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NEWFOUNDLAND AND LABRADOR'S NORTHERN COD FISHERY: CHARTING A NEW SUSTAINABLE FUTURE

Report of the Standing Committee on Fisheries and Oceans

**Scott Simms
Chair**

MARCH 2017

42nd PARLIAMENT, 1st SESSION

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has the honour to present its

TENTH REPORT

Pursuant to its mandate under Standing Order 108(2), the Committee has studied the Northern Cod Stock and has agreed to report the following:

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NEWFOUNDLAND AND LABRADOR'S NORTHERN COD FISHERY: CHARTING A NEW SUSTAINABLE FUTURE

INTRODUCTION

Northern cod (*Gadus morhua*) was historically the largest groundfish resource in the Northwest Atlantic Ocean and an iconic species supporting the livelihood of entire coastal communities in Newfoundland and Labrador. As put by one witness, Keith Sullivan, representing the Fish, Food and Allied Workers (FFAW) union, cod was simply referred to as “fish” in Newfoundland and Labrador.¹ Derek Butler, Association of Seafood Producers, considered cod as the province’s “raison d’être.”²

More than two decades after the 1992 commercial offshore fishery moratorium, the decimated northern cod stock is showing signs of a slow rebuilding. In order to better understand the current population state and trends of the stock and to ensure a sustainable future fishery, on 25 February 2016, the House of Commons Standing Committee on Fisheries and Oceans (“the Committee”) adopted a motion to undertake a study of Newfoundland and Labrador’s “northern cod stock and its relevance to associated species. This study would evaluate the replenishment of the stock and what other species are affected by it in the region. The study would also look at sustainable harvesting technologies for the future of the cod fishery.”³

The Committee convened six meetings in September and October 2016 to study the matter, hearing submissions and testimony from numerous stakeholders including representatives of Fisheries and Oceans Canada (DFO), scientists, non-governmental organizations, and governmental representatives and scientists from Iceland and Norway (a complete list is attached to this report). The Committee members would like to express their thanks to the witnesses who appeared before them to share their knowledge and recommendations over the course of this study. These contributions were invaluable in the preparation of the following report.

The Committee also traveled to St. John’s, Port de Grave and Fogo Island, Newfoundland and Labrador, in September 2016 to hear from local fish harvesters, Newfoundland and Labrador’s Department of Fisheries, Forestry and Agrifoods, Senator David Wells, the FFAW union, seafood processing companies, and local non-governmental organizations.

The Committee is pleased to present its report, in which it makes recommendations to the federal government. These recommendations are based on the testimony of witnesses as well as the Committee's own analysis of the issues.

1 Keith Sullivan, President, Fish, Food and Allied Workers, [Evidence](#), 26 September 2016.

2 Derek Butler, Executive Director, Association of Seafood Producers, [Evidence](#), 26 September 2016.

3 House of Commons, Standing Committee on Fisheries and Oceans, [Minutes of Proceedings](#), 25 February 2016.

BACKGROUND

A. Northern Cod's Ecosystem

The northern cod stock refers to the Atlantic cod managed largely within the North Atlantic Fisheries Organization (NAFO)'s divisions 2J3KL (Figure 1).⁴ The northern cod comprises a stock complex that inhabits an area of approximately 400,000 km² from the Grand to Hamilton Banks and their adjacent coasts. Although northern cod feed on a variety of fish and shellfish, including capelin, herring, flounder, shrimp, and crab, the most important food species of the full stock complex is capelin.⁵ With the decrease in their biomass in the 1990s, small and large cod were progressively replaced by cetacea⁶ and seals as the main predators of fish.⁷ Pre-recruit cod are consumed by squid, many species of groundfish, including larger cod, and some species of birds. Larger juveniles cod are eaten by seals and larger groundfish.

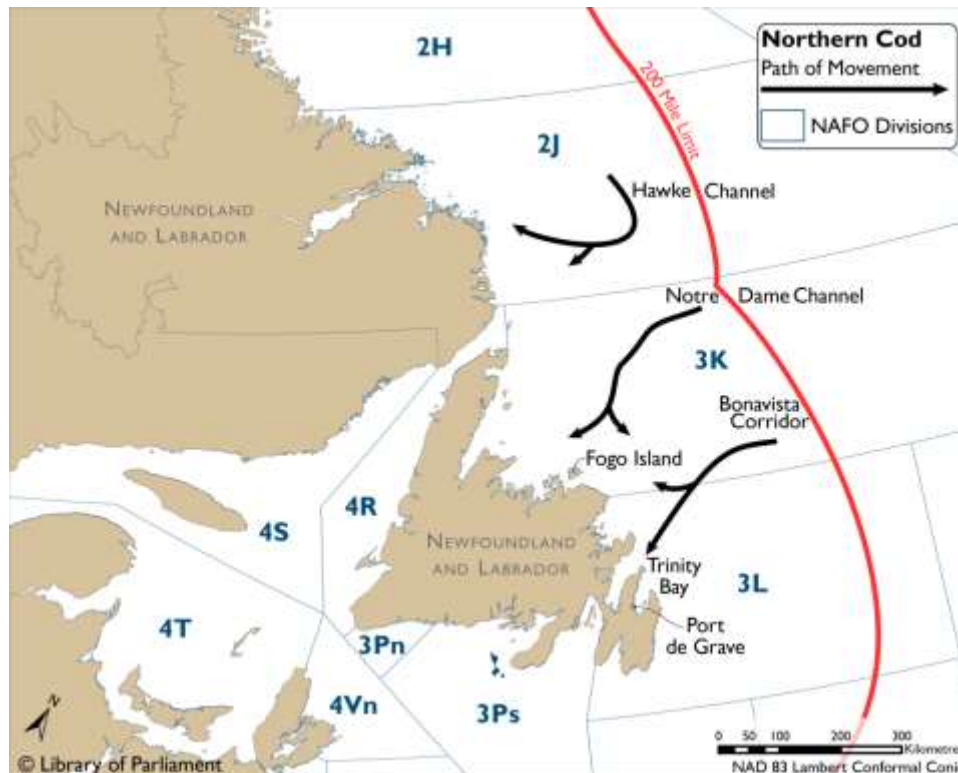
4 [Northwest Atlantic Fisheries Organization \(NAFO\)](#) is an intergovernmental fisheries science and management body comprised of 12 members from North America, Europe, Asia, and the Caribbean. NAFO determines the Total Allowable Catch (TAC) for a given area under its jurisdiction and advises the member-nations of their share (in tonnes). In Canada, DFO then allocates the quota according to its management practices.

5 Fisheries and Oceans Canada [DFO], [Underwater World: Atlantic Cod](#).

6 [DFO](#) defines cetacean as “the scientific term for the group of marine mammals that includes whales, dolphins and porpoises.”

7 Claude Savenkoff et al., “[Main prey and predators and estimates of mortality of Atlantic cod \(*Gadus morhua*\) in the northern Gulf of St. Lawrence during the mid-1980s, mid-1990s, and early 2000s](#),” *Canadian Technical Report of Fisheries and Aquatic Sciences* 2666, Institut Maurice-Lamontagne, Fisheries and Oceans Canada, 2006.

Figure 1 – Northern Cod’s Migration in the Northeast Newfoundland Shelf



Sources: Map prepared by the Library of Parliament, Ottawa, 2016 using data from North Atlantic Fisheries Organization (NAFO) Secretariat. [NAFO Divisions](#). Dartmouth, Nova Scotia: NAFO, accessed October 31, 2016; Natural Resources Canada. [Boundary Polygons](#). In: *Atlas of Canada National Scale Data 1:5,000,000 Series*. Ottawa: Natural Resources Canada, 2013; G.A. Rose and S. Rowe, “Northern cod comeback”, *Canadian Journal of Fisheries and Aquatic Sciences*, Vol. 72, 2015, pp. 1789–1798. The following software was used: Esri, ArcGIS, version 10.3.1. Contains information licensed under [Open Government Licence – Canada](#).

Northern cod undertake seasonal migrations between offshore spawning and overwintering grounds to summer inshore feeding areas (Figure 1). Some sub-stocks undergo extensive migrations and intermingle with other stocks, while others remain within certain bay areas and migrate along the coast.⁸

8 Fisheries Resource Conservation Council, [2003/2004 Conservation Requirements for 2J3KL Cod](#), Report to the Minister of Fisheries and Oceans, FRCC.2003.R.2, March 2003, p. 6.

B. Past Committee Work

In November 2005, the Committee completed its report *Northern Cod: a Failure of Canadian Fisheries Management*.⁹ The report, tabled in the House of Commons on 17 May 2006, concluded that the major factor of the collapse of the northern cod stock was mismanagement. A lack of long-term planning, not dealing with foreign overfishing, and the re-opening of the fishery in 1998 at unsustainable levels were cited as causes of the failure of the northern cod stock to recover since the 1992 commercial offshore fishery moratorium.

In its 2005 report, the Committee recognized that, while DFO had the critical role in this failure, the Department was “often under pressure from fishermen, coastal communities, unions, and politicians to provide opportunities.” The Committee, echoing the 2003 Fisheries Resource Conservation Council (FRCC)’s *Conservation Requirements for 2J3KL Cod* report, also stressed that “successful management of cod and other coastal fisheries (e.g., capelin) can only be achieved if fishers take responsibility for the stewardship of local resources and buy into the need for conservation.”¹⁰

PAST COLLAPSE AND CURRENT POPULATION TRENDS

A. Past Collapse

In its most recent 2010 assessment, Atlantic cod was designated as “endangered” by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).¹¹ Several factors have been suggested to account for the collapse of the northern cod stock, including: over-estimation of the biomass and recruitment; failure to recognize environmental changes and their impact on the cod fishery; failure of the management system to recognize the impact of technological change; under-estimation of foreign overfishing; industry pressures which led to misreporting, dumping, discarding, and high-grading; growth of the seal populations; and, failure of the political system to make the necessary conservation decisions when the problem was made evident.¹²

Pierre Pepin, DFO, pointed out to the Committee that, from the 1980s to about 1994, the whole northern cod’s ecosystem collapsed.¹³ Capelin populations, the food base for many of the predators and numbering about 4 million metric tonnes in division 3L prior to the collapse, virtually disappeared in the 1990s.

9 House of Commons, Standing Committee on Fisheries and Oceans, [Northern Cod: a Failure of Canadian Fisheries Management](#), November 2005.

10 Fisheries Resource Conservation Council, [2003/2004 Conservation Requirements for 2J3KL Cod](#), Report to the Minister of Fisheries and Oceans, FRCC.2003.R.2, March 2003, p. 8.

11 The “endangered” category refers to a wildlife species facing imminent extirpation or extinction. See: COSEWIC, [“Cod, Atlantic | Gadus morhua | Newfoundland and Labrador population,” Wildlife Species Search](#).

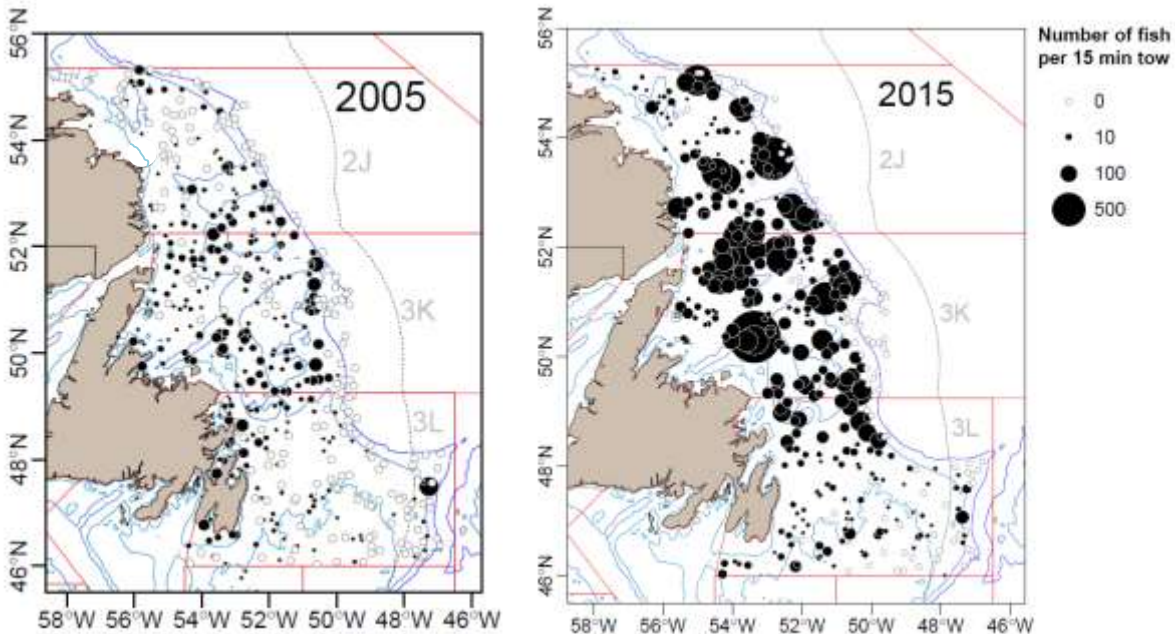
12 House of Commons, Standing Committee on Fisheries and Oceans, [Northern Cod: A Failure of Canadian Fisheries Management](#), November 2005, p. 9.

13 Pierre Pepin, Senior Research Scientist, Science, DFO, [Evidence](#), 26 September 2016.

B. Current Population State and Trends

The Committee learned from John Bratney, DFO, that, in the last decade, the northern cod stock abundance has increased 4.5-fold and the stock biomass has improved twelvefold with a growing presence of larger and older fish.¹⁴ However, a similar early rebuilding has not been observed in the southern portion of the stock range, the southern division 3L (Figure 2).

Figure 2 – Northern Cod Stock Abundance in 2005 and 2015



Source: DFO, Brief, 21 September 2016.

According to DFO's [decision-making framework incorporating the precautionary approach](#) and the most recent stock assessment completed in 2016, northern cod's spawning stock biomass has improved from 3% in 2005 to 34% in 2015 with respect to the limit reference point of 900,000 metric tonnes (Figure 3).¹⁵ Despite good growth in recent years, the stock is still in the critical zone with a low recruitment level equivalent to 25% of the 1980s levels. In such a zone, conservation concerns are paramount and there is no tolerance for preventable declines.¹⁶ DFO's 2015 stock update also indicates that "management actions must promote stock growth and removals from all sources must be kept to the lowest possible level until the stock has cleared the critical zone."¹⁷

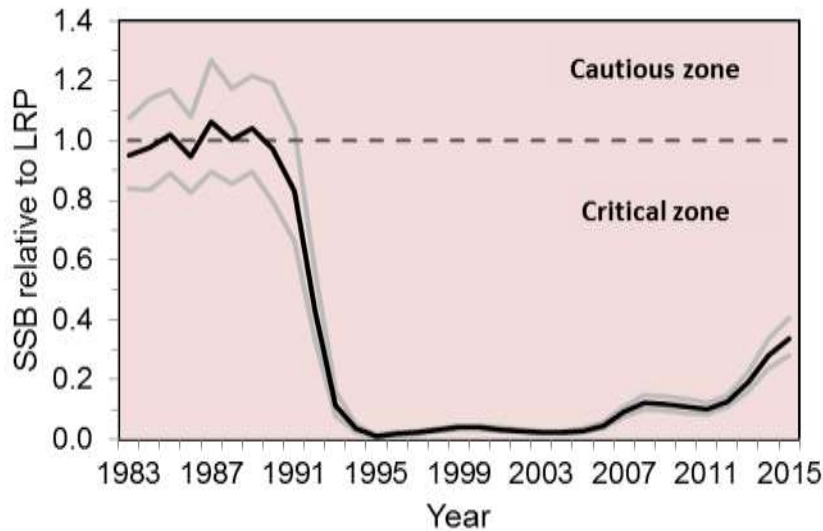
14 John Bratney, Research Scientist, Newfoundland and Labrador Region, DFO, [Evidence](#), 21 September 2016.

15 John Bratney, Research Scientist, Newfoundland and Labrador Region, DFO, [Evidence](#), 21 September 2016.

16 DFO, "[Stock Assessment of Northern Cod \(NAFO Divs. 2J3KL\) in 2016](#)," *Canadian Science Advisory Secretariat Science Advisory Report 2016/026*, May 2016, p. 2.

17 DFO, "[Northern \(NAFO Divs. 2J3KL\) Cod Stock Update](#)," *Canadian Science Advisory Secretariat Science Response 2015/018*, May 2015, p. 8.

Figure 3 – Northern Cod’s Spawning Stock Biomass Evolution



Source: DFO, *Brief*, 21 September 2016. The limit reference point (LRP), in dash line, is defined as the average spawning stock biomass observed through the 1980s and marks the boundary between the cautious and critical zones. When a fish stock level falls below this point, there is a high probability that its productivity will be so impaired that serious harm will occur.

Current modelling data and techniques used for stock assessments only allow DFO to project where the northern cod stock would be in a three-year timeframe. According to John Bratney, “if the current productivity conditions of the stock persisted the way they are today, after three years we would be about two-thirds of the way up to the limit reference point.”¹⁸ A DFO Science Response Report in 2014 indicates that to reach the limit reference point by 2019, the stock would have to increase by 50% every year from 2015 to 2018.¹⁹

John Bratney reminded the Committee, however, that reaching the limit reference point does not trigger the possibility of starting a full-scale commercial fishery. It will only allow the start of a cautious exploitation of the stock with increasing harvest levels as the spawning stock biomass grows through the cautious zone.

18 John Bratney, Research Scientist, Newfoundland and Labrador Region, DFO, [Evidence](#), 21 September 2016.

19 DFO, “[Short-Term Stock Prospects for Cod, Crab and Shrimp in the Newfoundland and Labrador Region](#),” *Canadian Science Advisory Secretariat Science Response 2014/049*, November 2014, p. 14.

CURRENT HARVEST LEVELS AND MANAGEMENT MEASURES

A. Harvest Levels

In divisions 2J3KL, an inshore²⁰ stewardship fishery²¹ has been permitted since 2007. Northern cod is also harvested as part of the recreational (food) groundfish fishery and by Indigenous communities for food, social and ceremonial (FSC) purposes. Furthermore, cod by-catch occurs in the shrimp fishery. According to Philippe Morel, DFO, the estimated 2016 harvest levels, totalling 13,500 tonnes, for various northern cod fisheries are as follows:

- 10,525 tonnes by the stewardship fishery;
- 2,000 tonnes by the recreational (food) fishery;
- 275 tonnes by science projects;
- 50 tonnes by Indigenous communities fishing for FSC purposes;
- 25 tonnes by domestic by-catch;
- 150 tonnes by foreign by-catch; and
- 475 tonnes by cod quality projects.²²

B. Inshore Stewardship Fishery Management

Management measures for the inshore stewardship fishery are set by DFO based on consultations with the Newfoundland and Labrador Groundfish Industry Development Council, FFAW and seafood processors. In 2016, the inshore stewardship fishery moved away from past years' condensed three week Individual Quota (IQ) system that permitted 5,000 pounds per licence holder to a regime that includes an extended season, weekly landing limits, elimination of individual quotas, and removal of the requirement to fish within the fisher's home bay.²³

The 2016 one-year management plan allows for harvesting limits of 2,000 pounds per week from 15 August to 4 September 2016 and 3,000 pounds per week from 4 September to the end of the season. No formal Total Allowable Catch (TAC) was set both for the 2016 regime and the previous IQ system.

20 The commercial groundfish fishery is often divided into an "inshore" sector, which includes all vessels less than 65 feet in length overall (LOA), and an "offshore" sector, which involves all vessels longer than 100 feet LOA.

21 A "stewardship fishery" refers to a limited entry fishery with gear restrictions (amount and type of gear), seasonal and duration restrictions, whose landings are closely monitored at sea and at dockside. The data collected by commercial fish harvesters during their participation in this fishery help to monitor the recovery of the stocks.

22 Philippe Morel, Assistant Deputy Minister, Ecosystems and Fisheries Management, DFO, [Evidence](#), 21 September 2016.

23 DFO, [2016 Northern Cod Stewardship / By-catch Fishery 2J3KL management approach](#).

The Committee heard the opposition of Ryan Cleary to the new management plan. Ryan Cleary stated that harvesters often “reach their weekly quota when they still have gillnets in the water. As a result, when all the nets are hauled, thousands of pounds of dead cod are left in the ocean. Harvesters don't exceed their quota, so they're not charged with overfishing.”²⁴ Ryan Cleary added:

Safety is also an issue because, with only 2,000 to 3,000 pounds of fish to take a week, it doesn't make economic sense to take a longliner or a bigger boat out to catch cod, not when you have to pay your crew and your expenses. Harvesters say they're being forced into smaller boats, which obviously aren't as safe. Earlier this month, four fishermen from Shea Heights—that's a neighbourhood right here in St. John's—were lost in a 22-foot open boat not far from St. John's harbour.

Jason Sullivan informed the Committee that, although FFAW took part in DFO's discussions on the new management plan, many fish harvesters have not been consulted.²⁵ According to him, DFO should refrain from making long-term management decisions until the Department has heard from members of a new fish harvesters union being created.²⁶

During its visit to Port de Grave and Fogo Island, the Committee also noted opposition from local fishers to the new management plan. According to local fishers, the weekly quota is not economically profitable and does not justify the fishing costs. Committee members saw evidence of this problem in the great number of vessels tied to the quay in Port de Grave during the fishing season. Fish harvesters in Fogo Island suggested giving local processing plants and communities the flexibility to manage their own total quota. This would put operational decision-making affecting fisheries as close as possible to those involved in the fisheries.

Tony Doyle, however, indicated that, while there are fishers unhappy with the new plan, others are taking part in the fishery and were landing good quality product.²⁷ Keith Sullivan argued that the new management plan's longer season would allow harvesters to catch more cod and provide a steady supply to markets while avoiding gluts in the processing sector and ensuring higher quality products.²⁸

24 Ryan Cleary, As an Individual, [Evidence](#), 26 September 2016.

25 Jason Sullivan, Fish Harvester, [Evidence](#), 26 September 2016.

26 The founding convention for a new fish harvesters union, the [Federation of Independent Sea Harvesters of Newfoundland and Labrador \(FISH-NL\)](#), took place on 27 October 2016. Ryan Cleary was elected President and Jason Sullivan was designated as representative of the under-40 feet fleet. The convention in Gander was the start of the process towards certification as a union by the Canadian Industrial Relations Board.

27 Tony Doyle, Fish Harvester, [Evidence](#), 26 September 2016.

28 Keith Sullivan, President, Fish, Food and Allied Workers, [Evidence](#), 26 September 2016.

C. Public Groundfish Food and Recreational Fishery Management

In recognition of the significance of the northern cod fishery as a food source to the people of Newfoundland and Labrador,²⁹ the Committee recommends:

Recommendation 1

That the Government of Canada term the recreational groundfish fishery in Newfoundland and Labrador as “public groundfish food and recreational fishery.”

In 2016, the public groundfish food and recreational fishery was opened for a total of 46 days, an increase of 14 days over previous years in response to long-standing concerns expressed by the Newfoundland and Labrador’s public groundfish food and recreational fishery sector.³⁰ Fishers are limited to five groundfish per day (including cod). Philippe Morel informed the Committee that this is a transitional measure in advance of implementation of a licence and tags regime for all public groundfish food and recreational fishery participants.³¹ Public consultations on the new regime, expected to be introduced prior to the 2017 season, were conducted in November 2016.³²

The Committee heard from Kimberly Orren that the extension of the public groundfish food and recreational fishery season was not sufficient to ensure appropriate access to fish for Fishing for Success, a cod fishery program designed for at-risk youth.³³ Andrew Bouzan, Newfoundland and Labrador Wildlife Federation, reminded the Committee that for Newfoundland and Labrador, fish is not only a commodity but is also a cultural food, essential to the island’s food security.³⁴

Bettina Saier, World Wildlife Fund-Canada, expressed support for DFO’s proposed licence and tags regime. She stressed the need to improve data collection at sea and to ensure that removals from all sources, including the public groundfish food and recreational fishery, are accounted for.³⁵ However, Andrew Bouzan recommended the extension of the public groundfish food and recreational fishery season to 72 days and informed the Committee that the proposed licence and tags regime is “highly disliked” in the province as the food fishery is seen as a heritage activity.³⁶

29 Andrew Bouzan, President, Newfoundland and Labrador Wildlife Federation, [Evidence](#), 5 October 2016.

30 DFO, [2016 Newfoundland and Labrador Recreational Groundfish Fishery](#).

31 Philippe Morel, Assistant Deputy Minister, Ecosystems and Fisheries Management, DFO, [Evidence](#), 21 September 2016.

32 DFO, [Public Consultations on Recreational Groundfish \(Cod\) Fishery](#).

33 Kimberly Orren, Project Manager, Fishing for Success, [Evidence](#), 26 September 2016.

34 Andrew Bouzan, President, Newfoundland and Labrador Wildlife Federation, [Evidence](#), 5 October 2016.

35 Bettina Saier, Vice-President, Ocean, World Wildlife Fund-Canada, [Evidence](#), 26 September 2016.

36 Andrew Bouzan, President, Newfoundland and Labrador Wildlife Federation, [Evidence](#), 5 October 2016.

STOCK ASSESSMENTS, ECOSYSTEM APPROACH AND SCIENCE CAPACITY

A. Stock Assessments

Northern cod full stock assessments are conducted by DFO every three years and are based on surveys, catch and scientific data. The most recent assessment was completed in March 2016 with the participation of DFO scientists and managers, academia, representatives from the industry including FFAW, First Nations, and non-governmental organizations.³⁷ Capelin stock assessments are conducted every two years with the most recent one concluded in 2015.³⁸ John Bratley mentioned to the Committee that assessment conclusions regarding the state of the stock are agreed upon by consensus.

Responding to concerns expressed by Committee members regarding the frequency of northern cod full stock assessments, John Bratley indicated that the Department also conducts interim stock updates.³⁹ During the interim update exercises, if key stock indicators trigger concerns, a full stock assessment will be completed that year. Provincial Minister Steve Crocker and Alberto Wareham, Icewater Seafoods Inc., however, called for an annual full stock assessment given the critical recovery period of the species.⁴⁰

The Committee also noted that there was skepticism expressed by some inshore fish harvesters towards DFO's northern cod stock assessment conclusions. Tony Doyle, for example, told the Committee that "through the 1980s, when we fished with gillnets, the average catch was anywhere from 50 pounds to 100 pounds for catch on a 24-hour soak."⁴¹ He then stated that "the sentinel fishermen in Bay de Verde in the last number of years were getting anywhere from 500 to 1,000 pounds of net on a 24-hour soak." Harvesters in Port de Grave indicated to Committee members that, given the lack of resources, DFO's research vessels may have been forced to complete surveys at a time and a location when northern cod have already migrated away from. Therefore, harvesters proposed that DFO assign scientists on their own fishing vessels.

Keith Sullivan acknowledged that inshore harvesters generally observed more cod throughout the region than they did in the 1980s. The question is whether the 1980s DFO estimates were higher than the actual stock abundance or current stock assessments underestimate the quantity of northern cod in the ocean.⁴² The tension between fish harvesters' perception of the health of the northern cod stock in some inshore areas and the broad trends identified by DFO's science is not a new phenomenon and was

37 John Bratley, Research Scientist, Newfoundland and Labrador Region, DFO, [Evidence](#), 21 September 2016.

38 DFO, "[Assessment of Capelin in Subarea 2 and Divisions 3KL in 2015](#)," *Canadian Science Advisory Secretariat Science Advisory Report 2015/036*, June 2015.

39 John Bratley, Research Scientist, Newfoundland and Labrador Region, DFO, [Evidence](#), 21 September 2016.

40 Steve Crocker, Minister, Department of Fisheries, Forestry and Agrifoods, Government of Newfoundland and Labrador, [Evidence](#), 26 September 2016.

41 Tony Doyle, Fish Harvester, [Evidence](#), 26 September 2016.

42 Keith Sullivan, President, Fish, Food and Allied Workers, [Evidence](#), 26 September 2016.

suggested by Jeffrey Hutchings to be a possible cause for pressure on the Minister to reopen the unsustainable commercial fishery from 1998 to 2002.⁴³

In summary, while witnesses agreed that the northern cod stock is showing positive signs of rebuilding, they also expressed the need to monitor the stock more closely, now more than any time since the moratorium. The Committee notes that there is an apparent disconnect between many witnesses and DFO pertaining to the quantity and quality of northern cod scientific data collected in recent years.

Therefore, the Committee recommends:

Recommendation 2

That Fisheries and Oceans Canada begin the practice of completing a full northern cod stock assessment in NAFO divisions 2J3KL on an annual basis. This practice should begin immediately.

Furthermore, the Committee recommends:

Recommendation 3

That Fisheries and Oceans Canada, on an annual basis, lead the initiative to collect and compare northern cod assessments currently conducted separately by Fisheries and Oceans Canada, Newfoundland and Labrador's Department of Fisheries, Forestry and Agrifoods, and Fish, Food and Allied Workers (FFAW-Unifor).

DFO's capelin stock assessment frequency and methods were also criticized by a few witnesses. The Committee learned from Pierre Pepin that, in contrast to the 1980s when the entire 2J3KL area was sampled, an annual acoustic survey of capelin is currently only conducted in division 3L, with sporadic extensions into division 3K, when the survey vessel is operational.⁴⁴ Provincial Deputy Minister David Lewis indicated that current surveys are conducted mostly inshore and there is very little information on offshore capelin stocks.⁴⁵ For her part, Bettina Saier stressed that capelin monitoring through acoustic surveys should be conducted annually.⁴⁶ This is especially important given the fact that capelin stock abundance is still only at about a quarter of the pre-collapse's level.⁴⁷ The Committee notes that both Iceland and Norway conduct cod and capelin stock assessments on an annual basis.⁴⁸

43 Jeffrey Hutchings, Killam Memorial Chair in Fish, Fisheries and Oceans, Department of Biology, Dalhousie University, [Evidence](#), 3 October 2016.

44 Pierre Pepin, Senior Research Scientist, Science, DFO, [Evidence](#), 26 September 2016.

45 David Lewis, Deputy Minister, Department of Fisheries, Forestry and Agrifoods, Government of Newfoundland and Labrador, [Evidence](#), 26 September 2016.

46 Bettina Saier, Vice-President, Ocean, World Wildlife Fund-Canada, [Evidence](#), 26 September 2016.

47 Pierre Pepin, Senior Research Scientist, Science, DFO, [Evidence](#), 26 September 2016.

48 Gudmundur Thordarson, Marine and Freshwater Research Institute, Iceland, [Evidence](#), 17 October 2016.

The Committee observes that all witnesses emphasized the understanding and protection of the capelin stock as crucial for the continued rebuilding of the northern cod stock. A healthy capelin resource in the food chain will help ensure growth of the northern cod.

Therefore, the Committee recommends:

Recommendation 4

That Fisheries and Oceans Canada begin the practice of completing a full stock assessment of the capelin resource in NAFO divisions 2J3KL on an annual basis. This practice should begin immediately.

In addition, the Committee recommends:

Recommendation 5

While current capelin stock assessment practice involves partial assessments in NAFO divisions 3KL, it is incumbent upon Fisheries and Oceans Canada to complete full stock assessments in NAFO divisions 2J3KL.

B. Ecosystem Approach

While management of the entire marine ecosystem is virtually impossible, various witnesses called for an integrated management of forage species such as capelin with northern cod. In Norway, for example, harvest control rules for capelin take into consideration the need for capelin as food for the cod stock.⁴⁹ An ecosystem-based management approach including consideration of the impact of competitors and predators such as seals should also be adopted.⁵⁰ Since ocean conditions play a role in the slow rebuilding of northern cod and the associated decline of northern shrimp and snow crab, Keith Sullivan emphasized the need for further investments in ecosystem science research.⁵¹

C. Science Capacity

DFO's declining science capacity in past years was observed by various witnesses. Alberto Wareham indicated that there are key deficiencies in the current understanding of northern cod's migration patterns, genetically distinct sub-stocks, and vulnerabilities to fishing pressure.⁵² Therefore, in 2015, World Wildlife Fund-Canada, FFAW, Fogo Island Co-op, the Association of Seafoods Producers, and the Newfoundland and Labrador Groundfish Industry Development Council embarked upon a [Fishery Improvement Project](#)

49 Vidar Landmark, Director General, Department of Fisheries and Aquaculture, Government of Norway, [Evidence](#), 17 October 2016.

50 Steve Crocker, Minister, Department of Fisheries, Forestry and Agrifoods, Government of Newfoundland and Labrador, [Evidence](#), 26 September 2016.

51 Keith Sullivan, President, Fish, Food and Allied Workers, [Evidence](#), 26 September 2016.

52 Alberto Wareham, President and Chief Executive Officer, Icwater Seafoods Inc., [Evidence](#), 26 September 2016.

(FIP). The FIP aims to improve fishing practices and management to help the northern cod fishery rebuild and meet the Marine Stewardship Council (MSC) standards for sustainable fisheries certification. Alberto Wareham mentioned that the FIP has funded the development of assessment and simulation models, genetic identification of stock components, and work towards the development of a large-scale acoustic tracking array.⁵³

John Efford expressed his frustration regarding the fact that FFAW had to assume scientific research activities as follows:

If you go down to the DFO building right now, you're lucky if you get to see somebody for eons. The staff is not down there anymore in any numbers. From what I understand, most of the work being asked for or being done, which is nothing compared with what needs to be done, is done through the union. The union's job is not research. The union's job is to protect the fishermen, but that's not happening.⁵⁴

However, the need in involving fish harvesters in stock assessment and scientific activities, including cod quality projects, was emphasized by many witnesses. The scientific value of fishers' local knowledge should be recognized. With respect to stock identification, for example, fishers can provide information on temporal and spatial information of cod populations through identification of spawning areas, juvenile habitat, morphological characteristics, and seasonal migrations. Provincial Minister Steve Crocker reminded the Committee that fish harvesters are on the front lines and need to be listened to.⁵⁵ As put by Keith Sullivan:

In the wake of the moratorium, it was critical for fish harvesters and the FFAW to establish a larger role in fishery science. To that end, over the past 25 years, the FFAW has developed a full fisheries science program on a variety of species. The union also has a full-time fisheries scientist on staff, so that when DFO discusses matters of science we are in a room with a vast array of knowledge and a voice.⁵⁶

Keith Sullivan added that the participation of fish harvesters and FFAW in science programs is a

response to a deep disconnect between what harvesters were saying on the water and the results of the stock assessments conducted by DFO in the years prior to the moratorium and that were being given to us. Before the moratorium, information from the inshore harvester was not systematically collected and used to inform management of the stock. Up to the moratorium, information on abundance was collected from the catch of offshore vessels that fished when cod were aggregated and vulnerable. There was limited information from the inshore fisheries on cod.

Minister Steve Crocker also confirmed that the province, over the last 10 to 12 years, had to undertake its own scientific research activities by establishing the Centre for Fisheries Ecosystems Research (CFER). As put by Minister Steve Crocker, "we were

53 Alberto Wareham, President and Chief Executive Officer, Icwater Seafoods Inc., [Evidence](#), 26 September 2016.

54 John Efford, As an Individual, [Evidence](#), 26 September 2016.

55 Steve Crocker, Minister, Department of Fisheries, Forestry and Agrifoods, Government of Newfoundland and Labrador, [Evidence](#), 26 September 2016.

56 Keith Sullivan, President, Fish, Food and Allied Workers, [Evidence](#), 26 September 2016.

forced to do that because of the lack of science being done by DFO.”⁵⁷ Provincial Deputy Minister David Lewis pointed out that satellite tagging and acoustic surveying carried out by CFER allowed the detection of large cod that were not identified by DFO trawl surveys. These fish were found inshore for longer and different periods of the year than had been the case prior to the moratorium.⁵⁸

The Committee notes that, after a decade of budget cuts to DFO, and more specifically in the Newfoundland and Labrador Region, witnesses appreciated the new investments in science and the hiring of additional scientists at the Department.

Consequently, the Committee recommends:

Recommendation 6

That the Minister of Fisheries, Oceans and the Canadian Coast Guard continue with new investments in science at Fisheries and Oceans Canada and the subsequent hiring of additional scientists to assess the northern cod and capelin stocks in the Newfoundland and Labrador Region.

POTENTIAL FACTORS AFFECTING THE REBUILDING OF NORTHERN COD

A. Climate change

Warming ocean temperatures driven by climate change were cited by John Bratney as a factor that could positively influence the rebuilding of northern cod and capelin stocks.⁵⁹ While warmer waters are beneficial to cod and capelin, they could, however, put shrimp and crab populations at risk. In 2013, DFO noted that the biomass index of northern shrimp had declined since 2006–2007 and warned that a “combined low availability of two major forage species [capelin and shrimp] in the ecosystem could compromise the potential for recovery of cod.”⁶⁰ Therefore, Bettina Saier recommended that management of northern cod consider the impacts of climate change on the cod and capelin populations.⁶¹

57 Steve Crocker, Minister, Department of Fisheries, Forestry and Agrifoods, Government of Newfoundland and Labrador, [Evidence](#), 26 September 2016.

58 David Lewis, Deputy Minister, Department of Fisheries, Forestry and Agrifoods, Government of Newfoundland and Labrador, [Evidence](#), 26 September 2016.

59 John Bratney, Research Scientist, Newfoundland and Labrador Region, DFO, [Evidence](#), 21 September 2016.

60 DFO, “[Stock Assessment of Northern \(2J3KL\) Cod in 2013](#),” *Canadian Science Advisory Secretariat Science Advisory Report 2013/14*, July 2013, p. 8.

61 Bettina Saier, Vice-President, Ocean, World Wildlife Fund-Canada, [Evidence](#), 26 September 2016.

B. Predator-Prey Relations

Regarding predation of cod by seals, the 2016 stock assessment indicates that it was “not found to be a significant driver of Northern cod in the period 1985–2007” and there is “no indication that the impact of seal predation has changed since that time.”⁶² John Bratley pointed out that the increase of the northern cod stock in the past decade occurred when the seal populations were close to an all-time high.⁶³ In his view, capelin availability and fishing effort were far more important in driving the northern cod’s population dynamics.

In Norway, however, Vidar Landmark observed that predation by seals was determined to be partly responsible for the decline of cod stocks in the late 1980s.⁶⁴ It should also be noted that the 2003 FRCC report indicated that mortality of northern cod caused by seals was already at that time a major concern.⁶⁵

Since capelin is a key prey for northern cod, impact studies of the predation of capelin by seals are also important to ascertain its indirect effect on northern cod. Therefore, given the fact the seals abundance has doubled to about seven millions since the northern cod collapse, the Committee was surprised to learn from John Bratley that, to date, DFO has not conducted detailed studies on capelin-northern cod-seals interactions.⁶⁶

In light of the testimony provided to the Committee pertaining to the seal populations’ effects on the rebuilding of the northern cod stock, the Committee recommends:

Recommendation 7

That Fisheries and Oceans Canada make every effort to control the seal populations through a sustainable and responsible harvest, to ensure that the seal populations do not prevent the northern cod stock from replenishing in the future.

C. Foreign Fishing

John Bratley informed the Committee that foreign fishing does not impact the rebuilding of northern cod in divisions 2J3K since the species moves within Canada’s 200-mile limit.⁶⁷ However, there is some foreign fishing in southern division 3L, in the Nose of the Grand Banks located outside of Canada’s 200-mile limit. The foreign fishing effort was characterized as “quite low” and estimated to be approximately 80 tonnes.

62 DFO, “[Stock Assessment of Northern Cod \(NAFO Divs. 2J3KL\) in 2016](#),” *Canadian Science Advisory Secretariat Science Advisory Report 2016/026*, May 2016, p. 2.

63 John Bratley, Research Scientist, Newfoundland and Labrador Region, DFO, [Evidence](#), 21 September 2016.

64 Vidar Landmark, Director General, Department of Fisheries and Aquaculture, Government of Norway, [Evidence](#), 17 October 2016.

65 Fisheries Resource Conservation Council, [2003/2004 Conservation Requirements for 2J3KL Cod](#), Report to the Minister of Fisheries and Oceans, FRCC.2003.R.2, March 2003, p. 9.

66 John Bratley, Research Scientist, Newfoundland and Labrador Region, DFO, [Evidence](#), 21 September 2016.

67 John Bratley, Research Scientist, Newfoundland and Labrador Region, DFO, [Evidence](#), 21 September 2016.

Gus Etchegary disputed DFO's assertion regarding the low impact of foreign fishing taking place in the Nose of the Grand Banks and told the Committee that, depending on environmental conditions,⁶⁸ 5% to 30% of the northern cod stock migrates to that area.⁶⁹ The Committee notes the concerns expressed by fish harvesters in Fogo Island regarding NAFO management of cod stocks in the Nose of the Grand Banks. Gus Etchegary further indicated that

while the Canadian government can inspect the ships that are fishing outside, or if they do fish inside, and record infractions against the regulations for overfishing and so on, it's the flag state and the flag state only that can take any punitive measures against them. In the last 30 years, to my knowledge, there hasn't been one punitive measure taken against the violent overfishing that has taken place.

D. Rebuilding Plan

Although northern cod is not listed under the *Species at Risk Act* requiring recovery strategies, action plans and management plans to be established, Brian Lester, DFO, indicated to the Committee that a rebuilding plan is being developed for the species under the *Fisheries Act*.⁷⁰ In his opinion, a rebuilding plan under the *Fisheries Act* would achieve the similar objective of rebuilding the stock while allowing for a controlled fishery.

DFO, however, did not provide to the Committee a timeline for the completion of a northern cod rebuilding plan. The Committee is also astonished to learn that, nearly 25 years since the moratorium and despite the 2011 FRCC's recommendation that rebuilding plans for cod stocks in the critical zone to be in place by the end of 2012,⁷¹ the Department has still not set an upper stock reference point and removal rates for each zone of the decision-making framework incorporating the precautionary approach. The absence of a rebuilding plan means that, currently, there continue to be no management goals, no target for rebuilding and no target rebuilding rate.

Joshua Laughren pointed out that, without an upper stock reference point, the limit reference point then effectively becomes the target for rebuilding.⁷² In his opinion, this is "dangerously close to the textbook definition of sustainable overfishing, in which you ensure that the stocks have little chance of ever getting up beyond their depleted state and that they thus vastly underperform with regard to what they should be or could be doing economically and ecologically." Therefore, Susanna Fuller, Ecology Action Centre, recommended to the Committee that the *Fisheries Act* be amended to require a rebuilding plan for depleted fish stocks.⁷³

68 Under typical historical conditions, only a small proportion of the full stock migrates to the Nose of the Grand Banks. However, there is evidence that migration of a much larger proportion of the stock may at times migrate to that area due to changing environmental conditions. George A. Rose, *Cod: The Ecological History of the North Atlantic Fishery*, Breakwater Books, 2007.

69 Gus Etchegary, As an Individual, [Evidence](#), 26 September 2016.

70 Brian Lester, Assistant Director, Integrated Resource Management, DFO, [Evidence](#), 21 September 2016.

71 Fisheries Resource Conservation Council, [Towards Recovered and Sustainable Groundfish Fisheries in Eastern Canada](#), Report to the Minister of Fisheries and Oceans, September 2011, p. 41.

72 Joshua Laughren, Executive Director, Oceana Canada, [Evidence](#), 3 October 2016.

73 Susanna Fuller, Senior Marine Conservation Coordinator, Ecology Action Centre, [Evidence](#), 5 October 2016.

The Committee also heard from Jeffrey Hutchings that it is necessary to have “catch quotas be part of a management plan for which rebuilding targets and harvesting rules are clearly articulated, quantitative, transparent, and scientifically defensible.”⁷⁴ In his view,

recovery targets and harvest control rules are two key elements associated with credible fishery management plans intended to achieve high-yield sustainable catches in the long term, yet they do not exist for most of our depleted cod stocks more than 20 years after their demise, and northern cod is one of those.

Given the above testimony, the Committee recommends:

Recommendation 8

That Fisheries and Oceans Canada immediately create a rebuilding plan for the northern cod stock. This plan should:

- 1. Be based on the best available science;**
- 2. Include target reference points and timelines;**
- 3. Ensure careful management for prey availability, especially capelin, and factor in ecosystem considerations like habitat protection and climate change;**
- 4. Keep removals from all sources at the lowest possible level, until the stock clears the critical zone; and**
- 5. Encourage the use of gear and harvesting methods proven to increase product quality and reduce bycatch and other ecosystem impacts.**

TOWARDS A FUTURE SUSTAINABLE FISHERY

A. Markets and Eco-Certification

Senator David Wells pointed out to the Committee that current markets realities for groundfish are very different from the days when Newfoundland and Labrador was a major player in the global cod industry and “cod was king.”⁷⁵ Cod now has to compete with other whitefish species such as tilapia, Alaskan and Russian pollock, and haddock. Therefore, in order to succeed in this competitive market, eco-certification and high quality are critical factors.⁷⁶ Susanna Fuller indicated, however, that eco-certifying northern cod can be problematic since the species is still considered as “endangered” by COSEWIC.⁷⁷

74 Jeffrey Hutchings, Killam Memorial Chair in Fish, Fisheries and Oceans, Department of Biology, Dalhousie University, [Evidence](#), 3 October 2016.

75 David Wells, Senator, Newfoundland and Labrador, [Evidence](#), 26 September 2016.

76 Steve Crocker, Minister, Department of Fisheries, Forestry and Agrifoods, Government of Newfoundland and Labrador, [Evidence](#), 26 September 2016.

77 Susanna Fuller, Senior Marine Conservation Coordinator, Ecology Action Centre, [Evidence](#), 5 October 2016.

Provincial Minister Steve Crocker informed the Committee that Iceland, Norway and Russia currently account for more than 80% of the global cod supply.⁷⁸ The largest markets for cod are fresh and frozen fillets in the United States, frozen fillets in the United Kingdom, and salted cod in Portugal. The global market is dominated by twice-frozen fillets and blocks products, primarily processed in China. According to Minister Steve Crocker, Newfoundland and Labrador will need to export high-quality products to compete with Iceland and Norway and avoid the volume-driven commodity market dominated by China and other low-cost producing countries.

The processing sector also underwent a vast transformation since the collapse of the northern cod stock. The processing network was converted from hundreds of groundfish plants and landing stations to a system geared towards shellfish with much fewer plants. This reality has important implications for a potential return of groundfish as primary fishing species for the province since trucking distance from a landing site to a processing plant greatly impacts product quality. In addition, Senator David Wells indicated that, similarly to the harvesting sector, the processing sector currently has a dwindling and aging workforce with the average age of a fish-processing worker being 56 years old.⁷⁹

B. Sustainable Harvesting Gear Technologies

To ensure the optimal quality for cod products demanded by markets, sustainable harvesting gear technologies was suggested by witnesses as a critical factor. John Efford stated that consistent quality products cannot be obtained by harvesting with gillnets and recommended the use of hook-and-line gear.⁸⁰ The use of cod pots was also mentioned as an alternative to gillnets by Anthony Cobb, representing the Shorefast Foundation, and Brett Favaro. Brett Favaro indicated:

when fish are caught in pots, they're not killed by the pot. They're vibrant, healthy, and in great shape when you bring them aboard. This is why fish harvesters have been able to sell their pot-caught cod to fine restaurants at premium prices.⁸¹

In the opinion of both Alberto Wareham and Tony Doyle, however, it is possible to obtain high-quality fish harvested with gillnets but proper technique and favourable weather are required.⁸² Fish harvesters in Fogo Island also pointed out that boat size regulations can impact the selection of harvesting gear technologies. Hand-lined fishing, for example, is not safe in vessels less than 35 feet in length overall. In some waters, the use of gillnets may also be more appropriate. In their view, a ban on gillnets is not required since the markets valuing quality and sustainable harvesting gear will certainly affect harvesters' selection of fishing gear technologies.

78 Steve Crocker, Minister, Department of Fisheries, Forestry and Agrifoods, Government of Newfoundland and Labrador, [Evidence](#), 26 September 2016.

79 David Wells, Senator, Newfoundland and Labrador, [Evidence](#), 26 September 2016.

80 John Efford, As an Individual, [Evidence](#), 26 September 2016.

81 Brett Favaro, Research Scientist, Fisheries and Marine Institute, Memorial University of Newfoundland, [Evidence](#), 3 October 2016.

82 Alberto Wareham, President and Chief Executive Officer, Icesea Seafoods Inc., [Evidence](#), 26 September 2016.

Transitioning vessels from shellfish harvesting to groundfish with sustainable harvesting gear technologies can be expensive. According to Provincial Minister Steve Crocker, an investment of \$150,000 would be required for a 65-foot vessel to get equipped with hook-and-line gear. He is encouraged by the participation of the federal government in the fisheries advisory council to be established by the provincial government. This council will be tasked with developing an action plan on cod revitalization and the future transition of the industry into a groundfish fishery.⁸³

C. Federal-Provincial Joint Management

Senator David Wells identified the lack of federal-provincial integrated management of the northern cod fishery as a potential challenge for ensuring a sustainable future for this fishery.⁸⁴ While the federal government manages the harvesting sector, the processing sector is under provincial jurisdiction. In his opinion, it is almost impossible to have an integrated industry when separate jurisdictions manage two critical aspects of the fishery.

Provincial Minister Steve Crocker also expressed the need for increased coordination between federal and provincial policies to support the fishery industry in its transition from shellfish to groundfish.⁸⁵ Northern cod represent a unique opportunity for federal-provincial joint management since its fishing areas are only adjacent to Newfoundland and Labrador removing the complexity of multi-provincial jurisdictions that takes place in the management of many other fish stocks.

D. The Importance of Social Sustainability

In light of the decline of the lucrative snow crab and northern shrimp fisheries, various witnesses stressed that a future northern cod commercial fishery should not only be economically and environmentally sustainable but also be socially beneficial to coastal communities. Provincial Minister Steve Crocker stated:

It is extremely important that we rebuild this fishery in a sustainable manner for our fish harvesters, processors, workers, and coastal communities. As we work to achieve economic and environmental sustainability, we must also seek to achieve social sustainability.⁸⁶

On reflection, the Committee recognized the social importance of a sustainable fishery; that the matters go beyond the simple economics. The social and cultural dislocation that occurred as a result of the collapse of the northern cod stock needs to be considered as something to be avoided or mitigated as future management strategies, policies and regulations are developed.

83 Steve Crocker, Minister, Department of Fisheries, Forestry and Agrifoods, Government of Newfoundland and Labrador, [Evidence](#), 26 September 2016.

84 David Wells, Senator, Newfoundland and Labrador, [Evidence](#), 26 September 2016.

85 Steve Crocker, Minister, Department of Fisheries, Forestry and Agrifoods, Government of Newfoundland and Labrador, [Evidence](#), 26 September 2016.

86 Steve Crocker, Minister, Department of Fisheries, Forestry and Agrifoods, Government of Newfoundland and Labrador, [Evidence](#), 26 September 2016.

Anthony Cobb added that there are many different definitions of “sustainable fish” and proposed to Committee members to consider who, whether it is coastal communities or corporations, should be the primary beneficiary of fishing.⁸⁷ During its visit to Fogo Island, the Committee heard from local fishers and community leaders that the [Fogo Island Co-op](#), a community-based fishing and processing enterprise, has kept fishing alive on Fogo Island and retained processing jobs in the community. Fogo Island Co-op pays above-market prices to local harvesters for high-quality cod fished with sustainable gear technologies. The Committee believes that Fogo Island Co-op represents a good model of social sustainability and its operational specifics could be adapted for other coastal communities in Canada.

Provincial Minister Steve Crocker reminded the Committee that, in June 2015, Newfoundland and Labrador’s House of Assembly, recognizing that the inshore sector provides the most direct benefits to the province, passed unanimously a motion supporting the principle of adjacency and the allocation of the first 115,000 tonnes of 2J3KL cod to adjacent inshore harvesters, upon the return of the resource.⁸⁸ The principle of adjacency was also mentioned by inshore fish harvesters in Fogo Island as a critical factor to be considered in fish allocation decision-making. The Committee notes the frustration expressed by Fogo Island’s fish harvesters in witnessing offshore vessels fishing in their adjacent waters in winter.

Alberto Wareham pointed out, however, that premium-quality raw material needed for today’s competitive markets, can only come from a combination of offshore and inshore fishery.⁸⁹ In his opinion, the offshore sector is a key component in keeping processing plants operating year-round in the province.

According to Keith Sullivan, “while it’s important to tie our new cod fishery to market needs, we also need to build a fishery that works for our harvesters and plant workers in the future.”⁹⁰ The protection of the owner-operator and fleet separation policies is, therefore, needed to control the cost of fishing licences and allowing the next generation of harvesters to enter the fishery. Anthony Cobb suggested to the Committee that the creation of a nearshore small-boat fishery geared towards young fishers could also encourage young entrants into the fishery.

Bettina Saier summarized the issue as follows:

for many inshore harvesters, fishing goes much deeper than a means to earn a living. It contributes to their identity and a sense of place, of community, often based on a rich heritage of fishing. Fisheries policy, however, has not always been transparent on how these important social and cultural values are considered in decision-making, if at all.

87 Anthony Cobb, Board Member and President of Fogo Island Fish, Shorefast Foundation, [Evidence](#), 26 September 2016.

88 Steve Crocker, Minister, Department of Fisheries, Forestry and Agrifoods, Government of Newfoundland and Labrador, [Evidence](#), 26 September 2016.

89 Alberto Wareham, President and Chief Executive Officer, Icewater Seafoods Inc., [Evidence](#), 26 September 2016.

90 Keith Sullivan, President, Fish, Food and Allied Workers, [Evidence](#), 26 September 2016.

Values are often hard to define and quantify, but we need to incorporate them into decision-making if we are to achieve sustainable fisheries management for the future.⁹¹

E. Stock Management

Witnesses agreed that management measures, such as the setting of the TAC, should be based on scientific evidence and the precautionary approach to ensure the long-term sustainability of the fishery.⁹² As northern cod is still the critical zone, Derek Butler called for a general strategy of restraint in the management of the stock to avoid past mistakes, accelerate stock rebuilding, and protect the substantial investments that will be required for the industry transition and market development.⁹³ Fish harvester Glen Best from Fogo Island also supported the cautious approach and emphasized the need to develop a fishery based on quality not on quantity. Scientifically-derived harvest control rules are critical to a sustainable fishery as explained by Gudmundur Thordarson, from Iceland.⁹⁴ Iceland's harvest rule of 20% of the reference biomass⁹⁵, for example, has allowed a rapid increase both in the spawning biomass and in the reference biomass for its cod stock.

The Committee learned, on the other hand, that transitioning from a shellfish to groundfish fishery will require significant capital investments that will need to be sustained by cod supplies. Derek Butler pointed out that the challenge will be to find a balance between ensuring an ecologically sustainable fishing effort and providing a sufficient supply of fish to justify the investments. Alberto Wareham added that Icewater Seafoods Inc. does not currently compete in the fresh cod market due to the lack of a year-round supply of high-quality cod.⁹⁶

According to Anthony Cobb, however, fishing time has ecological implications as “a cod in the fall is heavier, denser, and firmer. It is better fish. When we fish in the fall, we take fewer individuals from the stock to make the same quotas, and that fish is a higher quality and fetches us higher prices.”⁹⁷ He also indicated that fishing during spawning seasons is the “equivalent of the total destruction of our stocks.” Vidar Landmark, from Norway, appeared to concur with this view by stating that the “most important thing is to control the fishery mortality rate, but how you fish, where you fish and when you fish is also of great importance.”⁹⁸ Norway's flexible regulations allow for opening and closing of fishery zones throughout the season depending on factors such as the presence of juveniles in a particular area.

91 Bettina Saier, Vice-President, Ocean, World Wildlife Fund-Canada, [Evidence](#), 26 September 2016.

92 Bettina Saier, Vice-President, Ocean, World Wildlife Fund-Canada, [Evidence](#), 26 September 2016.

93 Derek Butler, Executive Director, Association of Seafood Producers, [Evidence](#), 26 September 2016.

94 Gudmundur Thordarson, Marine and Freshwater Research Institute, Iceland, [Evidence](#), 17 October 2016.

95 Iceland defines the reference biomass as a biomass age four years and older.

96 Alberto Wareham, President and Chief Executive Officer, Icewater Seafoods Inc., [Evidence](#), 26 September 2016.

97 Anthony Cobb, Board Member and President of Fogo Island Fish, Shorefast Foundation, [Evidence](#), 26 September 2016.

98 Vidar Landmark, Director General, Department of Fisheries and Aquaculture, Government of Norway, [Evidence](#), 17 October 2016.

The Committee heard from the Mayor of Fogo Island, Andrew Shea, that fishing keystone species, such as capelin, undermines the ecosystem. Therefore, both Anthony Cobb and Andrew Shea advocated a moratorium on capelin fishing given the current lack of science data on the species and the precautionary approach to decision-making. The Committee notes that, in 2003, the FRCC report also recommended that directed fisheries for capelin be prohibited in all areas outside the coastal zone to reduce fishing mortality on capelin, in recognition of its importance to the cod diet.⁹⁹

Given shifting ocean conditions favouring the northern cod stock at the expense of crustaceans, the Committee recognizes that it may be challenging to devote efforts in rebuilding the northern cod stock while sustaining the northern shrimp stocks and fishery. Gudmundur Thordarson indicated that Iceland decided, purely on economic grounds, to “sacrifice” its lucrative shrimp fishery in favour of its cod stock. As juvenile cods feed on shrimp, Iceland’s regulations allow for the closing of the shrimp fishery in areas where juvenile cods congregate.¹⁰⁰ Susanna Fuller also pointed out that, in division 3M, the cod stock is recovering but shrimp is vanishing and conceded that it is:

a challenging question from a biodiversity perspective and an ecosystem management perspective. It's hard to answer, but I know we can't have a rebuilding plan for shrimp and a rebuilding plan for cod at the same time.¹⁰¹

The Committee recommends:

Recommendation 9

That Fisheries and Oceans Canada implement management practices that deliver the greatest value from the resource with the lowest impact on stocks.

Recommendation 10

That Fisheries and Oceans Canada make the rationale for management decisions transparent and include publicly accessible information on stock status, reference points and management measures in the annual *Sustainability Survey for Fisheries*.

CONCLUSION

Sustainable fisheries are vital to the survival of coastal communities in Newfoundland and Labrador. To ensure a sustainable future northern cod fishery in the province, the Committee believes that the emphasis must be placed on the precautionary approach and long-term stock rebuilding considerations. Governments, fishing communities, industry and other stakeholders should adopt a collaborative approach to northern cod management and scientific research.

99 Fisheries Resource Conservation Council, [2003/2004 Conservation Requirements for 2J3KL Cod](#), Report to the Minister of Fisheries and Oceans, FRCC.2003.R.2, March 2003, p. 8.

100 Gudmundur Thordarson, Marine and Freshwater Research Institute, Iceland, [Evidence](#), 17 October 2016.

101 Susanna Fuller, Senior Marine Conservation Coordinator, Ecology Action Centre, [Evidence](#), 5 October 2016.

The Committee notes that observations of inshore fish harvesters regarding the state of fish stocks often conflict with data produced by DFO's scientific surveys. The Committee suspects that, apart from differing perspectives, the conflict stems from the declining DFO's budgetary and human resources for solid fisheries science in past years. These findings were also reflected in the Committee's 2005 report. Furthermore, the Committee received anecdotal input from harvesters during the study describing the reluctance of DFO to accept information related to fish stocks from sources outside of the Department, including harvesters.

The Committee is encouraged by the federal government's recent reinvestment in fisheries science, such as the \$94 million in funding for the Safe and Sustainable Development of the [Ocean Frontier Institute](#) initiative at Dalhousie University,¹⁰² and the creation of DFO's new [Office of Partnership and Collaboration](#). The Committee agrees that stock assessments and management of fish species should include fish harvesters' knowledge and experience to bridge the gap between their observations and DFO fisheries science.

The Committee stresses the critical need for full northern cod and capelin stock assessments on an annual basis. Such assessments should cover the full extent of NAFO divisions 2J3KL and incorporate environmental factors, including climate change. The Committee also believes that sound fisheries science should adopt an ecosystem-based approach, particularly northern cod-capelin-seals relations. The Committee draws attention to the need to ensure that fisheries for forage species, such as capelin, do not compromise the food requirements of northern cod.

Similarly to the 2011 FRCC report, in the Committee's view, the rebuilding of the northern cod stock and fishery will require sustainable fishing practices, social sustainability policies, economically viable enterprises and the production of traceable and high-quality products for the competitive global markets. As put by one witness, the future depends on the state of the fish stock and the "best way to make fishing profitable is to make sure there are enough fish in the sea to go around."¹⁰³

102 Government of Canada, "[Minister Brison announces \\$93,732,000 to transform university research at Dalhousie University](#)," *News release*, 6 September 2016.

103 Brett Favaro, Research Scientist, Fisheries and Marine Institute, Memorial University of Newfoundland, [Evidence](#), 3 October 2016.

LIST OF RECOMMENDATIONS

Recommendation 1

That the Government of Canada term the recreational groundfish fishery in Newfoundland and Labrador as “public groundfish food and recreational fishery.” 9

Recommendation 2

That Fisheries and Oceans Canada begin the practice of completing a full northern cod stock assessment in NAFO divisions 2J3KL on an annual basis. This practice should begin immediately..... 11

Recommendation 3

That Fisheries and Oceans Canada, on an annual basis, lead the initiative to collect and compare northern cod assessments currently conducted separately by Fisheries and Oceans Canada, Newfoundland and Labrador’s Department of Fisheries, Forestry and Agrifoods, and Fish, Food and Allied Workers (FFAW-Unifor). 11

Recommendation 4

That Fisheries and Oceans Canada begin the practice of completing a full stock assessment of the capelin resource in NAFO divisions 2J3KL on an annual basis. This practice should begin immediately..... 12

Recommendation 5

While current capelin stock assessment practice involves partial assessments in NAFO divisions 3KL, it is incumbent upon Fisheries and Oceans Canada to complete full stock assessments in NAFO divisions 2J3KL. 12

Recommendation 6

That the Minister of Fisheries, Oceans and the Canadian Coast Guard continue with new investments in science at Fisheries and Oceans Canada and the subsequent hiring of additional scientists to assess the northern cod and capelin stocks in the Newfoundland and Labrador Region..... 14

Recommendation 7

That Fisheries and Oceans Canada make every effort to control the seal populations through a sustainable and responsible harvest, to ensure that the seal populations do not prevent the northern cod stock from replenishing in the future. 15

Recommendation 8

That Fisheries and Oceans Canada immediately create a rebuilding plan for the northern cod stock. This plan should:

- 1. Be based on the best available science;**
- 2. Include target reference points and timelines;**
- 3. Ensure careful management for prey availability, especially capelin, and factor in ecosystem considerations like habitat protection and climate change;**
- 4. Keep removals from all sources at the lowest possible level, until the stock clears the critical zone; and**
- 5. Encourage the use of gear and harvesting methods proven to increase product quality and reduce bycatch and other ecosystem impacts..... 17**

Recommendation 9

That Fisheries and Oceans Canada implement management practices that deliver the greatest value from the resource with the lowest impact on stocks. 22

Recommendation 10

That Fisheries and Oceans Canada make the rationale for management decisions transparent and include publicly accessible information on stock status, reference points and management measures in the annual *Sustainability Survey for Fisheries*. 22

APPENDIX A LIST OF WITNESSES

Organizations and Individuals	Date	Meeting
Department of Fisheries and Oceans	2016/09/21	22
John Bratney, Research Scientist Newfoundland and Labrador Region		
Brian Lester, Assistant Director Integrated Resource Management		
Philippe Morel, Assistant Deputy Minister Ecosystems and Fisheries Management		
Trevor Swerdfager, Assistant Deputy Minister Ecosystems and Oceans Science		
David Mark Wells, Senator	2016/09/26	23
As individuals		
Ryan Cleary, Former Member of the New Democratic Party Caucus		
Tony Doyle, Fish harvester		
Hon. John Efford		
Gus Etchegary, Former Chairperson, Community Fisheries Alliance		
Jason Sullivan, Fish harvester		
Mervin Wiseman		
Association of Seafood Producers		
Derek Butler, Executive Director		
Department of Fisheries and Oceans		
Pierre Pepin, Senior Research Scientist, Science		
Fish, Food and Allied Workers		
Keith Sullivan, President		
Government of Newfoundland and Labrador		
Steve Crocker, Minister Department of Fisheries, Forestry and Agrifoods		
David Lewis, Deputy Minister, Department of Fisheries, Forestry and Agrifoods		
Icewater Seafoods Inc.		
Alberto Wareham, President and Chief Executive Officer		
Island Rooms of Petty Harbour		
Kimberly Orren, Project Manager		

Organizations and Individuals	Date	Meeting
Shorefast Foundation Anthony Cobb, Board Member and President of Fogo Island Fish	2016/09/26	23
World Wildlife Fund Sigrid Kuehnemund, Lead Specialist, Oceans Bettina Saier, Vice President, Oceans		
As individuals Brett Favaro, Research Scientist, Fisheries and Marine Institute Memorial University of Newfoundland Jeffrey A. Hutchings, Killam Memorial Chair in Fish, Fisheries and Oceans, Department of Biology, Dalhousie University Alan Sinclair, Co-chair, Subcommittee on Marine Fishes Committee on the Status of Endangered Wildlife in Canada	2016/10/03	25
Oceana Canada Joshua Laughren, Executive Director Robert Rangeley, Director of Science		
Ecology Action Centre Susanna Fuller, Senior Marine Conservation Coordinator	2016/10/05	26
Newfoundland and Labrador Wildlife Federation Andrew Bouzan, President		
Government of the Kingdom of Norway Vidar Landmark, Director General Department for Fisheries and Aquaculture Elisabeth Norgard Gabrielsen, Director Section for Fisheries Management	2016/10/17	27
Marine and Freshwater Research Institute Gudmundur Thordarson, Head of Demersal Research Section		

APPENDIX B LIST OF BRIEFS

Organizations and Individuals

Ecology Action Centre

REQUEST FOR GOVERNMENT RESPONSE

Pursuant to Standing Order 109, the Committee requests that the government table a comprehensive response to this Report.

A copy of the relevant *Minutes of Proceedings* ([Meetings Nos 22, 23, 25 to 27, 29, 42, 44 and 50](#)) is tabled.

Respectfully submitted,

Scott Simms
Chair

