters and buyer/processors variable costs and equitably shares the market value enhancement that accrues beyond the fixed initial margin for both parties dependent on the risks.

The challenges of inflationary pressures affect both parties in unequal ways and maintaining a fair sharing of the fixed threshold margins becomes a challenge for the party that is more exposed to inflation.

Energy costs affect harvesters and buyers/processors as fuel and transportation costs have escalated significantly, especially in the past several years. For species such as lobster and halibut, which are distributed live and fresh, respectively, the recent cost increases for shipping and logistics have been dramatic. These cost increases make it particularly challenging to make formula-based pricing work at the same time that market value returns decline. Analysis shows that in declining markets combined with sharp inflationary increases as experienced in the Covid- 19 period, margins can be squeezed to the point there is little economic incentive for parties to participate. Therefore, it is important that any formula-based system is dynamic and it is reviewed and adjusted over time. Otherwise, the formula is no longer representative of a fair sharing of risk, costs, and margins for both parties involved in the industry trade between the harvester and the buyer/processor.

The table set forth below shows UB average weekly lobster prices in US\$ /lb for each week of the NL fishery starting in week 1 of the season (third week of April each year) for the period from 2011 to 2023.

UB Average Weekly Lobster Prices US\$/Lb.													
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Week1	6.59	6.85	7.60	8.48	8.60	6.95	9.95				10.82	10.82	14.10
Week2	6.60	6.70	6.68	7.65	8.95	6.23	8.10	8.73	6.80		10.12	10.12	10.38
Week3	6.18	6.38	5.85	6.58	8.18	6.10	7.85	7.58	7.10	6.80	8.49	8.49	8.63
Week4		6.10	5.23	5.85	6.40	5.97	7.35	6.75	6.80	5.50	8.19	8.19	7.75
Week5	5.80	6.08	4.98	5.10	5.58	5.85	6.85	6.45	6.58	4.40	8.04	8.04	7.38
Week6	5.90	6.10	5.00	4.98	5.30	5.98	6.73	6.15	6.45	4.20	8.04	8.04	7.13
Week7	5.95	6.08	4.70	4.85	5.30	6.35	6.35	6.05	6.23	4.20	8.04	8.04	7.05
Week8	6.30	5.80.	4.48	4.73	5.38	7.10	6.35	5.93	6.10	4.45	8.07	8.07	7.00
Week9	6.75	5.75	4.35	4.60	5.98	7.48	6.48	6.40	6.10	4.65	8.49	8.49	7.13
Week10	6.92	5.68	4.35	5.00	6.53	7.60	6.95	6.70	6.30	4.95	9.37	9.37	7.68
Week11	7.20	5.60	4.85	5.35	6.90	7.73	7.35	7.45	6.60	5.15	9.74	9.74	7.95
Week12	7.15	5.60	3.70	6.10	7.15	7.85	7.48	7.60	6.95	5.15	10.02	10.02	8.10
Week13	7.10	5.70	3.70	6.35	6.90	7.73	7.73	7.45	7.25	5.60	10.14	10.14	8.25
Week14				6.60	6.90	7.60	8.10	7.70	7.60				8.38
Week15				6.95									

There are some very clear patterns in the data. Highlighted in red bold font is the low point in the US market price for each year in the series. In thirteen years since the formula was first introduced, the market low point in eleven of those years was in weeks 5 to 9, from mid-May to mid-June each year the market hit a low point. In those eleven years, the low point in the market reflected a drop of 10.0 percent to 50.4 percent in market price from week 1, at the start of the lobster fishery. The average annual price drop in those eleven years was 30.0 percent. In the two outlying years (2012-2013), the lobster market continued to decline through the season. Clearly, the fixed price system that existed prior to 2011 was very problematic for the industry. The analysis demonstrates that the market risks can only reasonably be managed by a system of pricing that reflects fluctuating market conditions.

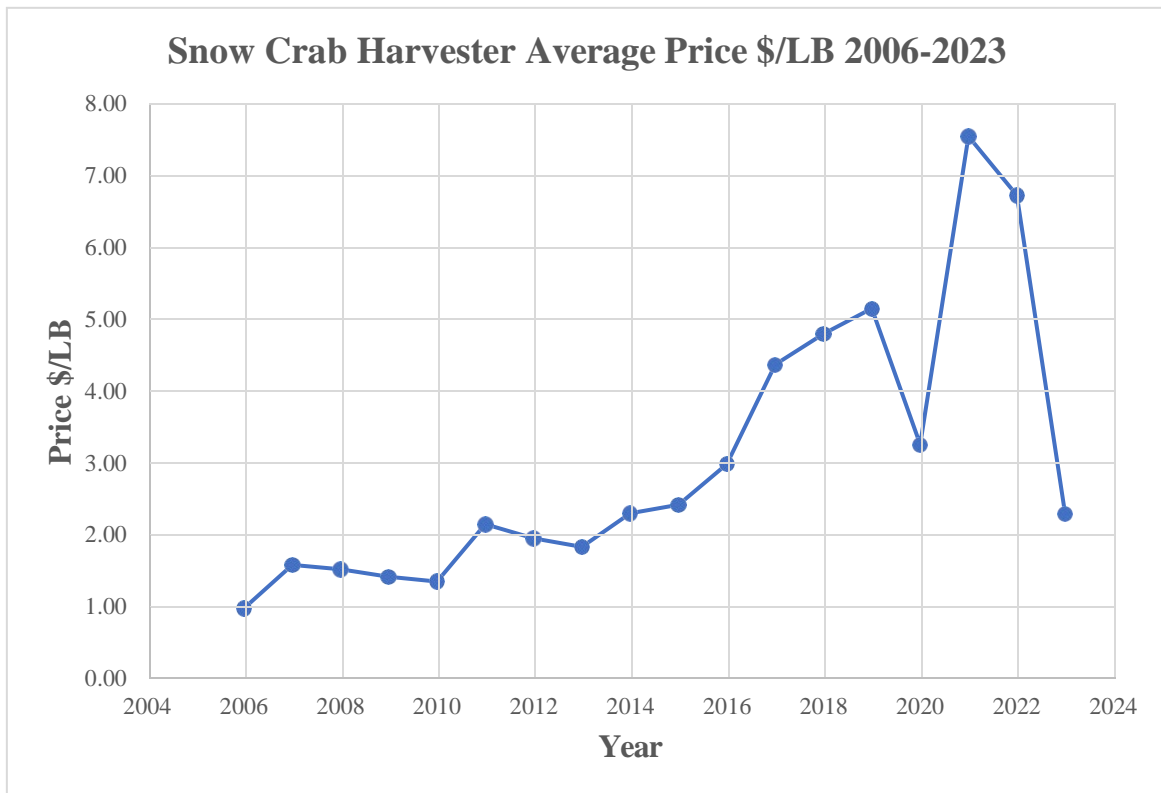
The Review Team is not suggesting that the lobster pricing formula is perfect but it does correlate well to the changing market price. The question remains as to how well the market index (UB) reflects the actual market prices obtained for lobster landed in Newfoundland and Labrador. If the US is the dominant market and the UB index captures most of the actual product mix landed and sold, then one can conclude that a formula tied to the UB index is reliable. To the extent that Newfoundland and Labrador lobster is sold live to Europe, Asia, or other markets within the same one-week lag that determines the pricing under the formula, then the market price index and the volumes sold in these markets would be required to refine the pricing formula and make it more reflective of the actual market.

In addition, the pricing-based formula does not consider the quality of lobster that is landed. The market value of most all fish species varies significantly and is most often dependent on the size and quality of the landings. The value of lobster is very much dependent on its liveliness. If the lobster is not lively then it must be processed. Lobsters that are destined for processing command a lower price. Similarly, small lobsters are of lower value. In addition, lobsters that are not whole, i.e., those missing claws or arms, are much less valuable as they are not suitable for the live market trade. To the extent lobster quality and size determine price then quality considerations and objective grading processes are necessary in the buying and selling process. Quality issues can only be addressed and resolved when the harvesting and processing sectors work together to maximize market returns for the long- term benefit of those involved in both sectors.

Snow crab

The Review Team gathered the historical harvester prices of snow crab from 2006 to present. These weekly prices for snow crab are presented in Appendix D. For the years 2006 to 2007 there was a formula-based pricing system for snow crab that changed the price on a bi-weekly basis, adjusting for currency and market fluctuations. From 2008 to 2023 the pricing has been based on fixed seasonal prices with intermittent adjustments by the Panel when market conditions, or currency fluctuations, caused prices to materially change.

The chart below shows the historical average annual pricing from 2006 to 2023 to harvesters for snow crab landed in NL. These average harvester prices are derived by averaging the weekly prices for each year in the time series as shown in Appendix D.



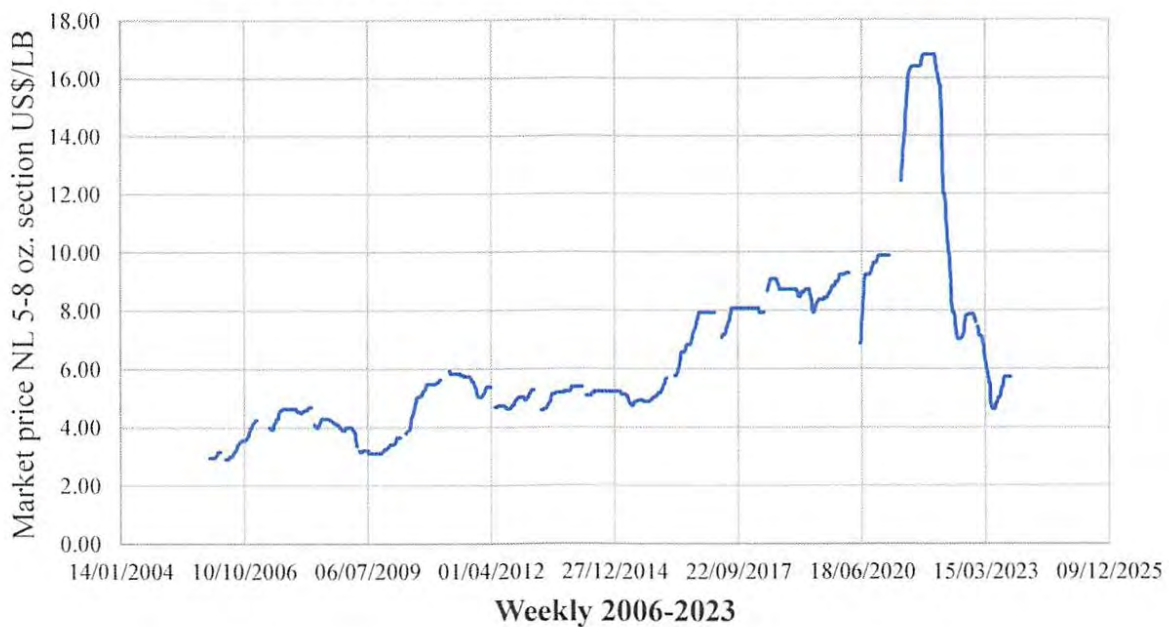
The snow crab prices were generally on an increasing trend from 2006 to 2019. In 2020, average prices declined sharply from \$5.15/lb. to \$3.26/lb, a decrease of 37 percent. However, prices recovered quickly and in 2021, more than doubled to \$7.55/lb. Market resistance to high prices took hold late in the year and from there prices collapsed reaching an average of \$2.29/lb. in 2023.

The challenge with fixed seasonal pricing is that it does not generally reflect the changes in market value. Market value has a tendency to fluctuate during the season and through the year. Market prices for snow crab are highly elastic. They can be seasonally high in late winter early spring before a new season harvest affects supply. NL has a large snow crab fishery as does the other Atlantic coast provinces. Atlantic Canada has by far the majority of world supply (See Appendix E – World Supply of snow crab by country from 1998-2022 in metric tonnes (mts)).

The world supply of snow crab has increased significantly since 2018 when the catch was at 91,015 mts. Since then, it has increased over 70 percent to 155,146 mts in 2022. In the current year, Canada has increased to over 100,000 mts, making it about two-thirds of world supply. Russia has also been increasing its harvest. In 2022, it reached over 47,000 mts, a five-fold increase from 2018.

For many of the past several years, the snow crab market remained relatively stable with a year-to-year trend of higher average prices similar to the chart above, showing the harvester price. The seasonal and year-to-year changes in the snow crab market prices are reflected in Appendix F. The Review Team has set-out the average weekly UB market price for snow crab sections 5 to 8 ounce, for the period 2006-2023, in US\$ /lb. The chart below shows these average weekly market prices:

Urner Barry Price for NL 5-8 oz section in US\$/lb



As shown, the US market price for Newfoundland and Labrador snow crab (5-8oz) sections trended up from 2006 to 2019. In 2020, prices rose sharply in the later part of the year and continued a sharp increase through 2021, reaching a peak of US\$16.80/lb. Then in late 2021, early 2022, the market experienced a precipitous decline, falling to US\$4.65/lb. by May 2023. The last time the market had reached such a low was ten years prior in May 2013, when the price to harvesters was \$1.83/lb.

Formula Based Pricing in Other Jurisdictions

Pricing for various fish species the world over is predominantly determined by market based pricing between sellers/buyers as any other trade would take place in a market based economy. This is the method of price setting in other provinces of Canada, with the exception that Quebec has a regulatory pricing system. In Quebec, the regulatory pricing system applies to one fishing zone (Zone 16) in the Gulf of St. Lawrence for snow crab. The only formula-based pricing system that the Review Team has been aware of is that for various crab species in Alaska (Sackton 2008).

The formula-based pricing in Alaska commenced in 2005. The pricing system arose because the fishery adopted a quota system whereby each harvester and production plant were assigned individual quotas (IFQ) as a percentage of the overall TAC, set by Alaska's Fishery Management Council. The IFQs were transferable but the harvester quotas were also matched to the processing facilities. All participants who were invested in the fishery (harvesters and processors) had quotas. The price setting system was designed so that no harvester would be penalized by getting a lower price than others. Its aim was to establish a single seasonal price across the fishery.

The crab pricing formulas for differing species of crab were designed to reflect the "historic division of revenue" (not income or profit) in the fishery. The formulas were extensively reviewed, challenged and tweaked with comments from both sides. After the first three years of implementation, by 2008, the pricing formulas were firmly established and they have remained the same for the past 15 years.

In Alaska, the snow crab season is set to open by mid-October, but generally fishing does not start until mid-January and concludes by March. Processors advance 80 to 85 percent of the initial ex-

vessel price to harvesters during the fishing season. When the crab is shipped and sold, generally by May or June, the processors make their final settlements with harvesters based on sales values for the crab sections.

The Alaska snow crab formula is as follows:

$$\text{Ex-vessel price} = (\text{Wholesale market price} \times 0.5760) - 0.5427$$

The ex-vessel price is the price paid to the harvesters. The wholesale market price is the first Free on Board (FOB) wholesale price obtained by the processor for the crab products produced. This price is determined by assessing the market prices over a period of months and is compiled by a market analyst. Once the settlement price is determined by the formula, then the processor settles the balance of the seasons payment for crab by deducting the 80 to 85 percent advance that was made initially.

In order to simplify the formula, a table has been developed which sets forth the FOB wholesale price and the corresponding ex-vessel price at five cent increments to the FOB wholesale price.

The formulas were derived by simple regression analysis between the wholesale price of crab and the ex-vessel prices paid to harvesters over the historical period dating back twenty years. There was a review of the crab formulas in 2017 as a result of labour cost increases in the Alaskan industry, however, the arbitrator of the pricing–formula concluded that the change was not material enough to warrant changing the pricing formula.

Variables for a Pricing Formula

Variables in formulas are variables that can be expressed numerically. The variables are known as independent and dependent. As an example, the principle independent variable measured to determine the price of a fish species being harvested would be the market price. The market price is independently determined and it varies up and down, primarily based on market demand. Another variable in determining price would be the currency exchange rate between the international export market that is purchasing the product and the domestic market that is offering the seafood product for sale.

To illustrate, the Alaskan fish price formula derived a pricing relationship between the FOB wholesale market price and the ex-vessel price, over a period of twenty years. The formula did not have to consider an exchange rate as the product was sold in the same currency that the fish was being purchased from the harvesters. The market price, however, was adjusted to reflect the price at the processing plant so that differing freight out and selling costs did not distort the relationship. Having plotted the points on a chart between FOB wholesale price and ex-vessel price for each year in the twenty-year time series, a formula was calculated using regression analysis that sets out the relationship between market and ex-vessel prices. As the market price (independent variable) varies, the formula determines the ex-vessel price (dependent variable).

Standardizing market returns is important because market prices can vary for the same product dependent on where the product is sold. In the case of snow crab, the market price delivered to Boston, is different than it is for the same product delivered to California. Similarly, the market price for a product produced and delivered to Japan is different than it is for the same product delivered to Boston. The freight, logistical, selling and marketing costs are important considerations to consider to standardize the market return. In our case, net FOB market prices ex-plant would be a good indicator of market return for a product.

Another consideration of market return is the product mix produced from a given species. If there is only one product that is the dominant product form, such as a whole dressed halibut sold fresh, or a whole live lobster, then the relationship is much simpler to analyze and determine. For species such as cod, it can be complex as there can be various forms of product produced - fresh whole fillets; frozen loins, tails, portions, blocks, minced, etc.; or salt bulk and dried cod. This combination of product forms requires very detailed analysis on an industry wide basis to assess whether there can be a formula-based relationship established between market return and prices to harvesters. There would be a lot of data to collect, standardize, and mathematically analyze to attempt to reliably set a formula that could set prices at the wharf.

In addition, once a data set is established, it is most important that the relationship between independent and dependent variables is determined to be statistically precise. There are ways to objectively measure precision of a formula and there are various complexities to determine

whether a formula is best established as a linear, exponential, or quadratic equation, based on the best fit of a line through the data points in a series. Already it is apparent that formula-based pricing can be complex to determine, however, while the formula establishment maybe complex, the outcome can remain very simple. That is to say that for any given set of market variables, be they market prices, exchange rates, product forms, or various selling costs, they can all be factored to arrive at an industry-wide market return that can be related to a price to harvesters.

The outcomes may not always be practical, however. For example, examine more closely the case of cod. One group of processors may be producers of saltfish products, and another group may be producers of frozen products. These markets can act entirely independent of each other and a market price based on one market, or a combination of the two, may totally distort the competitiveness of the other. Therefore, it would be impractical to establish a formula that would serve all the cod sectors of the industry. Similarly, a market price for whole frozen herring (a product used for bait) may be entirely independent of the price for herring fillets that requires a significant component of processing labour and investment to produce. Again, in this case, a formula based on one or the other would have very significant economic effects on one component of the industry. In conclusion, there are instances where formula market based pricing is not practical.

The other important variable that requires consideration in a formula based pricing system is the degree to which size and quality considerations affect market pricing. For many species, harvester prices have had a tradition of varying, based on the size and quality of the catch. For example, cod prices vary by the length of the fish or the quality (gear type or fillet grading for colour, defects, etc.). Shrimp is traded based on its size or count (# /lb) when landed at the wharf and in the market; it is also subject to quality standards in the determining its market price. Snow crab prices in the market are dependent on size and the presence of barnacles and other defects. Its market value varies dependent on size and a host of quality considerations including colour, full shape, leech eggs, etc. Most all seafood species are marketed, distinguishing size and quality. These considerations formed part of the Vardy Report which recommended that a formula-based pricing system be used for snow crab and that pricing recognize and reward quality. Similar recommendations came out of the report commissioned by the Government in 1997, written by Thistle.

The costs and productivity factors (such as yield) of harvesters and processors are variables but they only need be considered initially when a formula is established. Otherwise, they need to be reviewed periodically and sometimes may not affect a formula-based pricing model at all. What is important with these factors is that there will be a base variable cost for the harvester and the processor that will have to be covered from the start. Otherwise, the harvesters and the processors have no gross margin.

If either the harvesters or the processors cannot cover their variable costs, then there is every likelihood that neither will participate in the activities of catching a given species or buying and processing that species. Where there is a history of activity by both parties, then there is likely to be an economic return for both beyond their variable costs. If both parties are generally profitable for a species then there is the issue of reasonable profit to both parties at varying market returns, that should be based on risks.

In general, we can characterize the variable costs of harvesters to include fuel, gear, bait (where it is required), variable maintenance, and monitoring, etc. Then of course there are the fixed costs which include an investment in vessel and equipment, insurance, and licenses. Obviously, as an owner/operator, the harvester is seeking a return on the capital and labour employed.

The processor on the other hand, depending on the species, has the variable costs of collection (freight, ice, forklifts, grading and weighing, benefits, etc.), processing labour, packaging, fuel and electricity, water, chemicals and cleaning, repairs and maintenance, and refrigeration. The processor has a variable overhead cost for salaries, supervisors, production management, quality control, payroll, accounting and general administration. In addition, it has fixed costs similar to the harvester for plant and equipment, insurance, licenses, general management, selling and marketing, etc. Depending on the species being harvested and processed, and the extent of costs incurred by both parties, the costs and risks vary significantly.

Formula Price-Setting, Testing and Adjustments

The Review Team was mandated to develop, test, and seasonally adjust formulaic approaches under fluctuating market conditions for different species. This is a challenging task, particularly given that many species are data deficient. The Review Team understands the importance of

having objective, independent data to develop formula-based approaches. Upon reviewing the species of most importance, and those species that do not have formula-based pricing, the Review Team focused its efforts on snow crab.

Snow crab is by far the most important species landed in the province. In 2022, its landed value was \$761 million of the total landed value of \$1.2 billion, or 63percent. The TAC was 50,470 tonnes, a 32percent increase over 2021 (37,786 tonnes). In 2023, the snow crab TAC further increased by 8percent to 54,277 tonnes (see Appendix G – Historical Quotas and Landings of Snow Crab by Fishing Area). The 2023 crab quota represents a more than 100percent increase over 2019.

In order to develop a formula-based approach, the Review Team first collected all the relevant data available on snow crab. The Department of Fisheries, Forestry and Aquaculture officials were most helpful in providing its data on market prices, production, quotas, landings, etc. In considering the variables required, the Review Team obtained the currency exchange rates between the US\$ and CDN\$ as reported daily by the Bank of Canada and sourced the snow crab fish prices from the Panel and other industry sources such as the FFAW website, which included years where the price was agreed by ASP and FFAW.

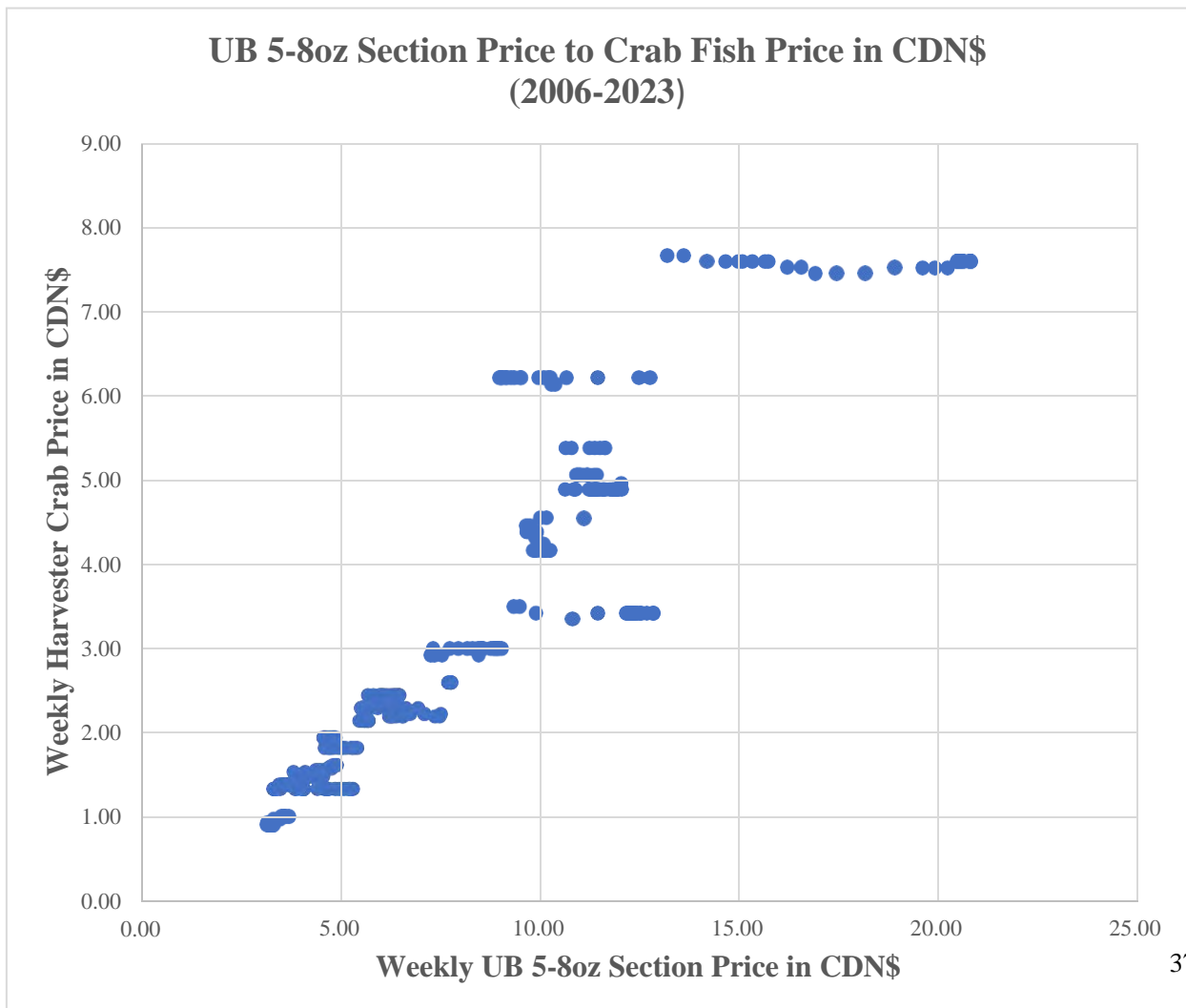
The Review Team prepared a table of the average weekly market price, the average weekly exchange rate, the weekly CDN\$ market price, and the weekly harvester price. The average weekly market price was derived from the bi-weekly UB posted prices for 5 to 8 ounce sections in US\$ /lb. The average weekly exchange rate for the CDN\$ to US\$ was derived from the daily closing prices as reported by the Bank of Canada for each week. The average weekly CDN\$ for 5-8 ounce sections were then determined by taking the average market price and multiplying it by the average weekly exchange rate. Lastly, we obtained the weekly price for snow crab paid to harvesters from reports of the Pricing Panel and data posted by the FFAW.

Following the checking and verification of the data, the task was to refine the data set so that for each of the independent variables (US\$ weekly market price and weekly average exchange rate) there was a corresponding weekly snow crab price (the dependent variable). Snow crab prices are only relevant for the period that fishing activity is occurring. Therefore, for each year in the time series, the weeks that harvesting activity was taking place were selected. These included weeks

between the first week of April and the last week of August, depending on the year. Some years the fishery was delayed. However, in most years the data represent the period from mid-April to end of July. Appendix H outlines the complete set of data the Review Team considered.

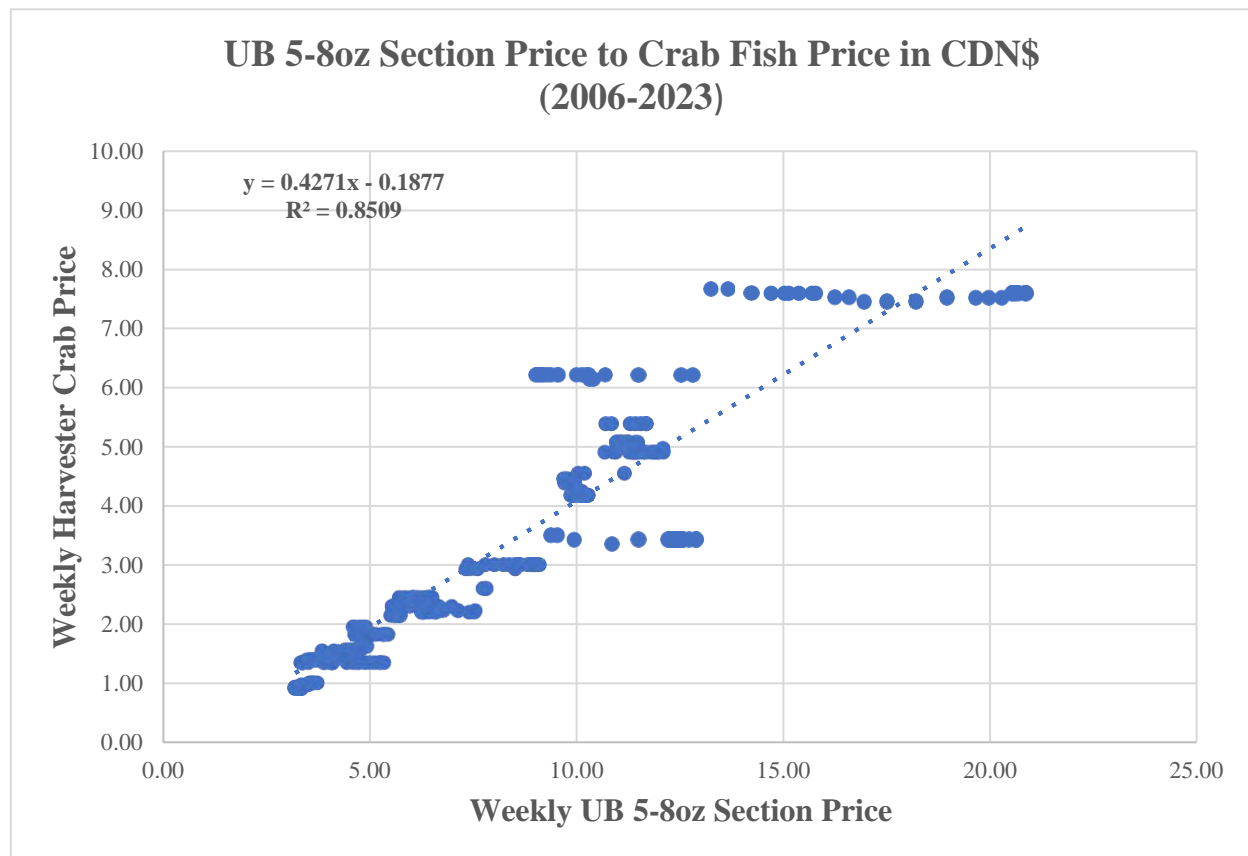
The time series the Review Team decided to use was from 2006 to 2023, a period of 18 years. The time series needed to cover the range of market pricing that was experienced over the recent dramatic decline, with some buffer to determine a relevant range in pricing for a formula. Note in some weeks there was a fish price set for snow crab but there was no market price quoted by UB. Unless there was a complete data set available for the week then it could not be used because the independent and dependent variables have to be present for the week in order for that week's data to be relevant.

The next step was to prepare a scatter diagram or chart of the data. The chart depicted below covers every week the fishery was active from 2006 to 2023 where relevant data were available:



There are over 350 data points in the scatter diagram. For a formula to be effective the formula has to be good representation of the data. In the Alaskan case when the data set was plotted, the formula that was derived was a very good fit to the data and that led to its adoption.

In the chart above, it is somewhat evident that a statistical linear line through the data points will not be an excellent fit. The Review Team completed a linear regression analysis of this data set and determined that the best fit line would be represented as shown below:



The chart with the line depicts the best fit linear line through the data. The mathematical equation represented by the line above is $Y = 0.4271X - 0.1877$, this means that the harvester crab price (Y) is equal to 0.4271 multiplied by the weekly UB 5 to 8 section price (X) minus 0.1877. The linear equation is determined by a regression analysis that basically averages the fit of the line between all of the data points in the chart. There is, on average, as much of a price difference above the line as represented by the formula as there are price differences below the line. This is a mathematical calculation based on regression.

The fit of the line can be judged by the R-squared calculation noted above in the chart. The value is 0.8509, a measure of how precise the formula (equation) is as representation of all the data. The fit of the line is again a mathematical calculation. In simpler terms, the measure of best fit, precision, can be from 0 to 1.0. Of course, zero means there is no correlation between the independent variable (market price converted to CDN\$) and the dependent variable (the harvester crab price). Whereas, if the measure of fit, or precision were 1.0, then it can be concluded that the formula is a 100 percent perfect fit with the data. This would be ideal but rarely are data sets of this nature perfect.

In the analysis above, the fit is 0.8509, or 85 percent accurate. This, in statistical terms, means that the formula reflects 85 percent of the variation in the harvester crab price. It is not bad, nor is it good. In statistical terms, the correlation coefficient as it is known, needs to be as high as possible. For example, the formula developed in this manner for the Alaskan snow crab price was determined to have a R-squared of 0.978. Therefore, it can be concluded to be an excellent fit and precise.

Further review and analysis of the Review Team data set clearly shows that during the Covid-19 years 2020 to 2022 there was little correlation between the crab price paid to harvesters and the UB price, which fluctuated dramatically upwards in 2020/21 and then downward in 2022. A closer review of those years reveals the following:

Date week ended	Average FX CDN/US	Average UB 5-8 US\$/LB	Average UB 5-8 CDN\$/LB	Harvester Price/LB
30-05-2020	1.38238	6.90	9.54	3.50
06-06-2020	1.35172	6.95	9.39	3.50
13-06-2020	1.3469	7.38	9.94	3.43
20-06-2020	1.35786	8.00	10.86	3.36
27-06-2020	1.35946	8.45	11.49	3.43
04-07-2020	1.361525	8.97	12.21	3.43
11-07-2020	1.35626	9.20	12.48	3.43
18-07-2020	1.35668	9.25	12.55	3.43
25-07-2020	1.34444	9.25	12.44	3.43
01-08-2020	1.33894	9.25	12.39	3.43
08-08-2020	1.332575	9.25	12.33	3.43
15-08-2020	1.32732	9.25	12.28	3.43
22-08-2020	1.31896	9.28	12.24	3.43

29-08-2020	1.31564	9.35	12.30	3.43
01-05-2021	1.23498	12.45	15.38	7.60
08-05-2021	1.22444	12.82	15.70	7.60
15-05-2021	1.21092	13.43	16.26	7.53
22-05-2021	1.20726	13.75	16.60	7.53
29-05-2021	1.20815	14.03	16.95	7.46
05-06-2021	1.20702	14.50	17.50	7.46
12-06-2021	1.21014	15.05	18.21	7.46
19-06-2021	1.22562	15.47	18.96	7.53
26-06-2021	1.2326	15.95	19.66	7.53
03-07-2021	1.23665	16.15	19.97	7.53
10-07-2021	1.24816	16.25	20.28	7.53
17-07-2021	1.2587	16.30	20.52	7.60
24-07-2021	1.2602	16.35	20.60	7.60
31-07-2021	1.2514	16.40	20.52	7.60
07-08-2021	1.25202	16.40	20.53	7.60
14-08-2021	1.25298	16.40	20.55	7.60
02-04-2022	1.25056	12.62	15.78	7.60
09-04-2022	1.25246	12.00	15.03	7.60
16-04-2022	1.26115	12.00	15.13	7.60
23-04-2022	1.2595	11.68	14.71	7.60
30-04-2022	1.28008	11.12	14.23	7.60
07-05-2022	1.28512	10.62	13.65	7.67
14-05-2022	1.29876	10.20	13.25	7.67
21-05-2022	1.28402	9.97	12.80	6.22
28-05-2022	1.279825	9.80	12.54	6.22
04-06-2022	1.2625	9.10	11.49	6.22
11-06-2022	1.2616	8.25	10.41	6.15
18-06-2022	1.2942	7.97	10.31	6.15
25-06-2022	1.2956	7.95	10.30	6.22
02-07-2022	1.287875	7.95	10.24	6.22
09-07-2022	1.29812	7.70	10.00	6.22
16-07-2022	1.30334	7.33	9.55	6.22
23-07-2022	1.29014	7.15	9.22	6.22
30-07-2022	1.28532	7.05	9.06	6.22
06-08-2022	1.287425	7.05	9.08	6.22

It is evident that in 2020 a seasonal price was set at \$3.50/lb by the Panel in the week ended May 30, 2020 (the table notations in red font are weeks when the Panel set the harvester price). This price was a reconsideration decision by the Panel following an earlier decision by the Panel for the normal start of the crab fishery at \$2.90/lb. The earlier Panel decision reflected earlier market pricing as Covid-19 had just started to have its profound effects on society and public shutdowns had just taken effect. There was unprecedented uncertainty. A closure of restaurants and the food

service sector of the US market brought with it the total shutdown in demand from the historically largest component of the market for snow crab. The virtual total reliance on the retail sector was a huge unknown for all involved. UB was not reporting the market price because there was so little market activity.

A reconsideration decision at the request of the FFAW was based on the fact that UB was now reporting a market price and that the average price was US\$6.90 /lb. Based on the reconsideration, the Panel set a new seasonal price for crab at \$3.50 /lb. As shown in the table above, by late June 2020, market prices had increased to US\$8.00 /lb and by mid-July had further increased to US\$9.25 /lb. For most of the 2020 crab season the price of crab to harvesters was fixed at \$3.43/lb, having been adjusted slightly lower because of currency change.

Overall, it can be concluded that the fixed price of crab to harvesters had no variation despite the fact the market increased significantly in 2020. Over the course of the 2020 crab season the CDN\$ average market section price for 5 to 8 ounce crab as reported by UB increased from \$9.54 to \$12.30 /lb, a net change of \$2.76 /lb in the market with no change in the crab price to harvesters.

In 2021, the data in the table above show a similar picture. The initial decision of the Panel was \$5.73 /lb to start the fishery in early April. Then in late April, a reconsideration of the price to harvesters was made and the price increased to \$7.60 /lb. At that time, market prices were increasing and the UB reported average market was US\$12.45 /lb, or CDN\$15.38 equivalent. During the remainder of the season, the market price continued to increase and was at US\$16.40, or CDN\$20.55, at the end of the season.

In 2022, a reverse pattern in pricing occurred. The April opening price for crab was set by the Panel at \$7.60 /lb. At this point, the market was reported by UB to be US\$12.52, or CDN\$15.78. Then in mid-May, at the request of ASP, the Panel reduced the crab price to \$6.22 /lb, when the market price had dropped to US\$9.97, or CDN\$12.80. But for the remainder of the season market prices nose-dived to US\$7.05, or CDN\$9.08 /lb while the crab price remained fixed at \$6.22. Overall, during the 2022 season, the market return in CDN\$ for snow crab sections dropped by \$6.70 /lb and the crab price to harvesters was reduced by only \$1.38.

Clearly, when one analyzes the crab pricing for the entire period of 2020 to 2022, there is little to

no correlation between average UB market pricing and the crab price paid in the inshore fishery. The conclusion of the Review Team is that this entire period represents data points that are outliers and are highly distorting the Review Team's efforts to determine a reasonable market-based formula that would correlate well the crab price paid to harvesters with the market prices as reported by UB.

The Review Team's next step was to remove the outliers in the data set from the Covid-19 years. This was done by removing all the weeks of data during the Covid-19 period other than those weeks where the Panel set a crab price that was directly tied to an UB market price. Consequently, for each season we selected two weeks when crab prices were somewhat correlated to market prices. In the 2020 season, the weeks ending May 30 and June 6 were included when the crab price was set at \$3.50 /lb. In 2021, the weeks ending May 1 and May 8 were included when the crab price was set at \$7.60 /lb. And in 2022, the week ending April 2, the \$7.60 crab price was set and the week ending May 21 the crab price of \$6.22 was set. All other data for weeks in the years 2020 to 2022 were determined to be outliers and were therefore, removed from the Review Team formula-based analysis.

Review Team Formula Based Crab Pricing Model

Before outlining the Review Team's recommended approach to a formula-based crab pricing model, there should be discussion of other considered modelling that the Review Team prepared and analyzed. The Review Team debated whether an exponential formula would fit the data set we had prepared. An exponential formula would recognize that as market prices increased, more and more of the return would accrue to the harvester crab price. The team did chart and develop a formula based on the weekly data as a best fit exponential model. However, upon analysis and testing, it is obvious that one of the conclusions to such a model is that as the market increases there is as implied by an exponential formula, the growth in market return goes primarily to one party. In fact, an exponential formula reaches a point when all the revenue growth goes to the harvester. This was concluded to be an unfair approach as there would be little to no market incentive, under such a model, for a processor to seek further market improvement as all the benefit would go to the harvester. There would be absolutely no reward for risk or investment by the processor or any market participants in the value chain beyond the processor. Therefore, this modelling exercise

was dispensed with.

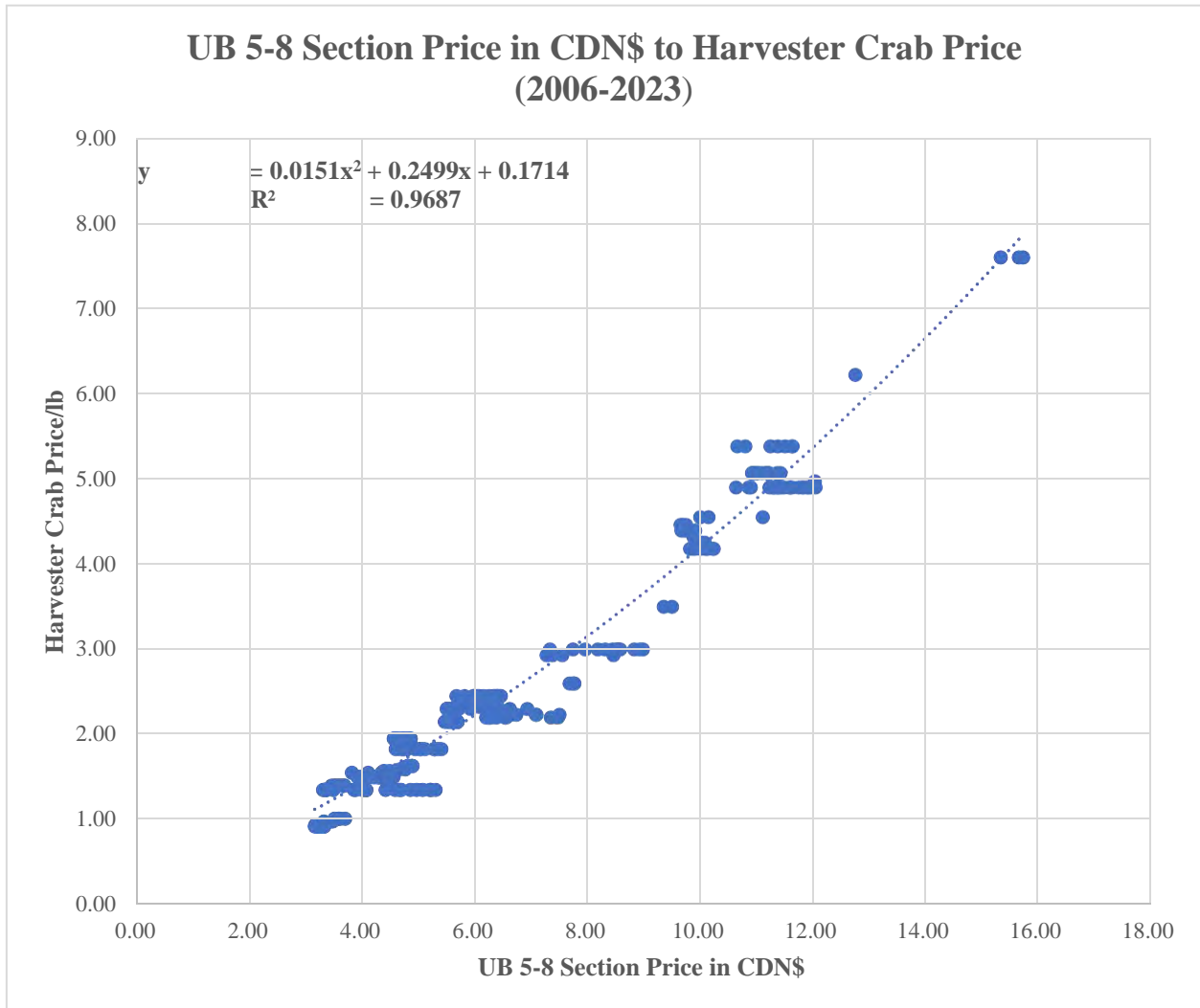
The Review Team's next step was to revert to a mathematical approach that did recognize that as the market improved there would be a proportionately higher percentage of the market return accrue to the harvester. This was analyzed to be the more equitable manner to develop a formula because any formula to start must recognize the reverse.

While the Review Team does not have any current data on the variable costs of the harvesters and processors, the fact that lower and higher percentages of market returns have been recognized in crab price setting for years, even in the years where fixed pricing prevailed. This is also reflected consistently in the decisions of arbitration over the past decades. At lower market prices, the percentage of the net return accruing to both parties varied. As market return declined, the share to the harvester decreased and the processor increased. While as the market returns increased, the market share to harvesters increased and the processor decreased. The report will further comment on this point about market shares to both parties later.

In analyzing the crab price to harvesters as it relates to the market returns historically, the Review Team developed a linear formula relationship and analyzed its fit to the data. Next the Review Team developed a non-linear formula, or as it is known, a quadratic formula to test its best fit to the same data set. The linear formula is a straight line as was developed in our prior analysis discussed earlier. In contrast, the quadratic formula is a curved line, as it recognizes a shift in the sharing of market returns as market prices increase. Upon completing both analyses, the Review Team concluded the quadratic formula, or curved line, was best because it was a more precise and better fit with the data. This formula has a higher correlation coefficient which explains most of the variation between the data points in the time series and the line, generated by the formula. As discussed earlier, the higher the correlation coefficient, the more precise the formula is in determining the price to harvesters.

The data set used in the formula comprises 296 weeks of data covering the period 2006 to 2023. The data for the years 2020 to 2022 includes two weeks of data for each of those years. These data points were those established at the week of the Panel decisions and all other data points, which are statistical outliers, were removed.

The following chart shows the scatter points in the time series, the curved line derived from the regression analysis that represents the best fit of the data to the formula. It also depicts the formula equation represented by the line, and the R-squared value which represents a measure of precision of the formula:



The chart above shows many data points when the Canadian equivalent market price for US 5 to 8 ounce sections were between \$4.00 and \$12.00 /lb with the corresponding harvester crab price. Beyond that range, the data is sparse, reflecting the limited market-based price-setting data from the Covid-19 years 2020-2022.

As one can observe, the formula derived line is a close, tight fit to the data throughout the series. This reflects a very good representation of the correlation between the US 5 to 8 ounce section

market price and the price paid to harvesters for crab. The formula has an R-squared value of 0.9687. This is a relatively precise fit as measured in statistical terms.

Formula Explanation

The formula is $Y = 0.0151x^2 + 0.2499x + 0.1714$.

The formula means that where Y is the harvester crab price, it is equal to 0.0151 multiplied by X squared, where X is the market price of 5 to 8 ounce sections in CDN\$, plus 0.2499 multiplied by the market price of 5 to 8 ounce sections in CDN\$, plus 0.1714.

Let us illustrate an example where the UB market price of 5 to 8 ounce crab section is US\$5.25 /lb and the Canadian dollar exchange rate to the US dollar is 1.33. Then that means that the Canadian market price of the 5 to 8 ounce crab section is \$6.98 (\$5.25 x 1.33). So therefore, at \$6.98 market price that is what replaces the value of X in the formula. Therefore, the crab price to harvesters at \$6.98 market price is equal to:

$$\begin{aligned} \text{Harvester crab price} &= 0.0151 (6.98)^2 + 0.2499 (6.98) + 0.1714 \\ &= 0.0151(48.7204) + 0.2499 (6.98) + 0.1714 \\ &= 0.7357 + 1.7443 + 0.1714 \\ &= 2.6514 \\ &= \$2.65 /lb \end{aligned}$$

Appendix I shows the crab price that would be set by the formula for every one cent change in the Canadian equivalent value of the crab market. The table starts at \$4.50 market price, which determines a harvester crab price of \$1.60 /lb and continues in one cent increments to \$12.00 market price, which corresponds to \$5.34 harvester crab price /lb.

Formula Price-Setting and Seasonal Adjustments

The Review Team has analyzed the seasonal change in the crab market for each year from 2006 to 2023. In 2006 and 2007, the crab price to harvesters changed bi-weekly because the price was

adjusted by a formula that tracked changes in the market and the currency exchange rate. This was a much more effective way to price the crab landed but it had weaknesses that were not addressed at the time. The most serious weakness was the fact that crab landed and produced varied in price related to the week it was harvested. Of course, because crab is landed in a particular week and is processed within days of harvest, it does not mean that the product sold, nor does it mean that the product fetched the market prices that prevailed at the time it was harvested. Depending on when harvesters were active during the season and depending on market prices and exchange rates in the week of landing, that determined the differing prices paid.

An average price over the season was viewed as more effective as it compensated all harvesters alike, no matter the timing in the season of their landing crab. This caused the 2008 Panel to dispense with the formula-based pricing. As the pricing shifted to fixed seasonal pricing with reconsideration, the pricing was no longer able to adjust to reflect market changes nor exchange rate changes. While there were reconsideration decisions, they only served to adjust prices at a point in time. The fixed seasonal pricing was viewed as working, but the degree it worked was only when the market and currency fluctuations were relatively stable. In any season or year that the market increased, the harvesters were dissatisfied.

The weaknesses in the fixed pricing system caused ongoing challenges and finger-pointing became routine. There was always someone else to blame – primarily the Panel was deemed to be at fault. Time after time, the process of arbitration and the Panel was adjusted but the inherent systemic weakness was never addressed. Obviously, any effective seasonal pricing has to take into account the dynamics of a fluid market and changing currency exchange rate.

To address this issue, the Review Team concludes that weekly pricing over the season must get averaged over some period of weeks and a formula market-based pricing model be adopted to determine the seasonal average price. An equitable seasonal price would compensate all harvesters for their catch irrespective of when the landings occurred in the season. This framework of pricing would also address some of the challenge to scheduling landings during the season.

The start of harvesting crab as early as possible in the spring is in everybody's interest. An early start ensures:

- that crab is landed when it is of most value. The crab is lively when it is harvested early. The crab is biologically full of meat, the shell is hard, and the quality is at its highest early in the season. As the season progresses all these factors change and therefore reduce the inherent value;
- that the crab harvest can be spread out over the season. There is no need for so-called big boats and small boats to all be active at the same time, generating high weekly landings that are beyond the reasonable capacity of the processing sector;
- that processing capacity and harvesting capacity can be utilized in a much more reasonable manner which avoids the gluts in landings that cause poor quality, untimely processing of the catch, poor labour and yield productivity, much higher handling and logistical costs, higher harvesting and processing costs, and overall, less market discipline and orderly supply of quality products to the marketplace;
- that harvesting activity considers the safety of when and which enterprises are best suited to be active in the early season when ice conditions and weather are less suitable for smaller size vessels to operate;
- that harvesters in various fishing zones could plan their catches to avoid soft-shell molting periods often encountered in the late June to August period;
- that the overall value of the entire industry is maximized and that those who are dependent on the employment in the industry are also able to work a reasonable number of hours/week, and obtain the work schedule that best enhances and rewards their labour in having to meet the regulatory requirements for income support outside the seasonal industry work demands; and
- that everybody engaged in the entire industry, whether it is in harvesting, processing, marketing, or servicing, are optimally benefitting from the value that can be maximized to the Province.

In order to support an average market-based seasonal price, the pricing framework should establish an advance payment system for crab as it does for lumpfish roe and halibut. The advance should take into account the risks of market price shifts and currency change. The Review Team analyzed

the seasonal averaging of crab pricing under the formula-based framework identified and determined that an advance of 80percent of the formula based crab price would cover the normal risks of market price changes and currency adjustments. An 80percent advance payment system was retroactively determined to have worked in every year, except 2022, when the market price collapsed.

For example, if the initial crab price was set by the formula at \$3.00 /lb at the start of the fishery, then \$2.40, or 80percent of the \$3.00 price, would be paid as the advance for crab landed in that week. This advance could adjust week to week during the harvest season, changing to follow the market trend and the currency fluctuation. At a point to be agreed when the season is over, and when much of the production has been shipped to market and sold, there would be a final settlement of the pricing using the formula adopted for the entire time period. This would set an average price for crab over the entire season. This final price would be paid to all crab harvesters at the same time. The settlement would be the final price as determined by the formula for the season less the average advance payment made to each harvester during the season.

The Review Team considered the timeframe for the final settlement payment for the season and concluded that the final pricing should take into account the period up to the end of the fishing season and potentially beyond that period each year. In any case, the final payment for crab would take place after the end of the harvest season or at an agreed cutoff date.

The illustration below sets forth the framework for seasonal average pricing based on the adopted formula, adjusted for market and currency changes through the season, with an 80 percent advance payment weekly, and a final settlement at the end of the season that averages weekly prices over the entire seasonal period (for illustrative purposes):

Formula based Pricing for Crab Season					
Week ended 1	UB US\$ 5-8oz section 2	Exchange Rate 3	CDN\$ 5-8 oz section price 4	Crab price \$/lb. 5	Advance @ 80% 6
06-04-202X	5.25	1.32637	6.96	2.64	2.12
13-04-202X	5.20	1.32538	6.89	2.61	2.09
20-04-202X	4.93	1.32358	6.53	2.45	1.96
27-04-202X	4.85	1.32211	6.41	2.39	1.92
04-05-202X	4.80	1.33075	6.39	2.38	1.91
11-05-202X	4.80	1.33083	6.39	2.38	1.91
18-05-202X	4.75	1.33023	6.32	2.35	1.88
25-05-202X	4.90	1.33234	6.53	2.45	1.96
01-06-202X	5.00	1.33414	6.67	2.51	2.01
08-06-202X	5.10	1.34468	6.86	2.60	2.08
15-06-2024	5.25	1.34318	7.05	2.68	2.15
22-06-202X	5.30	1.34272	7.12	2.71	2.17
29-06-202X	5.35	1.34339	7.19	2.75	2.20
06-07-202X	5.45	1.34497	7.33	2.81	2.25
13-07-202X	5.55	1.34698	7.48	2.88	2.31
20-07-202X	5.65	1.34871	7.62	2.95	2.36
27-07-202X	5.75	1.34011	7.71	2.99	2.39
03-08-202X	6.00	1.34001	8.04	3.16	2.53
Average			6.97	2.65	2.12

The assumed UB average market prices for each week through the season are shown in column 2 of the table above. The weekly currency exchange rate assumed is listed for each week in column 3. Next in the table, in column 4, is the CDN\$ market price of the 5 to 8 ounce section at the assumed price reported by UB (note this is the product of column 2 multiplied by column 3).

Column 5 identifies the harvester crab price for the week as determined by the pricing formula outlined in the earlier section of the Review Team’s report. Next is the 80 percent advance that would be paid by the processor for each week in the fishery as the fishery proceeded.

As shown in the table each week the price would change slightly reflecting the dynamic changes in the market for both product price and currency exchange rate. The last step would be to calculate the final settlement price for the entire season. The final settlement price would be to average the weekly market prices in CDN\$ for all the weeks in the season or for the period established through negotiation. This average price works out to be \$6.97 in our illustrative example above. Then the

formula adopted is applied to that average seasonal market price and the seasonal average crab price to harvesters is then established at \$2.65 /lb. This price would be used to pay each harvester the difference between \$2.65 /lb and the advance payments made weekly during the season. If the average of \$2.12 advance is used for illustrative purposes, as above the settlement would be the difference between \$2.65 and \$2.12, or \$0.53 /lb. This difference would be applied to the total pounds purchased by the processor from the individual harvesters during the season.

Under this formula-based system, the harvester would share in the upside and downside that occurred over the season. In these years when the average net market price improved, the average price would increase, and in years when the net average market return declined the final average price would be less. The advantage is that there would be an average price paid that would be fair to all involved and it would precisely track the net market returns adjusted for currency fluctuations over the season. In addition, there would be no bias in favour of when a catch was harvested during the season. This would allow for an orderly, scheduled fishery, with focus on the highest quality landings, consistent work throughout the season, and the maximization of market value. Such a system would greatly enhance the total market value derived which would be equitably shared among participants in the industry.

It is important to note the above table is only for illustrative purposes to demonstrate how the formula based pricing would work and how averaging of prices over the season is a much more effective way to fairly and equitably price the crab harvested. The 80 percent advance is a means to enable the sharing of risk during the harvest season which enables harvesters to share the market risk over a period of time that harvesting is taking place. It is also a means to equitably pay the same harvester price irrespective of when landings occur in the season.

The price established would be the minimum price as defined by the collective bargaining process and would be subject to all the terms and conditions as would normally apply as per the schedule agreed or arbitrated as the case may be. The formula market based pricing framework as presented is intended as a replacement of the current fixed price system which has many inherent weaknesses as discussed.

Other Price Considerations

Size and Quality

All of the comprehensive reviews of the crab industry since the late 1990s have recommended that crab pricing consider the size and quality of crab landed and processed. Unfortunately, these issues have not been addressed to date. In addition, the industry's performance in that regard took a significant backward step in 2023. The late start to the fishery caused a mismatch between harvesting and processing capacity as seven prime weeks of the season were lost. There were widespread reports of crab spoilage and discarding, as well as the transportation and processing of critically weak crab during periods of hot, humid weather.

The shift of the season into the summer months increased costs and had a negative effect on quality and the overall value of the product. The Review Team questions the decisions to increase TACs during a time when markets are glutted, as such decisions contributed to further depressing market prices at low levels. These decisions in the 2022 and 2023 seasons further contributed to the market oversupply and subsequent dramatic price decline for snow crab.

The Review Team has concluded that there is a lot of market value being forfeited that should otherwise accrue to the economy. While the Review Team feels that adopting the pricing framework outlined will improve the industry performance, it will not fully address the many issues in the industry. As stated in the Vardy report in 1998, the size of crab landed and the quality of the crab landed should be reflected in the price paid to harvesters. For example, the industry has a price to size discount of \$0.30/lb. in respect to small crab under 4 inches but it does not have a premium above the average price for crab that command a premium due to size in the market.

The biological reality is that size, colour, and extraneous materials such as barnacles and leech eggs attached to the crab, all affect the market value of NL crab. It is essential that the harvesting and processing sectors work together to address these issues and maximize the market return.

Similarly, the industry needs to improve the handling of snow crab. The exoskeleton of snow crab appear robust, however, the crab is very fragile and is negatively affected especially when out of

the water. Snow crab are exposed to dramatic changes in water temperature while pots are being hauled, handled on board, loaded onto trucks, being transported, and awaiting processing. The improvements to handling and holding should be subject to best practices throughout the industry. Much can be achieved by early, timely starts in the season when water and air temperatures are cooler and crab are in good condition, prior to the warmer summer days and subsequent molting period. Where possible, refrigerated seawater (RSW) systems should be encouraged. These systems ensure the crab are maintained in optimum condition and such systems facilitate timely quality processing at plants, particularly when the crab is landed at the processing facility. RSW systems are an ideal means to hold the crab for extended periods and are in widespread use in other jurisdictions (New Brunswick and Alaska).

Pricing adjustments for size and quality require enhanced grading processes but grading should be an integral part of buying all species. Without grading there is no objective means to assess value and reward and motivate the industry to optimize the market returns to the industry. Price adjustments can be readily implemented as an established premium or discount from the average price derived from the adopted formula based pricing. The reality is that all the crab are not worth the same price. The price should reflect the value of what is being traded just as it does in the marketplace. If the industry truly wishes to achieve to maximize the value of the resource, and that should be everybody's goal, the pricing needs to reflect mechanisms that will achieve that goal. Otherwise, the industry's economic potential is much lower than can be derived. That is the general characterization of where the crab industry is today its overall economic value is much lower than optimal.

Limitations of the Formula

The formula developed by the Strategic Review Team in this report has precision within the historical data set that it is derived from. When market returns are at the lower and higher limits of the data set, the formula should be comprehensively reviewed to ensure that the sharing of revenues at those points remain consistent with the overall risks borne by the parties. Beyond the CDN\$ equivalent price of \$12.00 /lb market value for 5 to 8 ounce sections, the formula is data deficient and is highly dependent on a period when the market was very highly concentrated

on demand in the retail sector of the US market only (see discussion on market shifts and inventory buildup during Covid-19 period earlier in this report).

Additionally, the formula requires periodic review as changing market dynamics and industry structures evolve over time and these shifts will require that the formula be adjusted. For example, the products produced in the industry could shift away from a section format as it did in the past when the industry shifted from almost entirely extracted crab meat to a section-based business. Such industry changes would have material impacts on a formula that is currently based primarily on the 5 to 8 ounce crab section product form.

Inflation is also an underlying economic factor which requires monitoring and analysis in the context of a formula. It is particularly relevant at lower market returns because it can virtually eliminate the margin of one party or the other in the industry. For example, because the industry had a price to market when the price of crab sections was at CDN\$5.00 /lb, in the early 2000s, does not mean that the same crab price can work for the industry 24 years later.

Inflation on base costs has increased very significantly over time and inflation has the effect to reduce and or eliminate margins. Therefore, formula-based pricing has to recognize that limitation. It would not serve the industry well if the formula produces pricing that inherently means that one party or the other cannot function because it is totally uneconomic. Cost inflation in Canada has been a serious issue in recent years and its cumulative effect is material. To illustrate, the consumer price index (CPI) reported by the Bank of Canada indicates that CPI has increased by 65.8 percent since 2000. So, \$1 of cost in year the 2000 is now \$1.66.

Consequently, if we used the formula to apply to a low market price that was applicable 20 or so years ago, there is a high probability that it would not produce a workable price for crab because inflationary costs over that time would likely leave one or both parties with no margin and no incentive to harvest or process crab. The formula framework presented is derived from the data set the Review Team selected. We would strongly caution its application to establish pricing at the lower end or higher end of the pricing range without a comprehensive review.

As the Review Team pointed out earlier in its report, the collapse in market price in 2022 is also outside the limits of the formula-based pricing model the Review Team adopted. If the framework and pricing formula were applied to the situation that occurred in 2022, the processors would have inherently advanced more to the harvesters during the season than the market value derived. The market collapse was so deep and so sharp that any formula framework that could account for the all the risks in that year would cause a formula-based system to be impractical. The Review Team recognizes this and advises that in the event that such an unprecedented situation occurs in the future, the regulatory Panel has to be able to intervene and adjust to the economic situation arising as this occurrence is outside the scope of the formula-based pricing framework to resolve. This unique situation was addressed following the Conway report which caused the legislation to change and reflect a “*force majeure*” development.

Sharing the Market Return

There is much debate within the industry about sharing the return from the market. Collective bargaining and the final offer selection process is by its nature a fair process. Each of the parties has the opportunity to submit and defend its position on issues in a process that is intended to bring the parties closer together through negotiation. The final offer arbitration process is supported by market information and other relevant factors to assist in the setting of a minimum price and conditions of sale for various species.

It is apparent that, while the process has been tweaked over the years, it has functioned relatively well particularly in periods of market price and exchange rate stability. The debate about fairness arises when the market and exchange rate changes significantly, upwards or downwards, after the harvester price has been established. The current fixed pricing approach produces a minimum price that is far from ideal, however, there is nothing inherently unfair about the process. As discussed earlier, the system has limitations that are all known. A fixed price cannot be expected to result in an ideal outcome when it is known that the market and the exchange rate are dynamic and constantly changing.

The challenges of timing, risks, seasonality, variations of quality, the start to fisheries, and the potential to share the risks during the season through advances, etc. have all been

discussed in detail. To modify and improve the system requires the commitment of Government and both parties to make it work. There has to be widespread acceptance that it is the process by which the parties choose through collective bargaining to use. No matter the process that has been chosen to use, the collective objective has to be to maximize the market return. That is the only way to ensure that all are getting a fair share from the public resource.

There is also much debate about yields, which is an inherent part of the cost and productivity of the processing sector. It has some relevance but no more relevance than the cost and productivity of the fishing enterprises. Combined with this, is the issue of additional processing capacity. There is a need to have adequate capacity to harvest and process the resource but too much capacity in either sector adds very significant investment and costs on the entire industry. These costs and productivity factors are relevant in understanding the risks and returns necessary for the industry to function and be competitive, however, price setting is directly associated with the value derived from the market. That is what ultimately determines the traded price of all the different species of fish landed.

The costs and other characteristics have been independently studied in the past. Gardner has prepared a couple of in-depth reports on these factors in the crab industry and the reports have relevance today as much as when they were initially prepared. They explain the factors that distinguish the crab industry in Newfoundland and Labrador from that in the Maritimes. These regulatory, biological, and structural characteristics are much the same now. They have not changed the size, colour and defect free nature of the crab resource in the Gulf of St. Lawrence that distinguish it from the resource in Newfoundland waters. That is why the product from that region commands a slightly higher price as compared to Newfoundland and Labrador. The regulatory and operating structure of the industry is different than in Newfoundland and Labrador, and as a consequence the costs are lower for both harvesters and processors. Despite these competitive differences, the industry here has paid very competitive prices in comparison to the Gulf. Indeed, in 2023, a year of turmoil in Newfoundland and Labrador, the price here was competitively much better considering all the factors noted. Yet the debate still rages that the Newfoundland and Labrador industry is unfair in its pricing. There is no merit to such statements.

Apples and Oranges

Where did that heading come from? Well, it is the analogy that the Review Team adopted to explain the sharing percentage between harvester and processor in the crab industry.

In order to indicate the share to harvesters for crab prices, the common fallacy is to take the market price in CDN\$, divide it into the price paid to harvesters, and state that as the percentage share of the market that is going to the harvesters' benefit.

Let's illustrate the sharing fallacy:

UB market price is US\$ 4.75 and the CDN\$ is at 1.35 exchange rate to the US\$, which means that the market return is CDN\$6.41 for a pound of crab sections. The price to harvesters is \$2.20 /lb. So, \$2.20 divided by \$6.41 is 34.3percent. And that means that harvesters are only getting 34.3percent of the market return. That is what is called comparing apples to oranges. They are two entirely different things. The price of a pound of sections is not comparable to a pound of live crab.

– they are apples and oranges. The 34.3percent share as it is called is inaccurate, it is wrong.

The pound of live crab (the 'apple') has been taken by the processor and totally transformed into a section of a crab (the 'orange'). One cannot compare the live crab to the section, one is but a part of the other.

In order to make a true comparison (apples compared to apples), one has to convert the section weight back to whole live weight, then we can get the percentage share that is paid to the harvester. The section value of \$6.41 in live weight terms has to be multiplied by the yield. For illustrative purposes, assume it is 65 percent for crab. That means that in live weight terms, the market value is \$4.17, or \$6.41 multiplied by 0.65. Now we can take the market value in live weight terms and divide it into the live weight price paid to the harvester. This is \$2.20 divided by \$4.17 which equals 52.8percent. The share paid to the harvester in 2023, in this example, is 52.8percent, not 34.3 percent as many are stating.

To further illustrate the sharing of the market return between the harvesting and processing sectors,

it is useful to look at the overall landings, prices paid and market returns. While 2023 prices to harvesters was relatively low, the overall landed value for the 100,000,000 pounds of landings with an average price of \$2.29, results in a landed value of \$229,000,000, paid to harvesters. Meanwhile the quantity of crab sections, based on a 65 percent yield, would approximately be 65,000,000 pounds of product at a market price of CDN\$6.90, for a total market value of \$448,500,000. Therefore, the share for the 2023 controversial season is approximately 51 percent of the market return to the harvesting sector, and 49percent to the processing sector. By any measure the share of the market value accruing to harvesters is greater than 50percent in 2023.

The Sharing under the Formula

The sharing debate is not likely resolved but let's look at the sharing derived by the pricing-formula presented by the Review Team for crab. The table below shows the share in percentage terms of the market value in CDN\$ that would be paid to the harvester under the pricing formula. The exchange rate is assumed at 1.33 for illustrative purposes and the yield is assumed at 65 percent.

The table shows that when the market price of sections is US\$6.00 /lb, that the share of the market value paid to the harvester is 60.3 percent, under the pricing formula. As the market price increases, the percentage to the harvester increases. For example, at a market of US\$8.00 /lb for sections, the percentage paid to the harvester increases to 65.65percent and at US\$9.00 /lb the market share is 68.5 percent. This is about the limit that the formula is designed to precisely measure as beyond that CDN\$12.00 equivalent price, the data are very scarce and were dependent on a period of much dysfunction in the market.

When one considers the risks of both parties, there naturally comes a point when the sharing should be set to increase no further. For example, beyond CDN\$12.00 /lb section price a set split at each increment of market increase should be established as fair sharing among participants. This is an issue that requires further analysis of risks in the industry. There is no point of contention, however, that once the harvester is paid at any point in the season, all of the risk rests with the processors and those in the value-chain beyond the processor.

Too often there is no discussion or recognition of all of the business activity and business risks that are beyond the processor in the value-chain of the seafood industry. There are significant added costs of logistics, selling and marketing through various distribution channels that all require a margin to conduct business. This is perhaps the biggest weakness in the structure of the Newfoundland and Labrador industry in that it has little to no focus on the value-chain and the end customer buying the products the industry produces.

UB Section Price US\$/lb.	Section Price in CDN\$/lb. @ 1.33 Exchange Rate	Price paid to Harvester Using the Pricing Formula \$/lb.	Section Value @ 65% Yield \$/lb.	% Share of Market Value to Harvester %
5.00	6.65	2.50	4.32	57.9%
5.50	7.32	2.81	4.75	59.0%
6.00	7.98	3.13	5.19	60.3%
6.50	8.65	3.46	5.62	61.6%
7.00	9.31	3.81	6.05	62.9%
7.50	9.98	4.17	6.48	64.3%
8.00	10.64	4.54	6.92	65.6%
8.50	11.31	4.93	7.35	67.0%
9.00	11.97	5.33	7.78	68.5%

When one looks back at the cycle of the past three years since 2020, one realizes that everyone in the value-chain at one point or another suffered significant economic losses. There is a lot to recover from, to rebuild, and diversify the market back to where the industry was five years ago. The industry is at a low point in many respects and it is going to take a lot of coordination, cooperation and focus on the market, among harvesters and processors to rebuild.

Recommendations

- 1 The Review Team recommends that formula-based pricing be adopted for all species where analysis determines that it is a more objective, independent and practical method of establishing pricing for a given species, such is the case for snow crab which should be undertaken immediately prior to the start of the 2024 season. The crab formula-based framework should be established initially for a two to three year**

period followed by a comprehensive review, with the objective to adopt this price setting mechanism for crab into the future. The formulaic approach developed by The Review Team is contained on pages 42 – 50 of the report. It is an option provided to the parties for their consideration.

- 2 The development of formula-based pricing should be undertaken months prior to the seasonal start of fisheries. For example, the process of bargaining should be set for the fall-early winter period to develop formula-based pricing for a species, as well as the negotiation of other related terms and conditions attached as schedules, whereby if the parties to collective bargaining do not agree on the specific issues to be resolved for the implementation or modification of formula-based pricing models and terms and conditions thereto, then the Panel can be convened to arbitrate outstanding issues that require resolution between the parties long before the minimum starting price is set just prior to the season opening. This will require the Minister to establish a preset schedule for any species requiring the development or modification of formula-based pricing similar to that currently in place for the establishment of opening prices for various species. Timeframes should also provide the Panel with reasonable time periods to consider the issue(s) that require resolution.

The implementation of the crab framework formula should commence immediately and be scheduled to conclude by January 31, 2024.

- 3 The legislation, regulations and roles of the Panel should be expanded where necessary to enable it to hold regulatory hearings whereby it can determine independently through arbitration, under a process of final offer selection, any one aspect of formula-based pricing including:
 - a. The percent advance that shall be set for the season as initial payment;
 - b. The period (weeks) of the season that average market pricing will be

monitored to settle final harvester prices for the season;

- c. Any adjustments, modifications, or reviews required in any formula- based pricing model that are necessary to ensure that the pricing system adjusts over time to respond to industry and market dynamics;**
 - d. Any modification or adjustments to the schedule governing the terms and conditions of sale; and**
 - e. Starting seasonal prices under formula-based pricing models. These can best be arbitrated just prior to opening of the season for a species, as is currently the case. This situation can arise when there is no independent market price quoted for the product.**
- 4. The Review Team recommends that no reconsiderations be permitted during the season where there is a price setting formula in effect for a species, unless one of the parties is able to demonstrate explicitly that the economic risk in the industry is so challenged that to allow the fishery to proceed would do such economic damage as to have a long-term detrimental effect on the industry sector. Such economic conditions would be similar to the 2022 crab experience, when it was clear that the pricing mechanism is not able to practically address the economic risk. The Panel should have the authority to intercede and regulate by halting, adjusting, or otherwise limiting the production of the industry, so as to avoid the collateral damage that is caused to the fishery economy of the Province.**
- 5. The Review Team recommends that the legislation, regulations and policies governing the Fish Price-Setting process and the Panel be modified as necessary to ensure that the Panel has all the powers necessary to facilitate the formula based pricing framework envisioned. Government should also assess the need to strengthen its legislation such that it is more consistent with its intended objective to have various fisheries start in a timely manner.**
- 6. The Review Team has concluded that the current structure of fish pricing setting is not conducive to maximizing the inherent value of the resource. There is significant economic opportunity to be gained from a market-based approach driven by a focus on improving the quality of the harvest and the products produced.**

- 7. The Review Team repeats the recommendations from a number of prior reports that fish prices reflect the inherent market value of products produced in the industry. As noted in our report, market value for most all species is a function of size and quality characteristics. These attributes are best determined through independent dockside grading that correlate and reward attributes that give rise to increased market returns that can increase and improve the long- term viability of the entire industry. There is much more to share when value is maximized. The industry needs to establish clear and attainable goals over the short and long-term. These should be empirically measured and the benefits shared as gains and milestones are achieved.**
- 8. The Review Team has concluded that the crab industry is currently highly dependent on the retail segment of the US market. It is recommended that the Government support industry led initiatives to diversify the US market and enable it to re-establish and expand Asian and other markets.**
- 9. The Review Team has concluded that much of the disruption in the industry through the current crisis was avoidable, however to avoid such outcomes, an independent fisheries management structure is required. Such a management structure was recommended in the past by Vardy and Dunne (2003) and by Cashin (2005). The review team concurs with their recommendation that the Government of Newfoundland and Labrador seek a workable arrangement with the Federal Government for coordinated and joint management of the harvesting and processing sectors. This would be an arrangement where the decision-making powers of both governments be delegated to a single management authority. An authority similar to that utilized in the oil and gas sector.**

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Appendix A

Urner Barry Snow Crab, Newfoundland, Cluster, 5-8 oz

	US\$ lb*																	
Period	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
01/02/2023	2.95	4.22	4.53	4.00	3.40	5.50	5.05	4.95	5.25	5.25	5.25	7.95	8.10	8.70	9.25	9.90	16.80	7.47
01/09/2023	2.95	4.25	4.50	4.00	3.40	5.50	5.05	4.97	5.30	5.25	5.30	7.95	8.10	8.62	9.25	9.90	16.80	7.35
01/16/2023	2.95	4.25	4.50	4.00	3.40	5.53	5.10	5.05	5.40	5.25	5.35	7.95	8.10	8.50	9.25	9.90	16.80	7.15
01/23/2023	2.95		4.55	4.00	3.40	5.55	5.15	5.05	5.40	5.25	5.47	7.95	8.10	8.50	9.25	9.90	16.80	7.15
01/30/2023	2.95		4.55	4.00	3.40	5.55	5.17	5.12	5.40	5.25	5.50	7.95	8.10	8.50	9.28		16.73	7.15
02/06/2023	2.95		4.58	4.00	3.42	5.60	5.25	5.20	5.40	5.25	5.65	7.95	8.10	8.57	9.30		16.52	7.10
02/13/2023	2.95		4.60	4.00	3.48	5.62	5.35	5.25	5.40	5.17	5.67	7.95	8.10	8.65	9.30		16.27	6.92
02/20/2023	3.02		4.60	4.00	3.50	5.65	5.40	5.30	5.40	5.15	5.70	7.95	8.10	8.65	9.30		16.15	6.80
02/27/2023	3.05		4.60	4.00	3.65		5.40	5.30	5.40	5.15		7.95	8.10	8.65	9.30		16.02	6.45
03/06/2023	3.15		4.65	3.92	3.65		5.40	5.30	5.40	5.15		7.95	7.95	8.70			15.82	6.28
03/13/2023	3.15		4.67	3.90	3.65		5.40		5.40	5.15			7.95	8.75			15.75	6.08
03/20/2023	3.15		4.70	3.83	3.65		5.40		5.40	5.15			7.95	8.75			15.20	5.95
03/27/2023	3.15		4.70	3.80	3.65				5.40	5.10			7.95	8.75			14.25	5.80
04/03/2023			4.70	3.50					5.40	5.10			7.95	8.75			12.62	5.58
04/10/2023				3.35					5.40	5.00			7.95	8.75			12.00	5.50
04/17/2023										4.92				8.65			12.00	4.90
04/24/2023										4.85	5.80			8.50			11.68	4.72
05/01/2023		4.00	4.10	3.20		5.95	4.70			4.80	5.80			8.40		12.45	11.12	4.65
05/08/2023	2.90	3.98	4.05	3.15	3.80	5.85	4.70	4.60		4.80	5.80	7.10	8.68	8.05		12.82	10.62	4.65
05/15/2023	2.90	3.92	4.00	3.15	3.80	5.85	4.70	4.60	5.10	4.75	5.88	7.20	8.80	7.95		13.43	10.20	4.65
05/22/2023	2.90	3.92	4.00	3.17	3.85	5.85	4.75	4.60	5.10	4.78	5.97	7.20	8.88	7.95		13.75	9.97	4.65
05/29/2023	2.90	3.95	4.00	3.20	3.88	5.85	4.75	4.62	5.10	4.85	6.12	7.20	9.00	8.07	6.90	14.03	9.80	4.85
06/05/2023	2.95	4.08	4.08	3.20	3.90	5.85	4.75	4.65	5.10	4.90	6.30	7.25	9.10	8.18	6.95	14.50	9.10	4.85
06/12/2023	3.00	4.15	4.15	3.20	3.92	5.85	4.75	4.65	5.10	4.90	6.55	7.40	9.10	8.28	7.38	15.05	8.25	4.97
06/19/2023	3.00	4.17	4.22	3.20	4.00	5.85	4.75	4.70	5.10	4.90	6.60	7.50	9.10	8.32	8.00	15.47	7.97	5.05
06/26/2023	3.00	4.30	4.30	3.20	4.30	5.85	4.75	4.75	5.15	4.92	6.60	7.60	9.10	8.35	8.45	15.95	7.95	5.05
07/03/2023	3.02	4.30	4.30	3.20	4.38	5.85	4.75	4.80	5.20	4.95	6.60	7.65	9.10	8.40	8.97	16.15	7.95	5.10

Urner Barry Snow Crab, Newfoundland, Cluster, 5-8 oz

	US\$ lb*																	
Period	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
07/10/2023	3.10	4.30	4.30	3.20	4.47	5.85	4.75	4.83	5.20	4.95	6.60	7.75	9.10	8.40	9.20	16.25	7.70	5.28
07/17/2023	3.12	4.50	4.30	3.10	4.55	5.85	4.70	4.90	5.20	4.95	6.62	8.00	9.10	8.40	9.25	16.30	7.33	5.40
07/24/2023	3.20	4.58	4.30	3.10	4.67	5.85	4.70	5.00	5.25	4.95	6.80	8.10	9.05	8.40	9.25	16.35	7.15	5.40
07/31/2023	3.20	4.60	4.30	3.10	4.83	5.80	4.65	5.15	5.25	4.95	6.85	8.10	8.95	8.40	9.25	16.40	7.05	5.67
08/07/2023	3.33	4.60	4.30	3.10	5.00	5.80	4.65	5.15	5.25	4.92	6.85	8.10	8.90	8.40	9.25	16.40	7.05	5.75
08/14/2023	3.40	4.62	4.30	3.10	5.05	5.80	4.65	5.15	5.25	4.90	6.85	8.10	8.75	8.45	9.25	16.40	7.05	5.75
08/21/2023	3.42	4.65	4.30	3.10	5.05	5.80	4.65	5.15	5.25	4.90	6.85	8.10	8.75	8.45	9.28	16.40	7.05	5.75
08/28/2023	3.48	4.65	4.28	3.10	5.05	5.75	4.65	5.17	5.25	4.90	6.88	8.10	8.75	8.45	9.35	16.40	7.08	5.75
09/04/2023	3.50	4.65	4.25	3.10	5.10	5.75	4.67	5.20	5.25	4.90	6.95	8.10	8.75	8.50	9.45	16.40	7.12	5.75
09/11/2023	3.50	4.65	4.25	3.10	5.10	5.75	4.75	5.20	5.25	4.90	7.08	8.10	8.75	8.50	9.55	16.40	7.17	5.75
09/18/2023	3.55	4.65	4.22	3.10	5.10	5.75	4.75	5.20	5.25	4.90	7.22	8.10	8.75	8.60	9.65	16.40	7.28	5.75
09/25/2023	3.55	4.65	4.20	3.10	5.20	5.75	4.78	5.20	5.25	4.90	7.35	8.10	8.75	8.65	9.65	16.40	7.55	5.75
10/02/2023	3.55	4.65	4.20	3.10	5.25	5.75	4.85	5.20	5.25	4.92	7.40	8.10	8.75	8.68	9.65	16.40	7.80	
10/09/2023	3.55	4.65	4.17	3.10	5.30	5.75	4.92	5.20	5.25	4.95	7.45	8.10	8.75	8.78	9.65	16.43	7.85	
10/16/2023	3.55	4.65	4.12	3.10	5.30	5.72	4.95	5.20	5.25	4.95	7.60	8.10	8.75	8.85	9.72	16.68	7.85	
10/23/2023	3.60	4.65	4.10	3.10	5.40	5.65	5.00	5.20	5.25	5.00	7.72	8.10	8.75	8.85	9.85	16.75	7.88	
10/30/2023	3.65	4.65	4.10	3.12	5.50	5.60	5.00	5.20	5.25	5.05	7.85	8.10	8.75	8.85	9.90	16.77	7.90	
11/06/2023	3.67	4.65	4.10	3.17	5.50	5.60	5.05	5.20	5.25	5.05	7.95	8.10	8.75	8.88	9.90	16.80	7.90	
11/13/2023	3.77	4.65	4.05	3.20	5.50	5.55	5.05	5.25	5.25	5.05	7.95	8.10	8.75	9.00	9.90	16.80	7.90	
11/20/2023	3.90	4.65	4.00	3.25	5.50	5.45	5.05	5.25	5.25	5.10	7.95	8.10	8.75	9.00	9.90	16.80	7.90	
11/27/2023	3.98	4.65	4.00	3.25	5.50	5.38	5.05	5.25	5.25	5.10	7.95	8.10	8.75	9.00	9.90	16.80	7.90	
12/04/2023	4.00	4.60	3.95	3.25	5.50	5.28	5.05	5.25	5.25	5.15	7.95	8.10	8.75	9.05	9.90	16.80	7.90	
12/11/2023	4.08	4.55	3.90	3.30	5.50	5.10	5.05	5.25	5.25	5.20	7.95	8.10	8.75	9.15	9.90	16.80	7.80	
12/18/2023	4.15	4.55	3.90	3.30	5.50	5.08	5.00	5.25	5.25	5.20	7.95	8.10	8.75	9.25	9.90	16.80	7.70	
12/25/2023	4.17	4.55	3.90	3.35	5.50	5.05	4.95	5.25	5.25	5.20	7.95	8.10	8.75	9.25	9.90	16.80	7.62	
53rd Week			3.90						5.25						9.90			

* When a price range is quoted the low in the range is used. Average of prices quoted during the week

Appendix B

**Exports of NEWFOUNDLAND AND LABRADOR Snow
Crab in Kgs.
Data from Department of Fisheries, Forestry and Agriculture**

										YTD July
Country/Region	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
United States Of America	18,331,322	18,944,215	18,929,940	13,590,105	11,762,343	12,390,390	15,804,427	22,166,092	20,230,321	24,091,127
China	8,297,076	5,653,424	3,551,278	3,475,485	3,193,921	1,563,539	1,846,316	2,337,324	2,741,602	1,338,328
Indonesia	1,432,862	929,471	600,991	960,627	765,553	1,140,331	335,074	567,966	1,504,454	399,066
Viet Nam	461,507	658,948	276,524	550,676	244,153	785,999	532,174	388,727	602,392	501,021
Japan	632,305	615,479	398,874	298,948	140,999	570,811	202,671	453,068	177,295	83,912
Thailand	279,890	509,583	241,954	182,626	33,966	33,313	37,319	0	52,065	0
Hong Kong	81,661	46,770	176,936	184,463	80,422	111,757	106,101	108,546	122,658	73,047
Korea, South	16,983	462	203,025	37,787	0	0	0	0	14,194	7,062
Total Asia	11,202,284	8,414,137	5,449,582	5,690,612	4,459,014	4,205,750	3,059,655	3,855,631	5,214,660	2,402,436
Netherlands	95,958	18,860	50,204	37,720	0	52,539	34,745	54,899	13,268	0
United Kingdom	10,152	17,844	0	0	71	0	24,968	15,450	58,542	1,960
France	0	3	0	0	14	0	663	810	0	103,041
Singapore	37,699	0	0	32,903	16,805	7,348	0	0	0	17,145
Spain	0	0	0	0	0	0	0	15,795	8,818	18,681
Taiwan	0	0	0	0	0	0	54	35,015	272	0
Iran	0	93,405	0	0	0	0	0	0	0	0
Chile	0	0	0	0	0	0	0	15,486	0	18,670
Denmark	0	30	0	0	0	0	0	0	3,846	0
Myanmar	38,080	0	0	0	0	0	0	0	0	0
Russian Federation	5,006	0	0	0	0	0	20,000	0	0	0
Malaysia	0	0	0	0	8,845	1,819	0	0	0	0
Belgium	0	0	0	0	0	0	0	0	0	1,960
Germany	0	0	0	0	0	0	0	0	0	0

**Exports of NEWFOUNDLAND AND LABRADOR Snow
Crab in Kgs.
Data from Department of Fisheries, Forestry and Agriculture**

										YTD July
Country/Region	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Christmas Island	0	0	0	0	0	0	0	0	0	0
Australia	0	0	0	0	0	0	0	0	5,410	0
Ukraine	0	0	1,361	0	0	45	1,715	0	0	0
Cabo Verde	0	14,006	0	0	0	0	0	0	0	0
Colombia	0	0	0	0	0	0	0	0	0	0
Norway	0	0	0	0	0	0	0	0	0	0
Saint Pierre and Miquelon	0	0	0	0	0	146	0	0	0	0
Iceland	0	0	0	0	0	0	0	0	0	0
Sweden	0	0	0	0	0	0	0	0	0	0
Portugal	0	0	0	0	0	0	0	0	0	0
Korea, North	0	0	0	0	0	0	0	0	0	0
Total all countries	29,720,501	27,502,500	24,431,087	19,351,340	16,247,092	16,658,037	18,946,227	26,159,178	25,535,137	26,655,020
NEWFOUNDLAND AND LABRADOR Total Crab Production in kgs	33,747,863	31,739,924	28,128,440	23,395,268	19,343,443	19,009,863	21,073,154	27,146,354	35,083,562	34,754,505

Appendix C

Weekly Lobster Prices (2011-2023)				
	UB price	CDN \$ Ex	CDN \$	Harvester
<u>Weeks</u>	<u>US\$/Lb</u>	<u>Rate</u>	<u>Price/LB</u>	<u>Price \$/Lb</u>
2011				
Sun., April 17 – Sat., April 23	\$ 6.59	0.96040	\$ 6.33	\$ 4.26
Sun., April 24 – Sat., April 30	\$ 6.60	0.95341	\$ 6.29	\$ 4.23
Sun., May 1 – Sat., May 7	\$ 6.18	0.94886	\$ 5.86	\$ 3.90
Sun., May 8 – Sat., May 14				\$ 3.65
Sun., May 15 – Sat., May 21	\$ 5.80	0.97226	\$ 5.64	\$ 3.70
Sun., May 22 – Sat., May 28	\$ 5.90	0.97746	\$ 5.77	\$ 3.79
Sun., May 29 – Sat., June 4	\$ 5.95	0.97599	\$ 5.81	\$ 3.81
Sun. June 5 – Sat. June 11	\$ 6.30	0.97847	\$ 6.16	\$ 4.08
Sun. June 12 – Sat. June 18	\$ 6.75	0.97810	\$ 6.60	\$ 4.43
Sun. June 19 – Sat. June 25	\$ 6.92	0.98093	\$ 6.79	\$ 4.58
Sun. June 26 – Sat. July 2	\$ 7.20	0.97124	\$ 6.99	\$ 4.74
Sun. July 3 – Sat. July 9	\$ 7.15	0.96207	\$ 6.88	\$ 4.65
Sun. July 10 – Sat. July 16	\$ 7.10	0.96041	\$ 6.82	\$ 4.61
2012				
Sun. April 15-Sat. April 21	\$ 6.85	0.99360	\$ 6.81	\$ 4.59
Sun. April 22-Sat. April 28	\$ 6.70	0.98540	\$ 6.60	\$ 4.43
Sun. April 29-Sat. May 5	\$ 6.38	0.98930	\$ 6.31	\$ 4.20
Sun. May 6-Sat. May 12	\$ 6.10	0.99970	\$ 6.10	\$ 4.03
Sun. May 13-Sat. May 19	\$ 6.08	1.01310	\$ 6.15	\$ 4.07
Sun. May 20-Sat. May 26	\$ 6.10	1.02470	\$ 6.25	\$ 4.15
Sun. May 27-Sat. June 2	\$ 6.08	1.03210	\$ 6.27	\$ 4.17
Sun. June 3-Sat. June 9	\$ 5.80	1.03210	\$ 5.99	\$ 3.94
Sun. June 10-Sat. June 16	\$ 5.75	1.02490	\$ 5.89	\$ 3.88

Weekly Lobster Prices (2011-2023)				
	UB price	CDN \$ Ex	CDN \$	Harvester
<u>Weeks</u>	<u>US\$/Lb</u>	<u>Rate</u>	<u>Price/LB</u>	<u>Price \$/Lb</u>
Sun. June 17-Sat. June 23	\$ 5.68	1.02480	\$ 5.82	\$ 3.82
Sun. June 24-Sat. June 30	\$ 5.60	1.02380	\$ 5.73	\$ 3.76
Sun. July 1-Sat. July 7	\$ 5.60	1.01610	\$ 5.69	\$ 3.73
Sun. July 8- Sat. July 14	\$ 5.70	1.01760	\$ 5.80	\$ 3.81
2013				
Sun April 14 – Sat April 20	\$ 7.60	1.02430	\$ 7.78	\$ 5.37
Sun April 21 – Sat April 27	\$ 6.68	1.02200	\$ 6.82	\$ 4.61
Sun April 28 – Sat May 4	\$ 5.85	1.00940	\$ 5.90	\$ 3.88
Sun May 5 – Sat May 11	\$ 5.23	1.00730	\$ 5.26	\$ 3.43
Sun May 12 – Sat May 18	\$ 4.98	1.02000	\$ 5.08	\$ 3.30
Sun May 19 – Sat May 25	\$ 5.00	1.03090	\$ 4.85	\$ 3.25
Sun May 26 – Sat June 1	\$ 4.70	1.03560	\$ 4.87	\$ 3.25
Sun June 2 – Sat June 8	\$ 4.48	1.02810	\$ 4.60	\$ 3.25
Sun June 9 – Sat June 15	\$ 4.35	1.01850	\$ 4.43	\$ 3.25
Sun June 16 – Sat June 22	\$ 4.35	1.03190	\$ 4.49	\$ 3.25
Sun June 23 – Sat June 29	\$ 4.85	1.04980	\$ 5.09	\$ 3.31
Sun June 30 – Sat July 6	\$ 3.70	1.05420	\$ 3.90	\$ 3.25
Sun July 7 – Sat July 13	\$ 3.70	1.04570	\$ 3.87	\$ 3.25
2014				
Sun. April 13 to Sat. April 19	\$ 8.48	1.10020	\$ 9.32	\$ 6.61
Sun. April 20 to Sat. April 26	\$ 7.65	1.10300	\$ 8.44	\$ 5.90
Sun. April 27 to Sat. May 3	\$ 6.58	1.09810	\$ 7.22	\$ 4.93
Sun. May 4 to Sat. May 10	\$ 5.85	1.09020	\$ 6.38	\$ 4.25
Sun. May 11 to Sat. May 17	\$ 5.10	1.08820	\$ 5.55	\$ 3.64

Weekly Lobster Prices (2011-2023)				
	UB price	CDN \$ Ex	CDN \$	Harvester
<u>Weeks</u>	<u>US\$/Lb</u>	<u>Rate</u>	<u>Price/LB</u>	<u>Price \$/Lb</u>
Sun. May 18 to Sat. May 24	\$ 4.98	1.08850	\$ 5.42	\$ 3.54
Sun. May 25 to Sat. May 31	\$ 4.85	1.08530	\$ 5.26	\$ 3.44
Sun. June 1 to Sat. June 7	\$ 4.73	1.09190	\$ 5.16	\$ 3.36
Sun. June 8 to Sat. June 14	\$ 4.60	1.08790	\$ 5.00	\$ 3.25
Sun. June 15 to Sat. June 21	\$ 5.00	1.08170	\$ 5.25	\$ 3.42
Sun. June 22 to Sat. June 28	\$ 5.35	1.07040	\$ 5.73	\$ 3.76
Sun. June 29 to Sat. July 5	\$ 6.10	1.06550	\$ 6.50	\$ 4.35
Sun. July 5 to Sat. July 12	\$ 6.35	1.06860	\$ 6.79	\$ 4.58
Sun. July 13 to Sat. July 19	\$ 6.60	1.07400	\$ 7.09	\$ 4.82
Sun. July 20 to Sat. July 26	\$ 6.95	1.07630	\$ 7.48	\$ 5.13
	2015			
Sun. April 19 to Sat. April 25	\$ 8.60	1.22070	\$ 10.50	\$ 7.55
Sun. April 26 to Sat. May 2	\$ 8.95	1.21030	\$ 10.83	\$ 7.82
Sun. May 3 to Sat. May 9	\$ 8.18	1.20860	\$ 9.88	\$ 7.05
Sun. May 10 to Sat. May 16	\$ 6.40	1.20210	\$ 7.69	\$ 5.30
Sun. May 17 to Sat. May 23	\$ 5.58	1.22100	\$ 6.81	\$ 4.60
Sun. May 24 to Sat. May 30	\$ 5.30	1.24170	\$ 6.58	\$ 4.41
Sun. May 31 to Sat. June 6	\$ 5.30	1.24610	\$ 6.60	\$ 4.43
Sun. June 7 to Sat. June 13	\$ 5.38	1.23320	\$ 6.63	\$ 4.45
Sun. June 14 to Sat. June 20	\$ 5.98	1.22780	\$ 7.34	\$ 5.02
Sun. June 21 to Sat. June 27	\$ 6.53	1.23290	\$ 8.05	\$ 5.59
Sun. June 28 to Sat. July 4	\$ 6.90	1.25140	\$ 8.63	\$ 6.06
Sun. July 5 to Sat. July 11	\$ 7.15	1.26840	\$ 9.07	\$ 6.41
Sun. July 12 to Sat. July 18	\$ 6.90	1.28740	\$ 8.88	\$ 6.26

Weekly Lobster Prices (2011-2023)				
	UB price	CDN \$ Ex	CDN \$	Harvester
<u>Weeks</u>	<u>US\$/Lb</u>	<u>Rate</u>	<u>Price/LB</u>	<u>Price \$/Lb</u>
Sun. July 19 to Sat. July 25	\$ 6.90	1.30150	\$ 8.98	\$ 6.33
2016				
Sun. April 17 to Sat. April 23	\$ 6.95	1.26852	\$ 8.82	\$ 6.20
Sun April 24 to Sat April 30	\$ 6.23	1.25729	\$ 7.83	\$ 5.41
Sun May 1 to Sat. May 7	\$ 6.10	1.28000	\$ 7.83	\$ 5.41
Sun May 8 to Sat May 14	\$ 5.97	1.29104	\$ 7.71	\$ 5.32
Sun May 15 to Sat May 21	\$ 5.85	1.30548	\$ 7.64	\$ 5.26
Sun May 22 to Sat May 28	\$ 5.98	1.30517	\$ 7.80	\$ 5.39
Sun May 29 to Sat June 4	\$ 6.35	1.30092	\$ 8.26	\$ 5.76
Sun June 5 to Sat June 11	\$ 7.10	1.27571	\$ 9.06	\$ 6.40
Sun June 12 to Sat June 18	\$ 7.48	1.28856	\$ 9.63	\$ 6.86
Sun June 19 – Sat June 25	\$ 7.60	1.29119	\$ 9.81	\$ 7.00
Sun June 26 – Sat July 2	\$ 7.73	1.29476	\$ 10.00	\$ 7.15
Sun July 3 – Sat July 9	\$ 7.85	1.30072	\$ 10.21	\$ 7.32
Sun July 10 – Sat July 16	\$ 7.73	1.29770	\$ 10.03	\$ 7.17
Sun July 17 – Sat July 23	\$ 7.60	1.30931	\$ 9.95	\$ 7.11
2017				
Sun April 16 to Sat, April 22	\$ 9.95	1.34580	\$ 13.39	\$ 9.86
Sun April 23 to Sat April 29	\$ 8.10	1.36230	\$ 11.03	\$ 7.98
Sun April 30th to Sat May 6th	\$ 7.85	1.36930	\$ 10.75	\$ 7.75
Sun May 7th to Sat May 13th	\$ 7.35	1.37000	\$ 10.07	\$ 7.21
Sun May 14th to Sat May 20th	\$ 6.85	1.35640	\$ 9.29	\$ 6.58
Sun May 21st to Sat May 27th	\$ 6.73	1.34610	\$ 9.05	\$ 6.39
Sun May 28th to Sat June 3rd	\$ 6.35	1.34870	\$ 8.56	\$ 6.00

Weekly Lobster Prices (2011-2023)				
	UB price	CDN \$ Ex	CDN \$	Harvester
<u>Weeks</u>	<u>US\$/Lb</u>	<u>Rate</u>	<u>Price/LB</u>	<u>Price \$/Lb</u>
Sun April 28 to Sat May 4	\$ 7.10	1.34360	\$ 9.54	\$ 6.78
Sun May 5 to Sat May 11	\$ 6.80	1.34470	\$ 9.14	\$ 6.47
Sun May 12 to Sat May 18	\$ 6.58	1.34560	\$ 8.85	\$ 6.23
Sun May 19 to Sat May 25	\$ 6.45	1.34385	\$ 8.67	\$ 6.08
Sun May 26 to Sat June 1	\$ 6.23	1.35030	\$ 8.41	\$ 5.87
Sun June 2 to Sat June 8	\$ 6.10	1.33230	\$ 8.13	\$ 5.66
Sun June 9 to Sat June 15	\$ 6.10	1.33552	\$ 8.15	\$ 5.67
Sun June 16 to Sat June 22	\$ 6.30	1.32560	\$ 8.35	\$ 5.83
Sun June 23 to Sat June 29	\$ 6.60	1.31190	\$ 8.66	\$ 6.08
Sun June 30 to Sat July 26	\$ 6.95	1.30830	\$ 9.09	\$ 6.42
Sun July 7 to Sat July 13	\$ 7.25	1.30600	\$ 9.47	\$ 6.73
Sun July 14 to Sat July 20	\$ 7.60	1.30610	\$ 9.93	\$ 7.09
2020				
May 3 – 9	\$ 6.80	1.39950	\$ 9.51	\$ 6.76
May 10 – 16	\$ 5.50	1.40700	\$ 7.74	\$ 5.34
May 17 – 23	\$ 4.40	1.39650	\$ 6.15	\$ 4.07
May 24 – 30	\$ 4.20	1.37690	\$ 5.78	\$ 3.80
May 31 – June 6	\$ 4.20	1.34630	\$ 5.65	\$ 3.71
June 7 – 13	\$ 4.45	1.35330	\$ 6.02	\$ 3.97
June 14 – 20	\$ 4.65	1.35790	\$ 6.31	\$ 4.20
June 21 – 27	\$ 4.95	1.36370	\$ 6.75	\$ 4.55
June 28 – July 4	\$ 5.15	1.35730	\$ 6.99	\$ 4.74
July 5 – July 11	\$ 5.15	1.35770	\$ 6.99	\$ 4.74
July 12 – 18	\$ 5.60	1.35720	\$ 7.60	\$ 5.23

Weekly Lobster Prices (2011-2023)				
	UB price	CDN \$ Ex	CDN \$	Harvester
<u>Weeks</u>	<u>US\$/Lb</u>	<u>Rate</u>	<u>Price/LB</u>	<u>Price \$/Lb</u>
2021				
April 18 – 24	\$ 10.82	1.24962	\$ 13.51	\$ 9.96
April 25 – May 1	\$ 10.12	1.23182	\$ 12.46	\$ 9.12
May 2 – May 8	\$ 8.49	1.21913	\$ 10.35	\$ 7.43
May 9 – May 15	\$ 8.19	1.21130	\$ 9.92	\$ 7.09
May 16 – May 22	\$ 8.04	1.20700	\$ 9.70	\$ 6.91
May 23 – May 29	\$ 8.04	1.20770	\$ 9.71	\$ 6.92
May 30 – June 5	\$ 8.04	1.20770	\$ 9.71	\$ 6.92
June 6 – 12	\$ 8.07	1.21260	\$ 9.78	\$ 6.97
June 13 – 19	\$ 8.49	1.23468	\$ 10.48	\$ 7.54
June 20 – 26	\$ 9.37	1.23120	\$ 11.53	\$ 8.37
June 27 – July 3	\$ 9.74	1.23640	\$ 12.04	\$ 8.78
July 4 – July 10	\$ 10.02	1.24649	\$ 12.48	\$ 9.14
July 11 – 17	\$ 10.14	1.25830	\$ 12.75	\$ 9.36
2022				
April 17-23	\$ 10.50	1.26414	\$ 13.27	\$ 9.77
April 24-30	\$ 9.88	1.28266	\$ 12.67	\$ 9.28
May 1-7	\$ 9.35	1.28688	\$ 12.03	\$ 8.78
May 8-14	\$ 8.88	1.29616	\$ 11.50	\$ 8.35
May 15-21	\$ 8.63	1.28256	\$ 11.06	\$ 8.00
May 22-28	\$ 8.23	1.27587	\$ 10.49	\$ 7.55
May 29-June 4	\$ 7.75	1.26092	\$ 9.77	\$ 6.97
June 5-11	\$ 7.70	1.26992	\$ 9.78	\$ 6.97
June 12-18	\$ 7.55	1.29753	\$ 9.80	\$ 6.99

Weekly Lobster Prices (2011-2023)				
	UB price	CDN \$ Ex	CDN \$	Harvester
<u>Weeks</u>	<u>US\$/Lb</u>	<u>Rate</u>	<u>Price/LB</u>	<u>Price \$/Lb</u>
June 19-25	\$ 7.60	1.29260	\$ 9.82	\$ 7.01
June 26-July 2	\$ 7.65	1.28817	\$ 9.85	\$ 7.03
July 3-9	\$ 7.65	1.29774	\$ 9.93	\$ 7.09
July 10-16	\$ 8.10	1.30273	\$ 10.55	\$ 7.59
2023				
April 16-22	\$ 14.10	1.34901	\$ 19.02	\$ 14.37
April 23-29	\$ 10.38	1.35836	\$ 14.09	\$ 10.42
April 30-May6	\$ 8.63	1.34794	\$ 11.63	\$ 8.45
May 7-13	\$ 7.75	1.34760	\$ 10.44	\$ 7.26
May 14-20	\$ 7.38	1.34881	\$ 9.95	\$ 6.91
May 21-27	\$ 7.13	1.35917	\$ 9.68	\$ 6.73
May 28-June 3	\$ 7.05	1.34926	\$ 9.51	\$ 6.61
June 4-10	\$ 7.00	1.33632	\$ 9.35	\$ 6.50
June 11-17	\$ 7.13	1.32493	\$ 9.44	\$ 6.56
June 18-24	\$ 7.68	1.31850	\$ 10.12	\$ 7.03
June 25-July 1	\$ 7.95	1.32361	\$ 10.52	\$ 7.32
July 2-8	\$ 8.10	1.32831	\$ 10.76	\$ 7.48
July 9-15	\$ 8.25	1.31998	\$ 10.89	\$ 7.57
July 16-22	\$ 8.38	1.31925	\$ 11.05	\$ 7.68
Market prices derived from UB, exchange rate Bank of Canada end of day averaged for the week, harvester prices as per FFAW.				

Appendix D

Weekly Harvester Prices for Crab 2006-2023	
Date	Harvester
<u>Week Ended</u>	<u>Price/LB</u>
01/04/2006	\$1.05
08/04/2006	\$1.05
15/04/2006	\$1.05
22/04/2006	\$1.05
29/04/2006	\$0.98
06/05/2006	\$0.98
13/05/2006	\$0.94
20/05/2006	\$0.92
27/05/2006	\$0.92
03/06/2006	\$0.92
10/06/2006	\$0.92
17/06/2006	\$0.92
24/06/2006	\$0.92
01/07/2006	\$0.92
08/07/2006	\$0.98
15/07/2006	\$0.98
22/07/2006	\$1.01
29/07/2006	\$1.01
05/08/2006	\$1.01
12/08/2006	\$1.01
31/03/2007	\$1.65
07/04/2007	\$1.65
14/04/2007	\$1.65
21/04/2007	\$1.66
28/04/2007	\$1.66
05/05/2007	\$1.57
12/05/2007	\$1.57
19/05/2007	\$1.50
26/05/2007	\$1.50
02/06/2007	\$1.50
09/06/2007	\$1.50
16/06/2007	\$1.50
23/06/2007	\$1.50
30/06/2007	\$1.50
07/07/2007	\$1.57
14/07/2007	\$1.57
21/07/2007	\$1.59
28/07/2007	\$1.59

Weekly Harvester Prices for Crab 2006-2023	
04/08/2007	\$1.63
11/08/2007	\$1.63
18/08/2007	\$1.63
25/08/2007	\$1.63
01/09/2007	\$1.63
05/04/2008	\$1.61
12/04/2008	\$1.61
19/04/2008	\$1.61
26/04/2008	\$1.61
03/05/2008	\$1.50
10/05/2008	\$1.50
17/05/2008	\$1.50
24/05/2008	\$1.50
31/05/2008	\$1.50
07/06/2008	\$1.50
14/06/2008	\$1.50
21/06/2008	\$1.50
28/06/2008	\$1.50
05/07/2008	\$1.50
12/07/2008	\$1.50
19/07/2008	\$1.50
26/07/2008	\$1.50
02/08/2008	\$1.50
09/08/2008	\$1.50
16/08/2008	\$1.50
23/08/2008	\$1.50
30/08/2008	\$1.50
04/04/2009	\$1.55
11/04/2009	\$1.55
18/04/2009	\$1.55
25/04/2009	\$1.55
02/05/2009	\$1.55
09/05/2009	\$1.40
16/05/2009	\$1.40
23/05/2009	\$1.40
30/05/2009	\$1.40
06/06/2009	\$1.35
13/06/2009	\$1.40
20/06/2009	\$1.40
27/06/2009	\$1.40

Weekly Harvester Prices for Crab 2006-2023	
04/07/2009	\$1.40
11/07/2009	\$1.40
18/07/2009	\$1.40
25/07/2009	\$1.35
01/08/2009	\$1.35
08/08/2009	\$1.35
15/08/2009	\$1.35
22/08/2009	\$1.35
29/08/2009	\$1.35
03/04/2010	\$1.35
10/04/2010	\$1.35
17/04/2010	\$1.35
24/04/2010	\$1.35
01/05/2010	\$1.35
08/05/2010	\$1.35
15/05/2010	\$1.35
22/05/2010	\$1.35
29/05/2010	\$1.35
05/06/2010	\$1.35
12/06/2010	\$1.35
19/06/2010	\$1.35
26/06/2010	\$1.35
03/07/2010	\$1.35
10/07/2010	\$1.35
17/07/2010	\$1.35
24/07/2010	\$1.35
31/07/2010	\$1.35
07/08/2010	\$1.35
14/08/2010	\$1.35
21/08/2010	\$1.35
28/08/2010	\$1.35
02/04/2011	\$2.15
09/04/2011	\$2.15
16/04/2011	\$2.15
23/04/2011	\$2.15
30/04/2011	\$2.15
07/05/2011	\$2.15
14/05/2011	\$2.15
21/05/2011	\$2.15
28/05/2011	\$2.15

Weekly Harvester Prices for Crab 2006-2023	
04/06/2011	\$2.15
11/06/2011	\$2.15
18/06/2011	\$2.15
25/06/2011	\$2.15
02/07/2011	\$2.15
09/07/2011	\$2.15
16/07/2011	\$2.15
23/07/2011	\$2.15
30/07/2011	\$2.15
06/08/2011	\$2.15
13/08/2011	\$2.15
20/08/2011	\$2.15
27/08/2011	\$2.15
03/09/2011	\$2.15
07/04/2012	\$1.95
14/04/2012	\$1.95
21/04/2012	\$1.95
28/04/2012	\$1.95
05/05/2012	\$1.95
12/05/2012	\$1.95
19/05/2012	\$1.95
26/05/2012	\$1.95
02/06/2012	\$1.95
09/06/2012	\$1.95
16/06/2012	\$1.95
23/06/2012	\$1.95
30/06/2012	\$1.95
07/07/2012	\$1.95
14/07/2012	\$1.95
21/07/2012	\$1.95
28/07/2012	\$1.95
04/08/2012	\$1.95
11/08/2012	\$1.95
18/08/2012	\$1.95
25/08/2012	\$1.95
01/09/2012	\$1.95
06/04/2013	\$1.83
13/04/2013	\$1.83
20/04/2013	\$1.83
27/04/2013	\$1.83

Weekly Harvester Prices for Crab 2006-2023	
04/05/2013	\$1.83
11/05/2013	\$1.83
18/05/2013	\$1.83
25/05/2013	\$1.83
01/06/2013	\$1.83
08/06/2013	\$1.83
15/06/2013	\$1.83
22/06/2013	\$1.83
29/06/2013	\$1.83
06/07/2013	\$1.83
13/07/2013	\$1.83
20/07/2013	\$1.83
27/07/2013	\$1.83
03/08/2013	\$1.83
10/08/2013	\$1.83
17/08/2013	\$1.83
24/08/2013	\$1.83
31/08/2013	\$1.83
05/04/2014	\$2.30
12/04/2014	\$2.30
19/04/2014	\$2.30
26/04/2014	\$2.30
03/05/2014	\$2.30
10/05/2014	\$2.30
17/05/2014	\$2.30
24/05/2014	\$2.30
31/05/2014	\$2.30
07/06/2014	\$2.30
14/06/2014	\$2.30
21/06/2014	\$2.30
28/06/2014	\$2.30
05/07/2014	\$2.30
12/07/2014	\$2.30
19/07/2014	\$2.30
26/07/2014	\$2.30
02/08/2014	\$2.30
09/08/2014	\$2.30
16/08/2014	\$2.30
23/08/2014	\$2.30
30/08/2014	\$2.30

Weekly Harvester Prices for Crab 2006-2023	
04/04/2015	\$2.34
11/04/2015	\$2.34
18/04/2015	\$2.34
25/04/2015	\$2.34
02/05/2015	\$2.34
09/05/2015	\$2.34
16/05/2015	\$2.45
23/05/2015	\$2.45
30/05/2015	\$2.45
06/06/2015	\$2.45
13/06/2015	\$2.45
20/06/2015	\$2.45
27/06/2015	\$2.45
04/07/2015	\$2.45
11/07/2015	\$2.45
18/07/2015	\$2.45
25/07/2015	\$2.45
01/08/2015	\$2.45
08/08/2015	\$2.45
15/08/2015	\$2.45
22/08/2015	\$2.45
29/08/2015	\$2.45
02/04/2016	\$3.00
09/04/2016	\$3.00
16/04/2016	\$3.00
23/04/2016	\$3.00
30/04/2016	\$2.93
07/05/2016	\$2.93
14/05/2016	\$2.93
21/05/2016	\$3.00
28/05/2016	\$3.00
04/06/2016	\$3.00
11/06/2016	\$3.00
18/06/2016	\$2.93
25/06/2016	\$3.00
02/07/2016	\$3.00
09/07/2016	\$3.00
16/07/2016	\$3.00
23/07/2016	\$3.00
30/07/2016	\$3.00

Weekly Harvester Prices for Crab 2006-2023	
06/08/2016	\$3.00
13/08/2016	\$3.00
20/08/2016	\$3.00
27/08/2016	\$3.00
03/09/2016	\$3.00
08/04/2017	\$4.39
15/04/2017	\$4.39
22/04/2017	\$4.39
29/04/2017	\$4.39
06/05/2017	\$4.39
13/05/2017	\$4.46
20/05/2017	\$4.46
27/05/2017	\$4.46
03/06/2017	\$4.39
10/06/2017	\$4.39
17/06/2017	\$4.39
24/06/2017	\$4.39
01/07/2017	\$4.39
08/07/2017	\$4.39
15/07/2017	\$4.32
22/07/2017	\$4.25
29/07/2017	\$4.25
05/08/2017	\$4.18
12/08/2017	\$4.18
19/08/2017	\$4.18
26/08/2017	\$4.18
02/09/2017	\$4.18
09/09/2017	\$4.18
16/09/2017	\$4.18
23/09/2017	\$4.18
30/09/2017	\$4.18
07/04/2018	\$4.55
14/04/2018	\$4.55
21/04/2018	\$4.55
28/04/2018	\$4.55
05/05/2018	\$4.55
12/05/2018	\$4.55
19/05/2018	\$4.90
26/05/2018	\$4.90
02/06/2018	\$4.90

Weekly Harvester Prices for Crab 2006-2023	
09/06/2018	\$4.90
16/06/2018	\$4.90
23/06/2018	\$4.90
30/06/2018	\$4.97
07/07/2018	\$4.90
14/07/2018	\$4.90
21/07/2018	\$4.90
28/07/2018	\$4.90
04/08/2018	\$4.90
11/08/2018	\$4.90
18/08/2018	\$4.90
25/08/2018	\$4.90
01/09/2018	\$4.90
08/09/2018	\$4.90
15/09/2018	\$4.90
22/09/2018	\$4.90
29/09/2018	\$4.90
06/04/2019	\$5.38
13/04/2019	\$5.38
20/04/2019	\$5.38
27/04/2019	\$5.38
04/05/2019	\$5.38
11/05/2019	\$5.38
18/05/2019	\$5.38
25/05/2019	\$4.90
01/06/2019	\$4.90
08/06/2019	\$4.90
15/06/2019	\$5.07
22/06/2019	\$5.07
29/06/2019	\$5.07
06/07/2019	\$5.07
13/07/2019	\$5.07
20/07/2019	\$5.07
27/07/2019	\$5.07
03/08/2019	\$5.07
10/08/2019	\$5.07
17/08/2019	\$5.07
24/08/2019	\$5.07
31/08/2019	\$5.07
07/09/2019	\$5.07

Weekly Harvester Prices for Crab 2006-2023	
14/09/2019	\$5.07
21/09/2019	\$5.07
28/09/2019	\$5.07
04/04/2020	\$2.90
11/04/2020	\$2.90
18/04/2020	\$2.90
25/04/2020	\$2.90
02/05/2020	\$2.90
09/05/2020	\$2.90
16/05/2020	\$2.90
23/05/2020	\$3.50
30/05/2020	\$3.50
06/06/2020	\$3.50
13/06/2020	\$3.43
20/06/2020	\$3.36
27/06/2020	\$3.43
04/07/2020	\$3.43
11/07/2020	\$3.43
18/07/2020	\$3.43
25/07/2020	\$3.43
01/08/2020	\$3.43
08/08/2020	\$3.43
15/08/2020	\$3.43
22/08/2020	\$3.43
03/04/2021	\$5.73
10/04/2021	\$5.73
17/04/2021	\$5.73
24/04/2021	\$5.73
01/05/2021	\$7.60
08/05/2021	\$7.60
15/05/2021	\$7.53
22/05/2021	\$7.53
29/05/2021	\$7.46
05/06/2021	\$7.46
12/06/2021	\$7.46
19/06/2021	\$7.53
26/06/2021	\$7.53
03/07/2021	\$7.53
10/07/2021	\$7.53
17/07/2021	\$7.60

Weekly Harvester Prices for Crab 2006-2023	
24/07/2021	\$7.60
31/07/2021	\$7.60
07/08/2021	\$7.60
02/04/2022	\$7.60
09/04/2022	\$7.60
16/04/2022	\$7.60
23/04/2022	\$7.60
30/04/2022	\$7.60
07/05/2022	\$7.67
14/05/2022	\$7.67
21/05/2022	\$6.22
28/05/2022	\$6.22
04/06/2022	\$6.22
11/06/2022	\$6.15
18/06/2022	\$6.15
25/06/2022	\$6.22
02/07/2022	\$6.22
09/07/2022	\$6.22
16/07/2022	\$6.22
23/07/2022	\$6.22
30/07/2022	\$6.22
06/08/2022	\$6.22
08/04/2023	\$2.20
15/04/2023	\$2.20
22/04/2023	\$2.20
29/04/2023	\$2.20
06/05/2023	\$2.20
13/05/2023	\$2.20
20/05/2023	\$2.20
27/05/2023	\$2.20
03/06/2023	\$2.20
10/06/2023	\$2.25
17/06/2023	\$2.25
24/06/2023	\$2.30
01/07/2023	\$2.23
08/07/2023	\$2.23
15/07/2023	\$2.30
22/07/2023	\$2.23
29/07/2023	\$2.23
05/08/2023	\$2.23

Weekly Harvester Prices for Crab 2006-2023	
12/08/2023	\$2.60
19/08/2023	\$2.60
26/08/2023	\$2.60
02/09/2023	\$2.60
* The weeks noted in red font are	
prices and dates of Price Setting Panel decisions	
Source - Price Setting Panel, FFAW, and crab pricing formula in 2006-07	

Appendix E

World Catch of Snow Crab by Country 1998-2022 (metric tonnes)						
Year	Canada	Greenland	Norway	Russian Federation	USA	Total
2022	95,963	2,900	6,725	47,038	2,520	155,146
2021	76,828	3,076	6,861	14,513	20,020	121,298
2020	71,080	2,968	4,397	13,239	15,244	106,928
2019	74,493	2,696	4,049	9,821	12,365	103,424
2018	67,284	2,646	2,812	9,728	8,545	91,015
2017	92,458	2,210	3,101	7,841	9,671	115,281
2016	82,519	2,124	5,406	7,997	17,950	115,996
2015	93,519	1,104	3,105	8,917	27,629	134,274
2014	96,103	1,683	1,881	4,105	24,402	128,174
2013	98,065	1,973	189	63	29,705	129,995
2012	92,849	1,813	2		40,019	134,683
2011	84,372	1,806			24,517	110,695
2010	84,642	3,096			21,700	109,438
2009	97,308	2,991			26,349	126,648
2008	93,868	2,169			28,324	124,361
2007	90,672	2,189			15,479	108,340
2006	89,646	3,146			17,245	110,037
2005	95,347	4,454			11,279	111,080
2004	103,354	5,837			10,745	119,936
2003	96,897	6,862			12,479	116,238
2002	106,766	9,841			14,486	131,093
2001	95,299	14,247			11,246	120,792
2000	93,505	10,236			14,883	118,624
1999	95,148	2,896			83,007	181,051
1998	75,216	1,947			109,060	186,223

Appendix F

Appendix F	UB Crab, Snow, Newfoundland, Cluster, 5-8 oz US\$ lb *																		
Period	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
01/02/2023	4.15	2.95	4.22	4.53	4.00	3.40	5.50	5.05	4.95	5.25	5.25	5.25	7.95	8.10	8.70	9.25	9.90	16.80	7.47
01/09/2023	4.15	2.95	4.25	4.50	4.00	3.40	5.50	5.05	4.97	5.30	5.25	5.30	7.95	8.10	8.62	9.25	9.90	16.80	7.35
01/16/2023	4.15	2.95	4.25	4.50	4.00	3.40	5.53	5.10	5.05	5.40	5.25	5.35	7.95	8.10	8.50	9.25	9.90	16.80	7.15
01/23/2023	4.15	2.95		4.55	4.00	3.40	5.55	5.15	5.05	5.40	5.25	5.47	7.95	8.10	8.50	9.25	9.90	16.80	7.15
01/30/2023	4.05	2.95		4.55	4.00	3.40	5.55	5.17	5.12	5.40	5.25	5.50	7.95	8.10	8.50	9.28		16.73	7.15
02/06/2023	4.00	2.95		4.58	4.00	3.42	5.60	5.25	5.20	5.40	5.25	5.65	7.95	8.10	8.57	9.30		16.52	7.10
02/13/2023	3.83	2.95		4.60	4.00	3.48	5.62	5.35	5.25	5.40	5.17	5.67	7.95	8.10	8.65	9.30		16.27	6.92
02/20/2023	3.75	3.02		4.60	4.00	3.50	5.65	5.40	5.30	5.40	5.15	5.70	7.95	8.10	8.65	9.30		16.15	6.80
02/27/2023	3.75	3.05		4.60	4.00	3.65		5.40	5.30	5.40	5.15		7.95	8.10	8.65	9.30		16.02	6.45
03/06/2023	3.75	3.15		4.65	3.92	3.65		5.40	5.30	5.40	5.15		7.95	7.95	8.70			15.82	6.28
03/13/2023	3.75	3.15		4.67	3.90	3.65		5.40		5.40	5.15			7.95	8.75			15.75	6.08
03/20/2023	3.67	3.15		4.70	3.83	3.65		5.40		5.40	5.15			7.95	8.75			15.20	5.95
03/27/2023	3.62	3.15		4.70	3.80	3.65				5.40	5.10			7.95	8.75			14.25	5.80
04/03/2023	3.60			4.70	3.50					5.40	5.10			7.95	8.75			12.62	5.58
04/10/2023	3.60				3.35					5.40	5.00			7.95	8.75			12.00	5.50
04/17/2023	3.45										4.92				8.65			12.00	4.90
04/24/2023	3.42										4.85	5.80			8.50			11.68	4.72
05/01/2023	3.40		4.00	4.10	3.20		5.95	4.70			4.80	5.80			8.40		12.45	11.12	4.65
05/08/2023		2.90	3.98	4.05	3.15	3.80	5.85	4.70	4.60		4.80	5.80	7.10	8.68	8.05		12.82	10.62	4.65
05/15/2023		2.90	3.92	4.00	3.15	3.80	5.85	4.70	4.60	5.10	4.75	5.88	7.20	8.80	7.95		13.43	10.20	4.65
05/22/2023		2.90	3.92	4.00	3.17	3.85	5.85	4.75	4.60	5.10	4.78	5.97	7.20	8.88	7.95		13.75	9.97	4.65
05/29/2023		2.90	3.95	4.00	3.20	3.88	5.85	4.75	4.62	5.10	4.85	6.12	7.20	9.00	8.07	6.90	14.03	9.80	4.85
06/05/2023	3.20	2.95	4.08	4.08	3.20	3.90	5.85	4.75	4.65	5.10	4.90	6.30	7.25	9.10	8.18	6.95	14.50	9.10	4.85
06/12/2023	3.20	3.00	4.15	4.15	3.20	3.92	5.85	4.75	4.65	5.10	4.90	6.55	7.40	9.10	8.28	7.38	15.05	8.25	4.97
06/19/2023	3.20	3.00	4.17	4.22	3.20	4.00	5.85	4.75	4.70	5.10	4.90	6.60	7.50	9.10	8.32	8.00	15.47	7.97	5.05
06/26/2023	3.20	3.00	4.30	4.30	3.20	4.30	5.85	4.75	4.75	5.15	4.92	6.60	7.60	9.10	8.35	8.45	15.95	7.95	5.05
07/03/2023	3.25	3.02	4.30	4.30	3.20	4.38	5.85	4.75	4.80	5.20	4.95	6.60	7.65	9.10	8.40	8.97	16.15	7.95	5.10
07/10/2023	3.25	3.10	4.30	4.30	3.20	4.47	5.85	4.75	4.83	5.20	4.95	6.60	7.75	9.10	8.40	9.20	16.25	7.70	5.28

Appendix F	UB Crab, Snow, Newfoundland, Cluster, 5-8 oz US\$ lb *																		
Period	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
07/17/2023	3.25	3.12	4.50	4.30	3.10	4.55	5.85	4.70	4.90	5.20	4.95	6.62	8.00	9.10	8.40	9.25	16.30	7.33	5.40
07/24/2023	3.25	3.20	4.58	4.30	3.10	4.67	5.85	4.70	5.00	5.25	4.95	6.80	8.10	9.05	8.40	9.25	16.35	7.15	5.40
07/31/2023	3.25	3.20	4.60	4.30	3.10	4.83	5.80	4.65	5.15	5.25	4.95	6.85	8.10	8.95	8.40	9.25	16.40	7.05	5.67
08/07/2023	3.25	3.33	4.60	4.30	3.10	5.00	5.80	4.65	5.15	5.25	4.92	6.85	8.10	8.90	8.40	9.25	16.40	7.05	5.75
08/14/2023	3.25	3.40	4.62	4.30	3.10	5.05	5.80	4.65	5.15	5.25	4.90	6.85	8.10	8.75	8.45	9.25	16.40	7.05	5.75
08/21/2023	3.25	3.42	4.65	4.30	3.10	5.05	5.80	4.65	5.15	5.25	4.90	6.85	8.10	8.75	8.45	9.28	16.40	7.05	5.75
08/28/2023	3.27	3.48	4.65	4.28	3.10	5.05	5.75	4.65	5.17	5.25	4.90	6.88	8.10	8.75	8.45	9.35	16.40	7.08	5.75
09/04/2023	3.30	3.50	4.65	4.25	3.10	5.10	5.75	4.67	5.20	5.25	4.90	6.95	8.10	8.75	8.50	9.45	16.40	7.12	5.75
09/11/2023	3.35	3.50	4.65	4.25	3.10	5.10	5.75	4.75	5.20	5.25	4.90	7.08	8.10	8.75	8.50	9.55	16.40	7.17	5.75
09/18/2023	3.35	3.55	4.65	4.22	3.10	5.10	5.75	4.75	5.20	5.25	4.90	7.22	8.10	8.75	8.60	9.65	16.40	7.28	5.75
09/25/2023	3.35	3.55	4.65	4.20	3.10	5.20	5.75	4.78	5.20	5.25	4.90	7.35	8.10	8.75	8.65	9.65	16.40	7.55	5.75
10/02/2023	3.35	3.55	4.65	4.20	3.10	5.25	5.75	4.85	5.20	5.25	4.92	7.40	8.10	8.75	8.68	9.65	16.40	7.80	
10/09/2023	3.35	3.55	4.65	4.17	3.10	5.30	5.75	4.92	5.20	5.25	4.95	7.45	8.10	8.75	8.78	9.65	16.43	7.85	
10/16/2023	3.27	3.55	4.65	4.12	3.10	5.30	5.72	4.95	5.20	5.25	4.95	7.60	8.10	8.75	8.85	9.72	16.68	7.85	
10/23/2023	3.25	3.60	4.65	4.10	3.10	5.40	5.65	5.00	5.20	5.25	5.00	7.72	8.10	8.75	8.85	9.85	16.75	7.88	
10/30/2023	3.25	3.65	4.65	4.10	3.12	5.50	5.60	5.00	5.20	5.25	5.05	7.85	8.10	8.75	8.85	9.90	16.77	7.90	
11/06/2023	3.25	3.67	4.65	4.10	3.17	5.50	5.60	5.05	5.20	5.25	5.05	7.95	8.10	8.75	8.88	9.90	16.80	7.90	
11/13/2023	3.25	3.77	4.65	4.05	3.20	5.50	5.55	5.05	5.25	5.25	5.05	7.95	8.10	8.75	9.00	9.90	16.80	7.90	
11/20/2023	3.20	3.90	4.65	4.00	3.25	5.50	5.45	5.05	5.25	5.25	5.10	7.95	8.10	8.75	9.00	9.90	16.80	7.90	
11/27/2023	3.20	3.98	4.65	4.00	3.25	5.50	5.38	5.05	5.25	5.25	5.10	7.95	8.10	8.75	9.00	9.90	16.80	7.90	
12/04/2023	3.20	4.00	4.60	3.95	3.25	5.50	5.28	5.05	5.25	5.25	5.15	7.95	8.10	8.75	9.05	9.90	16.80	7.90	
12/11/2023	3.05	4.08	4.55	3.90	3.30	5.50	5.10	5.05	5.25	5.25	5.20	7.95	8.10	8.75	9.15	9.90	16.80	7.80	
12/18/2023	3.00	4.15	4.55	3.90	3.30	5.50	5.08	5.00	5.25	5.25	5.20	7.95	8.10	8.75	9.25	9.90	16.80	7.70	
12/25/2023	3.00	4.17	4.55	3.90	3.35	5.50	5.05	4.95	5.25	5.25	5.20	7.95	8.10	8.75	9.25	9.90	16.80	7.62	
53rd Week				3.90						5.25						9.90			

* when a range of price is quoted the low is used, as reported and averaged for each week by DFFA

Appendix G

NAFO	Area	Description	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
2HJ	2HJ	2HJ Communal	0	0	0	0	0	0	0	0	100	100	100	
	2J	2J North of 54o 40' N	450	450	490	450	270	216	216	238	362	362	362	
	2J Inshore	2J South Inshore	525	525	525	315	315	252	180	200	359	359	325	
	2J Offshore	2J South Offshore (full time, supps)	2,430	2,365	2,360	1,420	1,195	957	1,029	1,132	1,645	1,645	1,440	
	Total 2HJ	Total	3,411	3,340	3,381	2,185	1,780	1,425	1,425	1,570	2,466	2,466	2,227	
3K	3A	Canada Bay	265	265	295	350	350	350	350	350	385	425	425	
	3B	White Bay	435	435	200	375	460	560	520	520	500	500	520	
	3C	Green Bay	600	450	600	750	780	750	700	650	700	740	700	
	3BC	Fogo/Twillingate	6375	6,375	400	250	290	230	150	200	300	300	250	
	3D	Inshore 3K	975	1,325	1,850	1,700	1,530	1,225	915	1,100	1,570	1,730	1,500	
	4	Nearshore/Offshore 3K	4845	4,845	12,035	12,185	12,185	9,745	7,795	8,930	11,620	12,780	11,045	
	Total 3K		13,495	13,695	15,375	15,605	15,595	12,860	10,430	11,750	15,075	16,475	14,440	
3L Inshore	5A	Bonavista Bay	985	1,105	1,200	1,200	1,200	1,200	1,200	1,200	1,598	1,598	1,637	
	6A	Trinity Bay	860	960	1,095	1,195	1,095	1,095	1,095	1,095	1,208	1,026	1,230	
	6B	Conception Bay	1,055	1,305	1,450	1,450	1,100	1,100	1,100	1,100	1,282	1,282	1,320	
	6C	Eastern Avalon (inside 25)	1,060	1,325	1,600	1,660	1,560	1,445	1,445	1,445	1,463	1,563	1,576	
	8A	Southern Shore (inside 25)	510	690	830	860	860	755	755	755	905	1,046	1,060	
	9A	St. Mary's Bay	195	230	365	400	430	450	500	510	577	626	626	
	Total 3L Inshore		4,670	5,615	6,540	6,775	6,255	6,045	6,095	6,105	7,033	7,141	7,449	
	8B	Southern Avalon (offshore)	1,110	1,110	1,110	680	680	680	680	680	680	680	650	
	8Bx	Southern Avalon	0	0	1,005	1,435	1,005	1,005	1,005	1,005	2,291	2,620	2,775	
	8Bx North	Northern portion of Southern Avalon	0	0	0	0	0	0	0	0	0	0	0	
8Bx South	Southern portion of Southern Avalon	0	0	0	0	0	0	0	0	0	0	0		
3LNO Offshore	NS	Near Shore	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,690	
	MS	Midshore	4,335	4,335	4,655	4,655	5,088	5,088	5,088	5,088	5,132	4,100	4,883	
	MS/EX	Mid-shore extended	2,635	2,635	2,635	3,125	3,125	3,125	3,125	3,125	3,125	2,500	3,288	
	3L EX	Between 170 and 200 miles	1,785	1,785	2,325	2,695	2,695	2,695	2,695	2,695	2,695	2,170	2,822	
	3L 200	3L Fulltime	2,675	2,675	2,675	2,940	2,940	2,940	1,550	1,550	2,476	2,476	1,307	
	3N 200	3L Supplementary (>40 grt)	1,650	1,650	1,650	1,815	1,815	1,815	3,205	3,205	0	0	2,700	
	3NO 200	Fixed gear vessels >65' and Offshore Coop	775	775	775	855	855	855	855	855	2,249	1,795	720	
	Total 3LNO Offshore		20,465	20,465	22,335	23,705	23,705	23,705	23,705	23,705	24,148	21,841	24,835	
	3Ps	10A	Placentia Bay north of 46o30'N	2,400	2,400	2,400	2,040	1,630	1,300	975	975	1,128	1,500	1,900
		10BCD	CFA 10 from 46o30'N to 45o35'N	3,700	3,700	3,700	3,145	2,515	2,550	1,885	2,070	2,545	2,900	3,300
11SX		CFA 11 S of 46'30"	700	700	700	420	250	250	185	200	685	880	590	
11E		East of Western Head	900	800	800	480	0	0	0	0	0	0	285	
11W		West of Western Hare Bay	0	0	0	0	0	0	0	0	0	0	130	
Total 3Ps			7,700	7,600	7,600	6,085	4,395	4,100	3,045	3,245	4,358	5,280	6,205	
4R 3Pn	South of Table Pt, 3Pn (outside 8)	South of Table Pt, 3Pn (outside 8)	747	808	845	895	838	845	675	540	540	418	418	
	Bay of Islands	Bay of Islands	80	80	80	80	80	80	80	80	80	64	64	
	Bay St. George	Bay St. George	40	40	35	30	30	30	25	20	20	15	15	
	12A	Lapointe Bay	15	26	28	28	28	28	-	-	-	8	8	
	12B	Cape Ray to Johnson's Cove	20	20	20	25	32	29	25	20	20	18	18	
	12C	Johnson's Cove to Cp St. George	180	185	248	280	287	280	225	175	175	143	143	
	12D	Cape St. George to Bear Head	70	85	115	130	146	136	110	80	80	76	76	
	12E	Bear Head to Cape St. Gregory	60	60	67	91	70	91	90	90	90	56	56	
	12F	Inner Bay of Islands	10	30	30	45	68	45	45	45	45	54	54	
	12G	Cape St. Gregory to Broom Point	140	140	154	171	172	171	170	170	120	0	0	
	12H	Broom Point to Table Point	68	80	111	110	113	110	90	70	70	56	56	
	Total 4R3Pn	Total	1,430	1,554	1,749	1,895	1,864	1,845	1,535	1,290	1,240	908	908	
GRAND TOTAL			51,169	52,267	56,981	56,249	53,590	49,978	46,233	47,663	54,320	54,111	56,064	

NAFO	Area	Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
2HJ	2HJ	2HJ Communal	70	0	0	0	0	100	100	100	100	100	100	100	100
	2J North	2J North of 54o 40' N	362	367	310	310	310	310	310	310	310	264	198	109	109
	2J Inshore	2J South Inshore	325	290	290	290	0	290	290	290	290	247	792	594	594
	2J Offshore	2J South Offshore (full time, supps)	1,440	1,295	1,165	1,165	1,455	1,165	1,165	1,165	1,165	990	197	148	148
	Total 2HJ	Total	2,197	1,952	1,765	1,765	1,865	1,865	1,865	1,865	1,865	1,600	1,287	951	951
3K	3A	Canada Bay	361	330	330	365	365	292	292	292	292	292	321	385	405
	3B	White Bay	460	460	460	500	525	473	378	378	302	332	365	391	411
	3C	Green Bay	680	560	495	470	423	338	338	404	406	447	500	550	589
	3BC	Fogo/Twillingate	1,300	1,100	968	972	207	166	166	166	770	847	974	1,169	1,403
	3D	Inshore 3K	232	196	196	230	875	700	700	770	166	183	205	221	236
	4	Nearshore/Offshore 3K	9,020	6,792	6,000	5,443	4,899	3,920	3,920	3,920	3,920	4,312	5,088	7,123	8,548
	Total 3K		12,053	9,438	8,449	7,980	7,294	5,889	5,794	5,932	5,856	6,412	7,454	9,840	11,591
3L Inshore	5A	Bonavista Bay	1,310	1,310	1,390	1,390	1,390	1,112	945	662	596	685	891	980	1,097
	6A	Trinity Bay	1,230	1,230	1,290	1,360	1,496	1,496	1,197	957	861	947	1,089	1,089	1,097
	6B	Conception Bay	1,320	1,400	1,550	1,740	2,000	2,000	1,500	1,050	525	446	576	720	828
	6C	Eastern Avalon (inside 25)	1,576	1,599	1,599	1,740	1,861	1,809	1,357	950	475	380	475	594	950
	8A	Southern Shore (inside 25)	1,060	1,197	1,197	1,230	1,082	866	736	515	309	309	417	563	1,014
	9A	St. Mary's Bay	626	683	683	710	745	596	477	284	200	200	250	313	531
	Total 3L Inshore		7,122	7,418	7,708	8,170	8,574	7,879	6,211	4,420	2,966	2,966	3,698	4,258	5,308
	8B	Southern Avalon (offshore)	650	650	650	800	800	800	640	448	403	484	629	786	786
	8Bx	Southern Avalon	2,775	2,775	2,326	2,326	191	134	80	56	45	68	88	110	110
	8Bx North	Northern portion of Southern Avalon	0	0	0	0	631	480	288	202	141	212	360	521	521
8Bx South	Southern portion of Southern Avalon	0	0	0	0	873	664	398	279	195	293	497	622	622	
NS	Near Shore	5,975	5,975	6,422	6,422	7,156	7,156	5,367	3,757	2,818	2,818	3,804	5,326	5,326	
MS	Midshore	5,371	5,371	5,371	5,371	5,371	5,371	4,297	3,652	3,652	4,382	5,916	7,099	7,099	
MS/EX	Mid-shore extended	3,780	3,780	3,780	3,780	3,780	3,780	3,024	2,570	2,570	2,956	4,138	5,793	5,793	
3L EX	Between 170 and 200 miles	2,822	2,822	2,822	2,822	2,822	2,822	2,117	1,799	1,799	2,069	2,896	3,910	3,910	
3L 200	3L Fulltime	1,307	1,402	1,439	2,053	2,053	1,642	985	690	552	662	927	1,298	1,298	
3N 200	3L Supplementary (>40 grt)	2,700	2,890	2,965	2,527	2,527	2,022	1,011	708	496	496	496	868	868	
3NO 200	Fixed gear vessels >65'	720	825	866	920	920	736	368	258	181	181	199	348	383	
Total 3LNO Offshore		26,100	26,490	26,643	27,023	27,124	25,607	18,575	14,419	12,852	14,619	19,950	26,682	26,716	
Total 3LNO Inshore and Offshore				34,351	35,193	35,698	33,486	24,787	18,839	15,818	17,587	23,648	30,940	32,225	
3Ps	10A	Placentia Bay north of 46o30'N	2,212	2,212	2,212	2,000	1,600	1,120	560	672	1,008	1,260	2,016	3,226	3,871
	10B	CFA 10 from 46o30'N to 45o35'N	3,500	3,000	3,000	2,400	1,800	1,260	803	898	1,347	1,684	2,526	3,788	4,167
	11SX	CFA 11 south of 46o30'N (>35' fleet)	1,015	925	925	847	635	445	50	126	189	236	354	532	638
	11E	East of Western Head	0	0	280	280	224	157	79	79	79	79	119	190	190
	11W	West of Western Hare Bay	0	0	50	50	40	28	14	11	33	33	33	33	33
	Total 3Ps		6,727	6,137	6,467	5,577	4,299	3,010	1,506	1,792	2,649	3,292	5,047	7,768	8,898
4R 3Pn	South of Table Pt, 3Pn (outside 8) Group 1	South of Table Pt, 3Pn (outside 8) Group 1	38	38	38	38	38	38	38	19	10	8	8	10	10
	South of Table Pt, 3Pn (outside 8) Group 2	South of Table Pt, 3Pn (outside 8) Group 2	307	307	307	307	307	307	307	154	77	58	58	73	73
	South of Table Pt, 3Pn (outside 8) Group 3	South of Table Pt, 3Pn (outside 8) Group 3	73	73	73	73	73	73	73	37	18	14	14	18	18
	Bay of Islands	Bay of Islands	64	64	64	64	64	64	51	26	20	25	38	47	54
	Bay St. George	Bay St. George	15	23	23	23	23	23	20	10	8	10	18	26	34
	12A	Lapointe Bay	8	8	8	8	8	8	8	4	2	2	2	2	2
	12B	Cape Ray to Johnson's Cove	18	18	18	18	18	18	18	9	4	4	4	4	4
	12C	Johnson's Cove to Cp St. George	143	164	164	164	164	164	139	70	53	66	116	174	226
	12D	Cape St. George to Bear Head	76	76	76	76	76	76	76	38	19	19	19	29	40
	12E	Bear Head to Cape St. Gregory	56	56	56	56	56	56	45	22	17	21	32	40	46
	12F	Inner Bay of Islands	54	54	54	54	54	54	43	22	17	21	32	40	46
	12G	Cape St. Gregory to Broom Point	130	130	130	130	130	130	130	65	49	N/A	N/A	49	49
	12H	Broom Point to Table Point	56	56	56	56	56	56	50	25	12	12	12	12	12
Total 4R3Pn	Total	1,038	1,067	1,067	1,067	1,067	1,067	1,067	998	501	306	261	350	522	613
GRAND TOTAL			55,237	52,502	52,099	51,582	50,123	45,317	34,950	28,929	26,494	29,152	37,786	50,020	54,277

Snow Crab Landings NL	Harvest weight
Year	(Kgs)
2006	47,281,048
2007	50,207,341
2008	52,768,623
2009	53,461,305
2010	52,218,046
2011	52,950,053
2012	50,511,986
2013	50,817,330
2014	49,910,899
2015	47,314,884
2016	41,727,160
2017	33,604,718
2018	28,078,941
2019	26,856,565
2020	29,372,200
2021	38,385,531
2022	49,974,245
2023	51,633,583

Appendix H

Weekly average market prices, exchange rates, and harvester prices (2006-2023)

<u>Date Week Ended</u>	<u>Average FX CDN/US</u>	<u>Average UB 5-8 US\$/LB</u>	<u>Average UB 5-8 CDN\$/LB</u>	<u>Harvester Price/LB</u>
Saturday, May 13, 2006	1.10456	2.90	3.20	0.94
Saturday, May 20, 2006	1.11662	2.90	3.24	0.92
Saturday, May 27, 2006	1.11606	2.90	3.24	0.92
Saturday, June 3, 2006	1.100175	2.90	3.19	0.92
Saturday, June 10, 2006	1.11256	2.95	3.28	0.92
Saturday, June 17, 2006	1.11282	3.00	3.34	0.92
Saturday, June 24, 2006	1.11762	3.00	3.35	0.92
Saturday, July 1, 2006	1.11952	3.00	3.36	0.92
Saturday, July 8, 2006	1.11108	3.02	3.36	0.98
Saturday, July 15, 2006	1.13132	3.10	3.51	0.98
Saturday, July 22, 2006	1.13424	3.12	3.54	1.01
Saturday, July 29, 2006	1.13712	3.20	3.64	1.01
Saturday, August 5, 2006	1.12886	3.20	3.61	1.01
Saturday, August 12, 2006	1.12104	3.33	3.73	1.01
Saturday, May 5, 2007	1.108325	4.00	4.43	1.57
Saturday, May 12, 2007	1.10708	3.98	4.41	1.57
Saturday, May 19, 2007	1.09958	3.92	4.31	1.50
Saturday, May 26, 2007	1.08305	3.92	4.25	1.50
Saturday, June 2, 2007	1.07172	3.95	4.23	1.50
Saturday, June 9, 2007	1.06064	4.08	4.33	1.50
Saturday, June 16, 2007	1.06618	4.15	4.42	1.50
Saturday, June 23, 2007	1.0692	4.17	4.46	1.50
Saturday, June 30, 2007	1.06704	4.30	4.59	1.50
Saturday, July 7, 2007	1.0562	4.30	4.54	1.57
Saturday, July 14, 2007	1.04978	4.30	4.51	1.57
Saturday, July 21, 2007	1.0446	4.50	4.70	1.59
Saturday, July 28, 2007	1.04818	4.58	4.80	1.59
Saturday, August 4, 2007	1.06012	4.60	4.88	1.63
Saturday, August 11, 2007	1.05305	4.60	4.84	1.63
Saturday, August 18, 2007	1.06688	4.62	4.93	1.63
Saturday, August 25, 2007	1.05772	4.65	4.92	1.63
Saturday, September 1, 2007	1.05894	4.65	4.92	1.63
Saturday, April 5, 2008	1.0151	4.70	4.77	1.61
Saturday, May 3, 2008	1.01408	4.10	4.16	1.50
Saturday, May 10, 2008	1.00922	4.05	4.09	1.50
Saturday, May 17, 2008	1.00226	4.00	4.01	1.50
Saturday, May 24, 2008	0.9875	4.00	3.95	1.50

Weekly average market prices, exchange rates, and harvester prices (2006-2023)

<u>Date</u> <u>Week Ended</u>	<u>Average</u> <u>FX</u> <u>CDN/US</u>	<u>Average</u> <u>UB 5-8</u> <u>US\$/LB</u>	<u>Average</u> <u>UB 5-8</u> <u>CDN\$/LB</u>	<u>Harvester</u> <u>Price/LB</u>
Saturday, May 31, 2008	0.99146	4.00	3.97	1.50
Saturday, June 7, 2008	1.01304	4.08	4.13	1.50
Saturday, June 14, 2008	1.02328	4.15	4.25	1.50
Saturday, June 21, 2008	1.01798	4.22	4.30	1.50
Saturday, June 28, 2008	1.01234	4.30	4.35	1.50
Saturday, July 5, 2008	1.017975	4.30	4.38	1.50
Saturday, July 12, 2008	1.01352	4.30	4.36	1.50
Saturday, July 19, 2008	1.00444	4.30	4.32	1.50
Saturday, July 26, 2008	1.0106	4.30	4.35	1.50
Saturday, August 2, 2008	1.02414	4.30	4.40	1.50
Saturday, August 9, 2008	1.0525	4.30	4.53	1.50
Saturday, August 16, 2008	1.06338	4.30	4.57	1.50
Saturday, August 23, 2008	1.05582	4.30	4.54	1.50
Saturday, August 30, 2008	1.052	4.28	4.50	1.50
Saturday, April 4, 2009	1.25108	3.50	4.38	1.55
Saturday, April 11, 2009	1.2347	3.35	4.14	1.55
Saturday, May 2, 2009	1.20438	3.20	3.85	1.55
Saturday, May 9, 2009	1.16752	3.15	3.68	1.40
Saturday, May 16, 2009	1.17076	3.15	3.69	1.40
Saturday, May 23, 2009	1.13875	3.18	3.62	1.40
Saturday, May 30, 2009	1.11346	3.20	3.56	1.40
Saturday, June 6, 2009	1.09924	3.20	3.52	1.35
Saturday, June 13, 2009	1.10982	3.20	3.55	1.40
Saturday, June 20, 2009	1.13328	3.20	3.63	1.40
Saturday, June 27, 2009	1.1531	3.20	3.69	1.40
Saturday, July 4, 2009	1.160925	3.20	3.71	1.40
Saturday, July 11, 2009	1.16396	3.20	3.72	1.40
Saturday, July 18, 2009	1.12708	3.10	3.49	1.40
Saturday, July 25, 2009	1.09636	3.10	3.40	1.35
Saturday, August 1, 2009	1.08332	3.10	3.36	1.35
Saturday, August 8, 2009	1.0759	3.10	3.34	1.35
Saturday, August 15, 2009	1.09348	3.10	3.39	1.35
Saturday, August 22, 2009	1.09476	3.10	3.39	1.35
Saturday, August 29, 2009	1.08762	3.10	3.37	1.35
Saturday, May 8, 2010	1.03228	3.80	3.92	1.35
Saturday, May 15, 2010	1.02362	3.80	3.89	1.35
Saturday, May 22, 2010	1.0484	3.85	4.04	1.35

Weekly average market prices, exchange rates, and harvester prices (2006-2023)

Date Week Ended	Average FX CDN/US	Average UB 5-8 US\$/LB	Average UB 5-8 CDN\$/LB	Harvester Price/LB
Saturday, May 29, 2010	1.06015	3.88	4.11	1.35
Saturday, June 5, 2010	1.04756	3.90	4.09	1.35
Saturday, June 12, 2010	1.0436	3.93	4.10	1.35
Saturday, June 19, 2010	1.02624	4.00	4.10	1.35
Saturday, June 26, 2010	1.0343	4.30	4.45	1.35
Saturday, July 3, 2010	1.054525	4.38	4.62	1.35
Saturday, July 10, 2010	1.04924	4.48	4.70	1.35
Saturday, July 17, 2010	1.03974	4.55	4.73	1.35
Saturday, July 24, 2010	1.04456	4.68	4.89	1.35
Saturday, July 31, 2010	1.03432	4.83	5.00	1.35
Saturday, August 7, 2010	1.0215	5.00	5.11	1.35
Saturday, August 14, 2010	1.03772	5.05	5.24	1.35
Saturday, August 21, 2010	1.03884	5.05	5.25	1.35
Saturday, August 28, 2010	1.0565	5.05	5.34	1.35
Saturday, April 30, 2011	0.95084	5.95	5.66	2.15
Saturday, May 7, 2011	0.95942	5.85	5.61	2.15
Saturday, May 14, 2011	0.96268	5.85	5.63	2.15
Saturday, May 21, 2011	0.97172	5.85	5.68	2.15
Saturday, May 28, 2011	0.9775	5.85	5.72	2.15
Saturday, June 4, 2011	0.97506	5.85	5.70	2.15
Saturday, June 11, 2011	0.97748	5.85	5.72	2.15
Saturday, June 18, 2011	0.97762	5.85	5.72	2.15
Saturday, June 25, 2011	0.97814	5.85	5.72	2.15
Saturday, July 2, 2011	0.976125	5.85	5.71	2.15
Saturday, July 9, 2011	0.9618	5.85	5.63	2.15
Saturday, July 16, 2011	0.96204	5.85	5.63	2.15
Saturday, July 23, 2011	0.95032	5.85	5.56	2.15
Saturday, July 30, 2011	0.94892	5.80	5.50	2.15
Saturday, August 6, 2011	0.9701	5.80	5.63	2.15
Saturday, August 13, 2011	0.98872	5.80	5.73	2.15
Saturday, August 20, 2011	0.98374	5.80	5.71	2.15
Saturday, August 27, 2011	0.9869	5.75	5.67	2.15
Saturday, September 3, 2011	0.97888	5.75	5.63	2.15
Saturday, May 5, 2012	0.98892	4.70	4.65	1.95
Saturday, May 12, 2012	0.99896	4.70	4.70	1.95
Saturday, May 19, 2012	1.01246	4.70	4.76	1.95
Saturday, May 26, 2012	1.02565	4.75	4.87	1.95

Weekly average market prices, exchange rates, and harvester prices (2006-2023)

<u>Date Week Ended</u>	<u>Average FX CDN/US</u>	<u>Average UB 5-8 US\$/LB</u>	<u>Average UB 5-8 CDN\$/LB</u>	<u>Harvester Price/LB</u>
Saturday, June 2, 2012	1.02964	4.75	4.89	1.95
Saturday, June 9, 2012	1.0321	4.75	4.90	1.95
Saturday, June 16, 2012	1.02662	4.75	4.88	1.95
Saturday, June 23, 2012	1.02308	4.75	4.86	1.95
Saturday, June 30, 2012	1.02592	4.75	4.87	1.95
Saturday, July 7, 2012	1.014675	4.75	4.82	1.95
Saturday, July 14, 2012	1.019	4.75	4.84	1.95
Saturday, July 21, 2012	1.0117	4.70	4.75	1.95
Saturday, July 28, 2012	1.01328	4.70	4.76	1.95
Saturday, August 4, 2012	1.0038	4.65	4.67	1.95
Saturday, August 11, 2012	0.993775	4.65	4.62	1.95
Saturday, August 18, 2012	0.98984	4.65	4.60	1.95
Saturday, August 25, 2012	0.99094	4.65	4.61	1.95
Saturday, September 1, 2012	0.98922	4.65	4.60	1.95
Saturday, May 11, 2013	1.00664	4.60	4.63	1.83
Saturday, May 18, 2013	1.0187	4.60	4.69	1.83
Saturday, May 25, 2013	1.031375	4.60	4.74	1.83
Saturday, June 1, 2013	1.03504	4.63	4.79	1.83
Saturday, June 8, 2013	1.02852	4.65	4.78	1.83
Saturday, June 15, 2013	1.01852	4.65	4.74	1.83
Saturday, June 22, 2013	1.02978	4.70	4.84	1.83
Saturday, June 29, 2013	1.04934	4.75	4.98	1.83
Saturday, July 6, 2013	1.053675	4.80	5.06	1.83
Saturday, July 13, 2013	1.0477	4.83	5.06	1.83
Saturday, July 20, 2013	1.03876	4.90	5.09	1.83
Saturday, July 27, 2013	1.02964	5.00	5.15	1.83
Saturday, August 3, 2013	1.03144	5.15	5.31	1.83
Saturday, August 10, 2013	1.035425	5.15	5.33	1.83
Saturday, August 17, 2013	1.03234	5.15	5.32	1.83
Saturday, August 24, 2013	1.04442	5.15	5.38	1.83
Saturday, August 31, 2013	1.05044	5.18	5.44	1.83
Saturday, April 5, 2014	1.10284	5.40	5.96	2.30
Saturday, May 10, 2014	1.08888	5.10	5.55	2.30
Saturday, May 17, 2014	1.08846	5.10	5.55	2.30
Saturday, May 24, 2014	1.089425	5.10	5.56	2.30
Saturday, May 31, 2014	1.08548	5.10	5.54	2.30
Saturday, June 7, 2014	1.09212	5.10	5.57	2.30

Weekly average market prices, exchange rates, and harvester prices (2006-2023)

<u>Date</u> <u>Week Ended</u>	<u>Average</u> <u>FX</u> <u>CDN/US</u>	<u>Average</u> <u>UB 5-8</u> <u>US\$/LB</u>	<u>Average</u> <u>UB 5-8</u> <u>CDN\$/LB</u>	<u>Harvester</u> <u>Price/LB</u>
Saturday, June 14, 2014	1.0878	5.10	5.55	2.30
Saturday, June 21, 2014	1.0826	5.15	5.58	2.30
Saturday, June 28, 2014	1.07092	5.20	5.57	2.30
Saturday, July 5, 2014	1.065825	5.20	5.54	2.30
Saturday, July 12, 2014	1.0679	5.20	5.55	2.30
Saturday, July 19, 2014	1.07426	5.25	5.64	2.30
Saturday, July 26, 2014	1.07508	5.25	5.64	2.30
Saturday, August 2, 2014	1.0878	5.25	5.71	2.30
Saturday, August 9, 2014	1.094125	5.25	5.74	2.30
Saturday, August 16, 2014	1.091	5.25	5.73	2.30
Saturday, August 23, 2014	1.0938	5.25	5.74	2.30
Saturday, August 30, 2014	1.09016	5.25	5.72	2.30
Saturday, April 4, 2015	1.263725	5.10	6.44	2.33
Saturday, April 11, 2015	1.25384	5.00	6.27	2.33
Saturday, April 18, 2015	1.23582	4.93	6.09	2.33
Saturday, April 25, 2015	1.2211	4.85	5.92	2.33
Saturday, May 2, 2015	1.2075	4.80	5.80	2.33
Saturday, May 9, 2015	1.20828	4.80	5.80	2.33
Saturday, May 16, 2015	1.20232	4.75	5.71	2.45
Saturday, May 23, 2015	1.223425	4.78	5.85	2.45
Saturday, May 30, 2015	1.24142	4.85	6.02	2.45
Saturday, June 6, 2015	1.24678	4.90	6.11	2.45
Saturday, June 13, 2015	1.23184	4.90	6.04	2.45
Saturday, June 20, 2015	1.22716	4.90	6.01	2.45
Saturday, June 27, 2015	1.23394	4.93	6.08	2.45
Saturday, July 4, 2015	1.249675	4.95	6.19	2.45
Saturday, July 11, 2015	1.2698	4.95	6.29	2.45
Saturday, July 18, 2015	1.28714	4.95	6.37	2.45
Saturday, July 25, 2015	1.30112	4.95	6.44	2.45
Saturday, August 1, 2015	1.30012	4.95	6.44	2.45
Saturday, August 8, 2015	1.315225	4.93	6.48	2.45
Saturday, August 15, 2015	1.30468	4.90	6.39	2.45
Saturday, August 22, 2015	1.31002	4.90	6.42	2.45
Saturday, August 29, 2015	1.32726	4.90	6.50	2.45
Saturday, April 23, 2016	1.2701	5.80	7.37	3.00
Saturday, April 30, 2016	1.26046	5.80	7.31	2.93
Saturday, May 7, 2016	1.27812	5.80	7.41	2.93

Weekly average market prices, exchange rates, and harvester prices (2006-2023)

<u>Date Week Ended</u>	<u>Average FX CDN/US</u>	<u>Average UB 5-8 US\$/LB</u>	<u>Average UB 5-8 CDN\$/LB</u>	<u>Harvester Price/LB</u>
Saturday, May 14, 2016	1.28998	5.88	7.59	2.93
Saturday, May 21, 2016	1.30102	5.98	7.78	3.00
Saturday, May 28, 2016	1.3044	6.13	8.00	3.00
Saturday, June 4, 2016	1.30552	6.30	8.22	3.00
Saturday, June 11, 2016	1.27488	6.55	8.35	3.00
Saturday, June 18, 2016	1.2885	6.60	8.50	2.93
Saturday, June 25, 2016	1.2846	6.60	8.48	3.00
Saturday, July 2, 2016	1.3	6.60	8.58	3.00
Saturday, July 9, 2016	1.29748	6.60	8.56	3.00
Saturday, July 16, 2016	1.29944	6.63	8.62	3.00
Saturday, July 23, 2016	1.30504	6.80	8.87	3.00
Saturday, July 30, 2016	1.31634	6.85	9.02	3.00
Saturday, August 6, 2016	1.308975	6.85	8.97	3.00
Saturday, August 13, 2016	1.30584	6.85	8.95	3.00
Saturday, August 20, 2016	1.285	6.85	8.80	3.00
Saturday, August 27, 2016	1.29432	6.88	8.90	3.00
Saturday, September 3, 2016	1.3062	6.95	9.08	3.00
Saturday, May 13, 2017	1.37052	7.10	9.73	4.46
Saturday, May 20, 2017	1.36012	7.20	9.79	4.46
Saturday, May 27, 2017	1.346475	7.20	9.69	4.46
Saturday, June 3, 2017	1.34838	7.20	9.71	4.39
Saturday, June 10, 2017	1.34784	7.25	9.77	4.39
Saturday, June 17, 2017	1.32754	7.40	9.82	4.39
Saturday, June 24, 2017	1.32612	7.50	9.95	4.39
Saturday, July 1, 2017	1.30956	7.60	9.95	4.39
Saturday, July 8, 2017	1.2939	7.65	9.90	4.39
Saturday, July 15, 2017	1.28034	7.75	9.92	4.32
Saturday, July 22, 2017	1.26052	8.00	10.08	4.25
Saturday, July 29, 2017	1.24982	8.10	10.12	4.25
Saturday, August 5, 2017	1.2555	8.10	10.17	4.18
Saturday, August 12, 2017	1.269325	8.10	10.28	4.18
Saturday, August 19, 2017	1.26784	8.10	10.27	4.18
Saturday, August 26, 2017	1.25424	8.10	10.16	4.18
Saturday, September 2, 2017	1.25056	8.10	10.13	4.18
Saturday, September 9, 2017	1.222875	8.10	9.91	4.18
Saturday, September 16, 2017	1.21708	8.10	9.86	4.18
Saturday, September 23, 2017	1.22888	8.10	9.95	4.18

Weekly average market prices, exchange rates, and harvester prices (2006-2023)

Date Week Ended	Average FX CDN/US	Average UB 5-8 US\$/LB	Average UB 5-8 CDN\$/LB	Harvester Price/LB
Saturday, September 30, 2017	1.24106	8.10	10.05	4.18
Saturday, April 7, 2018	1.28138	7.95	10.19	4.55
Saturday, April 14, 2018	1.26248	7.95	10.04	4.55
Saturday, May 12, 2018	1.28474	8.68	11.15	4.55
Saturday, May 19, 2018	1.2808	8.80	11.27	4.90
Saturday, May 26, 2018	1.288175	8.88	11.44	4.90
Saturday, June 2, 2018	1.2966	9.00	11.67	4.90
Saturday, June 9, 2018	1.29536	9.10	11.79	4.90
Saturday, June 16, 2018	1.30428	9.10	11.87	4.90
Saturday, June 23, 2018	1.32806	9.10	12.09	4.90
Saturday, June 30, 2018	1.32702	9.10	12.08	4.97
Saturday, July 7, 2018	1.313275	9.10	11.95	4.90
Saturday, July 14, 2018	1.3142	9.10	11.96	4.90
Saturday, July 21, 2018	1.3185	9.10	12.00	4.90
Saturday, July 28, 2018	1.31056	9.05	11.86	4.90
Saturday, August 4, 2018	1.3004	8.95	11.64	4.90
Saturday, August 11, 2018	1.3057	8.90	11.62	4.90
Saturday, August 18, 2018	1.31145	8.75	11.48	4.90
Saturday, August 25, 2018	1.303775	8.75	11.41	4.90
Saturday, September 1, 2018	1.297075	8.75	11.35	4.90
Saturday, September 8, 2018	1.317975	8.75	11.53	4.90
Saturday, September 15, 2018	1.304625	8.75	11.42	4.90
Saturday, September 22, 2018	1.294	8.75	11.32	4.90
Saturday, September 29, 2018	1.297825	8.75	11.36	4.90
Saturday, April 6, 2019	1.33496	8.75	11.68	5.38
Saturday, April 13, 2019	1.33348	8.75	11.67	5.38
Saturday, April 20, 2019	1.335725	8.65	11.55	5.38
Saturday, April 27, 2019	1.34404	8.50	11.42	5.38
Saturday, May 4, 2019	1.34372	8.40	11.29	5.38
Saturday, May 11, 2019	1.34598	8.05	10.84	5.38
Saturday, May 18, 2019	1.345675	7.95	10.70	5.38
Saturday, May 25, 2019	1.3437	7.95	10.68	4.90
Saturday, June 1, 2019	1.350475	8.07	10.90	4.90
Saturday, June 8, 2019	1.3369	8.18	10.94	4.90
Saturday, June 15, 2019	1.33225	8.28	11.03	5.07
Saturday, June 22, 2019	1.3285	8.32	11.05	5.07
Saturday, June 29, 2019	1.31255	8.35	10.96	5.07

Weekly average market prices, exchange rates, and harvester prices (2006-2023)

Date Week Ended	Average FX CDN/US	Average UB 5-8 US\$/LB	Average UB 5-8 CDN\$/LB	Harvester Price/LB
Saturday, July 6, 2019	1.308625	8.40	10.99	5.07
Saturday, July 13, 2019	1.3082	8.40	10.99	5.07
Saturday, July 20, 2019	1.306125	8.40	10.97	5.07
Saturday, July 27, 2019	1.315175	8.40	11.05	5.07
Saturday, August 3, 2019	1.31895	8.40	11.08	5.07
Saturday, August 10, 2019	1.326325	8.40	11.14	5.07
Saturday, August 17, 2019	1.32895	8.45	11.23	5.07
Saturday, August 24, 2019	1.3301	8.45	11.24	5.07
Saturday, August 31, 2019	1.328975	8.45	11.23	5.07
Saturday, September 7, 2019	1.3252	8.50	11.26	5.07
Saturday, September 14, 2019	1.3199	8.50	11.22	5.07
Saturday, September 21, 2019	1.32655	8.60	11.41	5.07
Saturday, September 28, 2019	1.3257	8.65	11.47	5.07
Saturday, May 30, 2020	1.38238	6.90	9.54	3.50
Saturday, June 6, 2020	1.35172	6.95	9.39	3.50
Saturday, June 13, 2020	1.3469	7.38	9.94	3.43
Saturday, June 20, 2020	1.35786	8.00	10.86	3.36
Saturday, June 27, 2020	1.35946	8.45	11.49	3.43
Saturday, July 4, 2020	1.361525	8.97	12.21	3.43
Saturday, July 11, 2020	1.35626	9.20	12.48	3.43
Saturday, July 18, 2020	1.35668	9.25	12.55	3.43
Saturday, July 25, 2020	1.34444	9.25	12.44	3.43
Saturday, August 1, 2020	1.33894	9.25	12.39	3.43
Saturday, August 8, 2020	1.332575	9.25	12.33	3.43
Saturday, August 15, 2020	1.32732	9.25	12.28	3.43
Saturday, August 22, 2020	1.31896	9.28	12.24	3.43
Saturday, May 1, 2021	1.23498	12.45	15.38	7.60
Saturday, May 8, 2021	1.22444	12.82	15.70	7.60
Saturday, May 15, 2021	1.21092	13.43	16.26	7.53
Saturday, May 22, 2021	1.20726	13.75	16.60	7.53
Saturday, May 29, 2021	1.20815	14.03	16.95	7.46
Saturday, June 5, 2021	1.20702	14.50	17.50	7.46
Saturday, June 12, 2021	1.21014	15.05	18.21	7.46
Saturday, June 19, 2021	1.22562	15.47	18.96	7.53
Saturday, June 26, 2021	1.2326	15.95	19.66	7.53
Saturday, July 3, 2021	1.23665	16.15	19.97	7.53
Saturday, July 10, 2021	1.24816	16.25	20.28	7.53

Weekly average market prices, exchange rates, and harvester prices (2006-2023)

<u>Date Week Ended</u>	<u>Average FX CDN/US</u>	<u>Average UB 5-8 US\$/LB</u>	<u>Average UB 5-8 CDN\$/LB</u>	<u>Harvester Price/LB</u>
Saturday, July 17, 2021	1.2587	16.30	20.52	7.60
Saturday, July 24, 2021	1.2602	16.35	20.60	7.60
Saturday, July 31, 2021	1.2514	16.40	20.52	7.60
Saturday, August 7, 2021	1.25202	16.40	20.53	7.60
Saturday, April 2, 2022	1.25056	12.62	15.78	7.60
Saturday, April 9, 2022	1.25246	12.00	15.03	7.60
Saturday, April 16, 2022	1.26115	12.00	15.13	7.60
Saturday, April 23, 2022	1.2595	11.68	14.71	7.60
Saturday, April 30, 2022	1.28008	11.12	14.23	7.60
Saturday, May 7, 2022	1.28512	10.62	13.65	7.67
Saturday, May 14, 2022	1.29876	10.20	13.25	7.67
Saturday, May 21, 2022	1.28402	9.97	12.80	6.22
Saturday, May 28, 2022	1.279825	9.80	12.54	6.22
Saturday, June 4, 2022	1.2625	9.10	11.49	6.22
Saturday, June 11, 2022	1.2616	8.25	10.41	6.15
Saturday, June 18, 2022	1.2942	7.97	10.31	6.15
Saturday, June 25, 2022	1.2956	7.95	10.30	6.22
Saturday, July 2, 2022	1.287875	7.95	10.24	6.22
Saturday, July 9, 2022	1.29812	7.70	10.00	6.22
Saturday, July 16, 2022	1.30334	7.33	9.55	6.22
Saturday, July 23, 2022	1.29014	7.15	9.22	6.22
Saturday, July 30, 2022	1.28532	7.05	9.06	6.22
Saturday, April 8, 2023	1.3455	5.58	7.51	2.20
Saturday, April 15, 2023	1.34356	5.50	7.39	2.20
Saturday, April 22, 2023	1.34476	4.90	6.59	2.20
Saturday, April 29, 2023	1.3596	4.72	6.42	2.20
Saturday, May 6, 2023	1.35546	4.65	6.30	2.20
Saturday, May 13, 2023	1.3426	4.65	6.24	2.20
Saturday, May 20, 2023	1.34818	4.65	6.27	2.20
Saturday, May 27, 2023	1.358425	4.65	6.32	2.20
Saturday, June 3, 2023	1.35422	4.85	6.57	2.20
Saturday, June 10, 2023	1.33856	4.85	6.49	2.25
Saturday, June 17, 2023	1.32846	4.97	6.60	2.25
Saturday, June 24, 2023	1.31978	5.05	6.66	2.30
Saturday, July 1, 2023	1.3215	5.05	6.67	2.23
Saturday, July 8, 2023	1.328325	5.10	6.77	2.23
Saturday, July 15, 2023	1.32086	5.28	6.97	2.30

Weekly average market prices, exchange rates, and harvester prices (2006-2023)

<u>Date Week Ended</u>	<u>Average FX CDN/US</u>	<u>Average UB 5-8 US\$/LB</u>	<u>Average UB 5-8 CDN\$/LB</u>	<u>Harvester Price/LB</u>
Saturday, July 22, 2023	1.3186	5.40	7.12	2.23
Saturday, July 29, 2023	1.32018	5.40	7.13	2.23
Saturday, August 5, 2023	1.33018	5.67	7.54	2.23
Saturday, August 12, 2023	1.343475	5.75	7.72	2.60
Saturday, August 19, 2023	1.35074	5.75	7.77	2.60
Saturday, August 26, 2023	1.3563	5.75	7.80	2.60
Saturday, September 2, 2023	1.3567	5.75	7.80	2.60

Sources: Bank of Canada averaged weekly end of day exchange rates, UB average weekly prices as reported by DFFA, harvester weekly prices from Price Setting Panel, FFAW and pricing formula in 2006-07

Appendix I

Average Market and Harvester price @ 1 Cent increments as derived from Review Team crab formula	
<u>Average UB 5-8 CDN\$/LB</u>	<u>Harvester Price/LB</u>
\$ 4.50	\$ 1.60
\$ 4.51	\$ 1.61
\$ 4.52	\$ 1.61
\$ 4.53	\$ 1.61
\$ 4.54	\$ 1.62
\$ 4.55	\$ 1.62
\$ 4.56	\$ 1.62
\$ 4.57	\$ 1.63
\$ 4.58	\$ 1.63
\$ 4.59	\$ 1.64
\$ 4.60	\$ 1.64
\$ 4.61	\$ 1.64
\$ 4.62	\$ 1.65
\$ 4.63	\$ 1.65
\$ 4.64	\$ 1.66
\$ 4.65	\$ 1.66
\$ 4.66	\$ 1.66
\$ 4.67	\$ 1.67
\$ 4.68	\$ 1.67
\$ 4.69	\$ 1.68
\$ 4.70	\$ 1.68
\$ 4.71	\$ 1.68
\$ 4.72	\$ 1.69
\$ 4.73	\$ 1.69
\$ 4.74	\$ 1.70
\$ 4.75	\$ 1.70
\$ 4.76	\$ 1.70
\$ 4.77	\$ 1.71
\$ 4.78	\$ 1.71
\$ 4.79	\$ 1.71
\$ 4.80	\$ 1.72
\$ 4.81	\$ 1.72
\$ 4.82	\$ 1.73
\$ 4.83	\$ 1.73
\$ 4.84	\$ 1.73
\$ 4.85	\$ 1.74

**Average Market and Harvester price @ 1 Cent increments
as derived from Review Team crab formula**

Average UB 5-8 CDN\$/LB	Harvester Price/LB
\$ 4.86	\$ 1.74
\$ 4.87	\$ 1.75
\$ 4.88	\$ 1.75
\$ 4.89	\$ 1.75
\$ 4.90	\$ 1.76
\$ 4.91	\$ 1.76
\$ 4.92	\$ 1.77
\$ 4.93	\$ 1.77
\$ 4.94	\$ 1.77
\$ 4.95	\$ 1.78
\$ 4.96	\$ 1.78
\$ 4.97	\$ 1.79
\$ 4.98	\$ 1.79
\$ 4.99	\$ 1.79
\$ 5.00	\$ 1.80
\$ 5.01	\$ 1.80
\$ 5.02	\$ 1.81
\$ 5.03	\$ 1.81
\$ 5.04	\$ 1.81
\$ 5.05	\$ 1.82
\$ 5.06	\$ 1.82
\$ 5.07	\$ 1.83
\$ 5.08	\$ 1.83
\$ 5.09	\$ 1.83
\$ 5.10	\$ 1.84
\$ 5.11	\$ 1.84
\$ 5.12	\$ 1.85
\$ 5.13	\$ 1.85
\$ 5.14	\$ 1.85
\$ 5.15	\$ 1.86
\$ 5.16	\$ 1.86
\$ 5.17	\$ 1.87
\$ 5.18	\$ 1.87
\$ 5.19	\$ 1.88
\$ 5.20	\$ 1.88
\$ 5.21	\$ 1.88

**Average Market and Harvester price @ 1 Cent increments
as derived from Review Team crab formula**

Average UB 5-8 CDN\$/LB	Harvester Price/LB
\$ 5.22	\$ 1.89
\$ 5.23	\$ 1.89
\$ 5.24	\$ 1.90
\$ 5.25	\$ 1.90
\$ 5.26	\$ 1.90
\$ 5.27	\$ 1.91
\$ 5.28	\$ 1.91
\$ 5.29	\$ 1.92
\$ 5.30	\$ 1.92
\$ 5.31	\$ 1.92
\$ 5.32	\$ 1.93
\$ 5.33	\$ 1.93
\$ 5.34	\$ 1.94
\$ 5.35	\$ 1.94
\$ 5.36	\$ 1.94
\$ 5.37	\$ 1.95
\$ 5.38	\$ 1.95
\$ 5.39	\$ 1.96
\$ 5.40	\$ 1.96
\$ 5.41	\$ 1.97
\$ 5.42	\$ 1.97
\$ 5.43	\$ 1.97
\$ 5.44	\$ 1.98
\$ 5.45	\$ 1.98
\$ 5.46	\$ 1.99
\$ 5.47	\$ 1.99
\$ 5.48	\$ 1.99
\$ 5.49	\$ 2.00
\$ 5.50	\$ 2.00
\$ 5.51	\$ 2.01
\$ 5.52	\$ 2.01
\$ 5.53	\$ 2.02
\$ 5.54	\$ 2.02
\$ 5.55	\$ 2.02
\$ 5.56	\$ 2.03
\$ 5.57	\$ 2.03

**Average Market and Harvester price @ 1 Cent
increments
as derived from Review Team crab formula**

Average UB 5-8 CDN\$/LB	Harvester Price/LB
\$ 5.58	\$ 2.04
\$ 5.59	\$ 2.04
\$ 5.60	\$ 2.04
\$ 5.61	\$ 2.05
\$ 5.62	\$ 2.05
\$ 5.63	\$ 2.06
\$ 5.64	\$ 2.06
\$ 5.65	\$ 2.07
\$ 5.66	\$ 2.07
\$ 5.67	\$ 2.07
\$ 5.68	\$ 2.08
\$ 5.69	\$ 2.08
\$ 5.70	\$ 2.09
\$ 5.71	\$ 2.09
\$ 5.72	\$ 2.09
\$ 5.73	\$ 2.10
\$ 5.74	\$ 2.10
\$ 5.75	\$ 2.11
\$ 5.76	\$ 2.11
\$ 5.77	\$ 2.12
\$ 5.78	\$ 2.12
\$ 5.79	\$ 2.12
\$ 5.80	\$ 2.13
\$ 5.81	\$ 2.13
\$ 5.82	\$ 2.14
\$ 5.83	\$ 2.14
\$ 5.84	\$ 2.15
\$ 5.85	\$ 2.15
\$ 5.86	\$ 2.15
\$ 5.87	\$ 2.16
\$ 5.88	\$ 2.16
\$ 5.89	\$ 2.17
\$ 5.90	\$ 2.17
\$ 5.91	\$ 2.18
\$ 5.92	\$ 2.18
\$ 5.93	\$ 2.18

**Average Market and Harvester price @ 1 Cent increments
as derived from Review Team crab formula**

Average UB 5-8 CDN\$/LB	Harvester Price/LB
\$ 5.94	\$ 2.19
\$ 5.95	\$ 2.19
\$ 5.96	\$ 2.20
\$ 5.97	\$ 2.20
\$ 5.98	\$ 2.21
\$ 5.99	\$ 2.21
\$ 6.00	\$ 2.21
\$ 6.01	\$ 2.22
\$ 6.02	\$ 2.22
\$ 6.03	\$ 2.23
\$ 6.04	\$ 2.23
\$ 6.05	\$ 2.24
\$ 6.06	\$ 2.24
\$ 6.07	\$ 2.24
\$ 6.08	\$ 2.25
\$ 6.09	\$ 2.25
\$ 6.10	\$ 2.26
\$ 6.11	\$ 2.26
\$ 6.12	\$ 2.27
\$ 6.13	\$ 2.27
\$ 6.14	\$ 2.28
\$ 6.15	\$ 2.28
\$ 6.16	\$ 2.28
\$ 6.17	\$ 2.29
\$ 6.18	\$ 2.29
\$ 6.19	\$ 2.30
\$ 6.20	\$ 2.30
\$ 6.21	\$ 2.31
\$ 6.22	\$ 2.31
\$ 6.23	\$ 2.31
\$ 6.24	\$ 2.32
\$ 6.25	\$ 2.32
\$ 6.26	\$ 2.33
\$ 6.27	\$ 2.33
\$ 6.28	\$ 2.34
\$ 6.29	\$ 2.34

**Average Market and Harvester price @ 1 Cent increments
as derived from Review Team crab formula**

Average UB 5-8 CDN\$/LB	Harvester Price/LB
\$ 6.30	\$ 2.35
\$ 6.31	\$ 2.35
\$ 6.32	\$ 2.35
\$ 6.33	\$ 2.36
\$ 6.34	\$ 2.36
\$ 6.35	\$ 2.37
\$ 6.36	\$ 2.37
\$ 6.37	\$ 2.38
\$ 6.38	\$ 2.38
\$ 6.39	\$ 2.38
\$ 6.40	\$ 2.39
\$ 6.41	\$ 2.39
\$ 6.42	\$ 2.40
\$ 6.43	\$ 2.40
\$ 6.44	\$ 2.41
\$ 6.45	\$ 2.41
\$ 6.46	\$ 2.42
\$ 6.47	\$ 2.42
\$ 6.48	\$ 2.42
\$ 6.49	\$ 2.43
\$ 6.50	\$ 2.43
\$ 6.51	\$ 2.44
\$ 6.52	\$ 2.44
\$ 6.53	\$ 2.45
\$ 6.54	\$ 2.45
\$ 6.55	\$ 2.46
\$ 6.56	\$ 2.46
\$ 6.57	\$ 2.47
\$ 6.58	\$ 2.47
\$ 6.59	\$ 2.47
\$ 6.60	\$ 2.48
\$ 6.61	\$ 2.48
\$ 6.62	\$ 2.49
\$ 6.63	\$ 2.49
\$ 6.64	\$ 2.50
\$ 6.65	\$ 2.50

**Average Market and Harvester price @ 1 Cent increments
as derived from Review Team crab formula**

Average UB 5-8 CDN\$/LB	Harvester Price/LB
\$ 6.66	\$ 2.51
\$ 6.67	\$ 2.51
\$ 6.68	\$ 2.51
\$ 6.69	\$ 2.52
\$ 6.70	\$ 2.52
\$ 6.71	\$ 2.53
\$ 6.72	\$ 2.53
\$ 6.73	\$ 2.54
\$ 6.74	\$ 2.54
\$ 6.75	\$ 2.55
\$ 6.76	\$ 2.55
\$ 6.77	\$ 2.56
\$ 6.78	\$ 2.56
\$ 6.79	\$ 2.56
\$ 6.80	\$ 2.57
\$ 6.81	\$ 2.57
\$ 6.82	\$ 2.58
\$ 6.83	\$ 2.58
\$ 6.84	\$ 2.59
\$ 6.85	\$ 2.59
\$ 6.86	\$ 2.60
\$ 6.87	\$ 2.60
\$ 6.88	\$ 2.61
\$ 6.89	\$ 2.61
\$ 6.90	\$ 2.61
\$ 6.91	\$ 2.62
\$ 6.92	\$ 2.62
\$ 6.93	\$ 2.63
\$ 6.94	\$ 2.63
\$ 6.95	\$ 2.64
\$ 6.96	\$ 2.64
\$ 6.97	\$ 2.65
\$ 6.98	\$ 2.65
\$ 6.99	\$ 2.66
\$ 7.00	\$ 2.66
\$ 7.01	\$ 2.67

**Average Market and Harvester price @ 1 Cent increments
as derived from Review Team crab formula**

Average UB 5-8 CDN\$/LB	Harvester Price/LB
\$ 7.02	\$ 2.67
\$ 7.03	\$ 2.67
\$ 7.04	\$ 2.68
\$ 7.05	\$ 2.68
\$ 7.06	\$ 2.69
\$ 7.07	\$ 2.69
\$ 7.08	\$ 2.70
\$ 7.09	\$ 2.70
\$ 7.10	\$ 2.71
\$ 7.11	\$ 2.71
\$ 7.12	\$ 2.72
\$ 7.13	\$ 2.72
\$ 7.14	\$ 2.73
\$ 7.15	\$ 2.73
\$ 7.16	\$ 2.73
\$ 7.17	\$ 2.74
\$ 7.18	\$ 2.74
\$ 7.19	\$ 2.75
\$ 7.20	\$ 2.75
\$ 7.21	\$ 2.76
\$ 7.22	\$ 2.76
\$ 7.23	\$ 2.77
\$ 7.24	\$ 2.77
\$ 7.25	\$ 2.78
\$ 7.26	\$ 2.78
\$ 7.27	\$ 2.79
\$ 7.28	\$ 2.79
\$ 7.29	\$ 2.80
\$ 7.30	\$ 2.80
\$ 7.31	\$ 2.81
\$ 7.32	\$ 2.81
\$ 7.33	\$ 2.81
\$ 7.34	\$ 2.82
\$ 7.35	\$ 2.82
\$ 7.36	\$ 2.83
\$ 7.37	\$ 2.83

**Average Market and Harvester price @ 1 Cent increments
as derived from Review Team crab formula**

Average UB 5-8 CDN\$/LB	Harvester Price/LB
\$ 7.38	\$ 2.84
\$ 7.39	\$ 2.84
\$ 7.40	\$ 2.85
\$ 7.41	\$ 2.85
\$ 7.42	\$ 2.86
\$ 7.43	\$ 2.86
\$ 7.44	\$ 2.87
\$ 7.45	\$ 2.87
\$ 7.46	\$ 2.88
\$ 7.47	\$ 2.88
\$ 7.48	\$ 2.89
\$ 7.49	\$ 2.89
\$ 7.50	\$ 2.90
\$ 7.51	\$ 2.90
\$ 7.52	\$ 2.90
\$ 7.53	\$ 2.91
\$ 7.54	\$ 2.91
\$ 7.55	\$ 2.92
\$ 7.56	\$ 2.92
\$ 7.57	\$ 2.93
\$ 7.58	\$ 2.93
\$ 7.59	\$ 2.94
\$ 7.60	\$ 2.94
\$ 7.61	\$ 2.95
\$ 7.62	\$ 2.95
\$ 7.63	\$ 2.96
\$ 7.64	\$ 2.96
\$ 7.65	\$ 2.97
\$ 7.66	\$ 2.97
\$ 7.67	\$ 2.98
\$ 7.68	\$ 2.98
\$ 7.69	\$ 2.99
\$ 7.70	\$ 2.99
\$ 7.71	\$ 3.00
\$ 7.72	\$ 3.00
\$ 7.73	\$ 3.01

**Average Market and Harvester price @ 1 Cent
increments
as derived from Review Team crab formula**

Average UB 5-8 CDN\$/LB	Harvester Price/LB
\$ 7.74	\$ 3.01
\$ 7.75	\$ 3.02
\$ 7.76	\$ 3.02
\$ 7.77	\$ 3.02
\$ 7.78	\$ 3.03
\$ 7.79	\$ 3.03
\$ 7.80	\$ 3.04
\$ 7.81	\$ 3.04
\$ 7.82	\$ 3.05
\$ 7.83	\$ 3.05
\$ 7.84	\$ 3.06
\$ 7.85	\$ 3.06
\$ 7.86	\$ 3.07
\$ 7.87	\$ 3.07
\$ 7.88	\$ 3.08
\$ 7.89	\$ 3.08
\$ 7.90	\$ 3.09
\$ 7.91	\$ 3.09
\$ 7.92	\$ 3.10
\$ 7.93	\$ 3.10
\$ 7.94	\$ 3.11
\$ 7.95	\$ 3.11
\$ 7.96	\$ 3.12
\$ 7.97	\$ 3.12
\$ 7.98	\$ 3.13
\$ 7.99	\$ 3.13
\$ 8.00	\$ 3.14
\$ 8.01	\$ 3.14
\$ 8.02	\$ 3.15
\$ 8.03	\$ 3.15
\$ 8.04	\$ 3.16
\$ 8.05	\$ 3.16
\$ 8.06	\$ 3.17
\$ 8.07	\$ 3.17
\$ 8.08	\$ 3.18
\$ 8.09	\$ 3.18

**Average Market and Harvester price @ 1 Cent increments
as derived from Review Team crab formula**

Average UB 5-8 CDN\$/LB	Harvester Price/LB
\$ 8.10	\$ 3.19
\$ 8.11	\$ 3.19
\$ 8.12	\$ 3.20
\$ 8.13	\$ 3.20
\$ 8.14	\$ 3.21
\$ 8.15	\$ 3.21
\$ 8.16	\$ 3.22
\$ 8.17	\$ 3.22
\$ 8.18	\$ 3.23
\$ 8.19	\$ 3.23
\$ 8.20	\$ 3.24
\$ 8.21	\$ 3.24
\$ 8.22	\$ 3.25
\$ 8.23	\$ 3.25
\$ 8.24	\$ 3.26
\$ 8.25	\$ 3.26
\$ 8.26	\$ 3.27
\$ 8.27	\$ 3.27
\$ 8.28	\$ 3.28
\$ 8.29	\$ 3.28
\$ 8.30	\$ 3.29
\$ 8.31	\$ 3.29
\$ 8.32	\$ 3.30
\$ 8.33	\$ 3.30
\$ 8.34	\$ 3.31
\$ 8.35	\$ 3.31
\$ 8.36	\$ 3.32
\$ 8.37	\$ 3.32
\$ 8.38	\$ 3.33
\$ 8.39	\$ 3.33
\$ 8.40	\$ 3.34
\$ 8.41	\$ 3.34
\$ 8.42	\$ 3.35
\$ 8.43	\$ 3.35
\$ 8.44	\$ 3.36
\$ 8.45	\$ 3.36

**Average Market and Harvester price @ 1 Cent
increments
as derived from Review Team crab formula**

Average UB 5-8 CDN\$/LB	Harvester Price/LB
\$ 8.46	\$ 3.37
\$ 8.47	\$ 3.37
\$ 8.48	\$ 3.38
\$ 8.49	\$ 3.38
\$ 8.50	\$ 3.39
\$ 8.51	\$ 3.39
\$ 8.52	\$ 3.40
\$ 8.53	\$ 3.40
\$ 8.54	\$ 3.41
\$ 8.55	\$ 3.41
\$ 8.56	\$ 3.42
\$ 8.57	\$ 3.42
\$ 8.58	\$ 3.43
\$ 8.59	\$ 3.43
\$ 8.60	\$ 3.44
\$ 8.61	\$ 3.44
\$ 8.62	\$ 3.45
\$ 8.63	\$ 3.45
\$ 8.64	\$ 3.46
\$ 8.65	\$ 3.46
\$ 8.66	\$ 3.47
\$ 8.67	\$ 3.47
\$ 8.68	\$ 3.48
\$ 8.69	\$ 3.48
\$ 8.70	\$ 3.49
\$ 8.71	\$ 3.49
\$ 8.72	\$ 3.50
\$ 8.73	\$ 3.50
\$ 8.74	\$ 3.51
\$ 8.75	\$ 3.51
\$ 8.76	\$ 3.52
\$ 8.77	\$ 3.52
\$ 8.78	\$ 3.53
\$ 8.79	\$ 3.53
\$ 8.80	\$ 3.54
\$ 8.81	\$ 3.55

**Average Market and Harvester price @ 1 Cent increments
as derived from Review Team crab formula**

Average UB 5-8 CDN\$/LB	Harvester Price/LB
\$ 8.82	\$ 3.55
\$ 8.83	\$ 3.56
\$ 8.84	\$ 3.56
\$ 8.85	\$ 3.57
\$ 8.86	\$ 3.57
\$ 8.87	\$ 3.58
\$ 8.88	\$ 3.58
\$ 8.89	\$ 3.59
\$ 8.90	\$ 3.59
\$ 8.91	\$ 3.60
\$ 8.92	\$ 3.60
\$ 8.93	\$ 3.61
\$ 8.94	\$ 3.61
\$ 8.95	\$ 3.62
\$ 8.96	\$ 3.62
\$ 8.97	\$ 3.63
\$ 8.98	\$ 3.63
\$ 8.99	\$ 3.64
\$ 9.00	\$ 3.64
\$ 9.01	\$ 3.65
\$ 9.02	\$ 3.65
\$ 9.03	\$ 3.66
\$ 9.04	\$ 3.66
\$ 9.05	\$ 3.67
\$ 9.06	\$ 3.67
\$ 9.07	\$ 3.68
\$ 9.08	\$ 3.69
\$ 9.09	\$ 3.69
\$ 9.10	\$ 3.70
\$ 9.11	\$ 3.70
\$ 9.12	\$ 3.71
\$ 9.13	\$ 3.71
\$ 9.14	\$ 3.72
\$ 9.15	\$ 3.72
\$ 9.16	\$ 3.73
\$ 9.17	\$ 3.73

**Average Market and Harvester price @ 1 Cent increments
as derived from Review Team crab formula**

Average UB 5-8 CDN\$/LB	Harvester Price/LB
\$ 9.18	\$ 3.74
\$ 9.19	\$ 3.74
\$ 9.20	\$ 3.75
\$ 9.21	\$ 3.75
\$ 9.22	\$ 3.76
\$ 9.23	\$ 3.76
\$ 9.24	\$ 3.77
\$ 9.25	\$ 3.77
\$ 9.26	\$ 3.78
\$ 9.27	\$ 3.79
\$ 9.28	\$ 3.79
\$ 9.29	\$ 3.80
\$ 9.30	\$ 3.80
\$ 9.31	\$ 3.81
\$ 9.32	\$ 3.81
\$ 9.33	\$ 3.82
\$ 9.34	\$ 3.82
\$ 9.35	\$ 3.83
\$ 9.36	\$ 3.83
\$ 9.37	\$ 3.84
\$ 9.38	\$ 3.84
\$ 9.39	\$ 3.85
\$ 9.40	\$ 3.85
\$ 9.41	\$ 3.86
\$ 9.42	\$ 3.87
\$ 9.43	\$ 3.87
\$ 9.44	\$ 3.88
\$ 9.45	\$ 3.88
\$ 9.46	\$ 3.89
\$ 9.47	\$ 3.89
\$ 9.48	\$ 3.90
\$ 9.49	\$ 3.90
\$ 9.50	\$ 3.91
\$ 9.51	\$ 3.91
\$ 9.52	\$ 3.92
\$ 9.53	\$ 3.92

**Average Market and Harvester price @ 1 Cent
increments
as derived from Review Team crab formula**

Average UB 5-8 CDN\$/LB	Harvester Price/LB
\$ 9.54	\$ 3.93
\$ 9.55	\$ 3.94
\$ 9.56	\$ 3.94
\$ 9.57	\$ 3.95
\$ 9.58	\$ 3.95
\$ 9.59	\$ 3.96
\$ 9.60	\$ 3.96
\$ 9.61	\$ 3.97
\$ 9.62	\$ 3.97
\$ 9.63	\$ 3.98
\$ 9.64	\$ 3.98
\$ 9.65	\$ 3.99
\$ 9.66	\$ 3.99
\$ 9.67	\$ 4.00
\$ 9.68	\$ 4.01
\$ 9.69	\$ 4.01
\$ 9.70	\$ 4.02
\$ 9.71	\$ 4.02
\$ 9.72	\$ 4.03
\$ 9.73	\$ 4.03
\$ 9.74	\$ 4.04
\$ 9.75	\$ 4.04
\$ 9.76	\$ 4.05
\$ 9.77	\$ 4.05
\$ 9.78	\$ 4.06
\$ 9.79	\$ 4.07
\$ 9.80	\$ 4.07
\$ 9.81	\$ 4.08
\$ 9.82	\$ 4.08
\$ 9.83	\$ 4.09
\$ 9.84	\$ 4.09
\$ 9.85	\$ 4.10
\$ 9.86	\$ 4.10
\$ 9.87	\$ 4.11
\$ 9.88	\$ 4.11
\$ 9.89	\$ 4.12

**Average Market and Harvester price @ 1 Cent increments
as derived from Review Team crab formula**

Average UB 5-8 CDN\$/LB	Harvester Price/LB
\$ 9.90	\$ 4.13
\$ 9.91	\$ 4.13
\$ 9.92	\$ 4.14
\$ 9.93	\$ 4.14
\$ 9.94	\$ 4.15
\$ 9.95	\$ 4.15
\$ 9.96	\$ 4.16
\$ 9.97	\$ 4.16
\$ 9.98	\$ 4.17
\$ 9.99	\$ 4.17
\$ 10.00	\$ 4.18
\$ 10.01	\$ 4.19
\$ 10.02	\$ 4.19
\$ 10.03	\$ 4.20
\$ 10.04	\$ 4.20
\$ 10.05	\$ 4.21
\$ 10.06	\$ 4.21
\$ 10.07	\$ 4.22
\$ 10.08	\$ 4.22
\$ 10.09	\$ 4.23
\$ 10.10	\$ 4.24
\$ 10.11	\$ 4.24
\$ 10.12	\$ 4.25
\$ 10.13	\$ 4.25
\$ 10.14	\$ 4.26
\$ 10.15	\$ 4.26
\$ 10.16	\$ 4.27
\$ 10.17	\$ 4.27
\$ 10.18	\$ 4.28
\$ 10.19	\$ 4.29
\$ 10.20	\$ 4.29
\$ 10.21	\$ 4.30
\$ 10.22	\$ 4.30
\$ 10.23	\$ 4.31
\$ 10.24	\$ 4.31
\$ 10.25	\$ 4.32

**Average Market and Harvester price @ 1 Cent
increments
as derived from Review Team crab formula**

Average UB 5-8 CDN\$/LB	Harvester Price/LB
\$ 10.26	\$ 4.32
\$ 10.27	\$ 4.33
\$ 10.28	\$ 4.34
\$ 10.29	\$ 4.34
\$ 10.30	\$ 4.35
\$ 10.31	\$ 4.35
\$ 10.32	\$ 4.36
\$ 10.33	\$ 4.36
\$ 10.34	\$ 4.37
\$ 10.35	\$ 4.38
\$ 10.36	\$ 4.38
\$ 10.37	\$ 4.39
\$ 10.38	\$ 4.39
\$ 10.39	\$ 4.40
\$ 10.40	\$ 4.40
\$ 10.41	\$ 4.41
\$ 10.42	\$ 4.41
\$ 10.43	\$ 4.42
\$ 10.44	\$ 4.43
\$ 10.45	\$ 4.43
\$ 10.46	\$ 4.44
\$ 10.47	\$ 4.44
\$ 10.48	\$ 4.45
\$ 10.49	\$ 4.45
\$ 10.50	\$ 4.46
\$ 10.51	\$ 4.47
\$ 10.52	\$ 4.47
\$ 10.53	\$ 4.48
\$ 10.54	\$ 4.48
\$ 10.55	\$ 4.49
\$ 10.56	\$ 4.49
\$ 10.57	\$ 4.50
\$ 10.58	\$ 4.51
\$ 10.59	\$ 4.51
\$ 10.60	\$ 4.52
\$ 10.61	\$ 4.52

Average Market and Harvester price @ 1 Cent increments as derived from Review Team crab formula	
Average UB 5-8 CDN\$/LB	Harvester Price/LB
\$ 10.62	\$ 4.53
\$ 10.63	\$ 4.53
\$ 10.64	\$ 4.54
\$ 10.65	\$ 4.55
\$ 10.66	\$ 4.55
\$ 10.67	\$ 4.56
\$ 10.68	\$ 4.56
\$ 10.69	\$ 4.57
\$ 10.70	\$ 4.57
\$ 10.71	\$ 4.58
\$ 10.72	\$ 4.59
\$ 10.73	\$ 4.59
\$ 10.74	\$ 4.60
\$ 10.75	\$ 4.60
\$ 10.76	\$ 4.61
\$ 10.77	\$ 4.61
\$ 10.78	\$ 4.62
\$ 10.79	\$ 4.63
\$ 10.80	\$ 4.63
\$ 10.81	\$ 4.64
\$ 10.82	\$ 4.64
\$ 10.83	\$ 4.65
\$ 10.84	\$ 4.65
\$ 10.85	\$ 4.66
\$ 10.86	\$ 4.67
\$ 10.87	\$ 4.67
\$ 10.88	\$ 4.68
\$ 10.89	\$ 4.68
\$ 10.90	\$ 4.69
\$ 10.91	\$ 4.70
\$ 10.92	\$ 4.70
\$ 10.93	\$ 4.71
\$ 10.94	\$ 4.71
\$ 10.95	\$ 4.72
\$ 10.96	\$ 4.72
\$ 10.97	\$ 4.73

**Average Market and Harvester price @ 1 Cent increments
as derived from Review Team crab formula**

Average UB 5-8 CDN\$/LB	Harvester Price/LB
\$ 10.98	\$ 4.74
\$ 10.99	\$ 4.74
\$ 11.00	\$ 4.75
\$ 11.01	\$ 4.75
\$ 11.02	\$ 4.76
\$ 11.03	\$ 4.76
\$ 11.04	\$ 4.77
\$ 11.05	\$ 4.78
\$ 11.06	\$ 4.78
\$ 11.07	\$ 4.79
\$ 11.08	\$ 4.79
\$ 11.09	\$ 4.80
\$ 11.10	\$ 4.81
\$ 11.11	\$ 4.81
\$ 11.12	\$ 4.82
\$ 11.13	\$ 4.82
\$ 11.14	\$ 4.83
\$ 11.15	\$ 4.84
\$ 11.16	\$ 4.84
\$ 11.17	\$ 4.85
\$ 11.18	\$ 4.85
\$ 11.19	\$ 4.86
\$ 11.20	\$ 4.86
\$ 11.21	\$ 4.87
\$ 11.22	\$ 4.88
\$ 11.23	\$ 4.88
\$ 11.24	\$ 4.89
\$ 11.25	\$ 4.89
\$ 11.26	\$ 4.90
\$ 11.27	\$ 4.91
\$ 11.28	\$ 4.91
\$ 11.29	\$ 4.92
\$ 11.30	\$ 4.92
\$ 11.31	\$ 4.93
\$ 11.32	\$ 4.94
\$ 11.33	\$ 4.94

**Average Market and Harvester price @ 1 Cent increments
as derived from Review Team crab formula**

Average UB 5-8 CDN\$/LB	Harvester Price/LB
\$ 11.34	\$ 4.95
\$ 11.35	\$ 4.95
\$ 11.36	\$ 4.96
\$ 11.37	\$ 4.96
\$ 11.38	\$ 4.97
\$ 11.39	\$ 4.98
\$ 11.40	\$ 4.98
\$ 11.41	\$ 4.99
\$ 11.42	\$ 4.99
\$ 11.43	\$ 5.00
\$ 11.44	\$ 5.01
\$ 11.45	\$ 5.01
\$ 11.46	\$ 5.02
\$ 11.47	\$ 5.02
\$ 11.48	\$ 5.03
\$ 11.49	\$ 5.04
\$ 11.50	\$ 5.04
\$ 11.51	\$ 5.05
\$ 11.52	\$ 5.05
\$ 11.53	\$ 5.06
\$ 11.54	\$ 5.07
\$ 11.55	\$ 5.07
\$ 11.56	\$ 5.08
\$ 11.57	\$ 5.08
\$ 11.58	\$ 5.09
\$ 11.59	\$ 5.10
\$ 11.60	\$ 5.10
\$ 11.61	\$ 5.11
\$ 11.62	\$ 5.11
\$ 11.63	\$ 5.12
\$ 11.64	\$ 5.13
\$ 11.65	\$ 5.13
\$ 11.66	\$ 5.14
\$ 11.67	\$ 5.14
\$ 11.68	\$ 5.15
\$ 11.69	\$ 5.16

**Average Market and Harvester price @ 1 Cent increments
as derived from Review Team crab formula**

Average UB 5-8 CDN\$/LB	Harvester Price/LB
\$ 11.70	\$ 5.16
\$ 11.71	\$ 5.17
\$ 11.72	\$ 5.17
\$ 11.73	\$ 5.18
\$ 11.74	\$ 5.19
\$ 11.75	\$ 5.19
\$ 11.76	\$ 5.20
\$ 11.77	\$ 5.20
\$ 11.78	\$ 5.21
\$ 11.79	\$ 5.22
\$ 11.80	\$ 5.22
\$ 11.81	\$ 5.23
\$ 11.82	\$ 5.23
\$ 11.83	\$ 5.24
\$ 11.84	\$ 5.25
\$ 11.85	\$ 5.25
\$ 11.86	\$ 5.26
\$ 11.87	\$ 5.27
\$ 11.88	\$ 5.27
\$ 11.89	\$ 5.28
\$ 11.90	\$ 5.28
\$ 11.91	\$ 5.29
\$ 11.92	\$ 5.30
\$ 11.93	\$ 5.30
\$ 11.94	\$ 5.31
\$ 11.95	\$ 5.31
\$ 11.96	\$ 5.32
\$ 11.97	\$ 5.33
\$ 11.98	\$ 5.33
\$ 11.99	\$ 5.34
\$ 12.00	\$ 5.34