

National Marine Conservation Areas— Extending Parks Canada’s Reach into Canada’s Oceans and Great Lakes

Doug Yurick

CANADA IS A MARITIME NATION: our motto is *A Mari usque ad Mare*—From Sea to Sea. With 243,000 kilometers of coastline along the Atlantic, Arctic, and Pacific oceans, and an additional 9500 kilometers along the Great Lakes, Canada has the longest national coastline in the world, as well as the world’s second-largest continental shelf. Yet until comparatively recently, little of this vast marine expanse had been set aside in protected areas. As indicated elsewhere in this issue, Parks Canada has a long and proud history of protecting a growing list of national parks and national historic sites that are representative of the natural and cultural history of Canada. However, the national park system has focused primarily on terrestrial Canada, notwithstanding that several coastal national parks do include marine components.

This article recounts briefly the origins of Parks Canada’s involvement in protecting marine environments, and the evolution of system planning and program policy, before highlighting main elements of the Canada National Marine Conservation Areas Act. An overview of existing and proposed areas within the national marine conservation areas system follows, before turning to strategic considerations as the program continues to grow.

Origins

Attention to protecting Canada’s marine heritage began with Canada’s endorsement of a recommendation of the First World Conference on National Parks in 1962 that called upon “governments of all those countries having marine frontiers ... to examine as a matter of urgency the possibility of creating marine parks or reserves to defend underwater interests. . . .” An early response was that small marine components were included in four coastal national parks established between 1969 and 1972: the coastal lagoons of Kouchibouguac National Park in New Brunswick; waters out to the 20-meter bathymetric contour, and much of Barkley Sound, in Pacific Rim National Park Reserve in British Columbia; a narrow (500-foot) aquatic margin around Forillon National Park in Quebec; and several deepwater fjords

The George Wright Forum, vol. 27, no. 2, pp. 170–179 (2010).

© 2010 The George Wright Society. All rights reserved.

(No copyright is claimed for previously published material reprinted herein.)

ISSN 0732-4715. Please direct all permission requests to info@georgewright.org.

in Auyuittuq National Park in Nunavut. Even then, however, there was a growing recognition in Canada and other countries that more must be done to protect marine environments, and that marine protected areas were among the measures available if supported by necessary planning methods, policies, and legislation.

System planning

The expansion of Canada's national parks system has been guided for some decades by a system planning framework that divides the country into 39 natural regions on the basis of their primary physiographic and vegetation distinctions. Within this planning framework, the goal is that each of the 39 regions be represented by at least one national park. Achieving such representation of the terrestrial natural regions of Canada is the hallmark of the national parks system, and progress toward that objective is summarized elsewhere in this issue by Kevin McNamee.

With representation of marine natural regions established from the outset as the goal for its embryonic marine protected areas program, Parks Canada took first steps to expand its marine program tool kit by adopting a similar, initial marine park system planning framework of nine marine regions during the 1970s, three each on the Atlantic, Arctic, and Pacific coasts.

It became apparent relatively quickly that each of these nine marine regions was quite heterogeneous. Accordingly, work undertaken in the early 1980s with several prominent physical and biological oceanographers led to the adoption of a 29-region system planning framework in 1984. It was not an easy task; the readily visible physiographic and vegetative distinctions that help demarcate terrestrial natural regions are not apparent in an environment where fluid water is the primary element. Nevertheless, based as it is on aggregated knowledge of primary oceanographic and biological characteristics, and with minor revisions over time, this regional planning framework, illustrated in Figure 1, continues to serve Parks Canada today. Extending over 245,000 square kilometers, the interconnected Great Lakes constitute the largest area of surface freshwater in the world, and consequently the 29-region marine conservation areas system plan includes them. The system plan is available at www.pc.gc.ca/progs/amnc-nmca/systemplan/index_e.asp.

Policy

The second component of the tool kit to be addressed was the development of policy to guide the establishment and management of marine parks. Some initial work in the 1970s, when Parks Canada gave early consideration to establishing a marine park in the Strait of Georgia between Vancouver Island and the mainland of British Columbia, led quickly to the recognition that policies appropriate to national parks, often in remote settings, would not fit marine settings where more fluid ecosystems and long traditions of human use, including commercial fishing, were the norm. Early on, and consistent with emerging practice in other nations at the time, marine park policy evolved along multiple-use lines wherein activities such as commercial shipping and fishing could continue in much of the protected area while exploration for and development of non-renewable resources would be prohibited outright. The result was the publication of the initial Parks Canada National Marine Park Policy in



Figure 1. Canada's national marine conservation areas system.

1986. Policy development was not accompanied immediately afterward by specific legislation, with the result that until early in the 21st century, national marine parks stood to be managed under the National Parks Act.

The mid-1980s and 1990s can be characterized as a period of measured progress and much learning. A proposed national marine park in the West Isles area of the Bay of Fundy did not progress beyond the feasibility assessment stage for a number of reasons, yet provided invaluable lessons respecting policy, working with stakeholders, and administrative challenges. Elsewhere, in Georgian Bay (Lake Huron), the negotiation of a federal-provincial agreement to establish Bruce Peninsula National Park provided the opportunity to also take on responsibility for what until then had been Ontario's Fathom Five Provincial Park, an area initially set aside by the provincial government in 1971 primarily to protect a remarkable assemblage of shipwrecks. Fathom Five has yet to be brought under federal legislation, but has been managed as Fathom Five National Marine Park since 1987; it has pride of place as being the marine protected area longest under the stewardship of Parks Canada.

Nineteen eighty-seven was also the year in which the governments of Canada and British Columbia signed a memorandum of understanding for the establishment of what eventually were to become Gwaii Haanas National Park Reserve and Haida Heritage Site, and Gwaii Haanas National Marine Conservation Area Reserve and Haida Heritage Site. In 1990, the governments of Canada and Quebec agreed to collaborate toward a third marine protected area, at the confluence of the Saguenay Fjord and the St. Lawrence River Estuary. More will be said later about both of these places.

Through all of these projects—managing Fathom Five, and taking steps toward the establishment of marine protected areas at Gwaii Haanas and Saguenay-St. Lawrence—Parks Canada continued to build upon its policy and system planning foundations. Consequently, when all of Parks Canada’s policies underwent comprehensive review and public consultation during the early 1990s, one result was a considerably revised policy approach to marine parks, and a new program name—national marine conservation areas—upon the approval by Cabinet and subsequent release in 1994 of what today remain Parks Canada’s *Guiding Principles and Operational Policies*. The national marine conservation areas policy is available at www.pc.gc.ca/eng/docs/pc/poli/princip/sec2/part2b.aspx.

Legislation

Coupled with the evolution of policy was a growing recognition that a mature marine conservation areas program would also require separate legislation, tailored to the specific requirements of managing marine conservation areas within the existing array of federal and provincial statutes in Canada pertaining to the management and use of ocean and Great Lakes spaces and species.

The Canada National Marine Conservation Areas Act, enacted in 2002, is the result (<http://laws-lois.justice.gc.ca/PDF/Statute/C/C-7.3.pdf>). The act begins with a preamble that sets out Parliament’s broad intentions for national marine conservation areas, embracing establishment of a system representative of the three oceans and the Great Lakes, managing them within ecosystem-scale considerations, the ecologically sustainable use of renewable marine resources, the social and cultural well-being of coastal communities, and the provision of opportunities for Canadians and visitors to appreciate and enjoy these outstanding examples of Canada’s natural and cultural marine heritage. The succinct purpose statement in the act reads: “Marine conservation areas are established in accordance with this Act for the purpose of protecting and conserving representative marine areas for the benefit, education and enjoyment of the people of Canada and the world.” The act goes on to stipulate that “marine conservation areas shall be managed and used in a sustainable manner that meets the needs of present and future generations without compromising the structure and function of the ecosystems, including the submerged lands and water column, with which they are associated.” It specifies as well that “each marine conservation area shall be divided into zones, which must include at least one zone that fosters and encourages ecologically sustainable use of marine resources and at least one zone that fully protects special features or sensitive elements of ecosystems, and may include other types of zones.” Thus, while marine conservation areas are not to be zoned no-take throughout, the act does require that there will be at least one zone within a marine conservation that has that objective. Parks Canada presently is formulating policy respecting the entire spectrum of zones that will be applicable within individual marine conservation areas, within the spectrum provided by the act.

The act provides for outright prohibitions of ocean dumping, except under permit in certain circumstances, and of exploration for and development of subsea mineral and petroleum resources. As for permissible uses within appropriate zones, the act leaves the regulation and management of fisheries and marine transportation with the federal ministers of departments of Fisheries and Oceans, and Transport, respectively, who will continue to

administer the Fisheries Act, the Canada Shipping Act, and other applicable legislation. However, provisions of management plans for marine conservation areas that pertain to fisheries or navigation, and any proposed regulatory amendments respecting those activities, require the agreement of both the minister of fisheries and oceans or the minister of transport, as the case may be, and the minister of the environment (who is also the minister responsible for Parks Canada).

Status of the national marine conservation areas system

Agreements are in place to represent five of the 29 defined marine regions of Canada, and steps are presently underway to represent three additional regions. The accounts that follow are presented in the order in which initial federal–provincial/territorial enabling documents (memoranda of understanding or more formal agreements) were signed.

Fathom Five National Marine Park represents the Georgian Bay Marine Region and is the smallest area within the marine conservation areas system, at just more than 100 square kilometers in size. Although set aside initially to protect the cultural heritage represented by a diverse assemblage of 21 known shipwrecks (Figure 2), studies by Parks Canada and partner agencies over the last 20 years have documented numerous natural attributes, including an underwater extension of the Niagara Escarpment and remnants of a drowned forest, evidence of a time when lake levels were much lower than today. There may be future opportunities, in partnership with the provincial government, to enhance Fathom Five’s representation of the natural region by expanding it. Although it is managed by Parks Canada, Fathom Five is not yet designated under the act, pending the resolution of certain First Nations issues.

Gwaii Haanas National Marine Conservation Area and Haida Heritage Site represents two marine regions—Hecate Strait to the east and Queen Charlotte Shelf to the west—and is particularly notable in several respects. Several factors combined to prevent the national marine conservation area reserve being designated legally until 2010, yet the chain of events

Figure 2 (below). A shipwreck in Fathom Five National Marine Park.

Figure 3 (right). Gwaii Haanas marine biodiversity.



set in motion by the 1987 memorandum of understanding mentioned previously has contributed immensely to the evolution of the Parks Canada marine conservation areas program. It is a place of immense natural diversity (Figure 3) and is integral to the culture of the Haida Nation, as evidenced by 600 recorded archaeological sites along its shoreline, representing 12,000 years of continuous human occupation.

Officially designated in June 2010, Gwaii Haanas extends over 3,500 square kilometers and is the first national marine conservation area to be brought fully under the act. Moreover, the Gwaii Haanas Marine Agreement, signed in January 2010 by Parks Canada, Fisheries and Oceans Canada, and the Council of the Haida Nation, has created an expanded Archipelago Management Board for the collaborative management of the marine conservation by the federal government and the Haida. Establishment of the marine conservation area has resulted in the protection of contiguous terrestrial and marine ecosystems from the mountain tops of Gwaii Haanas National Park Reserve and Haida Heritage Site to abyssal ocean depths exceeding 2,000 meters within a few kilometers of the west coast of the archipelago. Gwaii Haanas is globally unique in this respect.

Saguenay-St. Lawrence Marine Park has the distinction of being managed jointly by the governments of Canada and Quebec, and represents the St. Lawrence Estuary Marine Region. An agreement signed by the federal and Quebec governments in 1990 called upon each government to enact “mirror” statutes that, together, leave the seabed under the administration and control of the provincial government while the water column and all resources and activities on and within it are under federal administration and control. This unique arrangement arises from provincial policies respecting the transfer of administration and control of the seabed to Canada, as would be required under the Canada National Marine Conservation Areas Act, and led to the passage of both the federal Saguenay-St. Lawrence Marine Park Act and the provincial Loi sur le Parc marin du Saguenay-St-Laurent in 1998 to achieve legal designation of the area. The marine park extends over 1,245 square kilometers in both the Saguenay Fjord and St. Lawrence River, and is renowned for the numbers and diversity of its whales, including a relict southern population of beluga that is attributed to a strong upwelling where the westward limit of the deep Laurentian Channel meets much shallower bottom topography within the park boundary. The beluga population is listed as “threatened” under the Species at Risk Act.

Lake Superior National Marine Conservation Area represents the marine region of the same name and, at approximately 10,000 square kilometers in size, is the largest freshwater protected area in the world. An agreement to establish this national marine conservation area was signed by the governments of Canada and Ontario in 2007, and work is now underway to complete a required legal survey of the boundary and an interim management plan so that designation under the act will become feasible during 2011. The national marine conservation area protects trout spawning grounds and breeding peregrine falcons, among other natural features, and the sheltered islands along much of the coast are a paradise for kayakers and boaters.

In addition to the sites named above, feasibility assessments are underway toward the establishment of two additional national marine conservation areas, and other candidates await decisions about advancing to that stage. Parks Canada and the government of British

Columbia are continuing discussions about the proposed establishment of a marine conservation area in the southern *Strait of Georgia*, an idyllic island-strewn area in the middle of one of the most populated and heavily visited regions in Canada, between Vancouver and Victoria, that includes among its diverse array of species an at-risk population of killer whales. Elsewhere, at almost the diagonally opposite limit of the country, an assessment of the feasibility of establishing an national marine conservation area in *Lancaster Sound* began late in 2009 with the signing of a memorandum of understanding among Parks Canada, the government of Nunavut, and the Qikiqtani Inuit Association, which is the designated Baffin-region Inuit organization under the Nunavut Land Claims Agreement of 1993. Located at the eastern end of the Northwest Passage, and experiencing the effects of rapid climate change, Lancaster Sound's ecological significance is without parallel in the Canadian Arctic and on a circumpolar scale (Figure 4).

Emerging national network of marine protected areas

The national marine conservation areas program is one of three primary federal marine protected area programs, each with its own mandate. The Canada National Marine Conservation Areas Act assigns Parks Canada the mandate to establish national marine conservation areas “for the purpose of protecting and conserving representative marine areas for the benefit, education and enjoyment of the people of Canada and the world.” Fisheries and Oceans Canada establishes marine protected areas under the Oceans Act for the conservation and protection of one or more of (a) commercial and non-commercial fishery resources, including marine mammals, and their habitats; (b) endangered or threatened marine species, and their habitats; (c) unique habitats; (d) marine areas of high biodiversity or biological produc-

Figure 4. Lancaster Sound: A place with unparalleled ecological significance in the Canadian Arctic and on a circumpolar scale. Narwhals are an iconic species of the sound. © Mario Cyr. Used by permission.



tivity; and (e) any other marine resource or habitat as is necessary to fulfill the mandate of the minister. Third, Environment Canada protects species and habitats that fall under its jurisdiction using the Canada Wildlife Act, within national wildlife areas and marine wildlife areas. Insofar as these complementary marine protected area mandates pertain to integrated ocean management plans, the Oceans Act assigns the coordination of the development and implementation of a national system of marine protected areas to the minister of fisheries and oceans on behalf of the government of Canada.

Beginning formally with the release of the Federal Marine Protected Areas Strategy in 2005, Parks Canada is a strong participant in Canadian progress toward a comprehensive federal-provincial/territorial network of marine protected areas. At the federal level, the strategy (available at www.dfo-mpo.gc.ca/oceans/publications/fedmpa-zpmfed/index-eng.asp) sets the goal of establishing “a network of marine protected areas, established and managed within an integrated oceans management framework, that contributes to the health of Canada’s oceans and marine environments.” It calls upon the three marine protected area agencies to coordinate their activities in four areas of work: (a) establishing a more systematic approach to marine protected area planning and establishment; (b) enhancing collaboration for management and monitoring of marine protected areas; (c) increasing the awareness, understanding, and participation of Canadians in the marine protected areas network; and (d) linking Canada’s network of marine protected areas to continental and global networks. Important steps are underway in all of these areas. For example, the three agencies have completed a guidelines document respecting a coordinated approach to network planning, and Parks Canada is leading a shared initiative to expand Canadians’ awareness of the marine protected areas network.

More recently, Fisheries and Oceans Canada has been leading the development of policy guidelines required to foster an integrated approach to national marine protected area network design involving federal, provincial, and territorial agencies. Although this work is still at early stages, evidence of the emerging approach to a national network is provided by the *Spotlight on Marine Protected Areas in Canada* publication that was released on June 8, 2010, World Oceans Day. This publication, available at www.dfo-mpo.gc.ca/oceans/marine-areas-zonesmarines/mpa-zpm/spotlight-pleinsfeux/index-eng.htm, summarizes Canadian progress, now totaling over 56,000 square kilometers in 788 marine protected areas in the three oceans and Great Lakes. Elsewhere, from a strategic network planning perspective, new scientific guidance has been provided in a publication detailing the framework of and principles for the biogeographic classification of Canadian marine areas, available at www.dfo-mpo.gc.ca/CSAS/Csas/Publications/SAR-AS/2009/2009_056_E.pdf. Although this classification is at a higher hierarchical scale than the Parks Canada 29-region system planning framework, future work to disaggregate at least some of the 12 marine biogeographic regions in this new classification is likely, in many instances, to approximate the Parks Canada classification. The 12-region framework is intended as the basis for bioregional marine protected area planning while not impeding Parks Canada’s intended continued work to represent each of the 29 marine regions of Canada, including the Great Lakes, as collaborative network planning continues among the federal, provincial, and territorial governments.

International context

Canada is among the numerous maritime nations that share the global commitments to establish networks of marine protected areas that were made at the 2002 World Summit on Sustainable Development and in the 2004 United Nations Convention on Biological Diversity Program of Work on Protected Areas. For that reason, and because of the very dynamic nature of marine environments and the migration and life stage dispersal patterns of many species within them, it is incumbent upon national marine protected area agencies to work with similar agencies in other countries if shared marine conservation objectives are to be achieved at regional scales.

Accordingly, Parks Canada is among the founding organizations of the North American Marine Protected Areas Network (NAMPAN), an initiative under the biodiversity conservation program of the Commission for Environmental Cooperation in North America. Working within NAMPAN, marine protected agencies and academic and non-governmental organization partners in Canada, the United States, and Mexico have collaborated on a number of projects, including the development of a first bioregional collaboration for all of North America, the identification of priority conservation areas along the Pacific coast of North America from the Sea of Cortez to Alaska (the so-called Baja to Bering region), and a project to develop a shared scorecard approach to reporting on the ecological status and trends of ten pilot sites in the Baja to Bering region. The NAMPAN partners are presently focusing on ways to institutionalize work such as the scorecards approach, while also exploring potential new projects related to building greater public awareness of oceans and marine protected areas through partnerships (with coastal learning centers, as one example), and integrating climate change science and models into the design of marine protected area networks along the Atlantic coast so that they will have relevance not only in the near term but 50 and 100 years from now as well. Both of these initiatives are at very early stages.

Making marine conservation relevant to Canadians

Involving Canadians in learning from and experiencing the protected areas that are managed by Parks Canada is central to the agency's mandate. This is as true for national marine conservation areas as for national parks and national historic sites, yet is more challenging in the case of marine areas because they are so difficult to access. Simply stated, fewer Canadians have ready access to marine environments than to terrestrial ones, and even fewer are trained and equipped to venture beneath the water's surface. Innovative approaches are required in site-level visitor appreciation, experiential programming, and outreach methods.

Such steps are already being taken. At Saguenay-St. Lawrence Marine Park, not only can visitors take advantage of numerous whale-watching cruises that are offered on a daily basis throughout the visitor season, they can also venture beneath the surface of the St. Lawrence Estuary via innovative displays such as an animated underwater video fly-through of the marine park. Scuba- and audio-equipped diver/interpreters descend the underwater slopes in front of a visitor center at Les Escoumins and provide live demonstrations of the marine life they encounter. Glass-bottom boats enable non-diver visits to shallow-water wrecks in Fathom Five National Marine Park. And in all marine conservation areas, sea kayaks are an

increasingly common way for visitors to gain affordable access and a close-up appreciation of marine environments.

Conclusion

Although it is the most recent addition to the three primary heritage protection programs of Parks Canada, the national marine conservation areas program has the greatest scope to grow. It will be a laboratory for continued improvements in balancing ecologically sustainable use and conservation of marine resources with no-take zones, building new governance approaches involving stakeholder participation, and developing innovative ways to engage Canadians in understanding, appreciating, and becoming stewards of Canada's natural and cultural marine heritage.

Doug Yurick, Parks Canada, Marine Program, 25 Eddy Street, 5th Floor, Gatineau, Quebec K1A 0M5 Canada; doug.yurick@pc.gc.ca