Arctic Review on Law and Politics
Vol. 13, 2022, pp. 312–337

Peer-reviewed article

Marine Protected Areas and Other Effective Area-based Conservation Measures

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Abstract
As the Earth's changing climate has deepened into a climate crisis, the Arctic region has emerged as one of the clearest indicators of the scale and pace of that change. As the ice melts, opportunities are expanding to exploit the Arctic's oil and gas reserves, precious metals, fish stocks and maritime routes. Increased access and development will inevitably generate "system-wide environmental impacts" and will pose novel management challenges for the Arctic states. In the quest to find an effective balance between competing ocean activities and actors, marine protected areas (MPAs) and other effective area-based conservation measures (OECMs) have emerged as indispensable tools to achieve ocean health, including in the Arctic. After first introducing these concepts, this article will discuss the Canadian and Russian domestic regimes for the establishment of MPAs and OECMs. The conclusion will then offer some insights into the key challenges confronting both states in the creation of effective networks of MPAs and OECMs in their Arctic regions.

Keywords: *Arctic, marine protected areas, other effective area-based conservation measures, Canada, Russia*

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Received: July 2021; Accepted: April 2022; Published: June 2022

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Citation: Suzanne Lalonde, Aslan Abashidze & Alexander Solntsev. "Marine Protected Areas and Other Effective Area-based Conservation Measures" Arctic Review on Law and Politics, Vol. 13, 2022, pp. 312–337. http://dx.doi.org/10.23865/arctic.v13.3352

1 Introduction

As the Earth's changing climate has deepened into a climate crisis, the Arctic region has emerged as one of the clearest indicators of the scale and pace of that change.[1] Scientific reports, like the most recent Intergovernmental Panel on Climate Change (IPCC) Special Report,[2] confirm that the Arctic is warming at two to three times the world average with profound implications for Arctic ecosystems and the estimated four million people who call it home, of whom 10% are Indigenous peoples,[3] as well as for natural systems across the globe, including biodiversity.

One of the most visible and compelling symptoms of a warming Arctic has been the rapid melting of the sea ice, a dramatic decline that has been and continues to be the primary focus of many media commentaries and scientific articles.[4] However, as a 2008 World Wildlife Fund (WWF) report warned, the region is experiencing an unprecedented suite of ecological changes that will "drastically alter the fundamental conditions of life in the Arctic."[5] As the ice melts, opportunities are expanding to exploit the Arctic's oil and gas reserves, precious metals, fish stocks and maritime routes. Increased access and development will inevitably generate "system-wide environmental impacts" and will pose novel management challenges for the Arctic states, Indigenous and local communities and other interested stakeholders.[6]

In the quest to find an effective balance between competing ocean activities and actors, marine protected areas (MPAs) and other effective area-based conservation measures (OECMs) have emerged as indispensable tools to achieve ocean health. Yet despite the Arctic Ocean's unique vulnerabilities, it is the least protected of the world's oceans.[7] As Greenpeace reports, less than 1.5% of the Arctic Ocean has any form of protected area status.[8] After first introducing key concepts, the article will discuss the Canadian legislative and regulatory regime for the establishment of MPAs and OECMs and identify recent developments. The same context and information will then be provided for the Russian Federation in the following section. Finally, the conclusion will offer some insights into the key challenges confronting both states in the creation of effective networks of MPAs and OECMs in their Arctic regions.

2 MPAs and OECMs at the international and Arctic regional levels

The general definition of a protected area proposed by the International Union for Conservation of Nature (IUCN) enjoys a broad international consensus:

> A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long term conservation of nature with associated ecosystem services and cultural values.[9]

To help clarify which marine sites could be considered protected areas, the IUCN adopted a specific definition for MPAs:

> Any area of intertidal or subtidal terrain, together with its overlying water and associated flora, fauna, historical and cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment.[10]

The term MPA is generic and is therefore used to refer to all marine sites that meet the general protected area definition, regardless of purpose, design, management approach, or title (e.g., marine reserve, sanctuary, natural monument, marine park).[11] However, MPAs must aim to protect all the features of conservation importance within their boundaries, including the overall health and diversity of the ecosystem, and state this aim as their *primary* objective.[12]

Thus, according to the IUCN, "[s]patial areas which may incidentally appear to deliver nature conservation but **DO NOT HAVE STATED** nature conservation objectives should **NOT** automatically be classified as MPAs."[13] Examples of such areas include fishery management areas with no wider stated conservation aims, community areas managed primarily for sustainable extraction of marine products, and marine and coastal management systems managed primarily for tourism, which also include areas of conservation interest.[14]

However, and precisely because such areas do in fact contribute to the effective conservation of seascapes, the parties to the Convention on Biological Diversity (CBD),[15] to which both Canada and Russia are a party,[16] included "other effective area-based conservation measures" in their Strategic Plan for Biodiversity 2011–2020, a ten-year framework for action.[17] As part of the Strategic Plan, 20 ambitious targets, known as the Aichi Targets, were adopted. Target 11, under Strategic Goal C, aims to improve the status of biodiversity "by safeguarding ecosystems, species and genetic diversity." It calls for at least 17% of terrestrial and inland water areas and 10% of coastal and marine areas to be conserved by 2020 through "well-connected systems of protected areas and other effective area-based conservation measures."[18] As Jonas and his colleagues emphasize, "the CBD clearly envisages areas outside of protected areas contributing directly, and with equal weighting, to the overall target."[19]

At the time the Aichi Biodiversity Targets were adopted in 2010, there was no agreed-upon definition for the concept of "other effective area-based conservation measures" and little guidance on what sites or areas might qualify. In response, the IUCN World Commission on Protected Areas (WCPA) established a Task Force in 2015 to help guide IUCN members and CBD parties. At its fourteenth meeting in November 2018, the Conference of the Parties to the CBD adopted the following definition:

> 'Other effective area-based conservation measure' means a geographically defined area other than a Protected Area, which is governed and managed in ways that achieve positive and sustained long-term outcomes for the in situ conservation of biodiversity, with associated ecosystem functions and services and where applicable, cultural, spiritual, socio-economic, and other locally relevant values.[20]

As Dudley *et al.* forcefully argue, the concept of "other effective area-based conservation measures" (OECMs) provides an opportunity "to recognise and support existing efforts that already contribute to conservation, while respecting human rights and a diversity of worldviews and governance approaches."[21] The concept thus includes territories and marine areas conserved by Indigenous peoples and

local communities (ICCAs). Other examples may include "traditional agricultural systems, sacred natural sites, historic shipwrecks, protected water catchments, military training areas, and hunting reserves."[22] Dudley and Jonas, with their colleagues, insist that OECMs, including ICCAs, will be essential in reaching ambitious conservation targets like Aichi Target 11.[23]

Jonas *et al*. refer to some concern among conservation experts that states may use OECMs as a means to avoid the more challenging path of establishing new or expanding existing MPAs. However Diz *et al*. respond that OECMs cannot displace the Target 11 qualifiers "ecologically representative," "well connected," and "integrated into broader seascapes."[24] Indeed, a 2012 IUCN position paper stated that OECMs that contribute to Target 11 "should be subject to evaluation as to whether they meet the *effectiveness* criteria for protected areas and therefore whether they qualify as '*effective*' in conserving biodiversity."[25] Thus the 10% coverage target will not be achieved if these other qualifiers are not present. "If the qualifiers are given proper consideration, OECMs can complement individual MPAs … and contribute to ecologically coherent MPA networks, while also being integrated into wider seascape through ecosystem-based management."[26]

At the UN Sustainable Development Summit in September 2015, 193 world leaders adopted the 2030 Agenda for Sustainable Development,[27] described as "a set of universal and transformative Goals and targets"[28] to achieve "a more sustainable, equitable, prosperous and peaceful planet."[29] Sustainable Goal 14 (SDG 14), captioned "Life Below the Water," identifies "careful management of this global resource as a key feature of a sustainable future." To promote ocean health, the 2030 Agenda advocates more effectively managed and better resourced marine protected areas together with the adoption of regulations to reduce overfishing, marine pollution, and ocean acidification.

SDG 14.2, in furtherance of Aichi Targets 6, 11, and 15, urges states by 2020 to "sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans." Echoing Aichi Target 11, SDG 14.5 exhorts states by 2020 to "conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information."

The UN Secretary-General's Sustainable Development Goals Progress Report for 2020 called for renewed ambition, mobilization, leadership, and collective action to fulfil the promise of the 2030 Agenda.[30] The Report noted that substantial progress had been made in pursuit of SDG 14: "As at December 2019, more than 24 million km^2, or 17 per cent, of waters under national jurisdiction (up to 200 nautical miles from shore) were covered by protected areas, more than doubling in extent since 2010. Much of the coverage is concentrated in Oceania and Latin America and the Caribbean."[31] Thus, while Aichi Target 11 and SDG 14.5 have now been exceeded, this success is largely due to progress in seascapes far removed from the Arctic.[32]

In the Arctic region, the 2015 Arctic Council Framework for a Pan-Arctic Network of Marine Protected Areas sets out a vision for an

> ecologically connected, representative and effectively managed network of protected and specially managed areas that protects and promotes the resilience of the biological diversity, ecological processes and cultural heritage of the Arctic marine environment, and the social and economic benefits they provide to present and future generations.[33]

The Framework, drafted with the active participation of all the Arctic Council member states, including Canada and Russia, aims "to inform the development of MPA networks under the national jurisdiction of the Arctic States." Indeed, the opening paragraph of the Framework emphasizes that each Arctic state is to pursue MPA development "based on its own authorities, priorities and timelines." Under Part 4.0, "Key Definitions and Concepts," the Framework adopts the IUCN definition for "marine protected area" and specifically refers to Aichi Target 11:

> By 2020, at least … 10 percent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider … seascape.[34]

Acknowledging that the term "other effective area-based conservation measure" was still evolving when the Arctic Council Framework was being developed, section 4.3 provides that OECMs should be understood to

> refer to place-based/spatial conservation measures that have some protection under national or subnational law or policy, or regional management regime, but do not meet the IUCN definition of an MPA. These measures may also have a temporal component, such as areas protected during fish spawning or bird nesting periods … It is anticipated that some fisheries management measures, important bird areas, critical habitat for species at risk, and conservation areas established by indigenous peoples may qualify as such measures.[35]

Canada and Russia, committed to achieving Aichi Target 11, the 2030 Agenda for Sustainable Development and the Arctic Council's vision for a pan-Arctic network of MPAs and OECMs, have each adopted legislative and policy instruments to ensure effective protection of the Arctic waters under their sovereignty or jurisdiction.

3 Canada

The Canadian Arctic makes up 40% of Canada's territory and is home to more than 200,000 inhabitants, more than half of whom are Indigenous.[36] Canadian Arctic waters span an area of 4 million km^2 (roughly the size of the state of California) and include a wide range of ocean and coastal environments and their interconnected ecosystems.[37] Approximately 70% of Canada's coastline is in the Arctic (176,000 km

of mainland coastline from the Yukon to Labrador).[38] The Canadian Arctic archipelago is made up of 94 large islands and roughly 36,470 small islands.[39] The many islands and long coastlines are areas where sea ice can freeze securely to the land, an important environment for many marine mammals and birds, as well as Inuit survival and culture. No other polar region has as much land-fast ice. In addition, in the summer months, 30% of all the multi-year ice in the Arctic Ocean can be found in Canadian waters.[40]

As Bankes explains, neither a Canadian province nor a territory can exercise law-making powers in areas outside the province or the territory and only the Territory of Nunavut is defined in sufficiently broad terms to encompass significant marine areas. And even in the case of Nunavut, "this does not confer as much authority as one might anticipate. … First, the federal government has exclusive law-making authority in relation to a number of heads of power concerning marine areas including fishing and navigation and shipping. Second … the federal government has retained administration and control over publicly owned land and resources within Nunavut whether onshore or within the marine part of the territory, and, finally, federal laws override inconsistent territorial laws." [41]

In 1997, the Government of Canada brought the *Oceans Act*[42] into force, providing Canada with a framework for modern oceans management. Almost a decade later, in 2005, the Government of Canada launched a comprehensive Oceans Action Plan (OAP). The OAP is a government wide approach "to coordinate and implement oceans activities, and to sustainably develop and manage" Canada's oceans. Under the Health of the Oceans pillar of the OAP, one of the key deliverables included the development of a Federal Marine Protected Areas Strategy[43] to guide the establishment of a comprehensive and coordinated network of marine protected areas in Canada. The Canadian federal Strategy adopts, without any modification, the generic IUCN definition of a marine protected area.

To provide a framework from which to determine which other area-based management measures should count towards Canada's marine conservation target, Fisheries and Oceans Canada (DFO) has developed five essential criteria: (1) The measure must be applied in a spatially defined area; (2) The measure must have a conservation or a stock management objective that directly relates to at least one species of regional importance or habitat that is important to biodiversity conservation; (3) The measure must include at least two ecological components of interest: a habitat important to biodiversity conservation as well as a species of regional importance that uses that habitat; (4) The measure must either be entrenched in legislation or regulation, or there must be clear evidence that the measure is intended for the long term; (5) No human activities that are incompatible with conservation of the ecological components of interest may occur or be foreseeable within the defined geographic location.[44]

Within Canada, there exists a spectrum of legislative and policy tools to establish and manage MPAs and OECMs. There are three core Canadian programs:

- marine protected areas established by DFO;
- National Wildlife Areas (NWAs)[45] with marine components established by Environment and Climate Change Canada (ECCC); and
- National Marine Conservation Areas (NMCAs) established by Parks Canada.

In addition to these three principal mechanisms, migratory bird sanctuaries (ECCC) and national parks with a marine component (Parks Canada) also contribute to Canada's MPA/OECM network. Other spatially explicit tools for marine conservation include protected critical habitats as well as protected marine refuges (DFO). A number of other federal departments and agencies which are involved in the management of the ocean through policies, programs, services or regulations, also contribute to the establishment and management of Canada's MPA/OECM network.[46] The federal MPA Strategy also explicitly acknowledges that Aboriginal peoples "have an important role to play in the establishment of a broader national network of marine protected areas."[47]

Canada's marine protected areas differ in size, scope and design. A DFO report underlines the differences in conservation objectives, with some marine protected areas being "fully protected," while most allow for "multiple uses, or integrate fully protected zones within larger multiple-use areas."[48] In addition, some MPAs offer year-round protection while others are seasonal.[49] Finally, the Strategy also emphasizes that federal MPAs exist "within a continuum of management measures, ranging from legislated mechanisms such as National Marine Conservation Areas which have minimum protection standards and are established in perpetuity, to more voluntary community-based initiatives."[50]

3.1 Categories of marine protected areas

3.1.1 Oceans Act *MPAs*

The *Oceans Act* tasks the Minister of Fisheries and Oceans with the development and implementation of a national oceans management strategy based on principles of sustainable development, integrated management and the precautionary approach.[51] The Act details the responsibilities of the Minister including the authority to recommend the establishment of *Oceans Act* marine protected areas by regulation, to conserve and protect commercial and non-commercial fishery resources and their habitats; endangered or threatened marine species and their habitats; unique habitats; and areas of high biodiversity or biological productivity.[52] Two marine protected areas in Canada's western Arctic have been established pursuant to regulations under the *Oceans Act*. Anguniaqvia niqiqyuam was designated in October 2016 while Tarium Niryutait was designated in August 2010.

Section 2.1 of the *Oceans Act* specifies that nothing in the Act can be construed to abrogate or derogate from any existing Aboriginal or treaty rights. In addition, section 32(c) provides for the establishment and recognition of advisory or management bodies jointly with "affected Aboriginal organizations." Some *Oceans Act*

MPA co-management bodies have been established under modern land claims agreements to provide advice and recommendations to the minister, with ultimate decision-making authority resting with the minister. Outside of the framework of land claims, Indigenous peoples' involvement in *Oceans Act* MPAs is typically through multi-stakeholder advisory committees and/or bilateral engagement efforts. As indicated on the DFO website, *Oceans Act* MPAs "respect indigenous rights to fish for food, social and ceremonial purposes where conservation is not a concern."[53]

One of the main criticisms levelled at the *Oceans Act* was that it did not prohibit any particular activity, leaving it to the discretion of the minister to recommend to the Governor in Council the prohibition of activities deemed incompatible with the conservation objectives of each specific MPA. In contrast, the *Canada National Marine Conservation Areas Act* prohibits the exploitation of hydrocarbons, minerals, aggregates and any other inorganic matter within a conservation area (s. 13).[54] Furthermore, the disposal of any substance within an NMCA is prohibited unless authorized by a permit issued by the NMCA's superintendent or by the Minister of Environment and Climate Change under strict conditions (s. 14). However, on 25 April 2019, Canada's Minister of Fisheries and Oceans announced new protection standards that prohibit four key industrial activities: oil and gas activities, mining, dumping and bottom trawling. These standards apply to any new federal marine protected areas including *Oceans Act* MPAs as well as NMCAs and NWAs.[55] Existing *Oceans Act* MPAs will, however, continue to operate under the old rules, allowing for industrial activity on a case-by-case basis.

3.1.2 National Wildlife Areas under the Canada Wildlife Act[56]

The *Canada Wildlife Act* provides the authority for the acquisition of nationally significant habitats by the Minister of the Environment and Climate Change for the purposes of wildlife research, conservation and interpretation. The Act provides for the establishment and management of National Wildlife Areas with marine portions, by regulation, to ensure the conservation and protection of key breeding, feeding, migration and over wintering sites for birds, species-at-risk and other wildlife of national importance.[57] Five NWAs, contributing to marine conservation targets, have been established in the eastern Arctic with Ninginganiq in Nunavut being the largest NWA in Canada, measuring over 336,000 hectares that includes the shoreline and islands of Isabella Bay and the adjacent ocean out to 12 nautical miles from shore.

Traditional Indigenous practices and activities (e.g., access and harvest) are allowed in all portions of NWAs or migratory bird sanctuaries (see below). Co-management committees have been established where NWAs and migratory bird sanctuaries are located in marine spaces subject to land claim agreements. These committees have an advisory role, making recommendations to the Minister of Environment and Climate Change on all aspects relating to the planning and management of protected

areas. Recommendations are consensus-based or voted by majority. Ultimate decision-making and authority remain with the minister.

The *Regulations Respecting the Management of Wildlife Areas and Control Thereof* adopted pursuant to the *Canada Wildlife Act* prohibit a wide range of activities (e.g., hunting and fishing, all commercial or industrial activity, and the dumping of any substance). This comprehensive list of prohibitions leads the author of a 2013 WWF report to describe marine National Wildlife Areas as "a very strict category of MPA."[58] Nevertheless, under the Regulations, the Minister of Environment and Climate Change can issue permits or authorize activities in the area as long as they do not interfere with the conservation objectives of the NWA.

3.1.3 National Marine Conservation Areas under the Canada National Marine Conservation Areas Act[59]

The *Canada National Marine Conservation Areas Act* provides the Minister of the Environment and Climate Change with the authority to establish NMCAs with the objective of protecting and conserving marine areas that are representative of Canada's ocean environments, and to encourage public understanding, appreciation and enjoyment of this marine heritage.[60] NMCAs, which are administered by Parks Canada, generally comprise larger areas and have a bigger budget and staff than *Oceans Ac*t MPAs and NWAs.[61] On the other hand, the process to establish NMCAs can take longer because of the requirements for extensive assessments, including an assessment of the potential mineral and energy resources in a candidate area.[62] As noted above, the exploitation of hydrocarbons, minerals, aggregates and any other inorganic matter within a conservation area is prohibited.[63] NMCAs are designated by legislation whereas *Oceans Act* MPAs and NWAs are established by regulation. This regulatory designation allows for the boundaries of an *Oceans Act* MPA and NWA to be more easily adjusted than those of NMCAs, which require a legislative amendment. This is a considerable factor in responding to climate change and unexpected or rapid shifts in ecosystems.

Both the *Canada National Marine Conservation Areas Act* and *Canada National Parks Act* (below) contemplate the participation of Indigenous peoples in the planning, management and operations of marine areas administered by the Parks Canada Agency (PCA). Modern treaties and land claim agreements include provisions for consultation and cooperation in marine areas administered by Parks Canada, and in some cases impact and benefit agreements are a prerequisite to the establishment of NMCAs or national parks with marine portions, as in the case of Tallurutiup Imanga (Lancaster Sound).[64]

3.1.4 Migratory Bird Sanctuaries under the Migratory Birds Convention Act

Under the *Sanctuary Regulations* of the *Migratory Birds Convention Act*, the Minister of Environment and Climate Change may establish and manage areas of major migratory

bird population concentrations, such as seabird breeding colonies or the critical habitat of migratory birds at risk, for the purposes of protecting the birds and their nests from harm/harassment. The Canadian Wildlife Service is the agency responsible for migratory bird sanctuaries (MBSs), although the sanctuaries can be located on federal, provincial or private land. MBSs are listed under the Schedule in the *Migratory Bird Sanctuary Regulations*, which prescribe rules and prohibitions regarding the taking, injuring, destruction or molestation of migratory birds or their nests or eggs in the sanctuaries. Hunting of listed species under the Act is not permitted in any MBS.

As noted above, traditional Indigenous practices and activities are allowed in all migratory bird sanctuaries. In addition, co-management committees have been established where MBSs are located in marine spaces subject to land claim agreements. For example, there are 11 MBSs within the Nunavut Settlement area and, as provided for in the Inuit Impact and Benefit Agreement concluded between the Inuit and the Government of Canada, an area co-management committee has been set up for each one. Through these co-management structures, Inuit can benefit from the presence and operation of MBSs in Nunavut and have a say in how those areas are managed.[65]

3.1.5 National Parks under the Canada National Parks Act

The *Canada National Parks Act* provides the Minister of Environment and Climate Change with the authority to establish and manage national parks for the benefit, education and enjoyment of the people of Canada and in a manner so as to leave them unimpaired for future generations. Administered by the Parks Canada Agency (PCA), they protect important land and marine habitats, geographical features and sites of cultural significance. National parks also benefit local economies and the tourism industry in Canada. As emphasized above, the *Canada National Parks Act* provides for the participation of Indigenous peoples in the planning, management and operations of marine areas administered by the PCA.

Five national parks with substantial marine components have been established in the Arctic. They are Aulavik National Park in the western Arctic, Sirmilik and Auyuittuq National Parks in the eastern Arctic and Qausuittuq and Quttinirpaaq in the Arctic Archipelago.

3.2 Other Effective Area-Based Conservation Measures

As discussed under Section 2, other effective area-based conservation measures are areas that do not meet the formal definition of protected area but are managed in a way that conserves biodiversity over the long term. Examples of OECMs can include Indigenous territories, watersheds or resource management areas, and areas with restricted access, such as those used by the military. To date, all the areas that have qualified as OECMs in Canada have been fisheries area closures.[66] Those fisheries area closures that meet OECM criteria are known as "marine refuges."[67]

The protection standard for marine refuges is based on an assessment of all relevant activities on a case-by-case basis. The 2019 protection standards that prohibit oil and gas activities, mining, dumping, and bottom trawling do not apply to marine refuges. Some activities will be allowed if they are consistent with the conservation objectives of a specific area. Before any proposed activity can take place, the Minister of Fisheries and Oceans and the Canadian Coast Guard will need to be satisfied that any risks to the area have been avoided or mitigated effectively. A 2019 article reported that of the 7.9% of marine areas that Canada has protected, more than half are marine refuges created through measures under the *Fisheries Act*. "That means that while the impact of commercial fishing is restricted in many of them, the legislation can't prohibit mining or oil and gas activity."[68]

Another OECM that could potentially contribute to Canada's conservation targets are protected critical habitats under the *Species at Risk Act* (SARA).[69] Section 58 of SARA states that no person is allowed to destroy any part of the critical habitats of listed endangered, threatened, or extirpated species. Aquatic habitat is defined under section 2(1) of the Act as "spawning grounds and nursery, rearing, food supply, migration, and any other areas on which aquatic species depend directly or indirectly in order to carry out their processes, or areas where aquatic species formerly occurred and have the potential to be reintroduced." However, none of the federal department websites consulted refer to protected critical habitats in conjunction with Canada's MPA and OECM network. The third and last "Canadian Protected Areas Status Report 2012–2015" only refers to "Habitat Protection Areas" as one of several designations used by provincial and territorial governments for protected areas within their jurisdiction.[70]

3.3 Key Developments

The main page on the Fisheries and Oceans Canada website devoted to "Meeting Canada's marine conservation targets" declares that Canada has surpassed Aichi Target 11 of conserving 10% of coastal and marine areas by 2020. According to DFO, Canada has conserved nearly 14% of its oceans and is working towards new and ambitious targets of conserving 25% of Canada's oceans by 2025 and 30% by 2030.

On 1 August 2019, Canada's Prime Minister, the Premier of Nunavut and the President of the Qikiqtani Inuit Association announced the first step in the creation of a "long term" protected area in Canada's High Arctic Basin, the new Tuvaijuittuq MPA. Tuvaijuittuq means "the place where the ice never melts" and refers to the area off the northwest coast of Ellesmere Island, Nunavut in the Arctic Ocean. It is the last area expected to retain year-round sea ice until at least 2050 and is critical for ice-dependent and culturally important species like polar bears, walruses and seals. Tuvaijuittuq is the first *Oceans Act* MPA designated by ministerial order for interim protection. Under the order, no new or additional human activities will be

allowed to occur in the area for up to five years, with the following exceptions as described on the DFO website: the exercise of Inuit rights respecting wildlife harvesting as provided under the Nunavut Land Claims Agreement; marine scientific research consistent with the conservation objectives of the MPA; safety, security and emergency activities; and certain activities carried out by a foreign national, entity, ship or state.[71]

The interim protection afforded the area is intended to allow the Qikiqtani Inuit Association, the Government of Nunavut and the Government of Canada to consult with Inuit and other northern partners to explore the feasibility of longer term protection for the area.[72] The remarks of the President of the Qikiqtani Inuit Association on the day of the announcement testify to the different priorities and values that must be reconciled when conservation mechanisms, like *Oceans Act* MPAs, are considered in the Arctic:

> Today's historic announcement is the culmination of decades of work by visionary Inuit leaders to preserve our waters and sea ice. By protecting Tallurutiup Imanga, and seeking permanent protection for Tuvaijuittuq, we not only save these pristine Arctic ecosystems, but also lay the foundation for a conservation economy in sustainable industries such as fisheries. These investments in jobs and infrastructure will have profound impacts in the High Arctic and serve as a model of what can be achieved when we work as equal partners in the spirit of reconciliation.[73]

His comments echo the key recommendations made by Mary Simon, a widely respected Inuit leader appointed on 5 August 2016 by Indigenous and Northern Affairs Minister Carolyn Bennett as her Special Representative on Arctic Leadership. In her 2017 final report entitled "A New Shared Arctic Leadership Model," Simon called for a "conservation paradigm shift in the Arctic" and advocated for a "conservation economy" in which conservation is tied to building and maintaining strong and healthy communities.[74] She identified "Indigenous Protected and Conserved Areas" (IPCAs) as an essential tool to achieve this goal and described them as

> based on the idea of a protected area explicitly designed to accommodate and support an Indigenous vision of a working landscape. This kind of designation has the potential to usher in a broader more meaningful set of northern benefits and bring definition to the idea of a conservation economy. For example, Indigenous protected areas have the potential to serve as a platform for developing culturally-appropriate programs and hiring of Indigenous people in a wide range of service delivery.[75]

Citing Mary Simon's report and recommendations, Oceans North has encouraged the Canadian government to consider a new Indigenous protected area policy for Arctic marine areas to "truly unlock the potential of the region for conservation and jobs and meet the spirit and letter of Inuit land claims."[76] The federal government appears to have heeded these recommendations; a 2017 report, "Taking Action Today: Establishing Protected Areas for Canada's Future" by the House of Commons Standing Committee on Environment and Sustainable Development,

recommended that "Canada pursue common conservation objectives and reconciliation through a nation-to-nation relationship with Indigenous peoples."[77] It called on the Canadian government to work with Indigenous peoples to designate and manage IPCAs within traditional territories and incorporate these areas into Canada's inventory of protected areas by amending applicable legislation.

4 Russian Federation

The Russian sector occupies at least a third of the entire Arctic territory and plays an important role in the preservation of Arctic ecosystems, since it is in the Russian sector that the most typical Arctic landscapes are represented. The Russian sector of the Arctic is home to about 80% of all species of living organisms inherent in Arctic ecosystems (the total species richness of the Arctic is about 20,000 species) and 90% of typical Arctic species. Due to their ecological characteristics and lifestyle, many Arctic species are extremely vulnerable to various forms of environmental disturbance.[78] Additionally, marine and coastal areas in Russia include a number of natural areas that have unique features and are of prime importance for the functioning of large marine ecosystems, such as frontal zones and upwelling systems and flaw polynyas.

In Russia, marine waters fall under federal jurisdiction. The basis of territorial nature protection in Russia is the specially protected natural area (SPNA) system. SPNA status is determined by the Federal Law "On Specially Protected Natural Areas" adopted on 15 March 1995.[79] The Federal Law establishes the following SPNA categories: state nature reserves (including biosphere reserves), national parks, nature parks, state wildlife reserves, natural monuments, dendrological parks, and botanical gardens. SPNAs can be federal, state, or local. State nature reserves and national parks are specially protected natural areas of federal significance. State wildlife reserves can be classified as specially protected natural areas of both federal and regional significance. In accordance with the "Fundamentals of State Policy of the Russian Federation in the Arctic for the Period up to 2035" approved in March 2020, "the development on a scientific basis of a network of specially protected natural areas and water areas in order to preserve ecological systems and their adaptation to climate change" is one of the main tasks in the field of environmental protection and environmental safety in the Arctic (Article 15 (a)).[80]

Historically, the SPNA system was focused on the preservation of terrestrial and freshwater ecosystems, with several territories initially including coastal marine areas. The first SPNA was established in Russia in 1917. However, it was only in 1978 that the Far Eastern Marine State Reserve was created in the Peter the Great Bay of the Sea of Japan, thereby establishing the first SPNA in Russia where the total sea area surpassed the land area. In 1976, the Wrangel Island reserve, including the Wrangel and Heard Islands, became the first Russian Arctic reserve with a view to protecting the unique natural complexes of these islands.[81] This was the first step in the creation of a SPNA in the Russian Arctic.

With regards to federal management of SPNAs, the Ministry of Natural Resources and Environment of the Russian Federation exercises state administration in the organization and management of the SPNAs of federal significance. Other federal ministries that are involved in the conservation of Arctic marine areas include the Ministry of the Russian Federation for the Development of the Far East and the Arctic and the Ministry of Agriculture of the Russian Federation. Moreover, the development of the Northern Sea Route,[82] a complex strategic area, involves, among others, the Government of the Russian Federation, the Ministry of Finance of the Russian Federation, the Ministry of Transport of the Russian Federation, the Ministry of Industry and Trade of the Russian Federation, the Ministry of Economic Development of the Russian Federation and the State Atomic Energy Corporation "Rosatom."[83]

4.1 Marine protected area categories

In the marine protected areas under the jurisdiction of the Russian Federation, including internal waters and the EEZ, the following categories meet the IUCN criteria for protected areas: (1) SPNAs; (2) SPNA buffer zones; (3) wetlands of international importance; and (4) marine mammal protection areas established by the Rules for the Protection and Fishing of Marine Mammals. Each of these categories, which include MPAs in their purest form and OECMs, are discussed below in turn.

4.1.1 Specially protected natural areas and buffer zones

In practice, each of the categories identified under the Federal Law unite areas that may significantly differ in their specific purposes and objectives, characteristics of the main protected areas and their diversity, area, degree of disturbance and transformation of natural ecosystems and landscapes, the presence of human populations, and use of the territory for traditional economic purposes. Since marine protected areas in the Arctic are only included in reserves, national parks and wildlife reserves, only these three SPNA categories will be discussed here.

State nature reserves are focussed on nature conservation, research and environmental education with the aim of preserving and studying natural processes and phenomena, the genetics of flora and fauna, individual species and communities of plants and animals, and typical and unique ecological systems. In state nature reserves, specially protected natural complexes and objects of nature conservation, scientific, ecological and educational value are completely withdrawn from economic use as they represent samples of the natural environment, typical or rare landscapes, or places for conservation of flora and fauna genetics.

National parks are also focussed on nature conservation, environmental education and research, and include natural complexes and objects of special ecological, historical and aesthetic value. They are intended for use in nature conservation, educational, scientific and cultural purposes, and for regulated tourism.

State wildlife reserves are areas that are of particular importance for the preservation or restoration of natural complexes or their components and for maintaining ecological balance.

In accordance with the Federal Law "On Specially Protected Natural Areas," buffer zones are established on land plots and water bodies adjacent to state natural reserves, national parks, natural parks and natural monuments to prevent adverse anthropogenic impacts on SPNAs.

The Rules for the Creation of Buffer Zones,[84] set out numerous factors that need to be taken into account when determining the width and configuration of a buffer zone.[85] The minimum width of a buffer zone for a state nature reserve or national park is one kilometre.

In practice, many buffer zones, in addition to protecting SPNAs, carry out their own nature conservation functions, ensuring the preservation of natural complexes and objects within their boundaries. However, buffer zones that exclusively perform protective functions in relation to SPNAs and which mainly include anthropogenic areas, do not meet the IUCN criteria for protected areas and cannot be counted as such.[86]

4.1.2 Wetlands of international importance

There is no specific category of protected areas corresponding to wetlands in federal legislation. The boundaries of wetlands, their purposes, objectives, protection regime, and list of permitted and prohibited activities are determined by individual regulations. Most of the wetlands of international importance in the Russian Federation are at least partially included in the boundaries of protected areas.[87] In wetlands of international importance, any economic activity that leads to radical changes in the ecological situation, habitat, reproduction, moulting, wintering, or stops the passage of waterfowl or causes its death is prohibited. In a number of the constituent entities of the Russian Federation, regional legislation establishes "wetlands" as a category of specially protected natural areas, which can include both recognized wetlands of international importance and those that only have national or regional importance.[88] In the Russian Arctic region, 10 wetlands are included on the Ramsar Convention List and declared wetlands of international importance by the Decree of the Government of the Russian Federation; 97 wetlands are on the Prospective Ramsar List, and 8 are considered valuable wetlands.[89]

4.1.3 Marine mammal protection areas

Marine mammal protection areas are established by the Rules for the Protection and Fishing of Marine Mammals and the Fishing Rules for each of the fishery basins,[90] respectively, approved by orders of the Ministry of Agriculture of the Russian Federation. Marine mammal protection areas are coastal areas that range from 2 to 12 (in some cases up to 30) miles wide, with maritime boundaries measured from

the low tide line both on the mainland and around islands.[91] The following activities are usually prohibited within established marine mammal protection areas: presence of vessels (except for special-purpose ships); noise-generating activities; fishing or hunting of marine mammals; other economic activities; and visits to rookeries without the permission of fish protection authorities. The fishing rules may establish exceptions to the above provisions related to harvesting (catching) certain types of aquatic biological resources by certain types of vessels.[92] Areas where harvesting of aquatic biological resources is prohibited are also mostly coastal zones 2 to 30 miles wide, although in the Northern Fishery Basin (Barents Sea) there are also high seas areas where fishing is prohibited.[93] The bans and restrictions established for the areas under consideration differ in constancy of action (permanent or seasonal), the species of aquatic biological resources prohibited from harvesting (from their complete aggregate to individual species of marine plants and animals), and prohibited methods and fishing gear.[94] In addition, there are several areas where trawling is prohibited.

Areas where the harvesting of aquatic biological resources is prohibited do not meet the IUCN criteria for protected areas since, as a rule, they only limit the catch of certain types of marine biological resources and (or) the use of certain fishing gear in the absence of any restrictions on other types of economic activities.[95] Marine mammal protection areas, where, in addition to a prohibition on the exploitation and disturbance of marine mammals, the exploitation of other biological resources and economic activities is prohibited, can be classified as protected areas under the IUCN criteria.[96]

4.1.4 Marine protected areas in the Arctic region

In the Russian Federation, there are about 12,000 specially protected natural areas of federal, regional and local significance. The total area of the SPNAs is 237.7 million hectares (including marine areas), which is 13.9% of the territory of the Russian Federation.[97] The Ministry of Natural Resources and Environment does not officially count marine areas, only WWF statistics are available for marine areas. Further, it should be noted that marine SPNAs and their buffer zones can, to one degree or another, overlap with wetlands of international importance and marine mammal protection areas. The total area of MPAs is 26.5 million hectares, which is approximately 3.4% of the total area of the marine areas under national jurisdiction, including just over 25% of the Russian Federation's inland and territorial seas.[98]

The largest area of protected marine areas lies in the Arctic Basin, where it comprises almost 4.4% of the total marine area under national jurisdiction.[99] The total area of marine basins in the Arctic SPNAs (including 2,849,000 hectares in reserves, 6,544,100 hectares in national parks, 4,957,200 hectares in wildlife reserves) is 14,350,300 hectares.[100] This is the largest area of marine basins in SPNAs in

Russia; in comparison, the equivalent area in the Pacific Ocean only amounts to 4,049,500 hectares.[101] Marine buffer zones of specially protected natural areas near nature reserves and national parks of the Arctic basin total 63,100 hectares. Marine areas that are part of the wetlands of international importance in the Arctic occupy 103,800 hectares. Marine mammal protection areas in the Arctic, outside SPNAs comprise 323,000 hectares.[102] Thus, the total area of marine protected zones in the Arctic is slightly less than 15 million hectares.

At present, a network of 14 federal reserves, including the Russian Arctic National Park and the Franz Josef Land Wildlife Reserve, has been formed in the Arctic zone of the Russian Federation.[103] This network comprises more than 15 million hectares out of a total of 30 million hectares of northern, Arctic and sub-Arctic SPNAs. This network of SPNAs covers the key landscapes of the North. Protected marine areas are part of several nature reserves (Great Arctic, Kandalaksha, Komandorsky, Koryaksky, Kronotsky, Nenetsky, Wrangel Island, Bear Islands), the Russian Arctic National Park, and wildlife reserves (Franz Josef Land, Nenetsky, Severozemelsky, Novosibirsk Islands). At the same time, in a number of reserves (e.g., Wrangel Island, Kandalaksha, Komandorsky, and Novosibirsk Islands), the marine area comprises a larger area than the land area.[104] The Great Arctic Nature Reserve was established on 11 May 1993[105] in the Taimyr (Dolgano-Nenets) Autonomous District in order to preserve and study natural processes and phenomena, the genetic fund of flora and fauna, individual species and communities of plants and animals, and typical and unique ecological systems. With a total area of 4.2 million hectares, it is the largest nature reserve in Russia and Eurasia. It spans 1,000 km from west to east and 500 km from north to south. Its shores are washed by two seas of the Arctic Ocean: the Kara and the Laptev. The Franz Josef Land Nature Reserve was established on 23 April 1994[106] as part of a unified system of protected areas in the Arctic. The reserve covers the entire Franz Josef Land archipelago and the adjacent water area of the Barents Sea and the Arctic Ocean. The reserve was intended to preserve the landscapes of the high Arctic islands, in particular, the breeding grounds of polar bears, marine mammals, and bird colonies.

In 2009, the highest-latitude national park on the planet, the Russian Arctic, began operating in the north of the Novaya Zemlya archipelago,[107] which includes a 12-mile sea area in addition to coastal rocks and glaciers.[108] The Franz Josef Land Nature Reserve was incorporated into the Russian Arctic National Park in 2016.[109] In 2009, the Global Environment Facility (GEF) project "Strengthening the Marine and Coastal Protected Areas of Russia" was implemented together with the Ministry of Natural Resources and Environment of the Russian Federation.[110] Among the pilot projects were initiatives in the Russian Arctic National Park and the Franz Josef Land Nature Reserve. While it was recommended within the framework of the project to establish the Novosibirsk Islands Wildlife Refuge in the Arctic with a predominantly marine area,[111] this was only achieved in 2018.[112] Also in 2018, the

New Siberian Islands State Nature Reserve was established.[113] More recently, in June 2020, the Bear Island Nature Reserve was established.[114]

The only marine park in Russia that can be categorized as "transboundary" is the Beringia Natural Park. The decision to create this international park on both sides of the Bering Strait was made in 1990 by the presidents of the United States and the USSR. Geographically, the Beringia area encompasses the Bering Strait region, including the transboundary area within the Beringia National Park of Russia and the Bering Land Bridge National Preserve and Cape Krusenstern National Monument in the United States. The countries agreed to cooperate in the study of the ecology, archaeology and cultural heritage on both sides of the strait.[115] It was also agreed that all existing protected areas in the region that may enter a future transboundary protected area will remain under the jurisdiction of the country in which they are located.[116] In the ensuing thirty years no further protected areas have been established.

4.1.5 Key outstanding issues

As noted in the Arctic Council Framework for a Pan-Arctic Network of Marine Protected Areas, Russia listed several planned MPAs within its EEZ. Further, the multi-year GEF project discussed above puts a spotlight on the need to pay special attention to MPAs. Many changes have already occurred and the process of MPA creation can only be expected to gain momentum. As the new head of WWF Russia noted, this is one of its goals for the coming years. Since 2016, WWF has worked to identify the most valuable areas for biodiversity in the Arctic seas in order to create a network of MPAs, a plan that now needs to be implemented.[117]

The Indigenous small-numbered peoples of Russia play a special role in the creation of protected natural areas and marine areas. Coordinating the traditional economic activities of Indigenous peoples (fishing, hunting, picking berries and mushrooms) in reserves, where such activities are otherwise prohibited, is an outstanding problem.[118] Negotiations are underway to strike a balance between the traditional activities of Indigenous peoples and conservation, taking into account zoning and fragmentation. One option is to transform a nature reserve into a national park with a zone of traditional nature management.

Overall, it can be expected that the number and area of existing marine reserves and sanctuaries in Russia will increase to preserve marine ecosystems. It is, however, recommended that the generic IUCN definition of a marine protected area be implemented into Russian legislation without any modification and that interdepartmental cooperation is strengthened in order to harmonize approaches to MPAs. The continued implementation of joint projects in the transboundary Arctic zone Beringia will help improve relations between Russia and the United States in the field of environmental protection, and contribute to the preservation of cultural and natural resources.

5 Conclusion

What emerges from this discussion of Canadian and Russian MPA/OECM policies and programs is a strong commitment, by both states, to effectively manage and conserve the Arctic waters under their sovereignty and jurisdiction. It also reveals the complexities and difficulties inherent in achieving an optimal balance between environmental protection, sustainable economic development, and the rights of Indigenous peoples. Even when balanced goals can be devised and conflicting uses reconciled, the act of designating a marine protected area – whatever its particular title or attributes – is only the first step.

Chircop and his colleagues emphasize that an "essential aspect of MPA making at the national level (and at any level for that matter) is the governance framework."[119] This important issue is also flagged in a 2008 IUCN-WCPA Report on Resilient MPA Networks [Resilience Report]: "Unless clarity is achieved, a poorly integrated array of legal and institutional responsibilities can lead to problems such as competing mandates, overlaps, gaps and inefficiencies, all of which undermine an effective MPA network."[120] This significant challenge confronts both Canada and Russia in light of the constellation of actors and institutions involved in establishing their national network of marine protected areas.[121]

Agardy and Staub also identify "monitoring and evaluation" as one of the keys to MPA network success. They highlight "the necessity of tracking not only the changes in environmental conditions and ecology which MPA measures bring, but also the impact that MPAs have on society, including economics, institutions and perceptions."[122] Other authors have in turn stressed the importance of periodic review, not only of management operations and their effectiveness, but also of the legal and governance framework itself.[123] MPAs can only be effective at curbing the decline of ocean health and reducing threats, according to the IUCN Resilience Report, if their management regime is "capable, effective and sustainable."[124] "Without effective policy and management on a broad scale," the Report warns, "MPAs can only serve as isolated aquaria of protection in a larger sea of degradation".[125]

Thus, it is not sufficient for Canada and Russia to establish MPAs or OECMs, and then count the number of marine kilometres included, or the percentage of ocean space covered. Effective oversight and adequate funding[126] are necessary to ensure that designated MPAs are not merely "paper MPAs" but operate as efficient and responsive mechanisms for the conservation of Arctic ecosystems and the sustainable use of the region's resources.[127] Canada's recent announcement that it was joining the Global Ocean Alliance, an initiative of the United Kingdom with 22 states committed to protecting at least 30% of the world's oceans by 2030 through the establishment of MPAs and OECMs, while undoubtedly a positive step, is therefore clearly only the first step.[128]

Furthermore, as species, habitats and ecosystems do not respect jurisdictional or political boundaries, Canada and Russia must actively engage in and promote concerted action beyond national borders if effective conservation is to be realized.

Indeed, Kark and her colleagues have argued that cross-boundary collaboration is "the key to the conservation puzzle."[129] Canada and Russia's active participation in the drafting of the Arctic Council's 2015 Framework for a Pan-Arctic Network of MPAs clearly attests to their willingness to envision regional action; their task is now to transform this political commitment into effective implementation and management of a pan-Arctic network of MPAs and OECMs for the protection of the region's marine environment.

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.

NOTES

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119. A. Chircop *et al.*, "Governance of Marine Protected Areas in East Africa: A Comparative Study of Mozambique, South Africa and Tanzania," Ocean Development and International Law 41(1) (2010): 1–33, 2–3.

120. IUCN World Commission on Protected Areas (IUCN-WPCA), *Establishing Resilient Marine Protected Area Networks–Making It Happen* (Washington, DC: IUCN-WCPA, NOAA and Nature Conservancy, 2008), 19 [IUCN-WPCA Resilience Report], https://www.iucn.org/sites/dev/files/import/downloads/mpanetworksmakingithappen_en.pdf.
121. In the last *Canadian Status Report*, six out of nine organisations responsible for marine protected areas (67%) identified challenges to managing MPAs including "working with other governments and agencies (including Indigenous governments) and a lack of appropriate tools for managing PAs administered by more than one government agency. See note 71. The same can be said about Russia, where nine out of nine federal agencies responsible for MPAs struggle to achieve high efficiency. See above (end of part 4, including footnote 84).
122. T. Agardy and F. Staub, *Synthesis: Marine Protected Areas and MPA Networks Module* (Network of Conservation Educators & Practitioners, American Museum of Natural History, 2006), 25, https://ncep.amnh.org/index.php/Detail/objects/163.
123. Chircop *et al.*, "Governance of MPAs in East Africa," 23; see also A. Chircop and L. Hildebrand, "Beyond the Buzzwords: A Perspective on Integrated Coastal and Ocean Management in Canada," in *Towards Principled Oceans Governance: Australian and Canadian Approaches and Challenges*, eds, D. R. Rothwell and D. L. VanderZwaag (London: Routledge, 2006), 19–71; B. Cicin-Sain and R. Knecht, R., *Integrated Coastal and Ocean Management: Concepts and Practices* (Washington, DC: Island Press, 1998).
124. IUCN-WPCA Resilience Report, 13.
125. Ibid.
126. The most common barriers to effective management identified by six out of the nine Canadian organizations responsible were a lack of financial and technical resources for site monitoring, especially for offshore and deep water monitoring. *Canadian Status Report*, at note 71. With regard to the Russian Federation, challenges included building greater synergies to foster effective interagency cooperation, finding solutions to difficult problems like Indigenous fishing activities in MPAs and providing sufficient financial and technical resources for site monitoring.
127. Chircop *et al.*, "Governance of MPAs in East Africa," 21.
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