

Canadian and Russian Fisheries Management in the Arctic: Complexities, Commonalities and Contrasts

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Abstract

This article reviews and compares Canadian and Russian approaches to Arctic fisheries management through a three-part format. First, the complex array of laws and policies applicable to Arctic fisheries is described for each country. How Canada and Russia have addressed international fishery issues is also highlighted, including their participation in the 2018 Central Arctic Ocean Fisheries Agreement. Second, commonalities in fisheries governance approaches are summarized, including national commitments to implement precautionary and ecosystem approaches. Finally, contrasts in Arctic fisheries management are discussed. Major differences include the greater devolution of management responsibilities by Canada to Indigenous communities through land-claim agreements and co-management arrangements and Russia's greater success in formalizing bilateral fisheries management arrangements with its neighbours.

Keywords: *Arctic fisheries, co-management, Barents Sea, Beaufort Sea, Baffin Bay/ Davis Strait*

Responsible Editor: Viatcheslav Gavrilov, School of Law, Far Eastern Federal University, Russian Federation

Received: September, 2021; Accepted: April, 2022; Published: June, 2022

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Citation: David L. VanderZwaag, Vitalii Vorobev & Olga Koubrak. "Canadian and Russian Fisheries Management in the Arctic: Complexities, Commonalities and Contrasts" *Arctic Review on Law and Politics*, Vol. 13, 2022, pp. 361–392. <http://dx.doi.org/10.23865/arctic.v13.3484>

1 Introduction

Fisheries in the Canadian and Russian Arctic are of major importance to each country. In Canada, subsistence fisheries continue to hold great social and cultural value to coastal communities stretching from the Beaufort Sea in the west to Baffin Bay, Davis Strait and Hudson Strait in the east off the Territory of Nunavut.¹ While there are no commercial fisheries in the Beaufort Sea region,² substantial commercial harvests of Greenland halibut and Northern shrimp take place off the coast of Nunavut. In 2019, offshore fisheries were estimated to provide CDN\$112 million to the Nunavut economy and to support nearly 1,000 jobs for Nunavut residents.³ Arctic char is a lucrative Nunavut inshore fishery with 72 tonnes harvested in 2015, with a market value of CDN\$1.8 million.⁴

In the Russian Federation, fisheries are a leading sector for economic development and an important and stable source of revenue from international trade. In 2019, Russian catch of aquatic biological resources in all areas of the world ocean, including inland marine and freshwater bodies, amounted to 4,983.3 thousand tonnes, with exports of fish, fish products and seafood totaling 2,099.8 thousand tonnes valued at US\$5,360.9 million.⁵ The share of the Northern fishery basin (including Arctic fisheries) catch amounted to 10.06% of all territories, or 494.87 thousand tonnes.⁶ Cod, haddock, and flounder were the main commercial species in this region.⁷ Valuable invertebrates include Kamchatka crab, northern pink shrimp, and scallop.⁸

The term “Arctic fisheries” is subject to varying interpretations⁹ and this article follows specific parameters. The focus is on marine capture fisheries excluding marine mammals. For Canada, the fisheries management arrangements off the three northern territories, Yukon, Northwest Territories (NWT) and Nunavut, are reviewed, but not the more southerly co-management frameworks applying to Labrador’s Nunatsiavut region¹⁰ and the territory of Nunavik in Quebec (see Figure 1). The Arctic zone of the Russian Federation includes, in whole or in part, the territories of the Republic of Sakha (Yakutia), the Murmansk and Arkhangelsk regions, Krasnoyarsk Territory, Nenets, Yamalo-Nenets and Chukotka Autonomous Districts,¹¹ the lands and islands specified in the 1926 Decree¹² and adjacent to these territories, as well as the lands and islands, inland sea waters, territorial sea, exclusive economic zone (EEZ) and continental shelf of the Russian Federation, within which Russia has sovereign rights and jurisdiction in accordance with international law.¹³

Five marginal seas, Barents, Kara, Laptev, East Siberian, and Chukchi, span the length of the Russian Arctic coastline. The seas from Kara to Chukchi are similar in their climate and ice cover. They are not very productive and their use and development has been limited.¹⁴ There is fishing in the Kara and Laptev Seas, mostly in estuaries, but it is limited due to the tough climate, short season, lack of infrastructure and low population density.¹⁵ The focus of this discussion is on the fisheries in the Barents Sea, the most productive and ice-free sea in northern Russia.

This article reviews and compares the Arctic fisheries management approaches in the two countries. The law and policy complexities of the Canadian and Russian systems are first described. Commonalities are next summarized, including national commitments to implement precautionary and ecosystem approaches. Contrasts in Arctic fisheries governance are finally discussed with a major difference being the greater devolution of management responsibilities by Canada to Indigenous communities through co-management arrangements.



Figure 1. Four Inuit land claims regions.

Source: Oceans North, “Inuit Management – Where We Work”, <http://www.oceansnorth.org/en/where-we-work/Inuit-management/>. Used with permission.

2 Complexities

2.1 Canada and Arctic fisheries management

Getting a grip on Canadian marine fisheries management in the Arctic is not easy. A complicated multi-level governance approach has emerged with national, regional and international dimensions.¹⁶ At the national level, a tangle of federal laws and policies are relevant to Arctic fisheries. Complex regional fisheries co-management arrangements have been forged through land-claims agreements for the western

Canadian Arctic¹⁷ and for the vast territory of Nunavut, covering the central and eastern Canadian Arctic.¹⁸ International cooperation in managing shared fish stocks with Greenland is not subject to formal agreements but relies on informal practices. The new Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean, to which Canada is a party,¹⁹ raises many difficult implementation questions yet to be answered, including how to control exploratory fishing and how best to coordinate scientific research and monitoring.²⁰

2.1.1 National laws and policies

The central piece of Canadian legislation governing fisheries off all of Canada's coasts, including the Arctic, is the *Fisheries Act*,²¹ which sets general directions for fisheries management. The Act applies to all Canadian fishing waters including internal waters, the territorial sea and the 200 M EEZ.²² The Act also covers fishing for sedentary species on Canada's extended continental shelves,²³ although no such fishing has yet occurred in the Arctic. The Act sets out two overall purposes: the proper management and control of fisheries; and the conservation and protection of fish and fish habitat including by preventing pollution.²⁴ The Minister of Fisheries and Oceans is granted broad discretion to issue fishing leases and licences.²⁵ The Act lists various elements the Minister may consider in reaching leasing and licencing decisions, including, among other things: application of a precautionary approach and ecosystem approach; sustainability of fisheries; scientific information; Indigenous knowledge; community knowledge; social, economic and cultural factors; the preservation and protection of the independence of licence holders in commercial inshore fisheries; and identity factors such as gender.²⁶ If prompt measures are needed to address a threat to the conservation and protection of fish, the Minister is authorized to make a fisheries management order imposing fishing prohibitions and any fishing requirements.²⁷

The rights of Indigenous peoples in Canada, including those in the Arctic, are also recognized in the *Fisheries Act*. When making a decision under the Act, the Minister must consider any adverse effects the decision may have on the rights of Indigenous peoples.²⁸ The Act is to be construed as upholding the rights of Indigenous peoples recognized and affirmed by section 35 of Canada's *Constitution Act, 1982*.²⁹

Amendments to the *Fisheries Act*, assented to in 2019,³⁰ set out required measures to maintain major fish stocks, but the requirements remain quite vague and subject to further regulatory developments. A new sub-section 6.1(1) requires the Minister to implement measures to maintain major fish stocks at or above the level necessary to promote the sustainability of the stock, taking into account the biology of the fish and environmental conditions affecting the stock. What that level is remains uncertain, as the Act does not define sustainability. A new sub-section 6.1(2) provides that if the Minister is of the opinion that it is not feasible or appropriate to implement such sustainability measures for a major fish stock because of cultural reasons or socio-economic impacts, the Minister must set a limit reference point

and implement measures to maintain the stock above that reference point. When a major fish stock declines to or below its limit reference point, the Minister must develop and implement a fish rebuilding plan.³¹ The major fish stocks subject to the requirements are to be prescribed by regulations³² which have yet to be passed. The proposed regulations cover over 20 major fish stocks in more southerly Canadian waters, but do not include any Arctic fish stocks.³³

Regulations under the *Fisheries Act* may also have application to Arctic fisheries. For example, *Fishery (General) Regulations* require the operator of a fishing vessel to have on board a vessel registration card and licence authorizing the use of the vessel whenever the vessel is engaged as a fishing vessel.³⁴ The Regulations also spell out the numerous conditions that the Minister may include in fishing licenses, such as species of fish and quantities permitted to be taken; size of fish restriction; closed areas and times; types of fishing gear, reporting requirements, landing location and times, fishing records; and marking and tagging of fish.³⁵ The *Atlantic Fishery Regulations, 1985* have some application to the waters of Baffin Bay and Davis Strait, for example, prohibiting persons from leaving fishing gear unattended in the water for more than 72 consecutive hours and requiring the master of a fishing vessel with mobile gear to maintain a distance of at least one-half nautical mile between his/her vessel and any previously set fishing gear.³⁶ The *Northwest Territories Fishery Regulations*, largely aimed at controlling lake and river fisheries in the NWT, do authorize some commercial fisheries in the Mackenzie Delta region subject to mesh size, season and quota controls.³⁷ The Regulations allow Indigenous persons to fish for subsistence purposes without a licence and a person engaged in sport fishing in the Inuvialuit Settlement Region (ISR), discussed below, must have a sport fishing licence that has been validated for the ISR.³⁸ Regulations to clarify fisheries management for Nunavut, which was carved out from the NWT in 1999, are still in the consultation and drafting stage.³⁹

Canada has attempted to “paper over” the broad legislative and regulatory discretion left to the Minister of Fisheries and Oceans by adopting numerous policies and frameworks.⁴⁰ Six key policies have been developed under an overarching Sustainable Fisheries Framework aimed at supporting fisheries conservation and sustainability. A policy on incorporating the precautionary approach in fishery decision-making provides guidance on developing reference points and harvest decision rules for key harvested target stocks.⁴¹ The policy calls for the setting of precautionary reference points (below which serious harm to a stock occurs) and upper stock reference points, which at a minimum must allow an appropriate distance above the limit reference point to provide sufficient opportunity for the management system to recognize a declining stock status and sufficient time for effective management actions. Application of reference points will identify three stock status zones: critical (below the limit reference point); cautious (between the limit reference point and upper stock reference point); and healthy (above the upper stock reference point). For the critical zone, conservation considerations are to prevail and a rebuilding plan

must be in place. For the cautious zone, socio-economic and conservation considerations should be balanced. For the healthy zone, socio-economic considerations are expected to prevail.

A Policy for Managing the Impacts of Fishing on Sensitive Benthic Areas aims to mitigate the impacts of fishing on sensitive benthic areas or to avoid impacts of fishing likely to cause serious or irreversible harm to sensitive marine habitats, communities and species.⁴² Management measures to address benthic impacts of ongoing fishing activities and proposals to expand fishing activities in historically fished areas are expected to be developed through the management planning processes, including stakeholder advisory processes in place for a given fishery. Especially relevant to the Arctic, a special precautionary approach is required for proposed fishing activities in frontier areas without a history of fishing in Canadian waters. The policy further defines frontier areas to include waters deeper than 2,000 m or areas of the Arctic where there is no history of fishing and little if any information is available concerning benthic features and the impacts of fishing on those features. The policy states that Fisheries and Oceans Canada will consider allowing carefully controlled small-scale exploratory fisheries subject to detailed exploratory fishing protocols, including a harvesting plan to mitigate or avoid sensitive benthic habitats and a catch monitoring plan. Upon completion of an exploratory fishery, Fisheries and Oceans Canada will conduct a risk analysis using the Ecological Risk Assessment Framework to decide whether to open a new commercial fishery in a frontier area.⁴³

A New Emerging Fisheries Policy adopted in 2001, and revised in 2018, establishes a phased approach to authorizing fisheries involving new species and/or stocks that are not utilized or not fully utilized, and not currently covered by a management plan.⁴⁴ As a general rule, new fisheries will be subject to three stages: a scientific/experimental licence; an exploratory licence; and finally, a commercial licence.

A Policy on New Fisheries for Forage Species seeks to ensure that new fisheries for forage species, such as krill, are compatible with conservation of the total ecosystem, including dependent predators.⁴⁵ Management prerequisites for allowing commercial fisheries on forage species are the establishment of conservation (limit) reference points and associated harvest control rules for both forage species and some dependent marine predators.

A Policy on Managing Bycatch has an overall objective of minimizing the risk of fisheries causing serious or irreversible harm to bycatch species (retained or not retained).⁴⁶ The policy does not cover bycatch of corals, sponges, marine plants and other benthic organisms, which are considered better protected under the Sensitive Benthic Areas Policy. The policy suggests that integrated fisheries management planning processes will be the main route to agree on bycatch management measures, and the policy lists various possible tools and approaches to managing bycatch, such as improvements in the design and use of fishing gear, spatial and temporal measures, at-sea monitoring and allowing the landing of non-directed catch.

A Fishery Monitoring Policy sets directions for fishery monitoring in Canada's federally-managed wild capture fisheries.⁴⁷ The policy highlights the need for effective fisheries monitoring through both fisher-dependent methods and fisher-independent methods, and highlights four guiding principles for fishery monitoring: respect for Indigenous and treaty rights; respond to the degree of risk with the fishery and complexity of the fishery; take into account cost-effectiveness and practicality of implementation; and provide shared accountability and responsibility between Fisheries and Oceans Canada and Indigenous groups and stakeholders.

Fisheries and Oceans Canada has committed to developing Integrated Fisheries Management Plans (IFMPs) to manage major commercial fisheries for particular species in given regions. IFMPs are viewed as a central route for applying the various fisheries policies and frameworks in practice. An IFMP guidance document and template has been developed, which sets out the key components of IFMPs, including: an overview of the fishery; the scientific and traditional knowledge context; economic, social and cultural considerations; management issues; objectives; access and allocation; management measures; shared stewardship arrangements; compliance plan; and performance review.⁴⁸ Three IFMPs developed for Arctic regional fisheries of Greenland halibut,⁴⁹ northern shrimp and striped shrimp⁵⁰ and Cambridge Bay Arctic char⁵¹ are discussed below. The IFMPs stand out as being very discretionary, emphasizing that they are not legally binding instruments and cannot form the basis for a legal challenge.

Two other pieces of national legislation add to the complexity of fisheries management. The *Species at Risk Act* (SARA)⁵² prohibits the taking of listed endangered or threatened species, subject to limited exceptions, for example, incidental takings permitted by a recovery strategy or action plan,⁵³ and fisheries may be thereby impacted. As an example, threatened spotted and northern wolffish caught as bycatch in fisheries, including those in the Arctic, must be released live if possible.⁵⁴ Canada's *Oceans Act*⁵⁵ provides a framework for the establishment of marine protected areas (MPAs). Three MPAs have been established in the Arctic pursuant to the Act thus far, with each MPA giving recognition and special protection to Indigenous fisheries.⁵⁶ The *Oceans Act* also provides a framework for integrated ocean planning. One integrated ocean management plan has been developed in the Arctic for the Beaufort Sea.⁵⁷

2.1.2 Regional fisheries management

2.1.2.1 Western Canadian Arctic. The 1984 Inuvialuit Final Agreement (IFA) is the core document for managing fisheries in the Inuvialuit Settlement Region, which includes coastal and marine waters of the Beaufort Sea off Yukon and the Northwest Territories.⁵⁸ The IFA establishes a co-management framework.⁵⁹ A Fisheries Joint Management Committee (FJMC), with two members appointed by the Inuvialuit and two by the Canadian government,⁶⁰ is tasked with various responsibilities, including making recommendations to the Minister of Fisheries and Oceans on

subsistence quotas for fish, Inuvialuit commercial fishing, and regulations regarding sport and commercial fishing.⁶¹ The Minister is given discretion to implement, vary or reject the FJMC recommendations, but written reasons must be given in case of variation or rejection.⁶² The IFA ensures the Inuvialuit have the preferential right within the ISR to harvest fish for subsistence usage, including trade and sale to other Inuvialuit.⁶³ According to paragraph 14(30) of the IFA, all harvesting of fish is subject to the principles of conservation, but these principles are not spelled out.

A substantial concern in the IFA was the limited rights to access new commercial fisheries by the Inuvialuit in the ISR. The Agreement provides that where the Inuvialuit wish to harvest new commercial fisheries, they shall be treated on the same basis as other applicants.⁶⁴

To address that concern, the Inuvialuit pushed for the development of a Beaufort Sea Integrated Fisheries Management Framework (BSIFMF), which would better recognize Inuvialuit rights to new commercial fisheries and establish a co-management process to assess applications for new commercial anadromous, inshore and offshore fisheries.⁶⁵ A memorandum of understanding to develop a BSIFMF was agreed to in 2011 by the Inuvialuit and Fisheries and Oceans Canada.⁶⁶ In 2014, a final BSIFMF was concluded that ensures no new commercial fishery will be approved until more scientific information is available and a detailed assessment process is completed. The Framework sets out 10 questions (decision key) which must be answered before reaching a decision on a commercial application. These questions include, among others: Would the proposed commercial fishery adversely affect an Inuvialuit subsistence fishery to an unacceptable degree? Is the proposed commercial fishery consistent with fulfilling responsibilities to the Inuvialuit for commercial fishery and economic opportunities under the IFA? Is the proposed commercial fishery consistent with any existing SARA plan or strategy? If a proposed commercial fishery occurs in a designated conservation area, is the proposed fishery consistent with the area's legislation, management plan, or management objectives? Those designated conservation areas include Community Conservations Plans (CCPs) for areas that may contain important fishery resources and/or critical supporting habitat, Ecologically and Biologically Significant Areas (EBSAs), MPAs and marine parks.⁶⁷

The six communities in the ISR, Aklavik, Inuvik, Ulukhaktok, Paulatuk, Sachs Harbour and Tuktoyaktuk, have their own Hunters and Trappers Committees (HTCs), which also have fisheries management responsibilities. These responsibilities include sub-allocating community quotas of fish and making local harvest by-laws.

2.1.2.2 Nunavut region. The centrepiece for overall fisheries management in Nunavut is the 1993 Nunavut Land Claims Agreement (NLCA) as amended. The NLCA establishes the Nunavut Wildlife Management Board (NWMB) as the main instrument of wildlife management, including fisheries management, in the

Nunavut Settlement Area (NSA), which includes internal waters and the 12 M territorial sea.⁶⁸ The NWMB is a co-management type body having nine members, four appointed by Designated Inuit Organizations, three by the federal government, one by the Nunavut government and a chair nominated by the NWMB.⁶⁹ The NWMB is granted broad fisheries management functions, including establishing, modifying or removing levels of total allowable harvest (TAH); ascertaining and adjusting basic need levels; allocating fishery resources; and setting non-quota fisheries measures.⁷⁰ The NWMB also has research responsibilities that include identifying research requirements and deficiencies; promoting research activities; reviewing research proposals; collecting and disseminating wildlife statistics and information; promoting the training of Inuit in various fields of wildlife research and management; and encouraging the employment of Inuit and Inuit organizations in research and technical positions.⁷¹

The NLCA sets overall objectives and principles for fisheries management. Objectives include conferring to the Inuit the right to harvest sufficiently to meet their basic needs; giving priority for Designated Inuit Organizations in establishing and operating economic ventures with respect to harvesting; and allowing continued harvesting access by persons other than Inuit, particularly long-term residents.⁷² General principles include the recognition that the wildlife management system and the exercise of Inuit harvesting rights are subject to the principles of conservation; there is a need for an effective role for Inuit in all aspects of wildlife management, including research; and the government retains the ultimate responsibility for wildlife management.⁷³ Conservation principles include the maintenance of the natural balance of ecological systems within the NSA; protection of wildlife populations capable of sustaining harvesting needs; and restoration and revitalization of depleted wildlife populations and wildlife habitat.⁷⁴

The NLCA gives detailed directions on how harvesting rights are to be allocated. Where no TAH has been established for a stock or population, an Inuk shall have the right to harvest that stock/population up to the full level of his/her economic, social and cultural needs.⁷⁵ Debate continues as to the precise meaning of this right and whether Inuit can harvest commercially without a licence if no TAH has been set.⁷⁶ The NWMB may express TAHs in numbers, weight or other methods and must set a community TAH where a species is ordinarily harvested by members of a single Hunters and Trappers Organization (HTO) and a regional TAH for species ordinarily harvested by members of more than one HTO.⁷⁷ Priorities are established for allocation of TAHs with the basic needs level being a first priority.⁷⁸ If a surplus exists, then a further priority ranking applies, in the following order: personal consumption by other residents; continuation of existing sports and other commercial operations; economic ventures sponsored by HTOs and Regional Wildlife Organizations (RWOs); and other commercial, commercial sports or recreational uses considering the benefits that may accrue to the local economy.⁷⁹

Harvesting decisions of the NWMB are subject to review by the Minister of Fisheries and Oceans. The Minister can accept or reject with written reasons decisions of the NWMB.⁸⁰ Where the Minister rejects a decision, the NWMB is required to reconsider its decision in light of the written reasons provided by the Minister and make its final decision.⁸¹ The Minister then has the final say as to acceptance, rejection or variance of the NWMB's final decision.⁸²

The NLCA also provides for lower level fisheries management.⁸³ There are 27 HTOs and three RWOs (Kivalliq, Qikiqtaaluk and Kitikmeot) that oversee fisheries harvesting at the local and regional levels.⁸⁴

The NLCA has a specific Article 15 covering marine waters and fishing beyond the NSA and its territorial sea. The NWMB is only given an advisory role with respect to fisheries management decisions in the designated offshore Zone I (Davis Strait and Baffin Bay) and Zone II (Hudson Strait and Hudson Bay). Their advice is required when any wildlife management decision would affect the substance and value of Inuit harvesting rights and opportunities within the marine areas of the Nunavut Settlement Area.⁸⁵ The government recognizes the importance of the principles of adjacency and economic dependence of communities in the NSA on marine resources and must give special consideration to those factors when allocating commercial fishing licences within Zones I and II.⁸⁶

What the principles of adjacency and economic dependence should mean in practice remains uncertain and controversial. Previous court cases challenging quota decisions in the Nunavut offshore region have noted that the intention of the parties to the NLCA was to establish a principle of equity, not one of priority.⁸⁷ Nunavut continues to push for a share of its adjacent fisheries resources comparable to that of southern jurisdictions, which is generally in the range of 80–90%.⁸⁸ Allocation shares to Nunavut fishing enterprises versus southern fishing interests have stood at about 37% for shrimp quotas⁸⁹ and at about 76% for Greenland halibut.⁹⁰

The NWMB adopted the 2019 Allocation Policy for Commercial Marine Fisheries.⁹¹ The policy sets out scoring values and guidelines for deciding upon individual commercial marine fisheries sub-allocations to Nunavut fishing enterprises. The policy does not apply to non-commercial harvests or to the commercial harvest of freshwater or anadromous fish, such as Arctic char. The NWMB has subsequently set Greenland halibut and shrimp stock allocations, intended to span the 2021–2025 fishing seasons, with the four recipient Nunavut fishing enterprises being Baffin Fisheries, Qikiqtaaluk Corporation, Arctic Fishery Alliance and Cumberland Sound Fisheries Limited.⁹²

IFMPs have been developed for three main commercial fisheries in the Nunavut region, and provide further information on the fisheries, stock assessments, objectives, management issues and measures, access and allocation, shared stewardship arrangements and compliance. The IFMP for Greenland halibut, revised in 2019, covers fisheries in Subarea O of the Northwest Atlantic Fisheries Organization (NAFO) Convention area. This subarea is further divided into a northern region,

Division OA (Baffin Bay) and a southern region, Division OB (Davis Strait). Fishing quotas in OA are reserved entirely for Nunavut interests,⁹³ with the quota for the 2021 and 2022 fishing seasons being set at 9,592.5 tonnes.⁹⁴ The total allowable catch (TAC) for Division OB has been set at 8,592.5 tonnes for 2021 and 2022 with 4,283.25 allocated to Nunavut.⁹⁵

Appendix 3 of the Greenland halibut IFMP provides an overview of the numerous management measures in place. They include: species, area and catch limitations; fishing seasons; fishing gear restrictions; fishing closed areas; bycatch limitations; reporting requirements; vessel monitoring system carriage and operations; at-sea observers; and fish landing procedures. Offloading of catch in Canada may only be carried out in the presence of a dockside observer, and offloading in Greenland can only occur in a port that is authorized under the control of the European Union Border Inspection Post (Nuuk or Sisimiut). Lack of port facilities in Canada's North presents major landing constraints and as a result, catches are regularly offloaded in Greenland ports.⁹⁶

While the Greenland halibut fishery was certified as sustainable by the Marine Stewardship Council (MSC) in December 2019,⁹⁷ concerns continue over the bycatch of other species, especially the Greenland shark, which is long-lived, slow-growing and late maturing.⁹⁸ The MSC certification report sets various conditions for addressing bycatch issues, for example, requiring evidence by the fourth surveillance audit that Greenland sharks are highly likely to be above biologically based limits.⁹⁹

The northern shrimp and striped shrimp IFMP, effective in 2018, describes an array of fisheries management measures, with two being especially important, quota controls and bycatch management. A complicated quota system applies to shrimp fisheries off Nunavut. Part of this complexity is due to changes over time in the management areas chosen to allocate quotas, including Shrimp Fishing Areas (SFAs) and Eastern and Western Assessment Zones.¹⁰⁰ For 2020, Canada set quotas for the most northerly Shrimp Fishing Areas, SFA 0 and SFA 1, at 250 tonnes and 15,229 tonnes respectively,¹⁰¹ while a complex mix of TACs and allocations was established for the more southerly areas off Nunavut: the Eastern Assessment Zone with four management units and the Western Assessment Zone with two management units.¹⁰² SFA 1 involves a transboundary stock between Canada and Greenland, and each country sets its own TAC based on advice rendered through the NAFO's Scientific Council.¹⁰³

Pursuant to the shrimp IFMP, Canada has imposed various measures to reduce bycatch in its northern shrimp fisheries. All shrimp vessels are required to use sorting grates to separate and release bycatch species such as turtles, groundfish and other finfish species.¹⁰⁴ All incidentally caught species must be returned to the water from where they were caught and if alive in a manner that causes the least harm.¹⁰⁵ A 10 nautical mile "move-on rule" applies when the total incidental catch of all groundfish species in any set exceeds the greater of 2.5 percent or 100 kg total weight.¹⁰⁶ Closed

areas to all bottom-contact fishing is a further measure to avoid bycatch, with three closed areas designated off Nunavut: the Disko Fan Conservation Area to protect cold-water corals; the Davis Strait Conservation Area to protect corals, sea pens and sponges; and the Hatton Basin Conservation Area to protect corals and sponges.¹⁰⁷

The third IFMP for a commercial fish species is the Cambridge Bay Arctic Char Plan. The IFMP summarizes management measures, such as gillnet mesh size and quotas, for the various rivers in the Cambridge Bay area. Waterbodies are given a competitive quota with no individual allocations associated with the commercial fishery.¹⁰⁸

2.1.3 Canada and international fishery issues

For the two shared fish stocks with Greenland, Canada has not yet forged a formal management agreement or agreements, but cooperation continues to occur through informal practices. For the shared population of Greenland halibut, Canada and Denmark (on behalf of Greenland) ask for scientific advice from NAFO's Scientific Council which, based on NAFO's Precautionary Approach Framework,¹⁰⁹ recommends a TAC.¹¹⁰ Although Canada and Greenland set separate quotas, they have an informal arrangement whereby the total quotas are divided in an equal 50/50 split.¹¹¹ For example, in 2018, NAFO's Scientific Council recommended a TAC of 36,370 tonnes for 2019 and 2020,¹¹² and in 2019, Canada set its quota at half that, 18,185 tonnes for 2019 and 2020.¹¹³ For the transboundary northern shrimp stock, Canada has traditionally claimed a quota calculated at 14.2% of the TAC recommended by NAFO's Scientific Council, with the allocation based on the shrimp biomass distribution of the late 1970s.¹¹⁴

While Canada and Greenland have met several times to discuss bilateral fisheries management issues, agreement on quota share allocations and harvest control strategies has yet to be reached. Some pressure to reach agreement has emerged through the MSC's audit of the 2016 recertification of the northern shrimp fishery for Shrimp Fishing Areas 1–6. One of the conditions for ensuring continued MSC certification is for the fishery client, the Canadian Association of Prawn Producers, to provide evidence that by 2022, Canada and Greenland have reached agreement on a compatible harvest strategy for their shared northern shrimp stock.¹¹⁵ In that light, Canada and Greenland have been considering the establishment of a bilateral framework for regular engagement on the management of shared fish stocks.¹¹⁶ A planned in-person bilateral meeting to discuss future collaboration had to be postponed several times due to travel restrictions in response to COVID-19, but a preliminary, half-day virtual bilateral meeting did take place in March 2021. As of February 2022, an in-person bilateral meeting had yet to be conducted.¹¹⁷

For the Beaufort Sea, Canada and the United States continue to have an unresolved ocean boundary dispute and no transboundary fisheries agreement or arrangement for the region.¹¹⁸ Fisheries management confrontation in the region has been avoided due to the lack of commercial fisheries in the region as well as

independent decisions in each country not to authorize any new commercial fisheries until more scientific information is available on fish populations and ecosystems in the region.¹¹⁹

Regarding the potential for future fisheries in the high seas area of the central Arctic Ocean, Canada is a party to and supportive of the Central Arctic Ocean (CAO) Fisheries Agreement,¹²⁰ which prohibits commercial fisheries until further scientific information is garnered on fish stocks and marine ecosystems in the area, and requires consensus among parties on whether to commence negotiations to establish one or more additional regional or subregional fisheries management organization or arrangement.¹²¹ Canada is depository for the Agreement and hosted the First Preparatory Meeting of the Signatories to the Agreement, 29–30 May 2019 in Ottawa. On 13–14 November 2019 in Yellowknife, Canada hosted a workshop on how Indigenous and local knowledge might be best integrated into the Joint Program of Scientific Research and Monitoring (JPSRM), which must be established within two years of the entry into force of the Agreement. Canada also hosted the virtual meeting of the Preparatory Conference of Signatories to the Agreement, 15–16 June 2021. Canada is committed to finalizing the JPSRM, although the details of further financial and resource commitments remains uncertain.¹²²

2.2 Russian Federation and Arctic fisheries management

2.2.1 *National laws and policies*

A complex web of laws, policies, and institutions regulate fisheries in the Russian Arctic, the historical development of which can be gleaned from the extensive work of Geir Hønneland.¹²³ This discussion starts with a brief overview of the country's fisheries management structure before proceeding to a review of its substantive provisions. Fisheries are under the purview of the Ministry of Agriculture and its Federal Fisheries Agency (FFA).¹²⁴ Although the FFA is the main implementing body, salient decisions are made at the Ministry level.¹²⁵ The Russian Federation is divided into eight fisheries basins that are managed by 18 territorial administrations of the FFA, with some basins covered by more than one territorial body.¹²⁶ Each fisheries basin has a fisheries research institute.¹²⁷ None of the basins cover the Arctic coastline in its entirety. Instead, fisheries in the Arctic coastal seas fall under the rules for the Northern, Western-Siberian, Eastern-Siberian, and Far Eastern fisheries basins. The focus of the discussion below is on the Northern Fisheries Basin as it captures the Barents Sea.

The strategic direction of Russian fisheries in the Arctic is outlined in key policy documents. According to the Marine Doctrine, Russian priorities in the Arctic region include exploration and development of bioresources; establishment of the industrial, technological and scientific infrastructure for exploration; expanding research into the bioresources of the central Arctic Ocean and assessing promising fisheries reserves in the Kara and Chukchi Seas; and monitoring the Arctic marine environment in light of climate change.¹²⁸ Under the Strategy for the Development

of the Arctic Zone of the Russian Federation and Ensuring National Security for the Period up to 2035, priorities include establishment and modernization of fish processing plants; development and implementation of measures to combat illegal, unreported and unregulated (IUU) fishing; establishment of protected areas; and development of a monitoring system.¹²⁹ An ambitious renewal and growth of the fishing industry is envisioned under the Strategy on the Development of the Fishery Complex of the Russian Federation for a Period up to 2030.¹³⁰

A series of laws regulating the use of the EEZ, territorial seas and the contiguous zone, as well as the continental shelf, contain fishing provisions.¹³¹ These provisions are general in nature, outlining the types of fishing allowed in these zones and setting some reporting requirements. Nevertheless, the *Law on Internal Waters, Territorial Sea and Contiguous Zone of the Russian Federation* identifies the main principles for the protection of the marine environment in these zones, such as preserving biodiversity, ensuring ecological safety, preventing pollution and prohibiting activities that can damage specially protected areas.¹³² Furthermore, this law recognizes, as one of its management principles, the importance of the interests of people for whom fishing is fundamental to their existence, including small-numbered Indigenous peoples of the North, Siberia and the Far East.¹³³

The *Law on Fishing and Conservation of Aquatic Bioresources (Law on Fishing)* is the overarching federal legislation that sets out a comprehensive fisheries management system.¹³⁴ This is a framework law with many details contained in the subordinate legislation.

The constituting principles of the *Law on Fishing* are broad and multifaceted.¹³⁵ The key ones state that aquatic bioresources are to be regulated in a way that recognizes their importance as sources of food, employment and property rights, as well as their role as integral components of nature. Priority is clearly given to the protection of aquatic bioresources and their sustainable exploitation over their use as objects of property and other rights. The management of aquatic bioresources, including the setting of total allowable catch, has to be done on the basis of ecological, social and economic factors. The interests of people for whom fishing is fundamental to their existence, including small-numbered Indigenous peoples of the North, Siberia and the Far East, have to be considered and these peoples have to be granted access to aquatic bioresources in order to sustain their livelihoods. Finally, there is a requirement for public participation in and transparency of the decision-making process.

The *Law on Fishing* enacts several mechanisms for the protection and sustainable use of aquatic bioresources. It grants the FFA authority to restrict fishing through closed areas and seasons, prohibited species, size limits, as well as gear restrictions.¹³⁶ The most commonly used tools are closed areas and prohibited species. Implementation is based on the scientific information provided by the fisheries research institutes.¹³⁷ It also directs the Agency to set the amounts of retained bycatch, and otherwise requires incidentally caught species to be released back into their environment.¹³⁸ The details of these measures are found in the Fishing Rules

for each fisheries basin, discussed below. Fishing for species listed in the Red Book of the Russian Federation or its subjects is prohibited, but subject to exemptions.¹³⁹ Special considerations are given to fishing for new species or in new areas.¹⁴⁰ A series of general provisions address protection and restoration of the water resources important to fisheries, including pollution control, establishment of fish protected zones, and safeguarding of aquatic bioresources during coastal development¹⁴¹

The key management tool authorized by the *Law on Fishing* is the setting of the TAC. The FFA is required to set the TAC for each fisheries basin on an annual basis.¹⁴² However, as there is no requirement to set the TAC for all commercial species, it is set only for the most valuable ones, as determined by the FFA.¹⁴³ It is possible to engage in commercial fisheries for species that do not have a set TAC, in which case the FFA sets the Recommended Catch.¹⁴⁴ A TAC is set based on stock assessments completed using data collected under the government's monitoring program.¹⁴⁵ It has to undergo an ecological assessment designed to establish compliance in the supporting documentation justifying the proposed activity, in this case fishing, with environmental laws in order to prevent the negative impact of such activities on the environment.¹⁴⁶

In addition to setting the TAC, the FFA is also responsible for its allocation to individual quota holders.¹⁴⁷ Quotas are needed for commercial, scientific and monitoring, educational and cultural, aquacultural, recreational, as well as traditional fishing.¹⁴⁸ Quotas for commercial fishing in marine areas are distributed based on contracts between the FFA and fishing companies or individuals that are entered into based on the competition results or historical catch levels.¹⁴⁹ These contracts have a set term of 15 years and require fulfillment of at least 70% of the given quota.¹⁵⁰ A proven track record of fulfilling the allocated quota is one of the factors considered in the competition.¹⁵¹ There is also a minimum quota threshold level that has to be met in order for a participant to remain in the fishery.¹⁵² If a company or an individual receives a quota that is lower than the threshold, they have to merge with another company or individual, or exit the fishery.¹⁵³

Quotas for traditional fishing by Indigenous peoples and recreational fishing are distributed by the executive authorities of the regional governments based on the rules established by the federal government.¹⁵⁴ Quotas for the other purposes are distributed by the FFA based on the rules established by the federal government.¹⁵⁵

Companies or individuals who wish to engage in commercial, sport or in some instances, traditional fishing must secure a fishing area.¹⁵⁶ It is unclear whether this requirement applies to commercial fisheries in coastal waters for non-anadromous species.¹⁵⁷ The lists of fishing areas are approved by the regional governments in consultation with the FFA.¹⁵⁸ Fishing areas cannot be designated in especially protected areas, areas temporary closed to navigation, areas used by the Navy, areas that are dangerous to navigation, or in anchorages and shipping lanes.¹⁵⁹ The *Law on Fishing* is silent on the process for obtaining fishing areas, but there are indications that it is done on a competitive basis.¹⁶⁰

A permit for the extraction of aquatic bioresources is issued to every fishing vessel.¹⁶¹ It contains fishing conditions such as quotas, species, gear restrictions, as well as requirements for environmental protection.¹⁶² The FFA collects commercial catch data and onboard fishing activity records. The captain of a fishing vessel is responsible for submitting the required daily information about fishing activities in the prescribed form. The *Law on Fishing* requires vessels with a main engine of more than 55 kilowatts and gross tonnage of more than 80 tons to install electronic tracking equipment and other monitoring tools.¹⁶³

2.2.2 Regional laws and policies

The FFA's territorial administrations and regional governments are responsible for fisheries management at the sub-national level. They are advised by fishery councils, found at the federal, basin and regional levels.¹⁶⁴ These bodies include representatives from the industry, government representatives, research institutions, and Indigenous peoples.¹⁶⁵ The order establishing the Northern Basin Scientific and Fishery Council authorizes the Council to provide advice on all issues related to the protection and rational use of aquatic bioresources and the ecological state of the fisheries basin.¹⁶⁶ The Council is also responsible for coordinating the activities of the regional fishery councils.¹⁶⁷

The relevant regional council is the Murmansk Territorial Fishery Council. This advisory body is charged with implementing the federal strategy for the rational use of aquatic bioresources, their research, protection and reproduction, as well as development of the fishery complex in the region.¹⁶⁸ It is also responsible for ensuring basin-based management of the resources and presenting recommendations to achieve this objective to the Northern Basin Scientific and Fishery Council.¹⁶⁹

The fundamental internal state document regulating fishing in the Arctic zone is the Order of the Ministry of Agriculture of Russia dated 30 October 2014 N 414 (current edition 26 October 2018) "On approval of fishing rules for the Northern fisheries basin" (Fishing Rules).¹⁷⁰ This order expands upon the provisions of the *Law on Fishing* and regulates the activities of Russian legal entities, individual entrepreneurs and citizens, including Indigenous peoples. The Fishing Rules apply to all types of fishing activities in internal waters, the territorial sea, the EEZ and on the continental shelf within the Northern fisheries basin. They also apply to foreign legal entities and citizens engaged in fishing in accordance with the legislation of the Russian Federation and international treaties of the Russian Federation in the prescribed areas.

Detailed provisions of the Fishing Rules contain prohibitions on fishing in certain areas and in relation to certain types of aquatic bioresources; the closure of fishing in certain areas and in relation to certain species; the minimum size and weight of the harvested aquatic bioresources; types, number and design of permitted tools and methods of harvesting (catching) aquatic bioresources; and the permitted periods of harvesting (catching) aquatic bioresources. They also restrict the amounts of bycatch

of commercially important species that have a set TAC that are allowed to be landed, and require release of Atlantic salmon, Kamchatka crab and marine mammals with minimum harm.¹⁷¹ Nevertheless, there is a concern that bycatch of other species is not being monitored or addressed.¹⁷²

2.2.3 Sustainability principles in practice

Russian fisheries regulation is based on the principle of sustainability, with priority given to the ecological well-being of the multicultural people of the Russian Federation, and all restrictions have a scientific basis. The emphasis on sustainability and science-based decision-making has received international recognition, with 42 Russian fisheries certified under the MSC standard, 18 of which are in the Russian Barents Sea.¹⁷³

Specific elements of the management system contribute to the potential for effective implementation of sustainability principles such as precautionary and ecosystem approaches. According to the Constitution of the Russian Federation, universally recognized norms of international law and international treaties and agreements of the Russian Federation constitute a part of its domestic legal system and take precedence in cases of incompatibility with national legislation.¹⁷⁴ However, the *Law on Fishing* explicitly excludes decisions made by intergovernmental bodies under these treaties and agreements that conflict with the Russian Constitution from application in the country.¹⁷⁵ It has been argued that the ecosystem approach is recognized as a fundamental element of sustainable development in Russia.¹⁷⁶ Nevertheless, Russian fishing laws and policies do not explicitly require implementation of adaptive management, an ecosystem approach, or a precautionary approach.¹⁷⁷

According to an FFA order, the determination of the TAC has to be carried out in accordance with the principles of the precautionary and ecosystem approaches and the concept of maximum sustainable yield (MSY) with the aim of ensuring sustainable development of domestic fishing.¹⁷⁸ However, the extent to which this is done depends on the stock assessment methodology in each case. For instance, IUU fishing is an issue in some fisheries, but this take is not always accounted for in the assessment models.¹⁷⁹ Overall impact on the environment is one of the issues analysed during the ecological assessment that has to be completed for each TAC, potentially enabling the application of some elements of an ecosystem approach. However, this analysis is usually done as a formality or not at all.¹⁸⁰ Fisheries science is making progress in ecosystem research, but the results are rarely incorporated into management.¹⁸¹

The Fishing Rules are the key tool for implementing management measures such as closed seasons and areas, but they take a long time to change, making them ill-suited for adaptive and dynamic management.¹⁸²

2.2.4 Indigenous fishing

The aquatic biological resource extraction rights of Indigenous small-numbered peoples of the North of the Russian Federation are set out in the *Law on Fishing*.

Article 25 stipulates that fishing in order to ensure the traditional way of life and the fulfillment of traditional economic activities of the Indigenous peoples of the North, Siberia and the Far East of the Russian Federation can be carried out by persons belonging to these peoples and their communities with the provision of a fishing area or without its provision (traditional fishing). Traditional fishing is carried out in the places of traditional residence, usually through the provision of a fishing area. Traditional fishing without a designated fishing area is carried out without a permit. However, harvesting of rare and endangered species (listed in the Red Book of the Russian Federation) as traditional fishing is allowed only on the basis of permits.

Individuals belonging to small numbered peoples and their communities have the right to use traditional methods of harvesting aquatic biological resources as long as these methods do not directly or indirectly decrease biological diversity, reduce the number and sustainable reproduction of wildlife, and destroy habitat or pose a danger to humans. Traditional fishing is carried out in accordance with the fishing rules of individual fishery basins. Catch quotas are allocated to the constituent entities of the Russian Federation to ensure the traditional fishing of Indigenous peoples and are distributed among users by the executive authorities of these constituent entities.

The Russian judiciary has emphasized that the rights of the Indigenous small-numbered peoples of the North to their original habitat, traditional way of life and traditional economic activities are fundamental for these peoples. In its Resolution of 15 April 2015,¹⁸³ the Constitutional Court of the Republic of Sakha (Russian federal state court) emphasized that to require representatives of the Indigenous small-numbered peoples of the North to complete the technical requirements of the fishing rules, including information on the coordinates of the proposed fishing area for the next year and the estimated amount of catch, is an unjustifiable obstacle to the exercise of the fundamental right of the Indigenous small-numbered peoples of the North to carry out their traditional economic activities in the form of fishing without providing a fishing area. While the contested provisions concerning permits and quota allocations for traditional fishing without providing a fishing area were found to be inconsistent with the Constitution of the Republic of Sakha, the contested provisions concerning submission of applications for quota allocation and document certification for traditional fishing were found to be in compliance with the Constitution.

Persons not belonging to the Indigenous small-numbered peoples but permanently residing in places of their traditional residence and traditional economic activity have the priority right to use objects of the animal world in such territories of traditional settlement.¹⁸⁴ In turn, the provision of aquatic biological resources for use for fishing in order to ensure the traditional way of life and the exercise of traditional economic activities is exhausted by Indigenous peoples.¹⁸⁵ This position is also confirmed by the Constitutional Court of the Russian Federation, which in its Determination of 29 May 2012 N 846-O indicated that the legislation of the Russian Federation has special rules governing fishing in order to ensure the traditional way of life and the

implementation of traditional economic activities of the Indigenous small-numbered peoples of the North, Siberia and the Far East and establishes the entities that have the right to exercise it. At the same time, the special status of Indigenous minorities in terms of access to aquatic biological resources does not affect the rights of other persons in the North, Siberia and the Far East or impose a ban on their access to these resources. Thus, the contested provision cannot be considered as violating the constitutional rights of the applicant.¹⁸⁶

A substantial barrier to the recognition of Indigenous fishing rights is the narrow definition of the term “Indigenous small-numbered peoples” in Russian legislation.¹⁸⁷ The definition that sets a numerical requirement of peoples numbering fewer than 50,000 individuals would exclude some larger ethnic communities in Russia and could even cause a population, such as Nenets Indigenous small-numbered peoples who are approaching 50,000, to lose their rights and state legal support.¹⁸⁸

Additional barriers to the exercise of Indigenous rights include the need to compete for fishing areas on the same terms as commercial entities and risk losing access to the areas they have used from time immemorial.¹⁸⁹ Laws, regulations and policies that impose unrealistic requirements on Indigenous individuals and communities to fish, as well as inconsistent interpretations of the rules by the authorities, also make the exercise of the right to fish difficult.¹⁹⁰

2.2.5 Russian Federation and international fisheries issues

The importance of increasing international cooperation in order to maintain and grow catches in foreign EEZs and the high seas is recognized in the Marine Doctrine of the Russian Federation. To this effect, Russia actively participates in multiple regional fisheries management organizations and arrangements that have jurisdiction over the southern edges of the Arctic Ocean. On the Atlantic side, Russia is a party to the North-East Atlantic Fisheries Commission (NEAFC), NAFO and the International Commission for the Conservation of Atlantic Tunas.¹⁹¹ On the Pacific side, Russia is involved in the Convention on the Conservation and Management of Pollock Resources in the Central Bering Sea.¹⁹²

Recognizing the changes in the Arctic due to climate change and the potential environmental damage from IUU fishing, the Russian Federation was an enthusiastic proponent of the CAO Fisheries Agreement.¹⁹³ During the negotiations, Russia advocated for a special role for Arctic coastal states in the conservation and sustainable use of fish stocks in the region.¹⁹⁴

The most significant and well-studied fisheries management arrangement in the Arctic is the Russian-Norwegian bilateral agreement in the Barents Sea.¹⁹⁵ Since the adoption of the initial Russian-Norwegian Agreement on Cooperation in Fisheries in 1975, well-adjusted mechanisms for its implementation have proven to be efficient in maintaining sustainable commercial stocks of aquatic biological resources. The Joint Norwegian-Russian Fishery Commission (JNRFC) has been the key instrument for this cooperation. At the same time, problems have arisen from time

to time that have demanded cooperation in finding mutually acceptable solutions. The principal issues on the Russian-Norwegian agenda for cooperation in fisheries, including those that arose after the 2010 Treaty concerning Maritime Delimitation and Cooperation in the Barents Sea and the Arctic Ocean¹⁹⁶ entered into force, have been summed up in the proposals for the Arctic international cooperation roadmap published by Russian International Affairs Council (RIAC) in 2012.¹⁹⁷

The format of the JNRFC allows it to discuss and regulate all areas of potential differences. To deal with unregulated fishing, the Russian Federation is obliged to make monthly submissions to the North Sea Territorial Administration of the FFA on fishery statistics for Russian catches of cod, haddock, capelin, blue whiting and shrimp in ICES Areas I and II that are under the control of Norway in accordance with the Program of Joint Russian-Norwegian Research of Marine Living Resources for 2021. Russian authorities also send to the Norwegian side information on the landings of Norwegian fishing vessels in Russian ports and Norwegian catches in the Russian EEZ.¹⁹⁸ Scientists from the Russian Federal Research Institute of Fisheries and Oceanography (VNIRO) work on Norwegian research and fishing vessels in the EEZ of the Russian Federation in the Barents Sea. The North Sea Territorial Administration of the FFA organizes an annual meeting of the Working Group on Analysis to carry out a joint assessment of the total catch volume of the jointly regulated stocks by fishing vessels of Russia, Norway and third countries in the Barents and Norwegian Seas.

Greenland is Russia's second most important fisheries partner.¹⁹⁹ The cooperation is based on the 1992 Agreement between the Government of the Russian Federation and the Kingdom of Denmark and the Local Government of Greenland on Mutual Relations in the Field of Fisheries.²⁰⁰ Russia grants Greenland the right to fish cod, haddock and northern shrimp in its EEZ, while Greenland allows Russian vessels to catch sea bass and Greenland halibut.²⁰¹ Russia catches most of the halibut quota off the west coast of Greenland, while most of the sea bass is caught off the east coast.²⁰² The two countries hold annual consultations where they review scientific data on the state of commercial stocks, resolve practical issues, and develop cooperation plans.²⁰³

Russia continues to have tensions with Norway over whether the Svalbard Treaty, and its recognition of fishing in a non-discriminatory manner for all signatories to the treaty, applies beyond the territorial sea. Russian and Norwegian disputes and positions regarding Norway's Fisheries Protection Zone off Svalbard have been described elsewhere.²⁰⁴

3 Commonalities

Four common realities stand out in Canadian and Russian Arctic fisheries and fisheries management. First are the obvious law and policy complexities, as described above. The complex arrays of fisheries management measures are partly due to the

complicated mix of fishing input and output controls available,²⁰⁵ such as limited entry through licensing, closed areas and seasons, quotas, fishing gear restrictions, fish size limits and reporting. The fishery management systems are also difficult to track because of the vast geographical areas in the Arctic and the rather fragmented administrative devolution to regional and local levels in both countries. The types of fisheries subject to management also vary among commercial, recreational and subsistence.

A second commonality is a focus on commercial fisheries management in specific Arctic offshore areas where favorable industrial fisheries conditions exist, especially year-round or seasonal open water availability and productive marine ecosystems. Russia's commercial fisheries are concentrated in the Barents and Bering Seas while Canada's commercial fisheries occur in Baffin Bay/Davis Strait.

A third common reality is a commitment by both Canada and Russia to achieving sustainable fisheries through the application of precautionary and ecosystem approaches. However, neither country has explicitly mandated precautionary or ecosystem approaches through their fisheries laws. The Federal Fisheries Agency of Russia has called for TAC determinations to be set in accordance with precautionary and ecosystem approaches. Canada has imposed a precautionary moratorium on commercial fisheries in the Beaufort Sea and has further committed to precautionary and ecosystem approaches to Arctic fisheries management through its Policy for Managing the Impacts of Fishing on Sensitive Benthic Areas, and a specific policy has been adopted for incorporating the precautionary approach into fishery decision-making.

A fourth common aspect is strong support in both countries for preventing unregulated fishing in the high seas area of the central Arctic Ocean. Both Canada and Russia are parties to the CAO Fisheries Agreement, which prohibits commercial fishing until more scientific information is available on high seas and adjacent ecosystems and, in case commercial-level fisheries are found, that management measures are in place pursuant to one or more regional or sub-regional fisheries management organization as arranged.

4 Contrasts

Two main contrasts in Canadian and Russian Arctic fisheries governance approaches are evident. First is the greater recognition by Canada of Indigenous rights in northern offshore areas and fisheries with implementation occurring pursuant to land-claim agreements with the Inuvialuit in the western Arctic and Inuit in the central and eastern Arctic. Devolution of fisheries management responsibilities has been encouraged through co-management arrangements and community-level decision-making through various hunters and trappers organizations and committees. Meanwhile, Russia has not established such clear avenues for implementing Indigenous rights, and the definition of Indigenous small-numbered peoples in Russian legislation,

which limits state support to Indigenous peoples maintaining their traditional way of life and numbering less than 50,000 persons, has caused confusion and has left out various northern ethnic groups.²⁰⁶

A second major difference in Canadian and Russian governance of fisheries in the Arctic is Russia's greater success in formalizing cooperative fisheries agreements with neighboring jurisdictions, especially Norway and Greenland, and in settling its ocean boundary disputes. Canada has yet to resolve its dispute with the United States over the ocean boundary in the Beaufort Sea and to formalize fisheries management arrangements with Greenland for Greenland halibut and northern shrimp. The Norway-Russian Treaty on Maritime Delimitation and Cooperation in the Barents Sea and Arctic Ocean has been suggested as a possible model to be followed for the Beaufort Sea dispute.²⁰⁷

5 Conclusion

While getting a grip on Canadian and Russian approaches to managing Arctic fisheries is not easy due to law and policy complexities, both commonalities and contrasts are clear. Regarding commonalities, both countries manage commercial fisheries in limited Arctic areas where commercial fishery is feasible; both countries continue to struggle in implementing precautionary and ecosystem approaches; and both countries remain committed to preventing unregulated high seas fishing in the CAO. Regarding contrasts, Canada stands out for its greater recognition and implementation of Indigenous rights in Arctic offshore areas and fisheries, while Russia has made greater advances in forging transboundary fisheries management agreements and resolving ocean boundary disputes in the Arctic.

The ocean and fisheries governance voyage of these two countries is far from over, with numerous challenges and questions looming on the horizon. Will co-management in the Canadian Arctic eventually evolve towards greater self-governance by Canadian Indigenous organizations and communities? Will Russia further advance the recognition and implementation of Indigenous peoples' rights in Arctic coastal areas and waters, perhaps drawing from Canadian experiences? To what extent will gaps in scientific understandings of Arctic marine species and ecosystems be filled to allow for more effective precautionary and ecosystem management? Will new Arctic marine fisheries emerge in the wake of climate change impacts?²⁰⁸ To what extent will Canada and Russia provide scientific, technical and financial support to the implementation of the CAO Fisheries Agreement? What will a new instrument in the sustainable use and conservation of marine biodiversity beyond national jurisdiction, still under negotiation, mean for Arctic Ocean governance²⁰⁹ and will all Arctic states including Russia, become a party?²¹⁰ Only future political tides will tell.

Acknowledgments

The authors acknowledge the research support of the Donner Canadian Foundation through a project, “Responding to a Changing Arctic Ocean: Canadian and Russian Experiences and Challenges”, which has been co-led by the Marine & Environmental Law Institute, Schulich School of Law, Dalhousie University and the School of Law, Far Eastern Federal University.

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