



THE MANAGEMENT OF FISHERIES AND OCEANS IN CANADA'S WESTERN ARCTIC

Report of the Standing Senate
Committee on Fisheries and Oceans

The Honourable Bill Rompkey, P.C., Chair
The Honourable Dennis Glen Patterson, Deputy Chair

May 2010

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(Committee Business — Senate — Reports)
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WEDNESDAY, May 26, 2010

The Standing Senate Committee on Fisheries and Oceans has the honour to table its

FOURTH REPORT

Your Committee, which was authorized by the Senate on Thursday, March 25, 2010 to examine and to report on issues relating to the federal government's current and evolving policy framework for managing Canada's fisheries and oceans, herewith tables its interim report entitled: The Management of fisheries and oceans in Canada's Western Arctic.

Respectfully submitted,

BILL ROMPKEY, P.C.

Chair of the Committee

MEMBERSHIP

The Honourable Bill Rompkey, P.C., *Chair*

The Honourable Dennis Glen Patterson, *Deputy Chair*

and

The Honourable Senators:

Ethel M. Cochrane

Roméo Dallaire

Elizabeth Hubley

Michael L. MacDonald

Fabian Manning

Nancy Ruth

Rose-May Poirier

Vivienne Poy

Nancy Greene Raine

Charlie Watt

Ex-officio members of the committee:

The Honourable Senators

James Cowan (or Claudette Tardif)

Marjory LeBreton, P.C. (or Gerald J. Comeau)

Other Senators who has participated on this study:

The Honourable Senators Adams, Andreychuk, Brown, Champagne, P.C., Cook, Cowan, Downe, Greene, Johnson, Munson and Robichaud, P.C.

Parliamentary Information and Research Service, Library of Parliament:

Claude Emery, Analyst

Senate Committees Directorate:

Danielle Labonté, Clerk of the Committee

Louise Archambeault, Administrative Assistant

ORDER OF REFERENCE

Extract from the *Journals of the Senate*, Thursday, March 25, 2010

The Honourable Senator Rompkey, P.C. moved, seconded by the Honourable Senator Fraser:

That the Standing Senate Committee on Fisheries and Oceans be authorized to examine and to report on issues relating to the federal government's current and evolving policy framework for managing Canada's fisheries and oceans;

That the papers and evidence received and taken and work accomplished by the committee on this subject since the beginning of the First Session of the Thirty-ninth Parliament be referred to the committee; and

That the committee report from time to time to the Senate but no later than June 30, 2011, and that the Committee retain all powers necessary to publicize its findings until December 31, 2011.

The question being put on the motion, it was adopted.

Gary W. O'Brien

Clerk of the Senate

**MANAGEMENT OF FISHERIES AND OCEANS
IN CANADA'S WESTERN ARCTIC**

**THE STANDING SENATE COMMITTEE
ON FISHERIES AND OCEANS**

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ACRONYMS

AFMP – (US) Arctic Fishery Management Plan

APG – Aboriginal Pipeline Group

BREA – Beaufort Regional Environmental Assessment

BSBMP – Beaufort Sea Beluga Management Plan

BSIMPI – Beaufort Sea Integrated Management Planning Initiative

BSP – Beaufort Sea Partnership

BSSrPA – Beaufort Sea Strategic Regional Plan of Action

CanNor – Canadian Northern Economic Development Agency

CIMP – Cumulative Impact Management Program

COSEWIC – Committee on the Status of Endangered Wildlife in Canada

DFO – Department of Fisheries and Oceans

FFMA – *Freshwater Fish Marketing Act*

FFMC – Freshwater Fish Marketing Corporation

FJMC – Fisheries Joint Management Committee

GRRB – Gwich'in Renewable Resources Board

GSL – Great Slave Lake

GSLAC – Great Slave Lake Advisory Committee

HADD – harmful alteration, disruption or destruction of fish habitat

IFA – Inuvialuit Final Agreement

IFMP – Integrated Fisheries Management Plan

INAC – Indian and Northern Affairs

IOMP – Integrated Ocean Management Plan

IPY – International Polar Year

IQ – Inuit Qaujimajatuqangit

IRC – Inuvialuit Regional Corporation

ISR – Inuvialuit Settlement Region

JBNQA – James Bay and Northern Quebec Agreement

JRP – Joint Review Panel

KAFL – Kivalliq Arctic Foods Ltd.

KFL – Kitikmeot Foods Ltd.

LOMA – Large Ocean Management Area

MGP – Mackenzie Gas Project

MPA – Marine Protected Area

NDC – Nunavut Development Corporation

NU – Nunavut

NT – Northwest Territories

NWMB – Nunavut Wildlife Management Board

RCC – Beaufort Sea Regional Coordinating Committee

SCOFO – Senate Committee on Fisheries and Oceans

SINED – Strategic Investments in Northern Economic Development program

SRRB – Sahtu Renewable Resources Board

TEK – Traditional Ecological Knowledge

LIST OF RECOMMENDATIONS

The Commercial Char Fishery

Recommendation 1:

The Committee recommends that an intergovernmental DFO–Nunavut working group be established to develop a strategy for the development of Nunavut’s Arctic char fisheries, including the fishery on Victoria Island, for the social and economic benefits that increased fishing activity could generate, but also to reinforce Canada’s presence and sovereignty in the region.

The Freshwater Fish Marketing Corporation

Recommendation 2:

The Committee recommends that the Government of Canada provide the Freshwater Fish Marketing Corporation with adequate ways and means to upgrade equipment and modernize its fish processing operations to ensure the future of the commercial freshwater sector in western Canada.

The Great Slave Lake Commercial Fishery

Recommendation 3:

The Committee recommends that the Department of Fisheries and Oceans, in concert with fishery stakeholders, including the NWT Fishermen’s Federation, the Great Slave Lake Advisory Committee and the Government of the Northwest Territories, formulate and fund a comprehensive strategy to revitalize the commercial fishery on Great Slave Lake. The plan should facilitate the entry of young Aboriginal fishers who may be attracted to the industry as a way of preserving a traditional way of life.

Research

Recommendation 4:

The Committee recommends that the Department of Fisheries and Oceans substantially increase its research funding in the western Arctic. The Department should commit to funding a multi-year, multi-species ecosystem research program in the region. A major objective of the Department should be the collection of baseline data.

Recommendation 5:

The Committee recommends that the Department of Fisheries and Oceans undertake research in the Beaufort Sea to determine what species of fish have the potential for commercial development.

Recommendation 6:

The Committee recommends, as a general principle, that Aboriginal traditional ecological knowledge – as an indispensable complement to scientific knowledge – always be given full and early consideration in decision-making processes, including assessments made by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

Monitoring in the Mackenzie Valley Watershed

Recommendation 7:

The Committee recommends that the Government of Canada make available sufficient, long-term, stable funding to implement the Cumulative Impact Monitoring Program, as recommended by the Mackenzie Gas Project Joint Review Panel.

Recommendation 8:

The Committee recommends that the Government of Canada ensure that the Department of Fisheries and Oceans' fish habitat program in the western Arctic is adequately funded.

Development in Marine Areas

Recommendation 9:

The Committee recommends that the Department of Fisheries and Oceans, in concert with the Inuvialuit, develop an agreement giving the Inuvialuit a key role in deciding any future commercial fishing activity in the Inuvialuit Settlement Region, including the allocation of commercial fish quotas.

Recommendation 10:

The Committee recommends that the Department of Fisheries and Oceans expedite its approval of the Tarrum Nirjutait Marine Protected Area. The Department should also provide the Fisheries Joint Management Committee with sufficient resources to administer the MPA.

Recommendation 11:

The Committee recommends that the Government of Canada provide the Department of Fisheries and Oceans with the funding it needs to fully implement the Department's integrated planning initiatives in the western Arctic.

Canada–US Bilateral Issues

Recommendation 12:

The Committee recommends that the Government of Canada, in concert with the Inuvialuit, develop a policy regarding future fishing activity in the Beaufort Sea. In this regard, Canada should consider instituting a moratorium on commercial fishing in the Beaufort Sea (similar to the US Arctic Fishery Management Plan) on the Canadian side of the maritime border between Alaska and Yukon, west of the 141st meridian.

Recommendation 13:

The Committee recommends that the Government of Canada continue to work through the Yukon River Panel to further reduce the marine by-catch of Yukon River chinook salmon by the US pollock fishery.

Recommendation 14:

The Committee recommends that the Government of Canada engage the United States in bilateral discussions on the possibility of developing a complementary Canada–US approach to ecosystem-based management in the Beaufort Sea.

PREFACE

In June 2008, the Committee tabled in the Senate an interim report entitled *The Coast Guard in Canada's Arctic*, a study based on evidence gathered in Ottawa. There followed two other reports, *Rising to the Arctic Challenge* in May 2009, and *Nunavut Marine Fisheries: Quotas and Harbours* in June 2009, both of which were based on evidence gathered in Ottawa and in Nunavut during the first week of June 2008.

The western Arctic perspective on northern matters, however, still needed to be fully heard and considered.

Beginning in March 2009, in keeping with its order of reference, the Committee held public hearings in Ottawa to gain a better understanding of the issues at hand in the western Arctic. The topics of particular interest to the Committee were the role of the Canadian Coast Guard and the region's fisheries.

Recognizing the value of visiting Canada's regions, the Committee held public hearings in the Northwest Territories: in Yellowknife on 21 September 2009, and in Inuvik on 23 September 2009. Both day-long meetings concluded with an open-microphone session to hear from members of the public. Additionally, as part of its fact-finding work, the Committee undertook a number of informal discussions in boardroom-type settings and in the form of on-site visits. These deliberations with stakeholders provided the Committee with a unique opportunity to hear the concerns and aspirations of northern Canadians.

In December 2009, the Committee tabled *Controlling Canadian Arctic Waters: Role of the Canadian Coast Guard*.

The vast area under consideration in this present report on fisheries includes the northwestern part of the Department of Fisheries and Oceans' Central and Arctic Region – the largest of the Department's six administrative regions, covering almost two thirds of Canada. Our intention is not to present an exhaustive assessment of fishing activity in the western Arctic region, but rather to report on what the Committee heard.

FOREWORD

The harvesting of aquatic resources is a pursuit deeply rooted in the northern cultural heritage. For Aboriginal people, fishing provides sustenance and is a means for the preservation of their identity and the continuation of their way of life and culture. The subsistence catch of marine mammals is a critical component of the diet of the Inuit. Sport fishing is a popular activity in Canada's North and is an important component of the northern economy. Fish are also harvested by northerners for both local and distant markets.

Although eclipsed by the much larger fisheries on the Atlantic and Pacific coasts, Canada's northern commercial fisheries generate economic activity where there are few other opportunities. Two important characteristics of the northern fisheries are their isolation and the high cost of transporting products to southern markets. Commercial fisheries are very small, but all are locally important.

Canada's Arctic is undergoing a rapid social, cultural, economic and environmental transformation, and the future will see even greater change. The warming Arctic climate and receding sea ice are expected to open up northern waters to maritime shipping and to make the region's vast and largely untapped resources increasingly accessible to development. In this regard, the Department of Fisheries and Oceans has an important role to play in the ongoing stewardship of northern aquatic resources.

Development will create unprecedented opportunities for many northern residents. Geological resources in Canada's North include minerals and large volumes of natural gas and petroleum. With the completion of the Joint Review Panel's report on the proposed Mackenzie Gas Project in December 2009, the Northwest Territories is poised to become the hub of considerable activity should this mega-project get underway. In addition to onshore exploration and development, there is renewed interest in the offshore waters of the Beaufort Sea.

Emerging development opportunities will also have consequences for the environment. As marine activity increases, and as more infrastructure and renewable and non-renewable resources are developed, assessing and monitoring the cumulative effects of individual projects on ecosystems and aquatic species will be critical. A solid scientific base in support of decision-making is key: the North's ecologically vulnerable landscape is

relatively slow to recover from the impact of industrial or human activity. The effects of development will need to be fully understood in advance of development so that adverse impacts can be averted or mitigated; to this end, resources will need to be committed before development is allowed to take place.

Development will also need to proceed in partnership with communities and in a manner that ensures effective environmental stewardship. The settlement of Aboriginal land claims established co-management regimes over vast tracts of lands and resources, including fish. Northerners now have a much greater decision-making role in management and a say over their future. Traditional values and lifestyles will need to be taken into account. For Aboriginal people who depend on the land and on the sea for their economic and social well-being, the concept of “sustainable development” is more than a buzz phrase; it is a matter of survival.

The Committee travelled to the western Arctic to listen. We were impressed by the deep passion shown by participants in our study. Their voices need to be heard. We hope our report will aid in that effort.

The Committee would like to thank everyone who so generously made themselves available to participate in our study. We would also like to thank the dedicated staff at DFO’s Central and Arctic Region, particularly Burt Hunt, Regional Director, Fisheries and Aquaculture Management, and Dave Burden, Acting Regional Director General, for their time and expert guidance.

Bill Rompkey, P.C., Chair

BACKDROP

A. The Land and the People

Canadians generally tend to view themselves as a northern people, but the vast and sparsely populated region that is Canada's North¹ is first and foremost the homeland of Aboriginal people,² who have been using the region and its resources for countless generations.³

Covering more than 3.5 million square kilometres, Canada's three territories represent 40% of Canada's land mass but are home to less than 1% of the population. Aboriginal people make up 85% of the population in Nunavut, 50.3% in the Northwest Territories, and 25.1% in Yukon, with the relative representation of First Nations, Métis, and Inuit differing across the three territories.⁴ In Nunavut, the Aboriginal population is Inuit. Within the Northwest Territories, the Aboriginal population is comprised of Dene and Métis, who live mainly in the Mackenzie Valley, and Inuvialuit (Inuit), who live in the area of the Beaufort Sea, Mackenzie River Delta and Amundsen Gulf (i.e., the western Arctic Islands).

A striking demographic feature of the Aboriginal population is its youth. In 2006, 33.9% of Nunavut's population, 23.9% of the population of the Northwest Territories, and 18.8% of the population of Yukon was under 15 years of age, as compared with the Canadian average of 17.7%;⁵ the youth of this population sets the stage for pressures to provide social services, public infrastructure and jobs.

An enduring aspect of the region is the profound connection that Aboriginal people have traditionally had with the land and sea. Hunting, fishing and trapping are critically important to their culture and identity, the social fabric of communities, and to northern diets, especially in smaller communities where people are more dependent on the environment than

¹ The words "North" and "Arctic" are used interchangeably in this report. "North of 60" refers to the region north of 60 degrees north latitude.

² The term "Aboriginal people" in this report includes First Nations people, the Inuit, and the Métis.

³ Standing Senate Committee on Fisheries and Oceans, *Rising to the Arctic Challenge: Report on the Canadian Coast Guard*, April 2009 (hereafter, SCOFO [April 2009]), p. 37, <http://www.parl.gc.ca/40/2/parlbus/commbus/senate/Com-e/fish-e/rep-e/rep02may09-e.pdf>.

⁴ Statistics Canada, 2006 Aboriginal Population Profile, <http://www12.statcan.ca/census-recensement/2006/dp-pd/prof/92-594/index.cfm?Lang=e>. According to the May 2006 Census, 31,612,897 people lived in Canada. With 41,464 people, the Northwest Territories was the most populous of the three territories, followed by Yukon (population 30,372) and Nunavut (29,474).

⁵ Statistics Canada, *Portrait of the Canadian Population in 2006, by Age and Sex, 2006 Census*, Catalogue No. 97-551-XIE, Table 2, <http://www12.statcan.ca/census-recensement/2006/as-sa/97-551/pdf/97-551-XIE2006001.pdf>.

on expensive store-bought food. Research shows that the consumption of traditional country foods is highest among Inuit, followed by Dene and Métis of the Northwest Territories and then by First Nations people of the Yukon.⁶ Harvesting activities play a key role in the northern economy, but the economic contribution of these activities is often poorly captured in official statistics.

In many communities, local economies combine traditional subsistence activities with formal wage-earning employment; the latter is often tied to the extraction of non-renewable resources or to public administration. The long-term unemployment rates in the territorial North, which exceed the national average,⁷ exacerbate a host of social problems. Employment in the wage economy is highest in the Northwest Territories, where fewer residents make their livelihood from traditional harvesting and where the economy is based largely on non-renewable resources.⁸ But, as in Nunavut and Yukon, development is uneven, and there are disparities in incomes within regions and between large and small communities.⁹

North of 60, the cost of living is significantly higher than in southern Canada. Economic development poses a degree of challenge that is unique within Canada, given the isolation from potential markets, a small population with little formal education and few industrial skills, very modest physical infrastructures, and high energy and transportation costs.

Exploration activities for natural resources have led to increasing demands for more all-season roads. In the Northwest Territories, land-based transportation is very limited,¹⁰ while in Nunavut there are no roads at all connecting its 26 communities, which are strung along the coast of the Arctic Ocean, Hudson Bay and the North Atlantic Ocean.

⁶ INAC, *Human Health*, Canadian Arctic Contaminants Assessment Report II, Northern Contaminants Program, 2003, p.i./<http://www.ainc-inac.gc.ca/nth/ct/ncp/pub-eng.asp>.

⁷ National Round Table on the Environment and the Economy (Canada), *True North: Adapting Infrastructure to Climate Change in Northern Canada*, 2009, p. 35, <http://www.nrtee-trnee.com/eng/publications/true-north/true-north-eng.php>.

⁸ Trish Merrithew-Mercredi, Regional Director General, Northwest Territories Region, Indian and Northern Affairs Canada, *Proceedings of the Standing Senate Committee on Fisheries and Oceans* (hereafter, *Committee Proceedings*), 21 September 2009. The oil and gas and mining sectors are the main drivers of the economy, contributing 38% of the NWT's gross domestic product.

⁹ *Ibid.* Of the 33 communities in the Northwest Territories, 14 have fewer than 500 residents. About 75% of residents live in one of five regional centres. More than two thirds of residents in Nunavut live in communities with fewer than 1,000 people.

¹⁰ Only one third of the land area of the Northwest Territories is within 100 kilometres of an all-weather road. Only 19% of residents have year-round highway access. Nineteen percent have land access via winter ice roads only, while 13% have no land transportation access at all. In Yukon, all communities except for Old Crow, the territory's most northerly community, have all-weather road access. Government of Yukon, *Northern Connections: A Multi-Modal Transportation Blueprint for the North*, February 2008, <http://www.hpw.gov.yk.ca/pdf/northernconnections.pdf>.

Most northern communities are accessible only by seasonal sea and river transport or by air. Several communities in the Northwest Territories, and all Nunavut communities, are located on or have access to tide water and depend on community resupply (also known as the sealift or coastal Arctic shipping) for goods from the south.¹¹ Canada's northernmost railway ends in Hay River, NWT, on the south shore of Great Slave Lake, where the Mackenzie "river road" to the Beaufort Sea begins.¹² Shipping by cargo vessel or barge in summer is a more economical means than air transportation to move goods to and from the region.

Considering the sparse population and lack of economic development relative to the rest of the country, it would be an understatement to suggest that Canada's Arctic region is disproportionately affected by climate change, a global phenomenon that may spell the end of traditional ways of life.

In Nunavut, a key message that the mayor and councillors of the community of Cambridge Bay left with the Committee was that climate change is very real and is well under way. Climate change was a subject frequently raised in our discussions in the Northwest Territories, where the greatest temperature increases within the Canadian North have been experienced.

Witnesses told the Committee that the effects of climate change are already apparent. The permafrost (or permanently frozen soil) is melting as a result of warmer temperatures, destabilizing infrastructure. Wildlife migrations are becoming unreliable. Plants, land animals, birds and fish are appearing in areas where they had not previously been seen. Variable and unpredictable weather, earlier spring ice break-ups, later autumns and freeze-ups, and loss of snow cover have been observed. Winter roads are reportedly melting early. Sea ice, which provides a transportation and hunting platform for several months of the year, is less predictable than in the past, and more dangerous.

The coastline is also changing. The reduction of sea ice has exacerbated the effect of ocean storms, and the greater wave action has brought on the serious problem of shoreline erosion. Tuktoyaktuk, NWT, a community of approximately 870 people located on the shore of the Arctic Ocean north of the Arctic Circle near the Mackenzie Delta, has experienced the fastest rate of coastal erosion and permafrost degradation in the country.

¹¹ In northern Yukon, there are no communities on the Beaufort Sea coast.

¹² See SCOFO, *Controlling Canada's Arctic Waters: Role of the Canadian Coast Guard*, December 2009, pp. 35–37, <http://www.parl.gc.ca/40/2/parlbus/commbus/senate/com-e/fish-e/rep-e/rep07dec09-e.pdf>.

Significant scientific work has been conducted in the region in conjunction with the International Polar Year (IPY) initiative (2007–2008). The first effort of its kind in 50 years, the IPY project was the largest international program of research focused on the Arctic and Antarctic regions ever undertaken. Climate change effects and adaptation, and the health and well-being of northern Canadians, were priority areas for science and research under Canada's IPY program.¹³

Northern Canadians, the people who will be most affected, will need to develop the capacity to adapt to the effects of climate change. Adaptation recognizes that these effects are inevitable. The goal is to minimize the adverse consequences and maximize benefits. In this regard, funding is considered important.¹⁴

With respect to adaptation, a major ongoing research initiative in Canada has been ArcticNet, a major goal of which is “to engage Inuit organizations, northern communities, universities, research institutes, industry as well as government and international agencies as partners in the scientific process and the steering of the Network.”¹⁵ To that end, Inuit are involved at all levels in the Network, and “Integrated Regional Impact Studies” are being conducted on human communities and on marine and terrestrial coastal ecosystems.¹⁶

The Arctic is growing in strategic and economic importance. Because of climate change and the receding of the sea ice, the region is becoming more accessible to tourism and commercial shipping. A potentially serious challenge to Canadian sovereignty in the waters surrounding the islands of the Canadian Arctic Archipelago concerns the right to control shipping in the Northwest Passage – the water routes that connect the Davis Strait in the east to the Beaufort Sea in the west. But, as the Committee reported last year, the Inuit's historical rights and centuries-old use of Arctic waters and ice for fishing, hunting and trapping can be relied on to reinforce Canada's title to the waterway.¹⁷

¹³ Patrick Borbey, Assistant Deputy Minister, INAC, *Committee Proceedings*, 26 March 2009. The focus on “people issues” was said to distinguish Canada's IPY program from that of other countries, which focused more on the natural sciences. Canada was the first country to announce funding for IPY activities, the largest amount of any Arctic country (more than \$150 million).

¹⁴ Ethel Blondin-Andrew, Chairperson, Sahtu Secretariat, *Committee Proceedings*, 23 September 2009. In December 2007, the federal government budgeted \$85.9 million (until 31 March 2011) to help Canadians increase their capacity to adapt.

¹⁵ See ArcticNet, “Rationale,” at: <http://www.arcticnet.ulaval.ca/aboutus/rationale.php>.

¹⁶ SCOFO (April 2009), p. 9.

¹⁷ *Ibid.*, pp. 37–42. Inuit have fished, hunted and trapped in the waters and on the sea ice of the Archipelago since time immemorial. In theory, Canada, in defending its sovereignty claim against other nations in regard to shipping in the Northwest Passage, can invoke the long unbroken history of their usage of the lands and waters.

Climate change and the retreat of the sea ice are making the circumpolar region more accessible to resource exploration and development. Enormous hydrocarbon resources are suspected to exist below the sea floor of the Arctic Ocean,¹⁸ and much is at stake for Canada in terms of future economic opportunities.¹⁹

Geological resources in Canada's North include minerals (e.g., diamonds, gold, lead, zinc, copper, silver, uranium, iron) and natural gas and petroleum. One quarter of Canada's remaining discovered resources of conventional petroleum, and one third to one half of the estimated potential are located in the region.²⁰ If the proposed Mackenzie Gas Project ever gets underway, the Northwest Territories will experience considerable activity.

Participants at our meetings were optimistic about the prospect of new resource development opportunities, but were also concerned about how development will take place. Northern ecosystems need to be protected, and communities and cultures sustained. Previous economic development has not always translated into economic benefits for Aboriginal people. But, with the settlement of land claims, conditions exist for them to share in the wealth generated by economic development.²¹ First Nations and Inuit are now central participants in economic development.

B. Comprehensive Land Claims

With the conclusion of the Nunatsiavut (Labrador Inuit) land claim settlement agreement in December 2005, the entire northern half of Canada is governed by comprehensive land claims agreements (see Figure 1).²² These modern treaties have fundamentally changed the political landscape in the North and the way federal programs are delivered, including those of the Department of Fisheries and Oceans (DFO).

¹⁸ In July 2008, the US Geological Survey estimated that the area north of the Arctic Circle accounts for about 13% of the world's undiscovered oil, 30% of its undiscovered natural gas, and 20% of undiscovered natural gas liquids. Approximately 84% of these estimated resources are thought to lie in offshore areas, and natural gas is expected to be three times more abundant than oil.

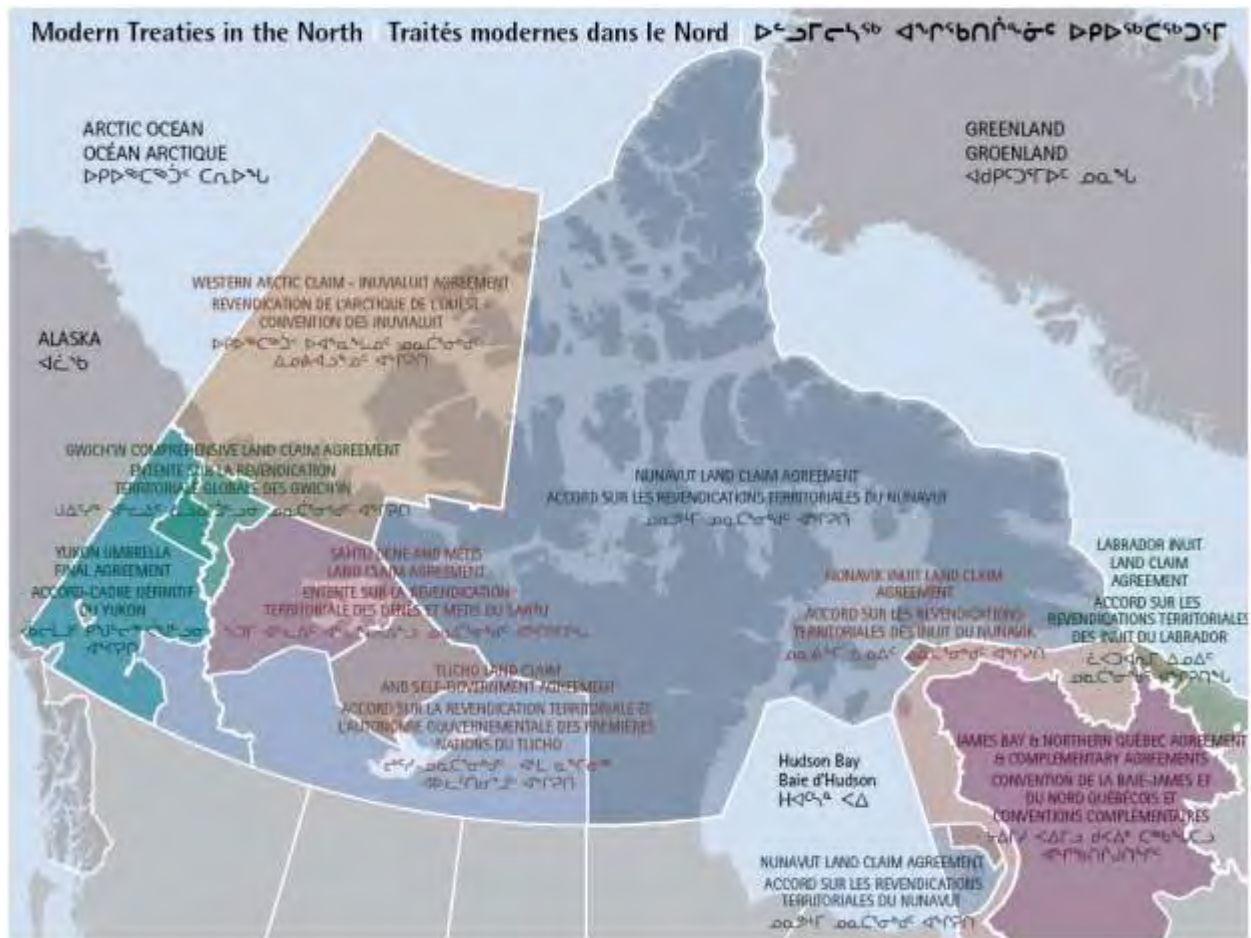
¹⁹ The extent to which Arctic coastal countries will lay national claims to the seabed outside their 200-mile Exclusive Economic Zones is a matter to be determined in accordance with specific rules laid down in the UN Law of the Sea Convention. However, disputes concerning overlapping claims could arise. SCOFO (April 2009), pp. 18–20.

²⁰ INAC, The Canadian North – Active Exploration and New Development, <http://www.ainc-inac.gc.ca/nth/og/cn-eng.asp>.

²¹ Patrick Borbey, *Committee Proceedings*, 26 March 2009.

²² About 40,000 Inuit live in Inuit Nunaat, or the “Inuit homeland” in Inuktitut, a region stretching across Canada's North from Newfoundland and Labrador (Nunatsiavut) and northern Quebec (Nunavik) in the east, to the Northwest Territories (the Inuvialuit Settlement Region) in the northwest corner of the Northwest Territories and the northern portion of Yukon.

Figure 1 – Map of Modern Treaties in Canada



Source: Government of Canada, *Canada's Northern Strategy: Our North, Our Heritage, Our Future*, October 2009, <http://www.northernstrategy.ca/cns/cns-eng.asp>, p. 29.

The James Bay and Northern Quebec Agreement (JBNQA) – the first modern treaty and comprehensive claim in Canada – was signed by the governments of Canada and Quebec with the Inuit of northern Quebec and the Cree of the James Bay region in 1975. The JBNQA, which covers approximately two thirds of the surface area of the province of Quebec, subsequently set the tone for other comprehensive claims.²³

In the Northwest Territories, the Inuvialuit signed the Inuvialuit Final Agreement in June 1984. There followed a comprehensive land claim agreement with the

²³ In 1978, the Northeastern Quebec Agreement was signed, amending the James Bay and Northern Quebec Agreement to integrate the Naskapi. In July 2008, the Nunavik Inuit Land Claims Agreement came into effect, settling unresolved issues stemming from the James Bay and Northern Quebec Agreement. The agreement covers offshore areas and islands in the Hudson and Ungava Bay areas.

Gwich'in (the Gwich'in Final Agreement) in April 1992, with the Sahtu Dene (the Sahtu Dene and Métis Final Agreement) in September 1993, and the Tlicho in August 2003 (the Tlicho Land Claims and Self-Government Agreement), the first treaty in the Northwest Territories to incorporate land claims and constitutionally protected self-government provisions.

Today, most of the Northwest Territories is covered by Comprehensive Land Claims Agreements that give Aboriginal people the authority to manage their lands and resources.²⁴ With the signing of the Nunavut Land Claims Agreement in 1992, the territory of Nunavut was created on 1 April 1999.²⁵

Generally speaking, the settlement of land claims in Canada's North provided Aboriginal groups with:

- title to substantial areas of land within their traditional territories (mostly to the surface only but also to smaller areas of the sub-surface);
- economic benefits including capital transfers, resource revenue-sharing and equitable access to government contracting, procurement and economic programs;
- rights to participate in co-managed land, resource and environment regimes; and
- preferential or exclusive harvesting rights to fish and wildlife.²⁶

In the Northwest Territories, the Inuvialuit, the Gwich'in and their neighbours to the south, the Sahtu, are also in the process of negotiating self-government agreements with the federal and territorial governments.²⁷

²⁴ Outstanding land and governance issues in the southern part of the Northwest Territories exist with the Dehcho Dene First Nations, the Dogrib (the Tlicho Dene), the Akaitcho Dene and the Métis people. Patrick Borbey, *Committee Proceedings*, 26 March 2009; Burt Hunt, Regional Director, Fisheries and Aquaculture Management, Central and Arctic Region, DFO, *Committee Proceedings*, 12 May 2009.

²⁵ The Nunavut government is the only one in Canada that functions within the framework of a land claim agreement. The Nunavut Land Claims Agreement is the largest in Canada with respect to geographic area.

²⁶ Joint Review Panel (JRP), *Foundation for a Sustainable Northern Future*, Report of the Joint Review Panel for the Mackenzie Gas Project, December 2009, Chapter 1, p. 6, <http://www.ngps.nt.ca/report.html>.

²⁷ Patrick Borbey, *Committee Proceedings*, 26 March 2009. Self-government agreements would provide a legal basis for Aboriginal governments to assume additional powers and responsibilities in areas currently under the jurisdiction of the federal or territorial government, such as taxation, social programs, education, health care and justice. Most of the Yukon is now covered by self-

The protection of the environment is a longstanding priority in the Northwest Territories. Participants at our meetings made us aware that the Inuvialuit Settlement Region has an extensive system of protected and special management areas, including three national parks (covering an area of approximately 50,000 square kilometres), a territorial park and five Canadian Wildlife Service migratory bird sanctuaries.²⁸ The Committee learned in its discussions that a Marine Protected Area (called Tarium Niryutait) may soon be officially designated in the region.

Further to the Gwich'in Final Agreement and its land-use planning process,²⁹ a number of important conservation areas have been established. The Sahtu Dene and Métis Comprehensive Land Claim Agreement also established a land-use planning process to create parks and other protected areas.³⁰ In June 2009, the federal government, with the Dehcho First Nations, announced legislation to increase the area of Nahanni National Park, giving protection to more than 90% of the Dehcho First Nations' area of interest.

Two separate environmental assessment regimes operate in the Northwest Territories, depending on the location of proposed projects. In the Inuvialuit Settlement Region (ISR), the *Canadian Environmental Assessment Act* and the Inuvialuit Final Agreement apply. The regime is based on a system of joint management (co-management) involving the Inuvialuit and territorial and federal levels of government. The *Northwest Territories Waters Act* of 1972 established the Northwest Territories Water Board for the conservation, development and utilization of water.³¹

With the exception of the ISR and Wood Buffalo Park, the *Mackenzie Valley Resource Management Act* of 1998 applies in the rest of the Northwest Territories. The Act established the Mackenzie Valley Environmental Impact Review Board, which leads the process of considering the potential impact of proposed projects in the region. A number of

governing agreements with First Nations. Because Inuit in Nunavut comprise approximately 85% of the population, there are no Inuit-specific self-government negotiations in the territory.

²⁸ Duane Smith, Vice Chair, Inuvialuit Regional Corporation, *Committee Proceedings*, 23 September 2009.

²⁹ Gwich'in Land Use Planning Board, *Working for the Land: Gwich'in Land Use Plan*, August 2003, http://www.gwichinplanning.nt.ca/publications/lupd/final/Gwichin_Plan.pdf.

³⁰ See Sahtu Land Use Planning Board, <http://www.sahtulanduseplan.com/>; INAC, "A Citizen's Guide to INAC's Environmental Stewardship Roles in the NWT," <http://ainc-inac.gc.ca/ai/scr/nt/ntr/pubs/esfcg-eng.asp>; Northwest Territories Water Board, <http://www.nwtwb.com/index.html>.

³¹ NWT Board Forum, "The Big Picture: Other Regulators," <http://nwtboardforum.com/partners/the-big-picture/>.

independent co-management boards were also created to run the various stages of the assessment and regulatory processes.³²

C. Canada's Northern Strategy

Led by Indian and Northern Affairs Canada (INAC), the federal government embarked upon a comprehensive new strategy for northern Canada, called "Canada's Northern Strategy," in August 2007.³³ A number of commitments have been made in support of the Northern Strategy,³⁴ which were reaffirmed more recently with the publication of the policy paper entitled *Canada's Northern Strategy: Our North, Our Heritage, Our Future* on 26 July 2009.³⁵

The Northern Strategy is central to the mandate of INAC, which is responsible for a number of the Government of Canada's roles in the North.³⁶ INAC supports northern and political development, the management of federal interests in the region, and the promotion of sustainable development of its natural resources.³⁷ Its responsibilities include oil and gas development, mining and minerals, northern science and technology, devolution, land claims and self-government agreements, water, food and nutrition, participation in the Arctic Council, and the Northern Contaminated Sites Program.³⁸

In August 2009, the federal government launched the Canadian Northern Economic Development Agency (CanNor) to co-ordinate the delivery of federal support at the regional level.³⁹ Responsibility for the Strategic Investments in Northern Economic Development (SINED) program was transferred from INAC to the new agency, which now

³² These boards include the Gwich'in, Sahtu and Wek'èezhì land and water boards, and the Gwich'in and Sahtu land use planning boards. Half of the board members are nominated by Aboriginal land claim organizations, and the other half by the federal and territorial governments. See Mackenzie Valley Review Board, <http://www.reviewboard.ca/>.

³³ National Defence contributes to the Northern Strategy by meeting the expectations of the *Canada First Defence Strategy*.

³⁴ Government of Canada, Canada's Northern Strategy, "Recent Northern Strategy Commitments," <http://www.northernstrategy.ca/nsc-eng.asp>.

³⁵ Government of Canada, *Canada's Northern Strategy: Our North, Our Heritage, Our Future*, October 2009, <http://www.northernstrategy.ca/cns/cns-eng.asp>.

³⁶ See INAC, "Mandate, Roles and Responsibilities," <http://www.ainc-inac.gc.ca/ai/arp/mrr-eng.asp>.

³⁷ Trish Merrithew-Mercredi, *Committee Proceedings*, 21 September 2009.

³⁸ Government of Canada, Canadian Northern Economic Development Agency, "About the Agency – FAQ," <http://www.north.gc.ca/aa/fq-eng.asp>.

³⁹ Government of Canada, Canadian Northern Economic Development Agency, <http://www.north.gc.ca/index-eng.asp>. Also announced in August 2009 was that CanNor's headquarters would be located in Iqaluit, Nunavut, with district offices in Yellowknife, NWT, and Whitehorse, Yukon.

administers \$90 million in federal funding over five years (divided equally among the three territories).⁴⁰ Also transferred was the Community Adjustment Fund, as well as infrastructure and Aboriginal business and development programs.

CanNor's role, like that of other regional development agencies in Canada, includes the co-ordination and delivery of federal economic development activities at the regional level, and policy development. INAC officials assured the Committee that northern fisheries are a part of economic development in the same way that the Atlantic Canada Opportunities Agency, for example, invests in fishery-related projects on the East Coast.⁴¹

Other aspects of Canada's Northern Strategy relate to development and improved governance. For example, over a period of several years, the federal government has been engaged in a process of devolution with the territorial governments (i.e., the transfer of province-like responsibilities to the territorial governments). Since April 2003, the Yukon government has exercised administrative control (but not ownership) of surface and sub-surface natural resources on public lands in the territory, and negotiations regarding the eventual transfer of similar rights to the Northwest Territories and Nunavut are ongoing.

Strengthening and demonstrating Canada's sovereignty in the North constitute one of the four priorities of the Northern Strategy, Canada's vision for "a new North."⁴² Northerners, for their part, view matters such as economic development, infrastructure, housing, health care, education and training as critical expressions of Canadian sovereignty.

D. Fisheries and Co-Management

The Department of Fisheries and Oceans has considerable responsibilities in Canada's North. DFO's fishery management and conservation and protection programs in Nunavut and the Northwest Territories are delivered through Area offices of its Central and Arctic region (see Figure 2),⁴³ which is by far the Department's largest administrative region,

⁴⁰ SINED is a suite of programs that provide funding for projects across the North. Investment decisions are guided by five-year investment plans developed with the territories. Office of the Prime Minister, "PM Launches New Regional Economic Development Agency for Canada's North," Backgrounder, 18 August 2009, <http://www.northernstrategy.gc.ca/index-eng.asp>.

⁴¹ Patrick Borbey, *Committee Proceedings*, 26 March 2009.

⁴² The Northern Strategy focuses on four priorities: exercising Canada's sovereignty in the Arctic, promoting economic and social development, improving and devolving northern governance, and protecting Canada's environmental heritage.

⁴³ See DFO, "Fisheries Management Directorate – Overview," <http://www.dfo-mpo.gc.ca/regions/central/fish-peches/overview-apercu-eng.htm>.

encompassing 71% of Canada's coastline, 67% of its freshwater and 65% of the country's marine waters.⁴⁴

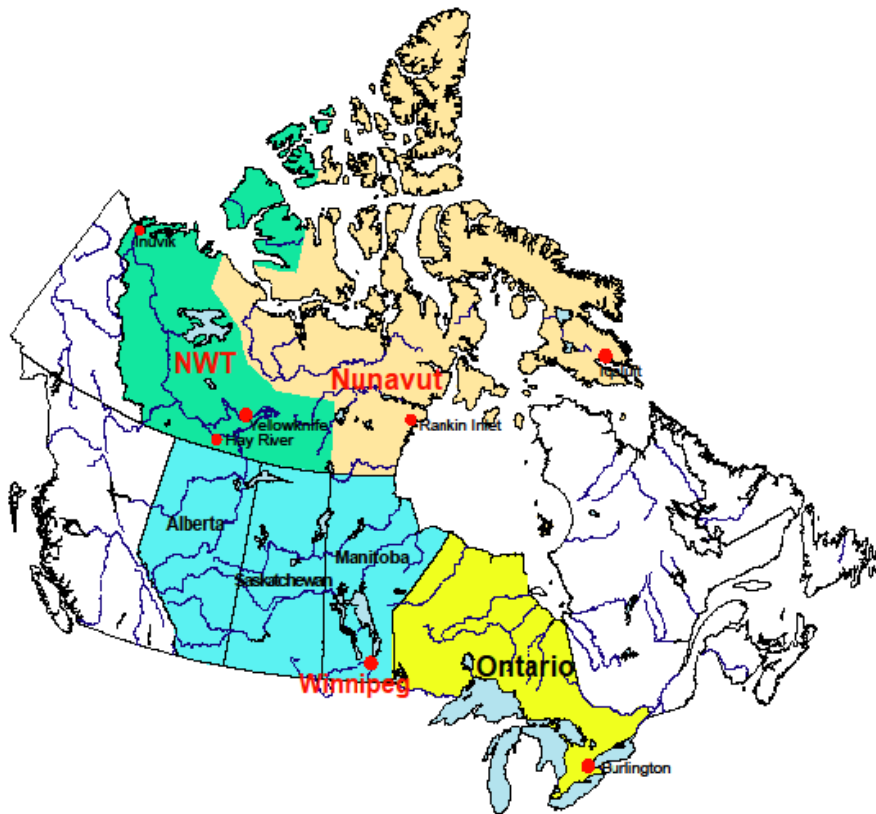
At a briefing at the Freshwater Institute in Winnipeg on 18 September 2009, DFO staff provided the Committee with an overview of DFO's scientific and fisheries management programs in the North.⁴⁵ That briefing paved the way for discussions that later followed in:

- Rankin Inlet (population 2,358 in 2006) – the second-largest community in Nunavut (next to Iqaluit) and the business and regional centre of the Kivalliq (the portion of Nunavut's mainland to the west of Hudson Bay);
- Cambridge Bay (population of 1,477) – the largest community in the Kitikmeot (Nunavut's western region), located on the southwestern side of Victoria Island along the Northwest Passage. The community's Inuktitut name is Iqaluktutiak, which means "fair fishing place";
- Yellowknife (population 18,700) – the capital of the Northwest Territories, situated on the north shore of Great Slave Lake. The city is a centre of territorial and federal government services and a service centre for the diamond industry;
- Hay River (population 3,648) – located on the south shore of Great Slave Lake. A Freshwater Fish Marketing Corporation fish-packing plant is located here, as well as the Canadian Coast Guard's only major facility in the western region, and the Northern Transportation Company Limited (or NTCL), the primary carrier along the Mackenzie River; and
- Inuvik (population 3,484) – an important regional health, education and transportation centre located in the Mackenzie Delta approximately 100 kilometres from the Arctic Ocean and 200 kilometres north of the Arctic Circle.

⁴⁴ DFO, "About Us," <http://www.dfo-mpo.gc.ca/regions/central/about-apropos/index-eng.htm>. DFO's six administrative regions are: Central and Arctic, Pacific, Quebec, Maritimes, Gulf, and Newfoundland and Labrador.

⁴⁵ The Freshwater Institute is a national centre of expertise in aquatic biology and freshwater and marine fisheries. In conjunction with the Bayfield Institute (in Burlington, Ont.), the Institute is the focal point for scientific research in the Central and Arctic Region, and for fishery, fish habitat and oceans management programs.

Figure 2 – DFO’s Central and Arctic Region



Source: DFO, “Regional Map,” <http://www.dfo-mpo.gc.ca/regions/central/fish-peches/map-carte-eng.htm>.

North of 60, more than 300 stocks of fish and more than 50 stocks of marine mammals are harvested.⁴⁶ In the region of the Beaufort Sea, there are 51 marine fish species, and 49 species live in freshwater for at least part of their life-cycle.⁴⁷ Some fish, such as Arctic char, have two types of populations: landlocked forms, which live only in freshwater, and anadromous forms, which migrate to the ocean to feed before returning to spawn in freshwater. In the case of Arctic char, a member of the salmon family and a vitally important component of the Inuit diet, the anadromous form is the most sought after for food and commercial use.

Fish in Canada’s North are harvested in household fisheries, which include traditional and subsistence fishing by Aboriginal people and licensed domestic fishing by non-Aboriginal northerners. Species such as Arctic char, lake herring, lake trout, whitefish,

⁴⁶ Ibid.

⁴⁷ More fish species (149) are found in the eastern Arctic Ocean. Working Group on General Status of NWT Species, *NWT Species 2006–2010, General Status Ranks of Wild Species in the Northwest Territories*, 2006, http://www.enr.gov.nt.ca/live/documents/documentManagerUpload/NWT_Species2006.pdf.

suckers, Arctic grayling, cisco and inconnu, are harvested for food. In marine waters, marine mammals – beluga, narwhal and seals – are critical components of the Inuit diet.

Sport fishing in the remote rivers and pristine lakes of the North is world-class and attracts thousands of anglers and visitors each year. A number of lodges operate on Great Slave Lake and Great Bear Lake, the largest lake entirely within Canada. In Nunavut, Tree River is renowned for its Arctic char.⁴⁸ In many communities, tourism is an important economic contributor to local economies.

Fish are also harvested commercially for both local and distant markets. Commercial harvesting activity offers an opportunity to earn incomes where employment is scarce and where most fishermen are of Aboriginal origin. In the western Arctic, fisheries are carried out primarily inland and in freshwater lakes,⁴⁹ unlike in the eastern Arctic, where large-scale offshore turbot and shrimp fisheries operate off eastern Baffin Island.

As in other regions of Canada, DFO is responsible under the *Fisheries Act* for the conservation and protection of the North's fish and marine mammals and their habitats. The priorities are to conserve stocks, to ensure access to fish and marine mammals for subsistence purposes, and to regulate access to commercial, domestic and recreational fisheries. Under the *Oceans Act*, the Minister of Fisheries and Oceans is also charged with leading oceans management.⁵⁰

Where comprehensive land claim agreements are in place, the Committee learned that there are shared or “co-management” arrangements for wildlife and habitat management, research, environmental impact screening and review, land use and conservation planning and environmental monitoring, through representatives of Aboriginal organizations and federal and territorial governments. “Co-management” ranges from large-scale, multi-stakeholder projects between government authorities and Aboriginal organizations, to small-scale community-based projects.

⁴⁸ David Burden, Associate Regional Director General, Central and Arctic Region, DFO, *Committee Proceedings*, 21 September 2009.

⁴⁹ *Ibid.*

⁵⁰ With the coming into force of the *Oceans Act* on 31 January 1997, DFO embarked on integrated ocean management planning for Canada's coastal and marine waters. Part II of the *Oceans Act* (“Oceans Management Strategy”) obliges the Minister of Fisheries and Oceans to lead the development and implementation of a national strategy for estuarine, coastal and marine ecosystems, based on three principles: the precautionary approach, sustainable development, and integrated management of oceans activities, which involves ongoing and collaborative planning by all interested parties, stakeholders and regulators.

Co-management, a subject frequently mentioned during our northern visit, is integral to DFO's activities in the Arctic.⁵¹ In the Northwest Territories, Nunavut and the Yukon North Slope (the northern portion of Yukon), DFO fishery resource programs are conducted in conjunction with co-management boards established under land claims settlements.⁵² In this region of the Arctic, DFO's "primary partners" are:

- the Fisheries Joint Management Committee (FJMC)⁵³
- the Sahtu Renewable Resources Board (SRRB)⁵⁴
- the Gwich'in Renewable Resources Board (GRRB)⁵⁵
- the Nunavut Wildlife Management Board (NWMB).⁵⁶

Although the co-management boards differ somewhat from one region to the next, their roles are similar: they act in the public interest and are vehicles for shared decision-making and for responding to local priorities and the needs and values of Aboriginal communities.⁵⁷ According to DFO, much of the research conducted by DFO's Arctic Research Division is driven by the needs of the boards, which also fund research. The GRRB receives approximately \$700,000 in annual core funding from INAC, which funds board positions, including a biologist. The SRRB receives approximately \$750,000 per year, while the FJMC's annual budget was reported to be \$600,000.⁵⁸

In essence, the objective of co-management is to bridge cultural differences between local users and fisheries managers for the purpose of improving resource management. This is accomplished by combining traditional ecological knowledge (TEK)⁵⁹ and the experience and observations of Aboriginal people with western scientific research

⁵¹ David Burden, *Committee Proceedings*, 21 September 2009.

⁵² Where land claim have not been settled, DFO interacts mainly with communities through the Aboriginal Fisheries Strategy and the Aboriginal Aquatic Resources and Oceans Management Program.

⁵³ FJMC, <http://fishfp.sasktelwebhosting.com/>.

⁵⁴ Sahtu Renewable Resources Board, <http://www.srrb.nt.ca/>.

⁵⁵ Gwich'in Renewable Resources Board, <http://www.grrb.nt.ca/>.

⁵⁶ Nunavut Wildlife Management Board, <http://www.nwmb.com/>.

⁵⁷ The Minister of Fisheries and Oceans, however, ultimately has final say in decision-making. Burt Hunt, *Committee Proceedings*, 12 May 2009.

⁵⁸ David Burden, *Committee Proceedings*, 21 September 2009; DFO, "Arctic Research," <http://www.dfo-mpo.gc.ca/regions/central/science/aar-raa/index-eng.htm>. Amy Thompson, Executive Director, Gwich'in Renewable Resources Board, *Committee Proceedings*, 23 September 2009; Jody Snortland Pellissey, Executive Director, Sahtu Renewable Resources Board, *Committee Proceedings*, 23 September 2009; Vic Gillman, Chairman, FJMC, *Committee Proceedings*, 6 October 2009.

⁵⁹ Inuit traditional knowledge is known as Inuit Qaujimajatuqangit, or "IQ."

and management techniques. Another important aspect of co-management is decision-making by consensus.

By devolving authority to local levels of administration, government authorities increase compliance with the rules, and data-gathering and knowledge of fish stocks are improved.⁶⁰

Much of DFO's scientific effort in the Arctic involves the collection of baseline data to better monitor what changes might take place over time.⁶¹ In this respect, TEK was said to be particularly valuable, given the lack of baseline information about the environment and ecosystems and the high costs and difficulties associated with conducting stock assessments in the Arctic.⁶² TEK can help develop a more complete picture of changes that may take place over long periods.

Amy Thompson, a fisheries biologist and the executive director of the Gwich'in Renewable Resources Board, emphasized in her testimony the importance of community-based information, such as the program for Rat River Dolly Varden char, a stock that historically had been overfished.⁶³ Because of concerns for the stock, a working group was formed in 1995, with the result that community members voluntarily reduced their catch and a harvest-based monitoring program was initiated that year. The monitoring program continues to this day; local fishers sample fish and collect biological data (e.g., information on age, sex, maturity, body condition, and abundance). A traditional knowledge report was produced in cooperation with DFO.⁶⁴

Judging from what we heard in the western Arctic, co-management appears to be working well as a means of shared decision-making.

When Max Kotakak Sr., a long-serving member of the Fisheries Joint Management Committee and an active hunter and fisher, appeared before us, he described co-management in the Inuvialuit Settlement Region as "very positive," very much a "success story." Co-management had made significant use of TEK in resource management decision-making, he said, and similar systems in Canada and elsewhere in the world could help

⁶⁰ Standing Senate Committee on Fisheries, *Selected Themes on Canada's Freshwater and Northern Fisheries*, February 2002, p. 25.

⁶¹ Michelle Wheatley, Regional Director, Science, Central and Arctic Region, DFO, *Committee Proceedings*, 1 May 2008.

⁶² Patrick Borbey, *Committee Proceedings*, 26 March 2009.

⁶³ Amy Thompson, *Committee Proceedings*, 23 September 2009. Dolly Varden is a fish species closely related to the Arctic char and lake trout and is an important subsistence food.

⁶⁴ Mary Ann Ross, Vice-President, Gwich'in Tribal Council, *Committee Proceedings*, 23 September 2009.

fishermen and protect their resources.⁶⁵ Vic Gillman, the FJMC's chairman, made a point of noting in his presentation that DFO had been "a good partner in the Western Arctic."⁶⁶

In short, co-management was widely supported by the fisheries stakeholder groups the Committee heard. DFO also recognizes TEK as fundamental to sound fisheries management in the North.

ISSUES AND RECOMMENDATIONS

A. The Commercial Char Fishery

Canada's North faces unique challenges in the promotion of economic and social development, one of the Northern Strategy's four priorities. The evidence heard by the Committee suggests that commercial fishing for Arctic char represents a good opportunity for economic growth in Nunavut.

Arctic char inhabit marine waters, lakes and rivers throughout the circumpolar Arctic. In Nunavut, the fish are widespread and harvested in subsistence, recreational/sport and small-scale fisheries using passive fishing gear (i.e., gill nets and weirs). Arctic char, however, represents only a very small portion of the territory's total commercial catch.⁶⁷ Unlike the much larger shrimp and turbot fisheries off Baffin Island, the char fisheries employ considerably fewer people for shorter periods of time (i.e., when the fish return to freshwater to spawn).⁶⁸

Commercial char harvesting in Nunavut led to the development of modern, small-scale community-based fish plants that process the locally caught fish. The Nunavut Development Corporation (NDC),⁶⁹ a territorial Crown corporation established when Nunavut was created in 1999, operates three facilities: Kitikmeot Foods Ltd. in Cambridge Bay, on Victoria Island; Kivalliq Arctic Foods Ltd., in Rankin Inlet; and Pangnirtung Fisheries Ltd., in Pangnirtung, on the eastern coast of Baffin Island.⁷⁰ A fourth plant, Iqaluit Enterprises, in Iqaluit, specializes in the production of smoked char and is privately owned.

⁶⁵ Max Kotakak Sr., Inuvialuit Member, FJMC, *Committee Proceedings*, 6 October 2009.

⁶⁶ Vic Gillman, *Committee Proceedings*, 6 October 2009.

⁶⁷ See NDC, Nunavut's Truly Wild Arctic Char, <http://www.trulywild.ca/>.

⁶⁸ In 2008, the landed value for shrimp in Nunavut (766 tonnes) was \$15.4 million; for turbot (also known as Greenland halibut), the catch (6,925 tonnes) was worth \$42 million.

⁶⁹ See NDC, "About the Nunavut Development Corporation," <http://www.ndcorp.nu.ca/ndc/en/about/aboutndc/>.

⁷⁰ Nunavut Development Corporation also owns 51% of the voting stock in Papiruk Fisheries Ltd., a small operation in Whale Cove, about 72 kilometres from Rankin Inlet, which supplies Kivalliq

The mandate of the NDC, which markets the fish nationally and internationally under the “Truly Wild” banner, is to create employment and income opportunities for residents of Nunavut; to develop, maintain and stimulate the growth of local businesses; and to promote economic diversification.

When in Nunavut, the Committee visited the fish plant in Rankin Inlet operated by Kivalliq Arctic Foods Ltd. (KAFL), a wholly-owned NDC subsidiary that processes both caribou meat and Arctic char. The Committee also toured the facility operated by Kitikmeot Foods Ltd. (KFL) in Cambridge Bay, which processes muskox and Arctic char. The NDC owns 98% of the voting stock in KFL, the remaining 2% being held by Ikaluktutiak Co-operative Ltd.⁷¹

It was impressed upon the Committee that KFL and KAFL generate much-needed local employment (e.g., no machinery is used to process the fish) and that fishermen are provided with a market for their catch and a means to pursue a traditional lifestyle (see Table 1).⁷²

Arctic Foods Ltd. with Arctic char. As part of its previous study on Nunavut fisheries, the Committee visited Pangnirtung Fisheries Ltd. in June 2008. The NDC holds 51% of the voting stock in the company, which processes Arctic char. Its main product by far, however, is turbot.

⁷¹ Ikaluktutiak Co-operative Ltd., which began as a craft store and hotel in the late 1950s, established the char fishery in 1960. Today, the co-operative owns a number of businesses in town. Ikaluktutiak Co-operative Ltd. is a member of Arctic Co-operatives Limited (or ACL), a service federation owned and controlled by a number of community-based co-operatives in Nunavut, the Northwest Territories and northern Manitoba.

⁷² Kitikmeot Foods Ltd. reported a net loss of \$254,892 on sales worth \$443,265 in 2008. Kivalliq Arctic Foods Ltd. returned a net profit after subsidies of \$198,902 on sales worth \$1,177,292. Papiruaq Fisheries Ltd. generated \$28,565 in revenues, and a net profit of \$8,242. NDC, 2007–2008 *Annual Report*, http://www.ndcorp.nu.ca/ndc/content/en/pdf/annual_reports/NDC_annual_report_2008.pdf.

Table 1 – Job Creation, KAFL and KFL, 2007–2008

NDC Subsidiary	Number of jobs created				
	Direct *	Direct traditional [†]	Indirect [§]	Total (2008)	Total (2007)
KAFL	8.1	0.3	1.2	9.6	18.0
KFL	7.3	3.9	–	11.2	12.6

Note: Hours worked or dollars paid may be aggregated to arrive at the totals shown.

* 50 weeks of employment per year or 1,500 hours of work during the year.

[†] \$27,650 paid during the year to harvesters.

[§] \$27,650 paid to local organizations for labour.

Source: NDC, *2007–2008 Annual Report*, p. 18.

Nunavut's largest char fishery is based at Victoria Island, where a very high-quality catch is landed using weirs. The catch is transported by float plane from neighbouring rivers to Cambridge Bay, where it is processed as value-added products such as fillets, lox, jerky, and whole dressed fish – which is packed on ice in Styrofoam containers and shipped by air to southern markets.⁷³

As elsewhere in Nunavut, DFO, the local hunter and trappers association and the Nunavut Wildlife Management Board jointly manage the fishery. DFO is responsible for stock assessment and recommends harvest levels to the NWMB, which sets the basic needs level and identifies the level of surplus fish that may be allocated to other uses.⁷⁴ Specific in-river quotas are set for commercial fishing only after community subsistence needs are met.

The Committee heard that DFO and residents of Cambridge Bay had developed a form of co-management early in the fishery's history, well before official co-management groups came into being when the Nunavut Land Claims Agreement took effect in 1993. The Department is also currently working to develop a five-year Integrated Fisheries Management Plan (IFMP) with stakeholders in Cambridge Bay to ensure the resource is exploited in a sustainable manner.⁷⁵

⁷³ See Chris Windeyer, "Nunavut Char Hits It Big Stateside," *Nunatsiaq Online*, 10 August 2009, http://www.nunatsiaqonline.ca/stories/article/nunavut_char_hits_it_big_stateside/.

⁷⁴ See Appendix 1 in SCOFO, *Nunavut Marine Fisheries: Quotas and Harbours*, June 2009 (hereafter, SCOFO [June 2009]), <http://www.parl.gc.ca/40/2/parlbus/commbus/senate/com-e/fish-e/rep-e/rep04jun09-e.pdf>.

⁷⁵ DFO is developing IFMPs with resource users throughout Canada, including where land claims have been settled. See DFO, "Integrated Fisheries Management Plans," <http://www.dfo-mpo.gc.ca/fm-gp/peches-fisheries/ifmp-gmp/index-eng.htm>.

Demand for Arctic char is reportedly increasing. The amount of fish shipped from Cambridge Bay to the United States, for instance, nearly doubled to over 2.1 tonnes in 2009. CleanFish, a US-based fish broker that links sustainable artisanal-type fisheries with high-end US restaurants and retailers, contributed to what amounted to a sizeable increase in sales in 2009, from \$443,000 in 2008 to approximately \$600,000.⁷⁶

Ikaluktutiak Co-op president Bill Lyall advised the Committee that much more Arctic char is available to harvest in western Nunavut than what is required to satisfy Inuit food needs, and that the commercial fishing effort could be expanded beyond the current level.

So far, six river stocks of Arctic char have been harvested primarily in the area of Cambridge Bay.⁷⁷ An additional 18 rivers within 100 miles of the fish plant in Cambridge Bay could be fished, according to a 2004 consultant's report prepared for the Nunavut Government.⁷⁸ Kitikmeot Foods Ltd. would like to increase plant throughput, but the cost of transporting the fish from more remote locations was said to be too high.⁷⁹

Recommendation 1:

The Committee recommends that an intergovernmental DFO–Nunavut working group be established to develop a strategy for the development of Nunavut's Arctic char fisheries, including the fishery on Victoria Island, for the social and economic benefits that increased fishing activity could generate, but also to reinforce Canada's presence and sovereignty in the region.

B. The Freshwater Fish Marketing Corporation

In Winnipeg, on 18 September 2009, senior management officials of the Freshwater Fish Marketing Corporation (FFMC) briefed Committee members on its operations and activities. Modelled after the Canadian Wheat Board, the FFMC consolidates

⁷⁶ "Nunavut Char a Hit in US Restaurants," CBC News,

<http://www.cbc.ca/canada/north/story/2010/01/11/nunavut-char-sales.html>.

⁷⁷ Canadian Science Advisory Secretariat, Terms of Reference, Cambridge Bay Arctic Char – Regional Advisory Meeting, 27–28 January 2010, Cambridge Bay, Nunavut, http://www.dfo-mpo.gc.ca/CSAS/Csas/Schedule-Horraire/Details/2010/01/01_27-28a_E.pdf.

⁷⁸ Brubacher Development Strategies Inc., *An Overview of Nunavut Fisheries: Background Paper*, 31 March 2004, p. 52.

⁷⁹ In addition to direct subsidies from the Nunavut government, KFL and KAFL both take advantage of a territorial fish freight subsidy. The objective of the subsidy is to allow Nunavut fisheries to be competitive in southern markets. See Nunavut Department of Finance, Grants and Contributions 2008–2009, September 2009, <http://www.gov.nu.ca/finance/publications/gc/gc200809.pdf>.

the production of many small, isolated freshwater fisheries under one processing and selling umbrella.

Established in 1969 as a Crown corporation under the authority of the federal *Freshwater Fish Marketing Act* (FFMA),⁸⁰ the FFMC is the buyer, processor and marketer of all fish legally caught under its jurisdiction, which encompasses the provinces of Alberta, Saskatchewan, Manitoba, a small area of northwestern Ontario, and the Northwest Territories. The FFMA gives the FFMC the exclusive right to market and trade fish in interprovincial and export trade. The Corporation's mandate in the region is:

- to purchase all fish lawfully fished and offered for sale
- to create an orderly market
- to promote international markets
- to increase fish trade
- to increase returns to fishers.⁸¹

As a single-desk seller of the freshwater commercial fish harvested in western Canada, the FFMC provides access to domestic and international markets for many fishermen in small and isolated fishing communities in the region. The FFMC serves approximately 2,100 fishermen who are predominantly Aboriginal,⁸² harvest from more than 265 lakes,⁸³ and are the primary stakeholders in the Corporation.

The FFMC is governed by an 11-member board of directors, including the president and CEO, who is assisted by a three-member executive committee. All board positions are federal order in council appointments, and five of the board members are appointed on the recommendation of the participating province/territory. During the 2008/09 fiscal year, seven directors were fishermen and seven were Aboriginal.⁸⁴

The fish purchased from the fishermen are quality graded by 30 contracted agents and five corporate agencies at 54 delivery points throughout the Corporation's territory, packed in ice-slurry totes and then shipped to the Corporation's 110,000-square-foot, kosher-certified processing plant in the Transcona district of Winnipeg, Manitoba,

⁸⁰ The federal Minister of Fisheries and Oceans is responsible for the implementation of the FFMA, and consequently for the FFMC, and reports to Parliament on its activities.

⁸¹ FFMC's web site can be accessed at: <http://www.freshwaterfish.com>

⁸² Approximately 50% of the fishermen are Status Indian, and another 10% to 20% are non-Status Indian.

⁸³ The catch from Lake Winnipeg in Manitoba was said to represent half of the FFMC's bottom line.

⁸⁴ FFMC, *Freshwater Fish 2009 Annual Report*, p. 5, <http://www.freshwaterfish.com/sites/default/files/FFMC%20Annual-English-2008-09.pdf>.

which the Committee visited in September 2009. Over 150 full-time production staff are employed by the FFMC, a number that may increase during peak periods in summer.⁸⁵

FFMC president John Wood noted in his presentation to the Committee that the Corporation's business model is that of a cooperative; in procuring supply, initial guaranteed prices to fishermen are set and final payments are distributed, when possible, at the end of the operating year. A pool system that allocates receipts and costs by fish species determines initial and final payments. Over the course of the FFMC's 39 years in business, more than \$1 billion have been returned to fishermen.

Besides guaranteeing fishermen a market for their fish regardless of their location or the size of operations (subject to quality specifications), the FFMC provides them with other important services, including a credit system (pre-season credit and short-term weekly credit). The Corporation also helps administer provincial/territorial fishers' longer-term credit and loan programs and community economic development funding.

A majority of participating fishermen (64%) support the single-desk marketing arrangement, but not everyone supports the Corporation's exclusive marketing rights in export and interprovincial fish trade.⁸⁶ The Committee heard that dissatisfaction with the present system comes largely from those wishing to sell higher-valued species privately, and to dump lesser-valued species on the Corporation.

Exports represented 81.4% of total sales, worth \$62.5 million in 2008/09. The fish are marketed in 12 countries and more than 20 US states through the FFMC's sales force and brokers. Approximately 70% of production is shipped to the United States, another 15% is sold in Canada and the remaining 15% is destined for Europe and other countries.⁸⁷ The FFMC serves about half of the freshwater fish market in North America, the other half being supplied by private processors in the Great Lakes fishery and through imports. The Lake Erie fishery, the FFMC's largest competitor, enjoys a competitive advantage because of vertically integrated processing operations and close proximity to the lucrative US market.

⁸⁵ Ibid.

⁸⁶ In 2007, the Federal Minister of Fisheries and Oceans initiated a study to outline options for eliminating the FFMC's monopoly in the marketing of freshwater fish. FFMC, News release, 18 April 2007.

⁸⁷ "Freshwater Fish Marketing Corp," *The Canadian Business Journal*, January 2009, http://www.canadianbusinessjournal.ca/business_in_action/january_09/freshwater_fish_marketing.html.

FFMC products target niche markets.⁸⁸ Of the fish species marketed, four were said to make up most of its business: pickerel (also known as walleye), by far the most valuable species, is sold mainly to northern US midwest states; whitefish goes largely to the US eastern seaboard as a kosher product and to Northern Europe; mullet is sold primarily to the kosher trade to be used in the manufacture of gefilte fish, while northern pike is sold mainly in France.⁸⁹

In the 2008/09 fiscal year, returns to fishermen totalled \$33 million, the highest level in five years, which is attributable to their hard work but also to new marketing strategies adopted by the Corporation, including the expansion into new markets and increase promotion in existing markets.⁹⁰ A stronger US dollar also increased returns from US markets.⁹¹ That said, a number of factors – the downturn in the economy, inventory re-balancing, a number of expenses and changes in accounting standards – reduced corporate net earnings from a profit of \$2.3 million in 2007/08 to a loss of \$721,000 in 2008/09.⁹²

The FFMC's strategic plan calls for an expansion in the size of its business (an increase in revenues from the current \$62 million to more than \$100 million) to gain volume efficiencies and market strength, and for the development of new and value-added products.⁹³

However, the 40-year-old plant in Winnipeg is inefficient, according to the FFMC president, and parts of the aging facility need to be refurbished. New equipment and software need to be purchased. Line operations on the floor need to be improved. Yield monitoring was mentioned as key to improving the efficiency of operations. Maintenance costs at the plant are reportedly increasing. More maintenance is required to support compliance with food safety regulations and worker safety standards and to maintain equipment reliability.⁹⁴

⁸⁸ The fish are marketed as processed (filleted and minced) product, and as whole frozen or whole fresh product, depending on market conditions. Generally, one third of the product is sold fresh, which generates a greater profit. Eighty percent of production is destined for the food service sector.

⁸⁹ The FFMC is the largest supplier of whitefish in Finland, and of whitefish roe in Finland and Sweden. *Freshwater Fish 2009 Annual Report*, p. 5. Northern pike and whitefish that are to be filleted are transported to a fish plant in China because the process of removing bones is labour intensive and prohibitive to making a profit in Canada.

⁹⁰ *Canadian Business Journal* (2009).

⁹¹ Selling prices had previously declined with the value of the Canadian dollar.

⁹² FFMC, *Freshwater Fish 2009 Annual Report*, p. 4.

⁹³ *Canadian Business Journal* (2009).

⁹⁴ According to the Corporation's 2008/2009 Annual Report, \$5.8 million were invested in critical plant upgrades in recent years, which included resurfacing the floors and ceilings and the installation of a new ice-making system, a defrosting line and a new spiral freezer. Since August

Financing is a major issue, and it is not obvious how the FFMC will be able to invest in new capital projects. As a federal Crown corporation without share capital, the FFMC has limited mechanisms and means for much-needed investment in new equipment. The Corporation receives no subsidies or government financial support from any level of government. Its mandate is to conduct its operations on a self-supporting basis while also generating a return to fishermen.⁹⁵ For some species, the Corporation faces declining deliveries because there are fewer fishermen. If payments to fishermen were withheld in order to invest in new plant and equipment, the number of fishermen would decline even more.

Mr. Wood noted that the *Freshwater Fish Marketing Act* is silent on the question of how to replace capital assets over time. Nor does the Act stipulate that the federal government cannot invest in the FFMC, which has not seen a federal investment of any kind since it was created in 1969.

Recommendation 2:

The Committee recommends that the Government of Canada provide the Freshwater Fish Marketing Corporation with adequate ways and means to upgrade equipment and modernize its fish processing operations to ensure the future of the commercial freshwater sector in western Canada.

C. The Great Slave Lake Commercial Fishery

A recurring theme at our meetings in Hay River, NWT, was that the fishing effort on Great Slave Lake (GSL) needs to increase. The fishery is undersubscribed – there are too few fishermen – a rather unique problem for a commercial fishery in Canada.

By far the largest commercial fishery in the Northwest Territories is conducted on GSL – the deepest and fifth-largest lake in North America.⁹⁶ In existence since 1945⁹⁷ and

2009, a new portioning and sizing machine for fillets has increased productivity. FFMC, “New Machine Increases Production Efficiency,” Newsletter, Fall 2009.

⁹⁵ The *Freshwater Fish Marketing Act* requires the Corporation to conduct its operations on a self-sustaining financial basis without appropriations from Parliament. The Corporation may borrow money from commercial banks, with the repayment of the loans guaranteed by the Minister of Finance. Total borrowings to fund operations may not exceed \$50 million, and must be reapproved annually as part of the Annual Corporate Plan. As at 30 April 2009, total borrowings could not exceed \$39.5 million as authorized by the Minister of Finance. FFMC, *Freshwater Fish 2009 Annual Report*, 2009, p. 22.

⁹⁶ Aside from Great Slave Lake, commercial harvesting in the rest of the territory was described to the Committee as being very limited, with small-scale fishing activity taking place in neighbouring lakes. Burt Hunt, *Committee Proceedings*, 12 May 2009.

based in Hay River, the GSL fishery is well established. Until the 1970s, the fishery was a thriving business involving mostly non-indigenous Aboriginal people originally from the Prairie provinces. In the early days, lake trout and whitefish were targeted, but after the collapse of lake trout stocks in the 1960s, lake whitefish became the target species.⁹⁸

A system of area closures, quota limits and restrictions on fishing gear limits both the commercial and the recreational catch.⁹⁹ GSL is divided into fisheries management areas, and those areas open for commercial fishing are allotted annual quotas (i.e., a portion of the lake's total annual catch). DFO and stakeholders are involved in resource management through the Great Slave Lake Advisory Committee (GSLAC), a co-management body chaired by DFO and comprised of local commercial and recreational fishermen, sporting-lodge operators, and Aboriginal groups.

A number of participants in our study advised the Committee that the fishery is well regulated and that the management plans in place ensure the sustainability of the stocks. That said, local interest in the fishery has dwindled, and many fishermen have left the industry. Simply put, the GSL fishery needs more fishermen.

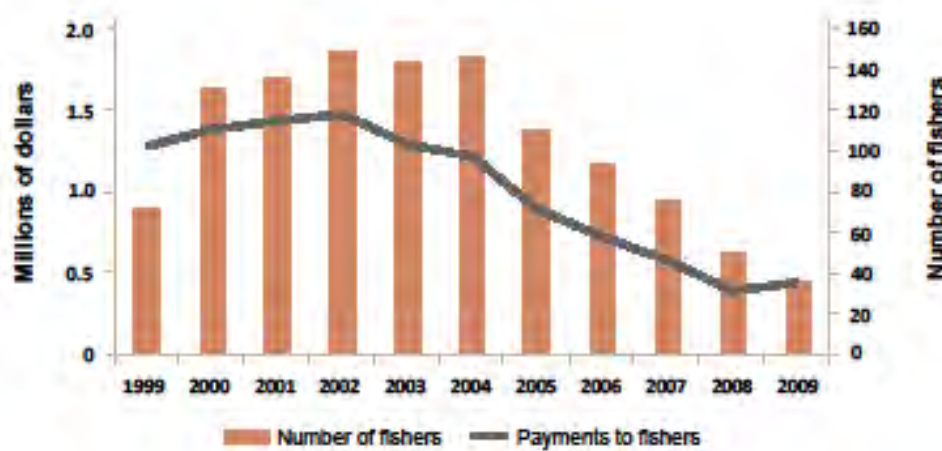
In comparison with historical levels, the participation rate in the fishery is very low. In 2002 there were over 140 fishers, as compared with 40 or so in 2009 (see Figure 3). As a result, quotas are left in the water unfished; of the entire lake quota (of 1,727,400 kilograms) available for harvest in 2008, only 17% (296,011 kilograms) was reportedly landed, down from 1.28 million kilograms in 1997.

⁹⁷ In 1949, 14 private fish companies were in the fishery. By 1969, when the FFMC took over the function of buying and marketing the fish, the number had dropped to four. See Northwest Territories Fishermen's Federation, <http://www.nwtff.org/history.htm>.

⁹⁸ Other species, such as pickerel, northern pike and inconnu are also harvested. Guy Quenneville, "NWT Summer Catch Value Up By Eight Per Cent," *News/North*, June 2009, p. C7, <http://www.nnsi.com/business/pdfs/commercial-fishing.pdf>.

⁹⁹ Natural Resources Canada, *From Impacts to Adaptation: Canada in a Changing Climate 2007*, Chapter 3, Northern Canada, p. 95, http://adaptation.nrcan.gc.ca/assess/2007/index_e.php.

**Figure 3 – Number of Fishermen and Payments,
Fiscal Years Ending 30 April, 1999–2009**



Source: Northwest Territories, *Budget Address 2009–2010*, 5 February 2009, p. A10.

High operational costs and low returns were reasons given for the decline in the number of fishermen.¹⁰⁰ The sector was said to be unable to compete with alternative employment opportunities that offer more attractive wages. Young people are drawn to other industries for employment (e.g., construction, mining and oil and gas). The high costs of entry into the fishery also makes it difficult for them to get started. Older fishermen are retiring, and the tradition of having family members take over the family fishing business has ended for the most part.

Because of reduced fisher participation, deliveries of fish to the Freshwater Fish Marketing Corporation – the buyer, processor and marketer of the catch – have declined. A packing facility operated by the Corporation at Wool Bay near Yellowknife closed in 2007 because of a lack of fish. On 22 September 2009, the Committee toured the remaining FFMC packing facility in Hay River, which was described to the Committee as outdated, inefficient and too large to operate profitably. The plant needs more throughput because of high overhead costs.¹⁰¹

The situation on the lake improved somewhat in 2009 when the total catch declined only slightly in comparison with 2008. Had the length of the fishing season been the

¹⁰⁰ Participants in the fishery who worked from 1 May 2007 to 30 April 2008 collectively received a total final payment of \$400,000 plus a bonus of \$21,000. Guy Quenneville (2009).

¹⁰¹ Three people are employed at the Hay River facility. The Corporation accepts deliveries from fishermen from mid-June to late September.

same as in previous years, the catch could have exceeded that of 2008.¹⁰² The GSL fishery also saw the participation of a limited number of non-residents of the Northwest Territories. DFO, at the request of the GSLAC,¹⁰³ began making 10 fishing vessel certificates available to non-residents in 2008 to increase production and to stimulate fishing interest. Three vessel certificates in classes A and B were taken up by non-residents, while residents claimed 13 Class A and 26 Class B certificates.¹⁰⁴

In 2005, a task force report prepared for the NWT Fishermen's Federation warned that "without some drastic steps toward recovery," the fishery would "eventually collapse."¹⁰⁵ More recently, at a special meeting of the NWT Fishermen's Federation on 17 February 2010, fishermen voted to end the territory's participation in the Freshwater Fish Marketing Corporation.¹⁰⁶ The vote could eventually lead to the repeal of the Northwest Territories' *Freshwater Fish Marketing Act*, which turned over the right of the territory to market fish internationally or interprovincially to the FFMC.

The evidence heard by the Committee strongly suggest that, for too long, the commercial fishery on Great Slave Lake has not been given the attention it deserves.

Recommendation 3:

The Committee recommends that the Department of Fisheries and Oceans, in concert with fishery stakeholders, including the NWT Fishermen's Federation, the Great Slave Lake Advisory Committee and the Government of the Northwest Territories, formulate and fund a comprehensive strategy to revitalize the commercial fishery on Great Slave Lake. The plan should facilitate the entry of young Aboriginal fishers who may be attracted to the industry as a way of preserving a traditional way of life.

¹⁰² The 2009 fishing season began a week later than usual because of the presence of ice on the lake. Paul Bickford, "Decent Summer Catch: Totals from Great Slave Lake Fishery a cause for optimism," Northern News Services Online, 10 November 2009, http://www.nnsi.com/frames/newspapers/2009-11/nov16_09fs.html.

¹⁰³ Non-residents were previously not allowed to participate. Burt Hunt, *Committee Proceedings*, 12 May 2009.

¹⁰⁴ Paul Bickford (2009). Commercial gillnet fishermen on GSL require commercial fishing licences and vessel certificates. There are 28 "Class A" certificates available to residents of the Northwest Territories, and five to non-residents. Class A certificate holders are allowed to use larger vessels. For smaller vessels, there are also 61 "Class B" certificates available to residents, and five for non-residents.

¹⁰⁵ The Great Slave Lake Fishery Task Force Group, *Recovery Strategy: Great Slave Lake Commercial Fishery*, Hay River, 31 March 2005, p. 3.

¹⁰⁶ Eleven voted to leave the FFMC, while 7 voted to remain in the current system. Paul Bickford, "NWT fishers cast off marketing corp," Northern News Services Online, 22 February 2010, http://www.nnsi.com/northern-news-services/stories/papers/feb22_10fs.html.

D. Research

The integrity and health of the environment were key concerns in the communities the Committee visited in the western Arctic. The region is characterized by myriad lakes and rivers and a long coastline, but fish stocks are not as plentiful as this might suggest, given that northern waters are not as productive as those in the south. Northern ecosystems are relatively simple systems with low biodiversity. Research is therefore critical to minimize the impact of industrial development activities and to ensure that fisheries are sustainably managed and developed.

Research funding in Canada's North is allocated to various federal government departments, each having different mandates. Generally speaking, participants at our meetings wished to see the results of scientific research communicated back to the communities, and a much more coordinated research effort to save time for the people at the community level and to promote a better understanding of the studies being conducted. Mardy Semmler of the Gwich'in Tribal Council, for instance, said that people were "getting tired of meetings every two weeks" with different federal departments.¹⁰⁷ Vic Gillman, who chairs the (Inuvialuit) Fisheries Joint Management Committee, believed that Canada lacked a vision for the coordination of Arctic science and research.¹⁰⁸

Climate change will have profound implications in Canada's North. The availability of traditional country foods will likely be affected. The potential effects on fish and marine mammal resources, however, are unknown. Some fish species, such as Arctic char, could decline as a result of a warmer climate, while others could proliferate. Each type of fishery – subsistence, commercial and recreational – could be affected differently, depending on whether it takes place in marine (salt) waters or in freshwater.

Dr. Sylvain Paradis, who heads DFO's Ecosystem Science Directorate, noted in his testimony that warmer ocean temperatures are extending the northward range of some varieties of Pacific salmon.¹⁰⁹ Dr. Jeffrey Hutchings, professor of biology at Dalhousie University and Canada Research Chair in Marine Conservation and Biodiversity, indicated

¹⁰⁷ *Committee Proceedings*, 23 September 2009. Aboriginal groups have a role in reviewing research applications from the Aurora Research Institute in Inuvik. The Institute is responsible for licensing fieldwork research in the Northwest Territories.

¹⁰⁸ Vic Gillman, *Committee Proceedings*, 6 October 2009.

¹⁰⁹ Dr. Sylvain Paradis, Director General, Ecosystem Science Directorate, DFO, *Committee Proceedings*, 12 May 2009.

that science had yet to address how northern fishes will be affected by a more northerly distribution of southern fish populations.¹¹⁰

Reduced sea ice coverage in Arctic waters may also make previously inaccessible ice-covered areas attractive to international commercial fishing interests. There are currently no commercial marine fisheries in the western Arctic (e.g., in the Beaufort Sea), but, with climate change, the environment for commercial development may soon change.

Not much is known about the future consequences of climate change for marine mammals, especially whales – their geographic ranges, migration patterns, reproductive success and, ultimately, abundance.¹¹¹ Beluga whales, a traditional food and an integral aspect of Inuit culture in the Inuvialuit Settlement Region, might be affected. Walrus and seals, which depend on sea ice as a platform for breeding and feeding, are vulnerable to the effects of reduced sea ice, and southern marine mammals, such as harbour seals and grey seals, could migrate northward.¹¹²

In his testimony, Inuvialuit Regional Corporation (IRC) vice chair Duane Smith spoke about huge gaps in current marine research, which he said was conducted mainly in nearshore areas and on large marine species. Studies are not being carried out on the commercial potential for species (e.g., shellfish, herring or cod) further out in the Beaufort Sea, and baseline information needs to be established before development takes place.¹¹³ Dr. Burton Ayles of the Fisheries Joint Management Committee believed that we probably know less about the productivity of the Beaufort Sea than do the Americans.¹¹⁴

FJMC chairman Vic Gillman called on the federal government to fund a multi-year, multi-species fisheries ecosystem research program for the Beaufort Sea. According to Mr. Gillman, although a number of consultative processes are in place there are too few implementation plans, and this “is where the government is failing the Arctic.” Because of recent developments, including climate change, the *Oceans Act*, and the *Species At Risk Act*, federal government departments also need more resources to support the implementation of

¹¹⁰ Committee Proceedings, 5 May 2009.

¹¹¹ SCOFO (April 2009), p. 6.

¹¹² INAC, *From Impacts to Adaptation*, <http://www.ainc-inac.gc.ca/enr/clc/adp/ia/index-eng.asp>.

¹¹³ *Committee Proceedings*, 23 September 2009. National policy assigns to those with an interest in exploiting new species the responsibility to conduct some of the scientific work necessary to ensure that the fishery would be economically and biologically sustainable. See DFO, “New Emerging Fisheries Policy,” September 2001 (as revised 2008), <http://www.dfo-mpo.gc.ca/fm-gp/policies-politiques/efp-pnp-eng.htm>.

¹¹⁴ Dr. Burton Ayles, Canada Member, FJMC, *Committee Proceedings*, 6 October 2009.

land claim agreements. Moreover, federal funding of the various co-management boards has not kept pace with the increasing planning and research demands being made on them.¹¹⁵

Most of the research in Canada's North was said to be university-led, there being less participation from government scientists than in the past. Northerners expressed to the Committee the view that applied research and the development of research priorities in concert with local residents was absolutely essential.

The Committee also learned from witnesses that the Gwich'in Renewable Resources Board had completed a gap analysis regarding research in the Gwich'in region,¹¹⁶ and that the Sahtu Renewable Resources Board had likewise identified high-priority areas for research in its region. The Committee heard that a watershed management plan for Great Bear Lake (completed in 2005 to ensure the sustainability of fisheries) is in the implementation phase and requires funding.¹¹⁷

The *Species at Risk Act* requires that TEK be taken into consideration when COSEWIC (Committee on the Status of Endangered Wildlife in Canada) assesses a species.¹¹⁸ Witnesses felt that TEK needs to be incorporated early in planning and decision-making processes to ensure that sound decisions are made.¹¹⁹

DFO's science program in the western Arctic is managed by its Central and Arctic Region in Winnipeg, Manitoba. Mary Ann Ross, the Gwich'in Tribal Council's vice-president,¹²⁰ proposed that a DFO science staff position be located in Inuvik, to act as a liaison between DFO and the region. She also called on the federal government to conduct comprehensive watershed studies. SRRB executive director Jody Snortland Pellissey felt that the absence of DFO staff in the Sahtu region is detrimental to fisheries management.

In Cambridge Bay, Arctic char stocks in the area were reported to us as being generally healthy and stable, with no major stock management concerns. But more research was said to be needed. The fishery was last assessed in 2004, and little scientific effort has

¹¹⁵ Vic Gillman, *Committee Proceedings*, 6 October 2009.

¹¹⁶ Mary Ann Ross, *Committee Proceedings*, 23 September 2009. See GRRB, "Fisheries Research Projects," http://www.grrb.nt.ca/fisheries_research.htm.

¹¹⁷ Jody Snortland Pellissey, *Committee Proceedings*, 23 September 2009.

¹¹⁸ COSEWIC is mandated to evaluate the status of species at risk in Canada. See Government of Canada, COSEWIC, http://www.cosewic.gc.ca/eng/sct5/index_e.cfm.

¹¹⁹ Amy Thompson, *Committee Proceedings*, 23 September 2009; Max Kotakak Sr., *Committee Proceedings*, 6 October 2009. The formal SARA listing process begins when the Minister of Environment issues a response statement on how the Minister intends to proceed with the COSEWIC species designations.

¹²⁰ Established in 1992, the Gwich'in Tribal Council represents Gwich'in beneficiaries of the Gwich'in Comprehensive Land Claim Agreement (1992) in the Mackenzie Delta of the Northwest Territories.

been devoted to estimating population levels.¹²¹ Earlier this year, in January 2010, DFO's Fisheries and Aquaculture Management Sector requested scientific advice on the status of char stocks and on sustainable harvest levels.¹²²

People the Committee spoke with in the western Arctic drew attention time and time again to the need for:

- ongoing research to develop economic opportunities, ensure safe harvesting levels, preserve fish habitats, and enable emerging fisheries to proceed in a sustainable manner;
- ecosystem-based approaches that recognize the complexity of the environment and the interconnections among component parts;
- the use of TEK – the valuable information base that Aboriginal people have acquired through centuries of living in harmony with the land and sea.

The Committee notes that “advancing our knowledge of the region” is an important aspect of exercising Canadian sovereignty, one of the four priorities of the Northern Strategy.¹²³ Canada's *Oceans Act, 1997*, asserts that conservation based on an ecosystem approach is of fundamental importance to maintaining biological diversity and productivity in the marine environment, and the Act explicitly mandates the use of TEK.

Recommendation 4:

The Committee recommends that the Department of Fisheries and Oceans substantially increase its research funding in the western Arctic. The Department should commit to funding a multi-year, multi-species ecosystem research program in the region. A major objective of the Department should be the collection of baseline data.

Recommendation 5:

The Committee recommends that the Department of Fisheries and Oceans undertake research in the Beaufort Sea to determine what species of fish have the potential for commercial development.

¹²¹ Brubacher Development Strategies Inc. (2004), p. 50.

¹²² Canadian Science Advisory Secretariat (2010); DFO, “Cambridge Bay Arctic Char,” Stock Status Report 2004/010, August 2004, <http://www.dfo-mpo.gc.ca/Library/284796.pdf>.

¹²³ Government of Canada (2009), Canada's Northern Strategy, p. 9.

Recommendation 6:

The Committee recommends, as a general principle, that Aboriginal traditional ecological knowledge – as an indispensable complement to scientific knowledge – always be given full and early consideration in decision-making processes, including assessments made by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

E. Monitoring in the Mackenzie Valley Watershed

Climate change and economic development are expected to have wide-ranging implications for wildlife in the North, including fish and their habitat. Effective environmental protection will require sound monitoring to collect data on environmental change and the cumulative effects of development on ecosystems and individual aquatic species.

In the western Arctic, the Mackenzie River watershed drains a huge area – over 1.8 million square kilometres of terrain,¹²⁴ or almost 20% of Canada's total surface area. The drainage area, the second largest in North America, extends into the more populated provinces of Alberta and British Columbia. As such, the waters of the Mackenzie River and the Beaufort Sea have the potential to be contaminated by various industrial development activities and projects, such as the tar sands, pulp mills, mining operations and hydroelectric projects.¹²⁵

Understandably, Aboriginal groups we met viewed monitoring water quality and quantity in the watershed as critically important to ensure that fish and their habitats are not negatively affected by upstream sources. The Sahtu Renewable Resources Board highlighted the need for DFO to work with them to identify monitoring priorities and develop a regional monitoring initiative.¹²⁶ The presentation by the Gwich'in Renewable Resources Board stressed the importance of funding and training to develop community-based monitoring programs.¹²⁷

¹²⁴ Natural Resources Canada, *The Atlas of Canada*, "Rivers," <http://atlas.nrcan.gc.ca/site/english/learningresources/facts/rivers.html/#arctic>. At 4,241 kilometres in length, together with its headstreams the Peace River and the Finlay River, the Mackenzie is Canada's longest river and the second longest in North America (next to the Mississippi-Missouri).

¹²⁵ Although relatively pristine and unpolluted compared with the rest of the world, the Arctic is also susceptible to the long-range transport of contaminants from land-based activities outside Canada.

¹²⁶ Jody Snortland Pellissey, *Committee Proceedings*, 23 September 2009.

¹²⁷ Amy Thompson, *Committee Proceedings*, 23 September 2009.

Industrial development was generally viewed as “a mixed blessing” by the Aboriginal groups, who expect to benefit economically but also deeply wish to maintain their traditional way of life.

With respect to the proposed \$16.2-billion Mackenzie Gas Project (MGP), expectations were high about the benefits that could result from the project. The parties proposing to develop the mega-project include a number of petroleum companies¹²⁸ and the Mackenzie Valley Aboriginal Pipeline Limited Partnership, more widely known as the Aboriginal Pipeline Group (APG), whose ownership interest in the MGP is limited to the Mackenzie Valley Pipeline.¹²⁹ The APG represents the four Aboriginal populations who inhabit the region that would be traversed by the MGP.¹³⁰

In Budget 2006, the federal government established a \$500 million MGP Impact Fund with the goal of mitigating the social impact of development activity related to the proposed project during the planning, construction and operational phases, as well as to take advantage of opportunities that would result from the MGP.¹³¹ Funding in support of the North, announced in the January 2009 Budget, included (among other allocations) \$37.6 million in the 2009/10 fiscal year in support of environmental assessments, regulatory coordination, scientific research and Aboriginal consultations related to the MGP.¹³²

The Mackenzie River discharges large quantities of nutrient-rich water, creating unique habitat used by marine mammals in the estuary and along the shores of the Beaufort Sea and by anadromous fishes that carry out long migrations to and from the Mackenzie and its tributaries. Not surprisingly, the potential “cumulative effects”¹³³ of the MGP were a major worry of the Inuvialuit Fisheries Joint Management Committee.

¹²⁸ The companies are Imperial Oil Resources Limited, Imperial Oil Resources Ventures Limited, Shell Canada Limited as managing partner of Shell Canada Energy (referred to as Shell), ConocoPhillips Canada (North) Limited and ConocoPhillips Northern Partnership (collectively referred to as ConocoPhillips), ExxonMobil Canada Properties (referred to as ExxonMobil).

¹²⁹ Approximately 1,300 kilometres in length, the MGP would include onshore natural gas development in the Mackenzie River Delta (three natural gas fields), gathering pipelines for unprocessed natural gas, a processing facility near Inuvik, and a pipeline (the Mackenzie Valley Pipeline) to transport gas to market through the Mackenzie Valley to northern Alberta.

¹³⁰ The four regions are the Inuvialuit, the Gwich'in, and the Sahtu settlements areas, and the territory of the Dehcho First Nations (where approximately 40% of the proposed routing of the pipeline would go through). JRP, *Report*, Chapter 1, December 2009, p. 6.

¹³¹ Patrick Borbey, *Committee Proceedings*, 26 March 2009; INAC, Backgrounder – Mackenzie Gas Project, <http://www.ainc-inac.gc.ca/ai/mr/is/mgp-eng.asp>.

¹³² Department of Finance, *Budget 2009: Canada's Economic Action Plan*, 27 January 2009.

¹³³ Cumulative environmental effects result from actions that, although individually minor, add up to a greater total effect over time.

Witnesses told the Committee that proponents of the project claimed there would be no significant cumulative effects and therefore saw no need to monitor them.¹³⁴ The FJMC proposed that a long-term, comprehensive, government- and industry-funded aquatic monitoring program be established for the entire length of the Mackenzie River, led by a single agency.¹³⁵

A wide range of activities proposed in relation to the Mackenzie Gas Project may have an impact on fish and marine mammals. According to DFO, the potential cumulative negative effects on fish habitat include changes in fish passage in tributary streams, altered waterbody levels and water flows, changes in sediment concentrations in the water, and physical changes to channels resulting from increased infrastructure development.¹³⁶ Cumulative effects would result from the construction, operation and maintenance of hundreds of watercourse crossings for roads and pipelines,¹³⁷ dredging for navigation, and the withdrawal of water. In marine areas, whales and seals could be adversely affected by underwater noise resulting from increased ship and barge traffic.¹³⁸

DFO is confident that cumulative effects of the MGP can be managed through its regional management programs, and through the fish habitat protection and pollution prevention provisions of the *Fisheries Act*.

Section 35 of the Act prohibits any work or undertaking that would cause the harmful alteration, disruption or destruction (HADD) of fish habitat, unless authorized by the Minister of Fisheries and Oceans.¹³⁹ The avoidance of HADD to fish habitat is preferred through the identification, development and implementation of mitigation measures. But if mitigation measures are not sufficient or possible, the Policy for the Management of Fish

¹³⁴ The proponents' assessment of cumulative effects can be found in Volume 5, Section 12 of their Environmental Impact Statement (EIS). See EIS for the Mackenzie Gas Project, http://www.mackenziegasproject.com/theProject/regulatoryProcess/applicationSubmission/Documents/MGP_EIS_Vol5_Part_F_Section_12_S.pdf.

¹³⁵ Burton Ayles and Vic Gillman, *Committee Proceedings*, 6 October 2009.

¹³⁶ DFO, Chapter 7: Cumulative Effects, Submission to the JRP, 7 August 2007, http://www.ngps.nt.ca/result_e.asp.

¹³⁷ The number of crossings is estimated to be approximately 700, from the gathering fields in the Mackenzie Delta to the pipeline's terminus in northern Alberta.

¹³⁸ DFO, Chapter 7: Cumulative Effects, Submission to the JRP, 7 August 2007.

¹³⁹ See DFO, Central and Arctic, "Operational Statements, Reviews and Authorizations," <http://www.dfo-mpo.gc.ca/regions/central/habitat/os-eo/index-eng.htm>. Section 36 of the Act prohibits the deposit of deleterious substances into waters frequented by fish, unless authorized by regulation under the *Fisheries Act* or other federal regulation. The administration of section 36 is the responsibility of the federal Department of the Environment. Environment Canada is involved in environmental assessments and project regulatory approvals in the North, participating as a regulator and by providing specialist or expert advisors. Cheryl Baraniecki, Manager, Environmental Assessments, Environment Canada, *Committee Proceedings*, 21 September 2009.

Habitat (referred to as the Habitat Policy) provides guidance for issuing authorizations. The Policy's conservation goal requires that the current productive capacity of existing habitats is maintained by applying the *no net loss* guiding principle; habitat losses must be offset through habitat compensation measures.¹⁴⁰

According to DFO, the MGP would also likely increase access to fisheries as a result of the construction of roads and other works along the pipeline's proposed route, which would increase fishing pressure, particularly recreational angling.¹⁴¹ Possible mitigation by the Department could include measures such as decreasing catch and possession limits, instituting seasonal closures, and increasing enforcement measures, to name a few.

Significantly, on 30 December 2009, the seven-member Joint Review Panel (JRP) that was established to review the project and evaluate its potential effects, issued a 679-page report entitled *Foundation for a Sustainable Northern Future*.¹⁴² The report, which took three years longer than expected to complete, is based on extensive technical data and information gathered from 558 presenters during public hearings held in 26 locations.

In brief, the JRP concluded that the MGP "would deliver valuable and lasting overall benefits and avoid significant adverse environmental impacts," but only if the Panel's 176 recommendations are fully implemented.¹⁴³ Among other things, the Panel:

- directed the federal government to "engage in the activities and commit the funding required to implement things it ha[d] already committed to do, such as fulfilling its obligations under the *Species at Risk Act*, the *Mackenzie Valley Resource Management Act*, and the Protected Areas Strategy;"¹⁴⁴
- focused its recommendations mainly on the need to be prepared for the cumulative effects of the MGP in combination with future developments;¹⁴⁵

¹⁴⁰ See DFO, "The Policy for the Management of Fish Habitat," http://www.dfo-mpo.gc.ca/oceans-habitat/habitat/policies-politique/management-gestion_e.asp.

¹⁴¹ DFO, Chapter 7: Cumulative Effects, Submission to the JRP, 7 August 2007.

¹⁴² The Panel and its mandate were established by an agreement between the parties with legislated environmental assessment responsibilities along the proposed project route: the Mackenzie Valley Environmental Impact Review Board, the Inuvialuit as represented by the Inuvialuit Game Council, and the federal Minister of the Environment.

¹⁴³ Formal approval for the MGP to go ahead lies with the National Energy Board, which is expected to make its decision in September 2010. The JRP focused on the environmental, socio-economic and cultural issues of the MGP. The NEB, which considered other issues (e.g., engineering, safety and economic matters) will make a decision on whether the MGP is in the public interest once it receives the Government of Canada's response to the JRP's report.

¹⁴⁴ JRP (2009), *Foundation for a Sustainable Northern Future*, Executive summary, p. 3.

¹⁴⁵ *Ibid.*, p. 5.

- called for the full implementation and funding of the Northwest Territories Cumulative Impact Monitoring Program (CIMP),¹⁴⁶ which follows a community-based approach to monitoring the environment as required by the *Mackenzie Valley Resource Management Act*;
- recommended that within six months of the date of the federal government's response to its report, the Minister of Indian and Northern Affairs take all reasonable steps to extend the legal application of the CIMP into the Inuvialuit Settlement Region in order to make the CIMP a legal requirement throughout the Northwest Territories; and
- recommended that DFO outline its strategic approach to managing the large number of watercourse crossings by the MGP, and make the approach available to everyone within three months of the date of the Government Response to the JRP's Report.¹⁴⁷

More recently, Budget 2010 identified \$8 million in funding over two years for Indian and Northern Affairs Canada to support community-based environmental monitoring, reporting and baseline data collection through the Northwest Territories CIMP and the Nunavut General Monitoring Program.¹⁴⁸

Recommendation 7:

The Committee recommends that the Government of Canada make available sufficient, long-term, stable funding to implement the Cumulative Impact Monitoring Program, as recommended by the Mackenzie Gas Project Joint Review Panel.

Recommendation 8:

The Committee recommends that the Government of Canada ensure that the Department of Fisheries and Oceans' fish habitat program in the western Arctic is adequately funded.

¹⁴⁶ The Northwest Territories Cumulative Impact Monitoring Program (CIMP) is a requirement of the Gwich'in, Sahtu, and Tlicho land claim agreements, and of the *Mackenzie Valley Resource Management Act*. See CIMP, <http://www.nwtcimp.ca/>.

¹⁴⁷ JRP (2009), Foundation for a Sustainable Northern Future, recommendation 9-2, p. 235.

¹⁴⁸ Department of Finance Canada, *Budget 2010*, Chapter 3.3: Building on a Strong Economic Foundation, Community-Based Environmental Monitoring in the North, <http://www.budget.gc.ca/2010/plan/chap3c-eng.html#a64>.

F. Development in the Beaufort Sea

The Mackenzie Gas Project is expected to enhance the commercial potential of offshore gas fields in the Beaufort Sea, where a great deal of exploratory (seismic) activity has taken place, but where no drilling activity has so far been allowed.¹⁴⁹

In June 2008, the federal government received record-breaking bids for offshore oil and gas exploration leases in the Beaufort Sea, including a \$1.2 billion bid for the rights to explore an offshore area of 611,000 hectares. An offshore lease sale conducted by the US Minerals Management Service for the US Arctic in 2008 totalled nearly \$US 2.7 billion.

Participants at our meetings frequently pointed out that the Beaufort Sea and its adjacent coastal areas provides important habitat for beluga whales, a species of regional and international importance.¹⁵⁰ Hunted primarily in the communities of Tuktoyaktuk, Aklavik, Inuvik and Paulatuk, beluga are culturally significant for the Inuvialuit and are a critically important subsistence species. The Committee heard that the Beaufort Sea Beluga Management Plan (BSBMP) had successfully addressed a number of key management issues for industrial users wishing to conduct activities in the Beaufort Sea (e.g., oil and gas exploration and development, seismic and sounding surveys, and vessel traffic).¹⁵¹ Although widely supported, compliance with the BSBMP is voluntary.

The Committee was frequently advised that it is not a matter of if, but when, offshore development takes place. Duane Smith, the vice-chair of the IRC, emphasized that while it is in Canada's interest to see offshore resources developed, it is also in the national interest to ensure that the potential negative effects of development are minimized to the greatest extent possible.¹⁵² In this regard, three major regional initiatives were mentioned in our discussions:

¹⁴⁹ Except for local gas production from an onshore field near Inuvik, no oil or gas fields have been developed in the region of the Mackenzie Delta–Beaufort Sea.

¹⁵⁰ Beaufort Sea beluga migrate from the Bering Sea through the Bering Strait into the Chukchi Sea and move eastward into the Beaufort Sea through the Mackenzie Delta in summer (where they socialize, rear calves, moult and feed) and into the waters among the western islands of the Canadian Arctic Archipelago. The whales are hunted in Russia, Alaska and Canada.

¹⁵¹ The Plan was the result of a joint effort by DFO, the Fisheries Joint Management Committee, affected hunters and trappers organizations, and the Inuvialuit Game Council. Beaufort Sea beluga are not an “at risk” species.

¹⁵² Committee Proceedings, 23 September 2009.

- the Beaufort Regional Environmental Assessment (BREA) initiative, which was said to be at the planning stage;¹⁵³
- the Beaufort Sea Strategic Regional Plan of Action (BSStRPA), a multi-stakeholder framework to help prepare and guide offshore exploration and development;¹⁵⁴ and
- the Beaufort Sea Integrated Management Planning Initiative (BSIMPI), a regional intergovernmental and multi-stakeholder planning process.

The Committee heard a great deal about the BSIMPI, which has the objective of developing and implementing an Integrated Ocean Management Plan (IOMP) for the Beaufort Sea Large Ocean Management Area (LOMA).¹⁵⁵ The Beaufort Sea LOMA, which encompasses the marine portion of the Inuit Settlement Region, is one of five priority areas identified by the federal government for Canada. The objective of integrated management is to improve decision-making (e.g., to ensure that decisions are more effective in the long term, are not conflicting, and are built upon a common knowledge base).¹⁵⁶

The Beaufort Sea Regional Coordinating Committee (RCC), which oversees implementation of integrated management planning for the Beaufort Sea LOMA,¹⁵⁷ was described to the Committee as having been very successful as a coordinating mechanism. Membership in the RCC includes: the IRC, the Inuvialuit Game Council, the Fisheries Joint Management Committee,¹⁵⁸ the Government of Yukon and of the Northwest Territories, DFO, Natural Resources Canada, Transport Canada, Environment Canada, Parks Canada Agency, and INAC. The primary forum for stakeholder engagement is the Beaufort Sea Partnership (BSP),¹⁵⁹ and both the BSP and the Regional Coordinating Committee are supported by working groups (e.g., on traditional knowledge).

¹⁵³ Cheryl Baraniecki, *Committee Proceedings*, 21 September 2009.

¹⁵⁴ *Beaufort Sea Strategic Regional Plan of Action*, Interim Draft, June 2007, http://www.ngps.nt.ca/Upload/Intervenors/Joint%20Secretariat/BSStRPA_Interim_Draft_3Jul07.pdf.

¹⁵⁵ See Beaufort Sea Partnership, "Beaufort Sea Large Ocean Management Area: A Brief Overview," <http://www.beaufortseapartnership.ca/bslom.html>; DFO, "Oceans Programs," <http://www.dfo-mpo.gc.ca/regions/central/oceans/index-eng.htm>;

¹⁵⁶ See DFO, "Integrated Management – Purpose," <http://www.dfo-mpo.gc.ca/oceans/management-gestion/integratedmanagement-gestionintegree/purpose-but-eng.htm>.

¹⁵⁷ See Beaufort Sea Partnership, "Regional Coordination Committee," <http://www.beaufortseapartnership.ca/regional.html>.

¹⁵⁸ The IRC is responsible for the corporate interests of the Inuvialuit people. The Inuvialuit Game Council represents the collective Inuvialuit interest in wildlife, whereas the Fisheries Joint Committee assists the Canadian government and the Inuvialuit in administering fisheries.

¹⁵⁹ See "Beaufort Sea Partnership," <http://www.beaufortseapartnership.ca/bsp.html>.

A major initiative in the Beaufort Sea LOMA is a proposed Marine Protected Area (MPA) under the *Oceans Act*.¹⁶⁰ The Committee learned in its discussions that three areas in the Mackenzie River estuary where beluga whales congregate in summer (Niaqunnaq, Okeevik and Kittigaryuit) have been selected for inclusion in the proposed MPA.¹⁶¹ Known as Tarium Niryutait,¹⁶² the MPA would conserve and protect the biological resources found in the MPA, including beluga and their habitat. As proposed, the Inuvialuit Fisheries Joint Management Committee would administer the new protected area.¹⁶³

Although very supportive of the various planning initiatives for the Beaufort Sea, the Fisheries Joint Management Committee emphasized that “planning is not implementation.”¹⁶⁴ The FJMC called on the federal government to formally finalize the proposed Tarium Niryutait MPA, which was in its ninth year of development.¹⁶⁵ Full implementation would significantly enhance Canadian sovereignty, we were advised, and would demonstrate to everyone that Canada is serious about environmental protection in the Arctic.¹⁶⁶

The FJMC also underlined the need for the Inuvialuit to have the same control that Nunavut has over commercial fishing activity in marine waters. In Nunavut, the hunting and fishing rights enjoyed by Inuit in relation to the operation of various co-management boards established by the 2003 Nunavut Land Claims Agreement are defined geographically to coincide with the seaward extent of Canada’s 12-mile limit.¹⁶⁷ Under the 1984 Inuvialuit Final Agreement (IFA), however, the rights of the Inuvialuit to any future adjacent fisheries would be the same as those of any other Canadian.¹⁶⁸

Mr. Ayles explained to the Committee that, when it was signed in 1984, the IFA’s management focus had been on bowhead and beluga whale harvesting in the Beaufort Sea. At the time, no commercial fishing activity had been anticipated. But as a result of

¹⁶⁰ Under the *Oceans Act*, the Minister of Fisheries and Oceans is to lead and co-ordinate the development and implementation of a national system of MPAs.

¹⁶¹ The MPA corresponds to Beluga Management Zone 1(a) of the Beaufort Sea Beluga Management Plan.

¹⁶² Beaufort Sea Partnership, “Tarium Niryutait Marine Protected Area,” http://www.beaufortseapartnership.ca/tnmp_area.html.

¹⁶³ Vic Gillman, *Committee Proceedings*, 6 October 2009.

¹⁶⁴ Burton Ayles, *Committee Proceedings*, 6 October 2009.

¹⁶⁵ Vic Gillman, *Committee Proceedings*, 6 October 2009.

¹⁶⁶ Burton Ayles, *Committee Proceedings*, 6 October 2009.

¹⁶⁷ See SCOFO (June 2009), Appendix 1 (Outline of the Fisheries Management Framework and the NLCA).

¹⁶⁸ Burton Ayles, *Committee Proceedings*, 6 October 2009.

climate change, previously inaccessible ice-covered areas could soon become attractive to commercial fishing interests, both domestic and international.

The Inuvialuit are not requesting a change to their comprehensive land claim agreement, but rather a complementary agreement.¹⁶⁹ The Committee was made aware that discussions with DFO had started on how to provide Inuvialuit greater control over any future commercial fisheries. The Committee strongly supports the practice of co-management in the Inuvialuit Settlement Region to afford Inuvialuit greater control over matters that concern them, and also as a means to anchor Canada's sovereignty claims in the region.

Recommendation 9:

The Committee recommends that the Department of Fisheries and Oceans, in concert with the Inuvialuit, develop an agreement giving the Inuvialuit a key role in deciding any future commercial fishing activity in the Inuvialuit Settlement Region, including the allocation of commercial fish quotas.

Recommendation 10:

The Committee recommends that the Department of Fisheries and Oceans expedite its approval of the Tarium Niryutait Marine Protected Area. The Department should also provide the Fisheries Joint Management Committee with sufficient resources to administer the MPA.

Recommendation 11:

The Committee recommends that the Government of Canada provide the Department of Fisheries and Oceans with the funding it needs to fully implement the Department's integrated planning initiatives in the western Arctic.

G. Canada–US Bilateral Issues

In Juneau, Alaska, on 24 September 2009, as part of its fact-finding work, the Committee met informally with senior officials of the (US) National Oceanic and Atmospheric Administration, the primary federal fisheries management agency in the United States. The Committee also met with the Alaska Department of Fish and Game,¹⁷⁰ the state's fisheries management agency.

¹⁶⁹ Ibid.

¹⁷⁰ The Alaska Fish and Game Department has management authority for all salmon, herring, and shellfish fisheries, whereas the US federal government has management authority for groundfish fisheries, except for those within three nautical miles of shore. Alaska took management control of

The State of Alaska has a long history of harvesting and processing seafood. The fishing industry is the state's largest private-sector employer. Next to oil and natural gas, seafood is the major export product. On a national scale, Alaska usually accounts for over half of the total volume of fish landings in the United States. In 2008, Alaska led all US states in the amount (over 2 million metric tonnes) and value (US \$1.7 billion) of fish caught.¹⁷¹

One issue raised in our discussions is the longstanding maritime boundary dispute between the United States and Canada in the Beaufort Sea,¹⁷² where no commercial fisheries currently exist. Canada's position is that the maritime boundary between Yukon and Alaska is an extension of the land boundary along the 141st meridian. The United States, for its part, maintains that the border should extend along a path equidistant from the coasts of the two countries. This difference creates a wedge-shaped disputed zone of approximately 6,250 square nautical miles in the Beaufort Sea.

If hydrocarbon and fishery resources are eventually developed in the contested area, the disagreement between Canada and the United States could become more significant. A complicating factor in the dispute is the 1984 Inuvialuit Final Agreement, which is based on Canada's understanding of the maritime boundary.

In response to the increasing interest in commercial fishing in Arctic waters that is anticipated as the sea ice retreats as a consequence of climate change, the US Secretary of Commerce approved a new Fishery Management Plan for the Fish Resources of the Arctic Management Area (the Arctic Fishery Management Plan, or AFMP) in August 2009. A 10-year moratorium prohibits commercial fishing in 200,000 square miles of Arctic marine waters in the US Exclusive Economic Zone north of Alaska in the Beaufort and Chukchi seas, until scientists are able to gather sufficient information about fish and the marine environment to support the management of sustainable fisheries (see Figure 4).

its adjacent fishery resources soon after achieving statehood in 1959. The main federal agency is the National Marine Fisheries Service. An 11-member North Pacific Fishery Management Council develops federal fishery management plans for the area from three to 200 miles from shore.

¹⁷¹ (US) National Marine Fisheries Service, *Fisheries of the United States 2008*, Current Fishery Statistics No. 2008, July 2009, p. vii. The pollock fishery is the largest US fishery by volume. The fish is consumed widely in the United States in the form of fish sticks, fish sandwiches, fish and chips, and surimi products.

¹⁷² Further south, another dispute with the United States exists with respect to the Dixon Entrance (north of the Queen Charlotte Islands). Canada's position is that the so-called "A-B Line" drawn in a 1903 Alaska Boundary Treaty is the international maritime boundary. The US position is that the purpose of the A-B Line was only to designate which islands belonged to which country, and that the maritime boundary is an equidistant line between islands. Regarding fisheries enforcement in the disputed waters, the Committee learned that there is an understanding between Canada and the United States that each country enforces its fisheries laws against its own vessels and not against the vessels of the other state.

Figure 4 – The Area Covered by the (US) AFMP



Source: NOAA, “Secretary of Commerce Gary Locke Approves Fisheries Plan for Arctic,” Fisheries news release, 20 August 2009, <http://www.fakr.noaa.gov/newsreleases/2009/arctic092009.htm>

Significantly for Canada, the management area covered by the AFMP includes the disputed section of the Beaufort Sea claimed by Canada and the United States.

The AFMP governs commercial fishing for all stocks of finfish, shellfish and other marine living resources, except commercial fishing for Pacific salmon and Pacific halibut. Salmon, groundfish and shellfish fisheries in Alaskan waters within three nautical miles from the coastline are not affected, nor is subsistence fishing or hunting. The AFMP takes a “precautionary approach to any development of commercial fishing in an area where there has been none in the past,” and outlines rules for any new Arctic fisheries that could be approved in the future. Arctic cod, saffron cod and snow crab are identified as likely viable target species for commercial fishing in the area.¹⁷³

In her 16 June 2009 submission to the Committee in Ottawa, Dr. Betsy Baker,¹⁷⁴ whom the Committee invited to provide a non-governmental American perspective on Arctic marine issues, noted that with the AFMP, the (US) National Oceanic and

¹⁷³ The North Pacific Fishery Management Council recommended the AFMP in February 2009. See (US) National Oceanic and Atmospheric Administration, National Marine Fisheries Service, “Arctic Fisheries,” <http://www.fakr.noaa.gov/sustainablefisheries/arctic/>.

¹⁷⁴ Dr. Betsy Baker is an Associate Professor of Law at Vermont Law School.

Atmospheric Administration had adopted a precautionary approach to establish baseline data in the Beaufort and Chukchi seas. Dr. Baker also pointed out that the US Minerals Management Service proceeds on the assumption that development can occur without broad baseline data.¹⁷⁵

As for Canada, DFO officials advised the Committee that the approach to fisheries development in the region is also based on the precautionary principle, mainly because of the Department's limited resources for research.¹⁷⁶

Noting that the AFMP had recently "caught the attention of the media and politicians," Burton Ayles of the FJMC indicated to the Committee that the Board had been consulting Inuvialuit hunters and fishers over a number of years on the possibility of large-scale commercial fisheries developing in the Beaufort Sea. Concerns were said to be growing,¹⁷⁷ and the FJMC wishes to see additional protective measures on the Canadian side of the Beaufort Sea to protect the fishery resource from the type of destruction that took place elsewhere in the world.¹⁷⁸

On whether Canada should implement a ban on fishing similar to the AFMP, FJMC chairman Vic Gillman viewed a moratorium as a possible tool available to Canada. The concept of not allowing exploratory fisheries to proceed unless a scientific examination is first conducted, he said, would go a long way toward defusing the issue.¹⁷⁹

Another matter raised in our discussions was the by-catch of Pacific chinook salmon by the US midwater trawl fishery for pollock in the Bering Sea.¹⁸⁰

Pacific salmon originate in the rivers of Canada and the United States and, being highly migratory fish, may be subject to the other country's fisheries. In the western Arctic, Yukon River chinook salmon is a valuable species on both sides of the Alaska–Yukon border. Approximately 50% of Yukon River chinook originate in Canadian waters.

The by-catch is believed to be a major factor contributing to the decline of Yukon River chinook over several years.¹⁸¹ Beginning in 2002, the annual by-catch

¹⁷⁵ Dr. Betsy Baker, Brief submitted to the Committee, 16 June 2009. The Minerals Management Service of the Department of the Interior, the US agency responsible for oil and gas leasing, engages in lease programs for exploration and exploitation rights in the region. The latest round of leases in 2007 brought in a record \$US 2.7 billion.

¹⁷⁶ Burt Hunt, *Committee Proceedings*, 12 May 2009. The precautionary approach is defined by the *Oceans Act* as "erring on the side of caution."

¹⁷⁷ Burton Ayles, *Committee Proceedings*, 6 October 2009.

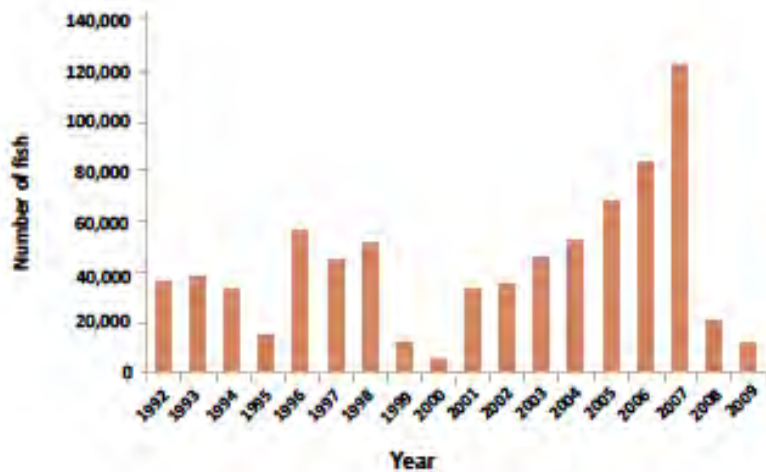
¹⁷⁸ Vic Gillman, *Committee Proceedings*, 6 October 2009.

¹⁷⁹ Ibid.

¹⁸⁰ National Oceanic and Atmospheric Administration, Fisheries, "Bering Sea Chinook Salmon Bycatch Management," <http://www.fakr.noaa.gov/sustainablefisheries/bycatch/default.htm>.

increased, reaching a high of approximately 122,000 fish in 2007.¹⁸² There followed a marked decrease in 2008 and 2009 (see Figure 5), which the US industry attributes to more effective fisheries management.

Figure 5 – Chinook Salmon By-Catch, 1992–2009



Source: Becca Robbins Gisclair, Yukon River Drainage Fisheries Association, “Salmon Bycatch Management in the Bering Sea Pollock Fishery,” Presentation, Yukon River Panel Meeting, December 2009, p. 3, <http://yukonriverpanel.com/salmon/wp-content/uploads/2009/03/bycatch-presentation-dec-2009.pdf>.

The Yukon River Salmon Agreement of 2001 provides the framework through which Canada and the United States work together to conserve and manage Yukon River salmon. Escapement targets are set to allow the fish to return to the spawning grounds. The Committee notes that paragraph 12 of the Agreement includes the provision that “the Parties shall maintain efforts to increase the in-river run of Yukon River salmon by reducing marine catches and by-catches of Yukon River salmon. They shall further identify, quantify, and undertake efforts to reduce these catches and by-catches.”¹⁸³

¹⁸¹ Natural forces (e.g., changes in ocean and river conditions, including unfavourable shifts in temperatures and food sources) may also be responsible for the decline.

¹⁸² See North Pacific Fishery Management Council, October 2009, http://www.fakr.noaa.gov/npfmc/current_issues/bycatch/Chinookbycatchdata909.pdf. Chinook salmon taken in the US pollock fisheries are classified as prohibited species. The fish cannot be sold and are either discarded (thrown overboard) or donated to food banks and shelters through a Prohibited Species Donation Program.

¹⁸³ The Yukon River Salmon Agreement constitutes Chapter 8 of the 1985 Pacific Salmon Treaty, and therefore has the full power and force of an international treaty. The Agreement can be accessed at: <http://yukonriverpanel.com/salmon/wp-content/uploads/2009/02/yrs-agreement.pdf>.

The Committee was informed that the escapement objective for Canadian-origin chinook established under the Yukon River Salmon Agreement was not achieved in 2007 and 2008. The objective was met in 2009, however, but only as the result of severe harvesting restrictions: there was no commercial fishery in Alaska, the subsistence fishery in the state was reduced by 50%, Canada's First Nations enacted a rigorous conservation program, and the Canadian commercial and domestic fisheries were closed most of the season. In Alaska, the restrictions led to a federal fishery disaster declaration by US Commerce Secretary Gary Locke.¹⁸⁴

At a briefing in Juneau, officials of the (US) National Marine Fisheries Service informed the Committee that the (US) North Pacific Fishery Management Council had recommended a range of measures to reduce the by-catch of chinook salmon, including a limit (a hard cap) on the number of fish allowed to be incidentally caught, by fishing season and fishery sector, which, when reached, would require directed fishing for pollock to cease for the remainder of the season. There are two options for the maximum chinook by-catch: (1) a hard cap of 47,591 fish, or (2) a hard cap of 60,000 fish for those who participate in an incentive program plan to reduce by-catches. If approved by the US Secretary of Commerce, the proposed management plan could be implemented in January 2011.

The Yukon River Panel – the international advisory body for the conservation, management, restoration, and harvest-sharing of Canadian-origin salmon between the United States and Canada¹⁸⁵ – supports a hard cap of 37,000 chinook salmon. Of the two options mentioned above, the Panel is more supportive of the first; under the second option, the pollock fishery would be able to catch 60,000 chinook in two out of every seven years with no consequence, which the Panel considers unacceptable.¹⁸⁶

With respect to oceans management, Dr. Baker informed the Committee that a new policy signed by US President Obama a few days earlier, the (US) “National Policy for the Oceans, our Coasts, and the Great Lakes,” established a temporary Interagency Ocean Policy Task Force. On 14 December 2009, a framework document was released for public

¹⁸⁴ Environment News Service, “Disaster Declared: Alaska’s Yukon River Chinook Salmon Run Fails,” 18 January 2010, <http://www.ens-newswire.com/ens/jan2010/2010-01-18-093.html>.

¹⁸⁵ See Yukon River Panel, <http://yukonriverpanel.com/salmon/about/organizational-structure/yukon-river-panel/>.

¹⁸⁶ Thomas McLain, Interim Executive Secretary, Yukon River Panel, Letter to Robert D. Mecum, Acting Administrator, National Marine Fisheries Service, Alaska Region, 15 February 2010, <http://www.fakr.noaa.gov/sustainablefisheries/bycatch/salmon/chinook/feis/comments/06yukonriver.pdf>.

comment (until 12 February 2010) describing, among other things, how a new “marine spatial planning” approach would be developed and implemented.¹⁸⁷

Dr. Baker noted in her submission to the Committee that the new US approach, which presents “a more integrated, comprehensive, ecosystem-based and proactive approach to planning and management uses and activities,”¹⁸⁸ has the potential to complement DFO’s concept of Large Ocean Management Areas, such as that in the Canadian Beaufort Sea. Respective national regulatory systems might learn from each other, she said, and possibly develop harmonized regulatory practices with respect to oil and gas exploration, which could serve as a model for Arctic countries.

Recommendation 12:

The Committee recommends that the Government of Canada, in concert with the Inuvialuit, develop a policy regarding future fishing activity in the Beaufort Sea. In this regard, Canada should consider instituting a moratorium on commercial fishing in the Beaufort Sea (similar to the US Arctic Fishery Management Plan) on the Canadian side of the maritime border between Alaska and Yukon, west of the 141st meridian.

Recommendation 13:

The Committee recommends that the Government of Canada continue to work through the Yukon River Panel to further reduce the marine by-catch of Yukon River chinook salmon by the US pollock fishery.

Recommendation 14:

The Committee recommends that the Government of Canada engage the United States in bilateral discussions on the possibility of developing a complementary Canada–US approach to ecosystem-based management in the Beaufort Sea.

¹⁸⁷ Interagency Ocean Policy Task Force, Interim Framework for Effective Coastal and Marine Spatial Planning, 9 December 2009, <http://www.whitehouse.gov/sites/default/files/microsites/091209-Interim-CMSP-Framework-Task-Force.pdf>.

¹⁸⁸ Executive Office of the President of the United States, White House Council on Environmental Quality, “Ocean Policy Task Force Releases Interim Framework for Effective Coastal and Marine Spatial Planning,” News release, 14 December 2009.

WITNESS LIST

Thursday, March 26, 2009	
<i>Indian and Northern Affairs Canada</i>	Patrick Borbey, Assistant Deputy Minister; Mimi Fortier, Director General, Northern Oil and Gas Branch; John Kozij, Director, Northern Strategic Policy Branch.
Thursday, April 2, 2009	
<i>Fisheries and Oceans Canada</i>	Hon. Gail Shea, P.C., M.P., Minister of Fisheries and Oceans; Claire Dansereau, Deputy Minister; Michaela Huard, Assistant Deputy Minister; George Da Pont, Commissioner, Canadian Coast Guard; Ian Matheson, Director General, Habitat Management; Barry Rashotte, Director General, Resource Management – Operations.
Tuesday, April 21, 2009	
<i>Office of the Auditor General of Canada</i>	Sheila Fraser, Auditor General of Canada; Neil Maxwell, Assistant Auditor General; Scott Vaughan, Commissioner of the Environment and Sustainable Development; Kevin Potter, Principal.
Tuesday, May 12, 2009	
<i>Fisheries and Oceans Canada</i>	George Da Pont, Commissioner, Canadian Coast Guard; Wade Spurrell, Assistant Commissioner, Central and Arctic Region; Mimi Breton, Assistant Deputy Minister, Oceans and Habitat Sector; Sylvain Paradis, Director General, Ecosystem Science Directorate; Burt Hunt, Regional Director, Fisheries and Aquaculture Management, Central and Arctic Region.
Tuesday, June 2, 2009	
<i>Fisheries and Oceans Canada</i>	Mimi Breton, Assistant Deputy Minister, Oceans and Habitat Sector; Sylvain Paradis, Director General, Ecosystem Science Directorate; Michelle Wheatley, Regional Director, Science, Central and Arctic Region.

Tuesday, June 16, 2009	
<i>Vermont Law School</i>	Betsy Baker, Associate Professor.
Monday, September 21, 2009	
<i>Fisheries and Oceans Canada</i>	René Grenier, Deputy Commissioner of the Canadian Coast Guard; Wade Spurrell, Assistant Commissioner, Central and Arctic Region; David Burden, Associate Regional Director General, Central and Arctic Region; Burt Hunt, Regional Director, Fisheries and Aquaculture Management, Central and Arctic Region; Mike Hecimovich, Area Director, Western Arctic Area, Central and Arctic Region.
<i>Indian and Northern Affairs Canada</i>	Trish Merrithew-Mercredi, Regional Director General, Northwest Territories Region; Teresa Joudrie, Acting Director, Contaminants and Remediation Directorate.
<i>National Defence</i>	Brigadier-General Dave Millar, Commander of the Joint Task Force (North).
<i>Royal Canadian Mounted Police</i>	Grant M.E. St. Germaine, Superintendent, Criminal Operations, « G » Division; Jack Kruger, Search and Rescue Coordinator for the Northwest Territories.
<i>Environment Canada</i>	Randal Cripps, Regional Director General, Prairie and Northern Region; Bruce MacDonald, Manager, Northern Conservation; Cheryl Baraniecki, Manager, Environmental Assessments.
Wednesday, September 23, 2009	
<i>Gwich'in Renewable Resources Board</i>	Amy Thompson, Executive Director.
<i>Gwich'in Tribal Council</i>	Mary Ann Ross, Vice-President; Mardy Semmler, Lands Manager.
<i>Fisheries and Oceans Canada</i>	Mike Hecimovich, Area Director, Western Arctic Area, Central and Arctic Region.
<i>Sahtu Renewable Resources Board</i>	Jody Snortland Pelissey, Executive Director.

<i>Inuvialuit Regional Corporation</i>	Duane Smith, Vice-Chair.
<i>Inuvialuit Game Council</i>	Billy Storr, Vice-Chair.
<i>Sahtu Secretariat</i>	Ethel Blondin-Andrew, Chairperson; Howard Townsend, Lands Advisor.
Tuesday, October 6, 2009	
<i>Fisheries Joint Management Committee</i>	Vic Gillman, Chairman; Max Kotakak Sr., Inuvialuit Member; Burton Ayles, Canada Member.
Tuesday, October 27, 2009	
<i>National Defence</i>	Commodore J.E.T.P. Ellis, Director General, Maritime Force Development; Captain (Navy) E.G. Bramwell, Project Manager, Arctic/Offshore Patrol Ship.
Thursday, November 5, 2009	
<i>Fisheries and Oceans Canada</i>	Gary Sidock, Director General, Fleet Directorate, Canadian Coast Guard.
<i>Royal Canadian Mounted Police</i>	Chief Superintendent Russ Mirasty, Director General, National Aboriginal Policing Services; Chief Superintendent Joe Oliver, Director General, Border Integrity.
<i>Canada Border Services Agency</i>	Philip Whitehorne, Chief of Operations, Inland Enforcement Section, Intelligence and Enforcement Division, Northern Ontario Region.
<i>Transport Canada</i>	Donald Roussel, Director General, Marine Safety.
<i>National Defence</i>	Brigadier General S. Kummel, Director General – Plans, Strategic Joint Staff.

FACT-FINDING*

Friday, September 18, 2009 (Winnipeg, Manitoba)	
<i>Freshwater Fish Marketing Corporation</i>	John Wood, President and CEO; Jim Bear, Chairperson, Board of Directors; Irwin Constant, Federal appointment for Manitoba; Ron Ballantyne, Provincial appointment for Manitoba; Ken Campbell, Federal appointment for Manitoba; David Northcott, Vice-President, Operations.
<i>Fisheries and Oceans Canada, Freshwater Institute</i>	Burt Hunt, Regional Director; David Burden, Associate Regional Director General; Kathy Fisher, Division Manager, Resource Management and Aboriginal Affairs; Scott Gilbert, Director, Conservation and Protection; Barry Briscoe, Regional Director, OHSAR; Bev Ross, Regional Manager, Environmental Assessment for Major Projects; Julie Dahl, Regional Manager, Habitat Manager; Ray Ratynski, Division Manager, Species at Risk; Helen Fast, Division Manager, Oceans; Michelle Wheatley, Regional Director, Science; Robert Young, Division Manager, Arctic Aquatic Research Division; Robert Fudge, Executive Director, (NCAARE); Rick Wastle, Fish Aging Lab; Simon Wiley, Stock Assessment Lab; Rob Bajno, Genetics Lab; Jim Reist, Climate Change and Arctic Chars; Jack Orr, Whale Research/Tagging; Pierre Richard, Whale Research/Tagging; Bruno Rosenburg, Fatty Acid Lab.
Saturday, September 19, 2009 (Rankin Inlet, Nunavut)	
<i>Municipality of Rankin Inlet</i>	John Hickes, Mayor.
<i>Kivalliq Arctic Foods</i>	Darrin Nichol, President, Nunavut Development Corporation; Brian Schindel, General Manager; Johnny Kingmeatok, Staff.

*Includes both Coast Guard and fisheries-related matters.

Saturday, September 19, 2009 (Cambridge Bay, Nunavut)	
<i>Municipality of Cambridge Bay</i>	Syd Glawson, Mayor; Sharon Ehaloak, Councillor; Marg Epp, Councillor; Steve King, Senior Administrative Officer; Derrick Anderson, Assistant Administrative Officer; Megan Livingston, Council Officer.
Sunday, September 20, 2009 (Cambridge Bay, Nunavut)	
<i>Ikaluktutiak Co-op</i>	Bill Lyall, President.
<i>Kitikmeot Foods</i>	Monique Giroux-Laplane, Manager; Stéphane Lacasse, Staff.
<i>Sir Wilfrid Laurier</i>	Mark Taylor, Commanding Officer; Simon Dockerill, Chief Officer; William McIndoe, 2nd Officer; Ben Axmann, 3rd Officer; Randy Morford, Chief Engineer; Gabriel Chaikin, 1st Engineer; Laurie Laplane, Electrician; Miles G. Taylor, Logistics Officer; Other representatives.
Sunday, September 20, 2009 (Yellowknife, Northwest Territories)	
<i>University of Calgary</i>	Dr. Rob Huebert, Professor of Political Science and Associate Director of the Centre for Military and Strategic Studies.
Tuesday, September 22, 2009 (Hay River, Northwest Territories)	
<i>Coast Guard Facility</i>	Jack Kruger, Search and Rescue Coordinator; Les Sanderson, Acting Field Supervisor; Deanna Leonard, Fisheries Management Biologist; Other representatives.
<i>Northwest Territories Fishermen's Federation</i>	Alex Richardson, President.
<i>Freshwater Fish Marketing Corporation</i>	Dennis Geisler, Director of Field Operations, Western Regions.
<i>University of Calgary</i>	Dr. Rob Huebert, Professor of Political Science and Associate Director of the Centre for Military and Strategic Studies.

Wednesday, September 23, 2009 (Inuvik, Northwest Territories)

<i>Fisheries and Oceans Canada</i>	Terry Stein, Conservation and Protection Field Supervisor; Amanda Joynt, Fisheries Management Biologist; Erica Wall, Fish Habitat Biologist; Marlene Bailey, Integrated Resource Management Officer; Cal Wenghofer, ISR Program Coordinator; Kevin Bill, Fish Management Biologist; Kelly Eggers, Integrated Management Planner; Sarah Fosbery, Administrative Clerk; Other representatives.
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Thursday, September 24, 2009 (Juneau, Alaska)

<i>Foreign Affairs and International Trade Canada</i>	Jennifer Loten, Consul, Consulate of Canada, Anchorage; Rudy Brueggemann, Political Affairs Officer, Consulate of Canada, Anchorage.
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<i>US Coast Guard</i>	Rear Admiral Christopher Colvin; Captain Michael A Neussl, Chief of Staff; Captain Michael Inman, Chief, Response Division; Commander Michael Cerne; Other representatives.
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<i>National Oceanic & Atmospheric Administration, National Marine Fisheries</i>	Jon Kurland, A/Deputy Regional Administrator; Sue Salveson, Assistant Regional Administrator; Phil Mundy, Director, Auke Bay Laboratories; Jonathan Pollard, Deputy Regional Counsel; Matthew Brow, National Marine Fisheries Service; Doug Mecum, Regional Manager.
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<i>Alaska Department of Fish and Game</i>	Denby Lloyd, Commissioner; David Bedford, Deputy Commissioner; Gordy Williams, Special Assistant to the Commissioner; Cora Crome, Fisheries Policy Advisor.
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Friday, September 25, 2009 (Sitka, Alaska)

<i>Sitka Air Station</i>	Captain David Walker; Commodore Kevin Sareault; Commodore Melissa Rive; Other representatives.
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Saturday, September 26, 2009 (Victoria, British Columbia)	
<i>University of Calgary</i>	Dr. Rob Huebert, Professor of Political Science and Associate Director of the Centre for Military and Strategic Studies.
<i>Fisheries and Oceans Canada</i>	Bija Poruks, Assistant Commissioner; Paul Sprout, Regional Director General.
<i>Joint Rescue Coordination Centre</i>	Captain Stu Robertson; Captain Dave Bruneau; Marc Proulx, acting supervisor of the JRCC; Mike Stacey, Maritime Coordinator, CCG; John Millman, Maritime Coordinator, CCG; Captain Sarahlynn Hickey, Assistant Air Coordinator; Neil McBride, Acting Senior Staff Officer, Visits and Protocol; Captain Les Falloon, Assistant Chief of Staff, Operations, DND; John Palliser, Superintendant Marine Search and Rescue, CCG; Other representatives.