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Report of the Commissioner of the Environment and Sustainable Development

CHAPTER 3

Marine Protected Areas

OAG

Office of the Auditor General of Canada

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Office of the Auditor General of Canada
Distribution Centre
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Telephone: 613-952-0213, ext. 5000, or 1-888-761-5953
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Email: distribution@oag-bvg.gc.ca

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CHAPTER 3

Marine Protected Areas

Performance audit reports

This report presents the results of a performance audit conducted by the Office of the Auditor General of Canada under the authority of the *Auditor General Act*.

A performance audit is an independent, objective, and systematic assessment of how well government is managing its activities, responsibilities, and resources. Audit topics are selected based on their significance. While the Office may comment on policy implementation in a performance audit, it does not comment on the merits of a policy.

Performance audits are planned, performed, and reported in accordance with professional auditing standards and Office policies. They are conducted by qualified auditors who

- establish audit objectives and criteria for the assessment of performance,
- gather the evidence necessary to assess performance against the criteria,
- report both positive and negative findings,
- conclude against the established audit objectives, and
- make recommendations for improvement when there are significant differences between criteria and assessed performance.

Performance audits contribute to a public service that is ethical and effective and a government that is accountable to Parliament and Canadians.

Table of Contents

Main Points 1

Introduction 5

Federal roles and responsibilities 9
Previous audit work 11
Environmental petitions 12
Focus of the audit 12

Observations and Recommendations 13

Creation of marine protected areas (MPAs) 13
Many factors impede Canada's progress on creating marine protected areas 13
Development of a national network plan 18
Fisheries and Oceans Canada has not developed a national plan for a network of marine protected areas 18
Progress on MPAs—Fisheries and Oceans Canada 20
The Department's plan for contributing to a national network of marine protected areas remains incomplete 20
Fisheries and Oceans Canada followed its legislative requirements for MPA establishment 21
The Department has not systematically monitored or managed its marine protected areas 22
Progress on MPAs—Parks Canada 24
Parks Canada's plan for contributing to the national network of MPAs remains incomplete 24
Parks Canada followed its legislative requirements for MPA establishment 26
Parks Canada has not systematically monitored or managed its marine protected areas 28
Sustainable Development Strategy commitments 30
The entities have not achieved their Federal Sustainable Development Strategy objectives for marine protected areas 30

Conclusion 31

About the Audit 32

Appendix

List of recommendations 35

Marine Protected Areas

Main Points

What we examined

Marine protected areas (MPAs) are a key tool that Canada has committed to using to protect and conserve marine biodiversity. As a signatory to the United Nations Convention on Biological Diversity, Canada agreed to an international target of conserving 10 percent of marine areas by 2020 through networks of protected areas and other conservation measures. A network of marine protected areas is a collection of individual marine protected areas that operates cooperatively in order to fulfill ecological aims more effectively and comprehensively than individual sites could do alone.

Fisheries and Oceans Canada, Parks Canada, and Environment Canada are the three federal authorities with specific, complementary mandates to establish and manage marine protected areas in Canada's oceans and Great Lakes. Fisheries and Oceans Canada is responsible for leading and coordinating the development and implementation of a national network of MPAs on behalf of the Government of Canada and also has a mandate to establish individual marine protected areas. Parks Canada is responsible for establishing marine protected areas to protect and conserve representative examples of Canada's natural and cultural marine heritage, to provide opportunities for public education and enjoyment, and to contribute to a national network of marine protected areas. Environment Canada is responsible for protecting habitat for a variety of wildlife, including migratory birds and species at risk.

We examined actions taken by Fisheries and Oceans Canada and Parks Canada to plan, establish, and manage marine protected areas.

Audit work for this chapter was completed on 28 August 2012. More details on the conduct of the audit are in **About the Audit** at the end of this chapter.

Why it's important

The world's oceans are under threat from the effects of pollution and over-exploitation. According to Fisheries and Oceans Canada, in 2009 the quantity of Canada's fishery catches was 41 percent less than the peak harvest volumes of the late 1980s; the 2009 landed values were among the lowest on record since 1984.

Conserving and protecting marine biodiversity is not solely an environmental priority. As recently reported at the 2012 World Economic Forum, the ocean's natural capital (the stock of ecological goods and services that can be maintained for use in the future) is intrinsic to the health and functioning of the world economy. Today, more than 1.5 billion people count on fish for their daily protein source. With the world population projected to reach 9 billion by 2050, humankind needs to double the production of food without further depleting Earth's natural capital.

In concert with other ocean management initiatives, the benefits of marine protected area networks include protecting species and ecosystems, protecting unique and threatened species, capturing and storing carbon, and providing refuge for species displaced by habitat change. MPA networks can also provide social and economic benefits, such as sustained fisheries, and enhanced recreation and research opportunities.

What we found

- Fisheries and Oceans Canada has established eight MPAs, led the development of the 2011 National Framework for Canada's Network of Marine Protected Areas, and is now developing technical guidance for implementing the Framework. However, the Department has not coordinated with other authorities and stakeholders to produce a plan for a network of marine protected areas as called for by the *Oceans Act* (in force in 1997). The Department has not identified the specific areas that need to be protected by it and others to create a national network that would conserve and protect Canada's marine habitats, animals, and plants.
- Parks Canada has made substantial progress toward its plan for establishing MPAs that would be representative of Canada's marine environments. The Agency has defined 29 marine regions in Canada, identified representative areas within 28 of those regions, decided on MPA candidate sites within 14 regions, and established two MPAs in legislation. However, significant work remains to be done. Parks Canada needs to select candidate sites for MPAs in 15 of its marine regions, and establish MPAs in the 26 of 29 regions where they have yet to be established. Although it has not set a timeline for doing so, the Agency plans to have MPAs in each of its 29 defined marine regions—these MPAs will be the Agency's contribution to Canada's MPA network.

- Both Fisheries and Oceans Canada and Parks Canada have recognized through their commitments within the Federal Sustainable Development Strategy that concrete actions are needed to complete this work, but they have not met these commitments. It has been 20 years since Canada ratified the United Nations Convention on Biological Diversity and 15 years since it committed to leading and coordinating the development and implementation of a national network of marine protected areas under the *Oceans Act*. Yet there is no national network of marine protected areas. Fisheries and Oceans Canada estimates that marine protected areas currently cover about 1 percent of Canada's marine environment. At the current rate of progress, it will take many decades for Canada to establish a fully functioning MPA network and achieve the target established in 2010 to conserve 10 percent of marine areas under the United Nations Convention on Biological Diversity.

The entities have responded. The entities agree with all of the recommendations. Their detailed responses follow the recommendations throughout the chapter.

Introduction

3.1 Canada includes more than 5.8 million square kilometres of marine surface area within its territory and has the world's longest coastline, covering three oceans and the Great Lakes. The **biodiversity** of Canada's marine areas plays a key role in our social and economic prosperity. According to Fisheries and Oceans Canada's Marine Protected Areas Policy, the richness and biodiversity of Canada's oceans provide enormous potential for both present and future generations. Our marine ecosystems support a remarkable diversity of species, including commercial and non-commercial fish, marine mammals, invertebrates, and plants.

Biodiversity—The variability among living organisms from all sources, including, among others, terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, among species, and of ecosystems.

Source: Adapted from the United Nations Convention on Biological Diversity

3.2 In addition to the benefits that these ecosystems provide, such as oxygen production and carbon storage, Canada's ocean biodiversity generates economic benefits through commercial and recreational fisheries, tourism, education, and research. Benefits of marine biodiversity to the Canadian economy include the following, based on data from Parks Canada and Fisheries and Oceans Canada:

- fishing and fish processing, which contributed almost $3.3 billion to Canada's gross domestic product (GDP) in 2006;
- the lobster catch, which generated over $1 billion in 2011 exports;
- the snow and queen crab catch, which generated over $613 million in 2011 exports;
- marine tourism, which generated expenditures of about $4.3 billion in 2006; and
- whale watching in the Saguenay region of Quebec, which attracted more than one million visitors in 2007, spending an estimated $161.7 million in the region. Parks Canada estimates that the **marine protected area** in the Saguenay region generates $3.16 in government revenues for every dollar spent on managing the site.

Marine protected area—"A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated **ecosystem services** and cultural values."

Source: International Union for the Conservation of Nature

Ecosystem services—Humankind benefits from a variety of renewable resources and processes that are supplied by natural ecosystems. Collectively known as ecosystem services, they include provisioning services, such as food and drinking water; regulating services, such as climate and disease regulation and pollination; supporting services, such as soil formation; and cultural services, such as areas with spiritual and recreational uses.

Source: Adapted from the United Nations Millennium Ecosystem Assessment

3.3 These activities are sustained by marine **habitats** and biodiversity, without which commercial stocks could not exist. Commercially important species rely on non-commercial species for their existence. For example, lobsters eat both commercial and non-commercial marine animals. Lobsters are, in turn, an important food source for various economically important fish, such as flounder and cod. Whales, such as the humpback, have various habitat requirements. These whales visit the Saguenay region of the St. Lawrence River to feed on various non-commercial species, such as plankton. Because marine species are

Habitat—The place where a species lives and that provides food and shelter. A particular species can occupy different habitats at different stages of its life to forage for food, find shelter, and breed.

Source: Adapted from Aquatic Living Resources, July 2005

highly interconnected, a vast range of species and habitats have an impact on those species that our fisheries and tourism depend on.

3.4 Conserving and protecting marine biodiversity is not solely an environmental priority. As recently reported at the 2012 World Economic Forum, the ocean's natural capital (the stock of ecological goods and services that can be maintained for use in the future) is intrinsic to the health and functioning of the world economy. Today, more than 1.5 billion people count on fish for their daily protein source. With the world population projected to reach 9 billion by 2050, humankind needs to double the production of food without further depleting Earth's natural capital.

3.5 According to a recent article in the Harvard Business Review, creating marine protected areas (MPAs) where no fishing can take place—covering at least 20 percent of the oceans—would allow these areas to recover from overfishing. Based on data from 29 countries and 124 MPAs, on average, the number of species in these protected areas increased by 21 percent, and organisms grew 28 percent larger. As well, on average, the number of organisms per hectare increased by 166 percent, and the total weight of organisms rose by 446 percent in these areas.

3.6 According to the same article, MPAs where no fishing can take place contribute to higher catches in neighbouring areas, which more than offset the financial losses to fishers caused by their creation. For example, the Great Barrier Reef Marine Park—of which one third is a zone where fishing is banned—generates about AUS$5.5 billion (about CAN$5.7 billion) a year in net economic benefits and has created more than 50,000 full-time jobs. The cost of creating and managing MPAs that would close off 20 percent of the world's oceans is estimated to be as low as $5 billion a year—less than the estimated net benefits that are generated from the one MPA cited above.

3.7 There is growing recognition that marine protected areas and networks of them can provide important ecological and economic benefits. According to the National Framework for Canada's Network of Marine Protected Areas, these benefits include

- protecting unique, rare, and threatened species, and processes and habitats essential for ecosystem functioning, such as spawning;
- maintaining the natural range of species;
- protecting coastal ecosystems, such as wetlands, that buffer against damage from extreme weather events;

- enabling adequate mixing of the gene pool;
- mitigating the impact of climate change by capturing and storing carbon;
- providing refuge for marine species displaced by habitat loss elsewhere;
- enhancing the ability of marine areas to resist or recover from ecosystem disturbances; and
- generating social and economic benefits, such as sustainable fisheries and enhanced recreation opportunities.

3.8 The North American Marine Protected Areas Network organization, founded in 1999 under the auspices of the Commission for Environmental Cooperation, represents a tri-national (Canada, Mexico, and United States) network of resource agencies, MPA managers, and other relevant experts committed to strengthening the conservation of biodiversity in critical marine habitats and to helping foster a comprehensive **network of marine protected areas** in North America. According to the organization, MPAs "help restore and maintain the health of oceans and provide some protection from stressors such as fishing, habitat destruction, and pollution."

Network of marine protected areas—"A collection of individual marine protected areas that operates cooperatively and synergistically, at various spatial scales, and with a range of protection levels, in order to fulfill ecological aims more effectively and comprehensively than individual sites could alone."

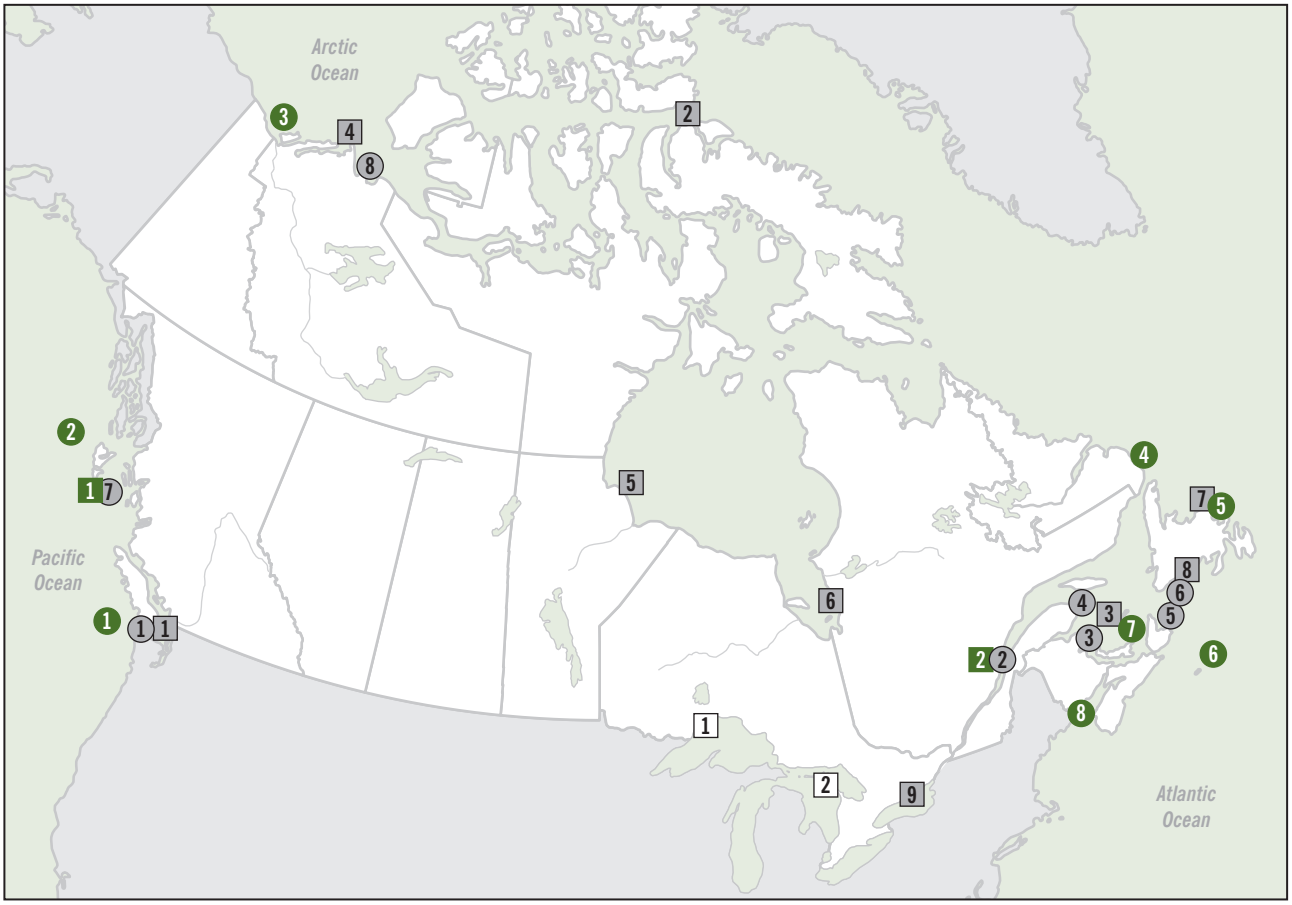
Source: International Union for the Conservation of Nature

3.9 However, the health of the world's oceans is currently in decline and has been profoundly affected by human activities. According to the **International Union for the Conservation of Nature (IUCN)** and other respected sources of science-based analyses, fisheries are at full production globally. Many fish stocks are overfished and many fish species are endangered. There are dead zones where oxygen levels are too low to sustain most life, climate change is altering habitat and ocean currents, and pollution is pervasive. According to Fisheries and Oceans Canada, in 2009 the quantity of Canada's fishery catches was 41 percent less than the peak harvest volumes of the late 1980s, and the 2009 landed values were among the lowest on record since 1984.

International Union for the Conservation of Nature (IUCN)—An international forum for governments, non-governmental organizations, scientists, businesses, and local communities. It participates in implementing the UN Convention on Biological Diversity's Programme of Work on Protected Areas. It has developed international standards for the establishment and management of MPAs and MPA networks that are recognized worldwide. Canada has adopted the IUCN's definition of an MPA network as a basis for the National Framework for Canada's Network of Marine Protected Areas.

3.10 Marine protected areas are a key tool Canada is using to protect and conserve marine environments. To date, Fisheries and Oceans Canada and Parks Canada have established 10 federal marine protected areas (called "national marine conservation areas" by Parks Canada) under legislation. Two additional sites are awaiting official designation in legislation, and 17 more have been proposed as federal MPAs (Exhibit 3.1).

Exhibit 3.1 **Existing and proposed marine protected areas managed by Fisheries and Oceans Canada and Parks Canada**



Marine Protected Areas

Fisheries and Oceans Canada

1. Endeavour Hydrothermal Vents
2. Bowie Seamount
3. Tarium Niryutait
4. Gilbert Bay
5. Eastport
6. The Gully
7. Basin Head
8. Musquash Estuary

Parks Canada

Marine protected areas managed within Parks Canada's National Marine Conservation Areas System

1. Gwaii Haanas
2. Saguenay—St. Lawrence

Marine protected areas not officially designated under legislation yet

1. Lake Superior
2. Fathom Five

Proposed Marine Protected Areas

Fisheries and Oceans Canada

1. Race Rocks
2. St. Lawrence Estuary
3. Shediac Valley
4. American Bank
5. St Anns Bank
6. Laurentian Channel
7. Hecate Strait / Queen Charlotte Sound Glass Sponge Reefs
8. Paulatuk (Darnley Bay)

Parks Canada

1. Southern Strait of Georgia
2. Lancaster Sound
3. Îles de la Madeleine
4. Bathurst Polynya
5. Churchill River/Nelson River
6. Twin Islands/Rivière du Castor (Tawich)
7. Bonavista Bay/Funk Island
8. South Coast Fjords
9. Prince Edward Point

Source: Fisheries and Oceans Canada and Parks Canada

3.11 According to Fisheries and Oceans Canada, federal, provincial, and territorial governments and non-governmental organizations are to date collectively protecting about 1 percent of Canada's oceans and Great Lakes through MPAs. To put this into perspective, the International Union for the Conservation of Nature recommended at the 2003 World Parks Congress that networks of marine protected areas include strict protection of 20 to 30 percent of each habitat. In 2010, Canada agreed to an international target under the United Nations Convention on Biological Diversity to conserve 10 percent of marine areas through networks of protected areas and other conservation measures by 2020.

Federal roles and responsibilities

3.12 The federal government's mandate regarding MPAs is anchored in federal legislation and policy, such as the *Canada Wildlife Act*, the *Oceans Act* (in force in 1997), the *Parks Canada Agency Act* (1998), and the *Canada National Marine Conservation Areas Act* (2002). Canada's Federal Marine Protected Areas Strategy (2005) and the National Framework for Canada's Network of Marine Protected Areas (2011) commit the federal government to working collaboratively to establish a network of marine protected areas. According to the National Framework, Canada's vision is to establish "an ecologically comprehensive, resilient, and representative national network of marine protected areas that protects the biological diversity and health of the marine environment for present and future generations."

3.13 Canada's *Oceans Act* gives Fisheries and Oceans Canada the responsibility for leading and coordinating the development and implementation of a national network of marine protected areas on behalf of the Government of Canada. It also provides the Department with the mandate to establish and manage marine protected areas to conserve and protect

- commercial and non-commercial fish, marine mammals, and their habitat;
- endangered or threatened marine species and their habitats;
- unique habitats;
- marine areas of high biodiversity or biological productivity; and
- any other marine resource or habitat as needed to fulfill the mandate of the Minister.

Whale watching in the Saguenay–St. Lawrence MPA provides opportunities for public education and enjoyment of Canada's wildlife.

Photo: Parks Canada / J-L Provencher

Fisheries and Oceans Canada also retains responsibility, under the *Fisheries Act*, for regulating the fisheries in all federal marine protected areas.

3.14 Parks Canada has a mandate to establish MPAs (known as national marine conservation areas) to

- protect and conserve representative examples of Canada's natural and cultural marine heritage, and
- provide opportunities for public education and enjoyment.

Environment Canada has a mandate to protect habitat for a variety of wildlife, including migratory birds and species at risk.

3.15 The October 2010 Federal Sustainable Development Strategy sets out federal targets and implementation strategies, for example, developing a federal–provincial–territorial network of MPAs by 2012.

3.16 In the June 2011 Speech from the Throne, the Government of Canada announced its intention to "engage a broad range of stakeholders on the development of a National Conservation Plan, to move our conservation objectives forward and better connect all Canadians with nature." In June 2012, the House of Commons Standing Committee on Environment and Sustainable Development published its report, entitled Study to Provide Recommendations Regarding the Development of a National Conservation Plan. According to the report, consulted stakeholders called for Canada to adopt, at a minimum, the target of conserving 10 percent of marine areas by 2020 as established under the United Nations Convention on Biological Diversity.

3.17 In 1992, Canada ratified the United Nations Convention on Biological Diversity, under which Canada and over 190 other countries committed to establishing a system of protected areas to conserve biological diversity, including the marine environment. Canada committed to conserving biological diversity at subsequent formal conferences in 2002, 2004, 2010, and 2012. A summary of Canada's activities and commitments is shown in Exhibit 3.2.

Previous audit work

3.18 In the Commissioner's 2005 September Report, Chapter 1—Canada's Oceans Management Strategy, the Commissioner noted that Fisheries and Oceans Canada had fallen far short of meeting its commitments and targets under the *Oceans Act* and Oceans Strategy. It had designated only two marine protected areas and made little progress on developing and implementing a national system of marine protected areas. The report also noted that the recently released Oceans Action Plan did not address all of the barriers to implementing a national oceans strategy, including the need for strong leadership and coordination over the long term, and the need for adequate funding.

Exhibit 3.2 Canada's activities and commitments to protect marine biodiversity

1986	Parks Canada introduces its first National Marine Parks Policy
1992	Canada ratifies United Nations Convention on Biological Diversity
1995	Parks Canada releases Sea to Sea to Sea, Canada's National Marine Conservation Areas System Plan
1995	Canadian Biodiversity Strategy is launched
1997	*Oceans Act* comes into force
1999	Fisheries and Oceans Canada releases its Marine Protected Areas Policy
1999	Fisheries and Oceans Canada releases its National Framework for Establishing and Managing Marine Protected Areas
2002	World Summit on Sustainable Development (Rio+10) declaration is made; its plan of implementation includes a commitment to establish representative marine protected area networks by 2012
2002	*Canada National Marine Conservation Areas Act* comes into force
2002	Canada's Oceans Strategy is launched
2005	Oceans Action Plan is launched
2005	Canada's Federal Marine Protected Areas Strategy is released
2007	Canada's Health of the Oceans Initiatives are launched
2010	Meeting of the Conference of the Parties of the United Nations Convention on Biological Diversity results in an international target to conserve 10 percent of coastal and marine areas by 2020
2010	Federal Sustainable Development Strategy is tabled in Parliament (includes MPA targets and implementation strategies)
2011	National Framework for Canada's Network of Marine Protected Areas is released
2012	United Nations Conference on Sustainable Development (Rio+20) is held; Canada commits to protecting and restoring the health, productivity, and resilience of oceans and marine ecosystems, and to maintain their biodiversity

Environmental petitions

Environmental petition—A formal means, established under the *Auditor General Act*, for Canadians to bring their concerns about environmental issues to the attention of federal ministers and departments and to obtain a response. For further information on the petitions process, please consult Chapter 5 in this report or our website at www.oag-bvg.gc.ca.

3.19 During the course of this audit, an **environmental petition** (No. 337) was submitted to the Office of the Auditor General of Canada by the World Wildlife Fund with a request for information from the Minister of Fisheries and Oceans on why the government had not yet put in place a national network of MPAs as required under the *Oceans Act*, which came into force 15 years ago. The Department responded that the Act does not set a time limit for completion of this work. The petitioner also questioned why the Department had not met its public commitment to complete a management plan within two years of the designation of the Bowie Seamount Marine Protected Area. The Department responded that drafting and finalizing the management plan remains a priority for the 2012–13 fiscal year. Our audit also examined these issues, and the results are presented in the Observations and Recommendations section of this chapter.

Focus of the audit

3.20 Our audit examined whether Fisheries and Oceans Canada and Parks Canada have planned, established, and managed a network of marine protected areas to conserve and protect Canada's marine biodiversity and fulfill Canada's international targets under the United Nations Convention on Biological Diversity, in accordance with its legislative mandates and policies, and recognized good practices.

3.21 While Environment Canada also has a mandate for protecting biodiversity, the Department was not included in this audit, because it is the subject of a separate audit on protecting biodiversity, which we plan to report in the spring of 2013.

3.22 The types of marine protected areas that Parks Canada establishes specifically for marine protection are known as national marine conservation areas. "Marine protected area" or MPA is a broad term applied to various types of protected marine areas worldwide. In this chapter, we use the term MPA to apply to all types of marine protected areas.

3.23 More details on the audit objectives, scope, approach, and criteria are in **About the Audit** at the end of this chapter.

Observations and Recommendations

Creation of marine protected areas

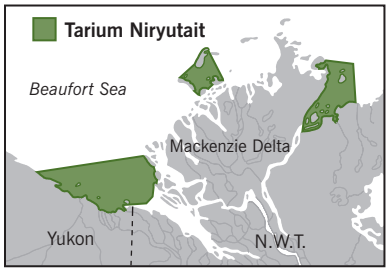
3.24 We examined the progress made by Fisheries and Oceans Canada and Parks Canada in establishing individual marine protected areas (MPAs) and a national network of marine protected areas. We examined actions taken by these entities to plan, establish, and manage MPAs and the documentation that supported the progress to date. We identified key factors that affected Canada's progress, summarized below, and elaborated on the specific work undertaken by Fisheries and Oceans Canada and Parks Canada in subsequent sections.

Many factors impede Canada's progress on creating marine protected areas

One purpose of the Tarium Niryutait MPA is to protect one of the world's largest summering populations of beluga whales.

Photo: Fisheries and Oceans Canada

3.25 During the 20 years since Canada ratified the United Nations Convention on Biological Diversity, 10 federal MPAs have been established by Fisheries and Oceans Canada and Parks Canada as part of their marine protected area programs. Federal, provincial, and territorial governments and non-governmental organizations are collectively protecting about 1 percent of Canada's oceans and Great Lakes through MPAs. At the current rate of progress, it will take many decades for Canada to establish a fully functioning MPA network and achieve the target established in 2010 under the United Nations Convention on Biological Diversity to conserve 10 percent of marine areas.



Tarium Niryutait MPA

Source: Fisheries and Oceans Canada

3.26 Marine protected areas are not, for the most part, sanctuaries where human activities are prohibited. Allowed activities vary.

- The MPAs created by Parks Canada do not allow for extraction of or exploration for non-renewable resources, such as oil and gas. However, they may allow the extraction of renewable resources, such as commercial and recreational fishing, depending on regulations that may specify limits, prohibited activities, and exceptions in certain zones. Currently, zoning regulations are not in force for the MPAs established by Parks Canada. Therefore, fishing is allowed in accordance with the *Fisheries Act*.
- The MPAs established by Fisheries and Oceans Canada can allow both non-renewable and renewable resource extraction. The regulations for each MPA define a range of prohibited activities and allow for certain defined activities depending on the zoning that is put into place. Fishing is allowed in specific areas of all the MPAs established by Fisheries and Oceans Canada to date. Oil and gas exploration and development is also allowed within the Tarium Niryutait MPA.

3.27 When establishing MPAs, the entities consult and negotiate extensively with multiple authorities and stakeholders. Federally, consultations may occur with other federal departments, including Natural Resources Canada, Transport Canada, and Aboriginal Affairs and Northern Development Canada. Other authorities and stakeholders can include provincial governments, joint federal–provincial bodies, such as the offshore petroleum boards, Aboriginal peoples, environmental organizations, and affected industries, like oil and gas, fishing, and tourism. Critical aspects of the establishment process, such as the time required for consultation and negotiation with other authorities and stakeholders, for ministerial approval, and for the legislative process, are unpredictable and outside the direct control of program managers at Fisheries and Oceans Canada or Parks Canada. As a result, the establishment process typically takes years, if not decades, to complete.

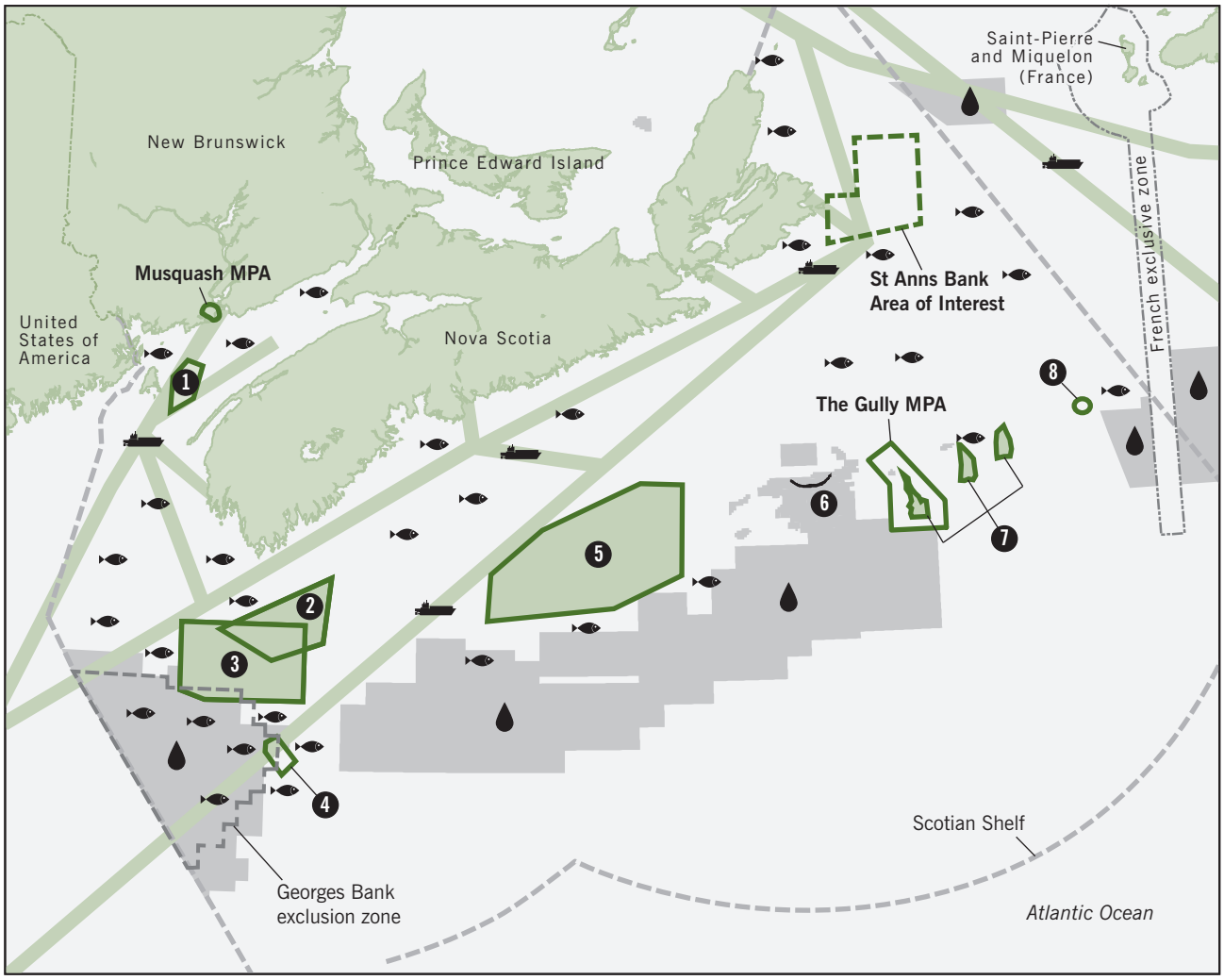
3.28 For example, when Parks Canada established the Gwaii Haanas National Marine Conservation Area Reserve and Haida Heritage Site, the process took more than 20 years. It took over 10 years for Fisheries and Oceans Canada to establish the Tarium Niryutait MPA and more than five years to establish The Gully MPA. Exhibit 3.3 shows The Gully MPA in the Scotian Shelf bioregion, and illustrates the variety of stakeholders that are involved in this region.

3.29 Factors that have affected the rate of progress in creating MPAs include

- prolonged jurisdictional negotiations, including unresolved land claims;
- competing interests of stakeholders;
- poor understanding by Canadians of the environmental and socio-economic benefits of MPAs;
- delays in the approval process; and
- lengthy legislative and regulatory processes.

3.30 However, substantial progress is possible and has been achieved in other jurisdictions. Australia and California, for example, have reported that they have protected about 10 percent and 13.5 percent of their marine environments, respectively, and created networks of marine protected areas. Australia is proposing to expand its marine protected areas to cover 38 percent of Australian waters; 14 percent will be classified as “fully protected.”

Exhibit 3.3 **There are multiple stakeholders with interests in the Scotian Shelf bioregion**



1. Right whale critical habitat (Grand Manan Basin)
2. Right whale critical habitat (Roseway Basin) and International Marine Organization Area To Be Avoided
3. Lobster fishing area 40 (closed to inshore-offshore lobster fishing)
4. Northeast Channel Coral Conservation Area
5. Juvenile haddock closure
6. Sable Island National Park
7. Northern bottlenose whale critical habitat
8. Lophelia Coral Conservation Area

Oil and gas

Principal shipping lines

Commercial fishing

Note: Commercial fisheries are active throughout the Scotian Shelf bioregion.

Source: Adapted from Fisheries and Oceans Canada data

3.31 Australia has attributed its progress to factors such as sustained leadership, communication, active stakeholder engagement, and public support, as well as commitment to financial assistance for those affected. According to California officials, progress in that state has resulted from similar factors, including sustained leadership over successive governments and consensus-driven consultations (Exhibit 3.4).

3.32 The barriers that we identified in our 2005 audit continue to impede progress in establishing a national network. According to a 2012 Fisheries and Oceans Canada evaluation, surveyed respondents identified three challenges in establishing and managing marine protected areas in Canada:

- a lack of will or weak commitment to marine protected areas at the federal level,
- difficulties in resolving conflicting interests of stakeholders, and
- insufficient resources.

Management of Parks Canada and Fisheries and Oceans Canada indicated to us that recent budget cuts may affect the resources available for work on MPAs. The entities have indicated that it is too early to determine what effect these changes will have on establishing and managing marine protected areas.

Exhibit 3.4 There has been substantial progress in establishing MPAs in California

According to California state officials, the *Marine Life Protection Act*, passed by the state legislature in 1999, required the California Department of Fish and Game to redesign its system of MPAs to increase its coherence and effectiveness at protecting the state's marine life, habitats, and ecosystems.

A public–private partnership known as the Marine Life Protection Act Initiative was formed to help implement the new Act. The partnership included the California Natural Resources Agency, the California Department of Fish and Game, and the Resources Legacy Fund Foundation. Scientists, resource managers, experts, stakeholders, and members of the public also played important roles in guiding the outcomes of this partnership.

California has established 104 MPAs, covering approximately 1,842 square kilometres (about 13.5 percent) of California's coastal waters. According to participants in the Marine Life Protection Act Initiative, progress was the result of several factors.

According to officials, key success factors included consistent leadership from successive governors of California, adequate funding (including the use of alternative funding sources outside of government), a task force of policy makers who facilitated the process, consensus-driven consultation, and the use of scientific experts who provided guidance on the application of the Act's design guidelines to the task force and stakeholders.

Source: California Marine Life Protection Act Initiative and California Department of Fish and Game

3.33 Good information on the environmental and socio-economic benefits of MPAs as well as the expected costs is important for informed decision making. To date, limited work has been carried out by Fisheries and Oceans Canada and Parks Canada to identify and assess the value of specific ecosystem services that existing and planned marine protected areas are expected to provide in Canada.

3.34 **Recommendation.** Fisheries and Oceans Canada and Parks Canada should identify specific ecosystem services provided by existing and planned marine protected areas and assess their values so that Canadians and federal policy makers have better information to understand their associated benefits and costs.

Fisheries and Oceans Canada's response. Agreed. In recognition of the complexity of the methodology to value ecosystem services and the complexity of the scientific information required for carrying out such evaluation, a case study will be undertaken to test existing methodologies and determine the types of scientific information and the level of detail required to illustrate the benefits of ecosystem services for an existing marine protected area or a common ecosystem service across existing marine protected areas. The results of the case study, along with the outcomes of the federal interdepartmental initiative entitled Measuring Ecosystem Goods and Services (MEGS) and international efforts (for example, The United Nations' System of Environmental-Economic Accounts (SEEA); The Economics of Ecosystems and Biodiversity (TEEB); The Natural Capital Project), will be used to develop guidelines to identify and assess the value of specific ecosystem services associated with marine protected areas so that Canadians and federal policy makers have better information to understand their associated benefits and costs. Fisheries and Oceans Canada will also improve its analyses to the extent possible and pursue available means to infer ecosystem service values from studies undertaken abroad. Implementation date: March 2014.

Parks Canada's response. Agreed. In the case of proposed marine protected areas, Parks Canada will continue to look at a range of impacts and benefits associated with the creation of new national marine conservation areas [Parks Canada's term for marine protected areas] as part of the establishment process. With respect to ecosystem services, Parks Canada will develop such information where it will better inform the feasibility assessment process. Such work, however, will have to rely on existing information as much as possible so as to not unduly delay the establishment process. For its existing marine protected areas, Parks Canada will identify ecosystem services in the

development of management plans and, in particular, in zoning plans where the issue of impacts and benefits of putting in place special protection measures is best addressed.

Development of a national network plan

3.35 We examined whether Fisheries and Oceans Canada has coordinated with Parks Canada and relevant stakeholders to develop a national plan for a network of marine protected areas (MPAs).

Fisheries and Oceans Canada has not developed a national plan for a network of marine protected areas

3.36 We reviewed key documents, such as policies and strategies, science advisory reports, and internal and international reporting documents. We also interviewed key officials from Fisheries and Oceans Canada and other departments.

3.37 We found that Fisheries and Oceans Canada led the development of the 2011 National Framework for Canada's Network of Marine Protected Areas, which provides strategic direction, including guiding principles and design recommendations for a national network of MPAs that will be composed of bioregional networks. Environment Canada, Parks Canada, most of the provinces, and the territories participated in drafting the framework. Key stakeholders and authorities, such as industry, Aboriginal peoples, and environmental groups, were also consulted. Fisheries and Oceans Canada is now coordinating the development of additional technical guidance for implementing the framework.

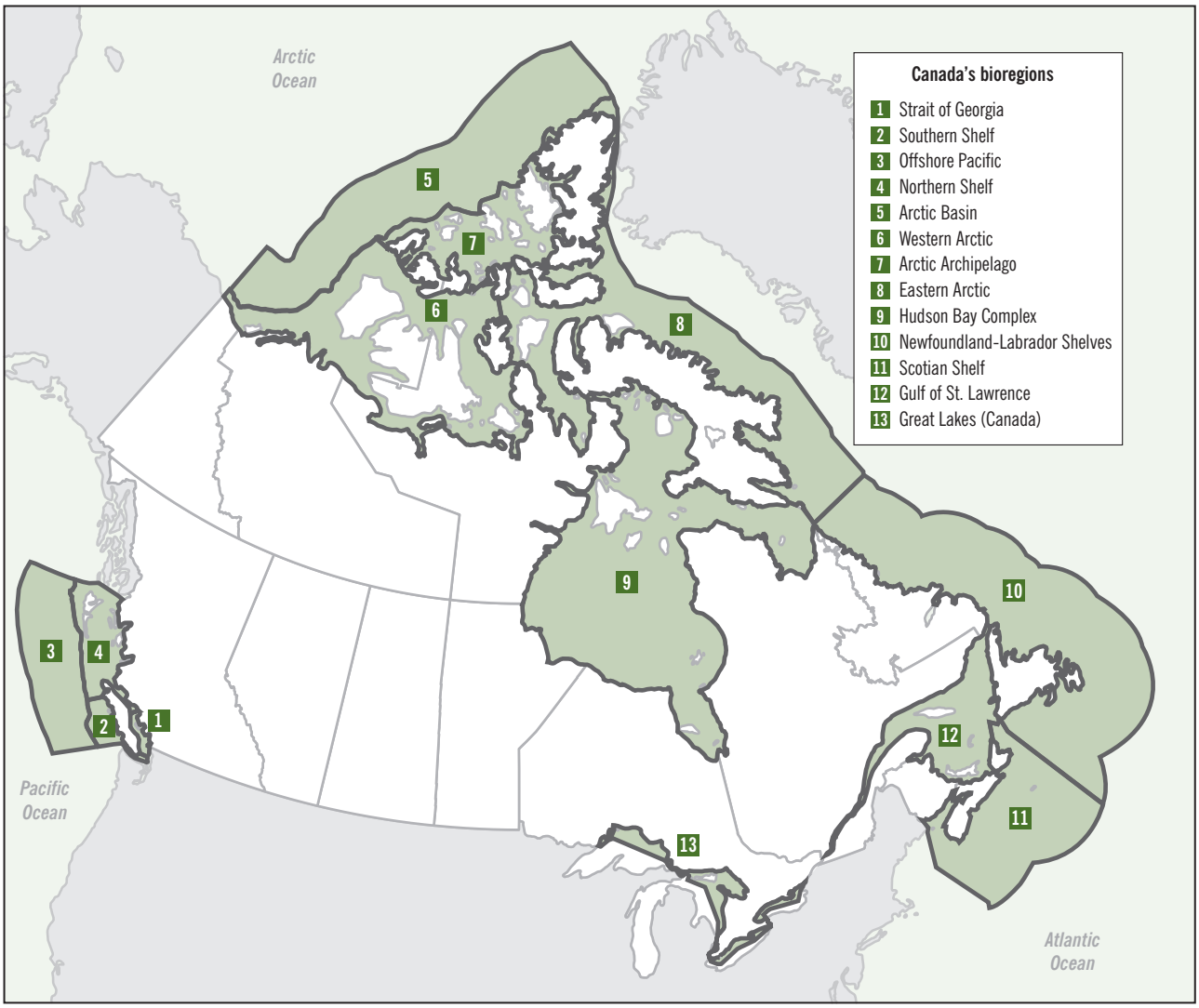
3.38 It is the role of Fisheries and Oceans Canada to bring together the contributions of participating organizations, along with its own, to ensure that the overall result functions as a national network. For the purposes of planning a national network of MPAs, the Department has defined 13 distinct bioregions in Canada's oceans and Great Lakes within which MPA networks are to be established (Exhibit 3.5). When complete, the national MPA network plan will be composed of 13 bioregional plans. Fisheries and Oceans Canada is working with other departments and authorities to develop an inventory of existing MPAs and other contributory sites (for example, closed fisheries). According to the Department, it plans to assess these sites to determine which additional MPAs are needed to create a fully functioning network.

Ecologically and biologically significant areas—Defined spaces that provide important services, either to one or more species or populations in an ecosystem, or to the ecosystem as a whole, as outlined in the National Framework for Canada's Network of Marine Protected Areas.

3.39 Fisheries and Oceans Canada indicated that it aims to complete 8 to 10 of the 13 bioregional plans by 2020, subject to available resources within the Department. So far, the Department has identified **ecologically and biologically significant areas** in 9 of the 13 bioregions.

According to Fisheries and Oceans Canada, MPA network development is currently under way in 4 bioregions. However, we found that none of the 13 bioregional network plans has been finalized to identify the marine areas that require protection, the actions necessary to achieve the government's objectives, the expected results, and the indicators that will be monitored to determine whether Canada's commitments to protect and conserve marine biodiversity are being achieved. A national network plan would provide a basis for allocating and managing human and financial resources and for assessing progress. According to Fisheries and Oceans Canada, developing and implementing such a national plan will take decades under current funding levels.

Exhibit 3.5 **Canada's network of marine protected areas will be based on 13 bioregions identified by Fisheries and Oceans Canada**



Source: Fisheries and Oceans Canada

Progress on MPAs—Fisheries and Oceans Canada

3.40 As well as leading and coordinating the development and implementation of a national network of MPAs on behalf of the Government of Canada, Fisheries and Oceans Canada has a mandate to establish its own MPAs to contribute to this network.

3.41 We looked for evidence that Fisheries and Oceans Canada—in accordance with its legislative mandates and policies, and recognized good practices—has

- developed department-level plans to contribute to the national network of marine protected areas (MPAs),
- established MPAs, and
- managed those areas to conserve and protect marine biodiversity.

3.42 We examined federal and department strategies, policies, regulations, regulatory process documents, and ecosystem overview and assessment reports. We also interviewed key officials from Fisheries and Oceans Canada at headquarters and in the Department's regional offices.

The Department's plan for contributing to a national network of marine protected areas remains incomplete

3.43 Fisheries and Oceans Canada has been working with other federal and provincial authorities on marine protected areas since 1997 and has defined 13 distinct bioregions for the purposes of national network planning. Since it does not have jurisdiction to establish MPAs in the Great Lakes, the Department is focusing its own MPA planning efforts on 12 of the bioregions.

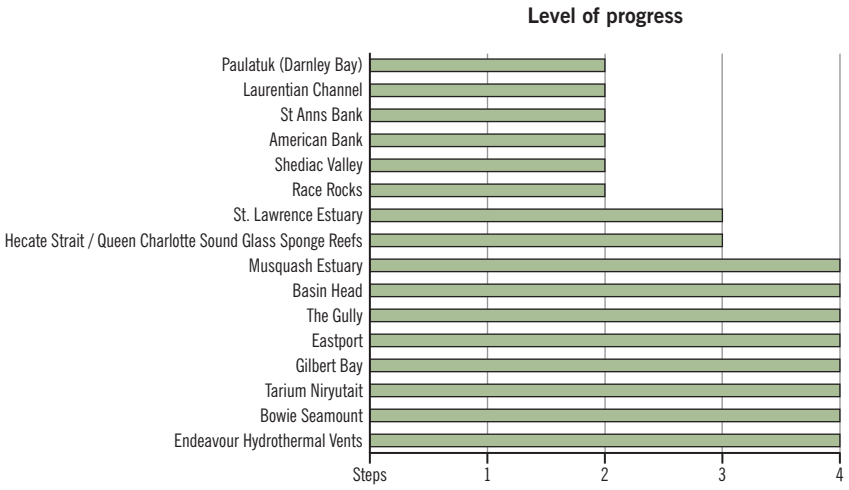
3.44 Fisheries and Oceans Canada has not identified the complete inventory of MPAs it will establish in the 12 bioregions it is responsible for. The Department indicated that it will not be able to determine what its own contribution will be until it has identified the contributions of other federal and provincial authorities and carried out a gap analysis to determine which additional sites will be required to create functioning MPA networks within the 13 bioregions. The Department has made progress since our 2005 audit, where we found it had established only two MPAs. It now has established eight MPAs and is working toward the designation of eight potential MPAs, called areas of interest. The Department follows a four-step process to establish MPAs:

- Step 1 is the selection of an area of interest.
- Step 2 is the assessment of the area of interest.

- Step 3 is the development of and consultation on regulatory intent.
- Step 4 is the development of a regulation and the designation of the MPA.

Exhibit 3.6 shows the Department's progress in establishing MPAs. The Department acknowledged that the 2010 Federal Sustainable Development Strategy target of establishing six additional MPAs by 2012 will not be met.

Exhibit 3.6 Fisheries and Oceans Canada has established eight MPAs and is working on eight proposed MPAs



Fisheries and Oceans Canada followed its legislative requirements for MPA establishment

3.45 The four-step process to be followed by Fisheries and Oceans Canada for establishing individual MPAs is set out in the National Framework for Establishing and Managing Marine Protected Areas (1999) and in the 2009 Oceans Act Marine Protected Areas Policy.

3.46 We examined whether these steps were followed for the eight MPAs completed and eight under development and whether the MPAs were established for one or more of the reasons specified in the *Oceans Act*.

3.47 We found that Fisheries and Oceans Canada has established eight marine protected areas in accordance with prescribed processes and with its legislative mandate under the *Oceans Act*. The regulations for the MPAs identify the boundaries of the marine protected areas, the management zones, prohibited activities, and exceptions.

3.48 The Department's eight MPAs were frequently suggested by local communities. Although the Department considers them to be ecologically significant, it acknowledged that its selection process was not designed to consider their linkages to one another or their contributions to a national network of marine protected areas. As network planning progresses, Fisheries and Oceans Canada will assess their contribution to a network.

The Department has not systematically monitored or managed its marine protected areas

3.49 Current management plans are in place for six of eight Fisheries and Oceans Canada MPAs. Plans were not in place at the time of our audit for the Bowie Seamount and Tarium Niryutait MPAs. Although the Department committed to having a plan developed by April 2010, two years after designation, the management plan for the Bowie Seamount MPA is still in draft form. According to the Department, the delay was caused by stakeholder concerns, such as the management of the sablefish fishery. The Department committed to developing a management plan for the Tarium Niryutait MPA by August 2012; at the conclusion of the audit it was still in draft form.

3.50 The 2009 Oceans Act Marine Protected Areas Policy prescribes departmental requirements for management plans, including elements relating to governance, monitoring, reporting, surveillance, and enforcement. Existing management plans address these elements. However, the plans lack details on the resources required to effectively implement them. We examined the management approach for The Gully MPA as well as progress on monitoring against objectives for the MPA (Exhibit 3.7).

3.51 Performance indicators are critical to determine whether conservation objectives are being met and whether management actions are effective in achieving planned results—in short, to determine whether MPAs are making a difference. We found that although proposed indicators had been developed for six of the Department's eight marine protected areas, they were being systematically monitored in only three MPAs.

3.52 Fisheries and Oceans Canada has indicated that MPAs will use different zoning to allow sustainable economic activities that meet conservation goals. However, the Department has not developed practical guidance on how its officials are to determine which economic activities are compatible with the MPAs' conservation objectives.

3.53 Recommendation. Fisheries and Oceans Canada has indicated that marine protected areas (MPAs) will be managed so that sustainable economic opportunities compatible with the conservation objectives of the MPAs will be permitted through different zoning in the MPAs. The Department should develop practical guidance on how department officials are to assess economic opportunities to determine whether they are compatible with the conservation objectives of the MPAs.

The Department's response. Agreed. Fisheries and Oceans Canada will develop operational guidance detailing an approach for determining which activities are compatible with the conservation objectives of the marine protected area. Implementation date: March 2014.

Exhibit 3.7 There is no monitoring plan in place for The Gully MPA, but ad hoc monitoring is being conducted

In May 2004, Canada's Minister of Fisheries and Oceans designated The Gully MPA off the coast of Nova Scotia. The Gully MPA is the largest submarine canyon in eastern North America. Some of the conservation priorities in The Gully include protecting species, such as the endangered northern bottlenose whale, and the seabed habitat, including cold-water corals, from damage caused by human activities.

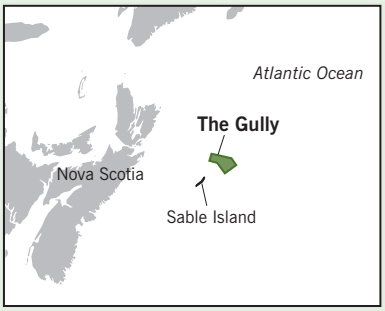
In 2008, the management plan for The Gully was released to provide guidance to Fisheries and Oceans Canada, other regulators, marine users, and the public on protecting this important ecosystem. The plan provides a multi-year vision, objectives, and priorities for management. The Gully contains three management zones with different levels of protection.

The endangered bottlenose whales are year-round inhabitants of The Gully.

Photo: Fisheries and Oceans Canada / H. Moors-Murphy

The Gully MPA regulation makes it an offence for any person to disturb, damage, destroy, or remove any living marine organism or any part of its habitat, including the seabed. While the regulations do not affect existing or future rights to petroleum within the MPA, the Canada–Nova Scotia Offshore Petroleum Board has banned exploration within this area since 1998.

The Department assessed The Gully's management effectiveness in 2010 and identified the development and implementation of a comprehensive monitoring plan or program within two to five years as a management priority. Fisheries and Oceans Canada has yet to develop a monitoring plan to measure performance against the conservation objectives for The Gully.



The Gully MPA

Source: Fisheries and Oceans Canada

In the interim, the Department is compiling information from various sources to assess compliance with The Gully MPA regulations governing fisheries management, vessel traffic, and pollution discharges. In addition, the Department reported that ad hoc research and monitoring activities are taking place; for example, to assess the status of the endangered northern bottlenose whale.

Progress on MPAs—Parks Canada

3.54 The *Canada National Marine Conservation Areas Act* empowers Parks Canada to contribute to Canada's network of marine protected areas (MPAs) by establishing protected areas that are representative of the Atlantic, Arctic, and Pacific Oceans and the Great Lakes and that will help to maintain healthy marine ecosystems. Along with MPAs established by others, including Fisheries and Oceans Canada, Parks Canada MPAs will contribute to a national network of MPAs.

3.55 We looked for evidence that Parks Canada—in accordance with its legislative mandates and policies, and recognized good practices—has

- developed agency-level plans to contribute to the national network of marine protected areas,
- established MPAs (known as national marine conservation areas), and
- managed MPAs.

3.56 We examined key documents, such as policies and strategies, scientific studies, and reporting documents. We interviewed key stakeholders and officials from Parks Canada, at headquarters and in the Agency's regional offices.

Parks Canada's plan for contributing to the national network of MPAs remains incomplete

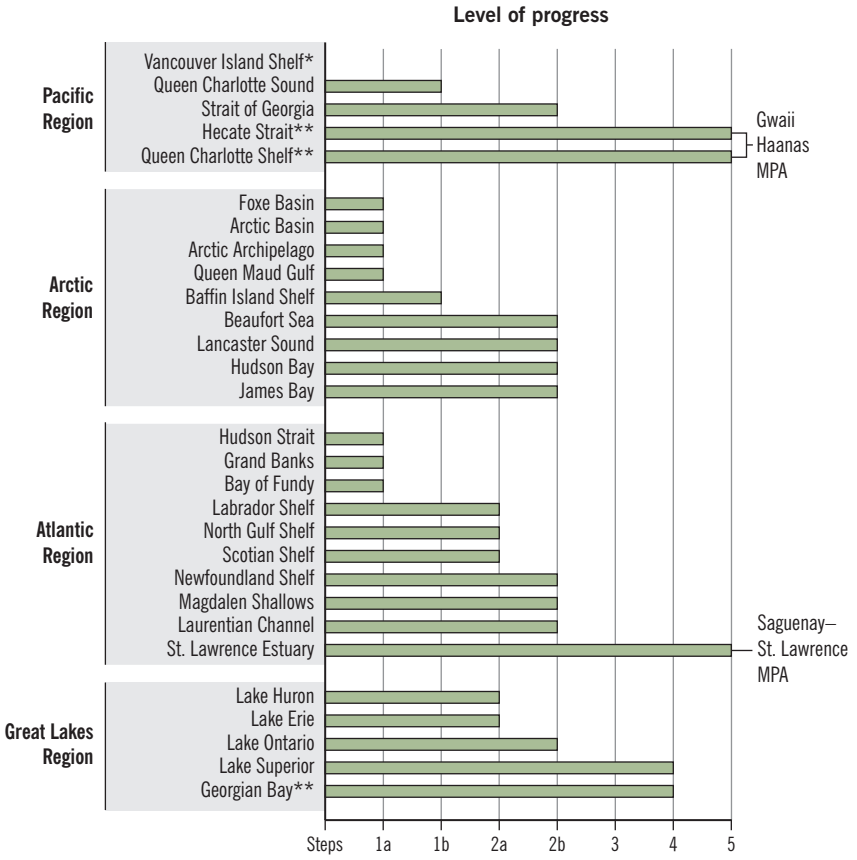
3.57 Parks Canada follows a five-step process to establish MPAs:

- Step 1a is the completion of a regional analysis to identify preliminary representative areas in the marine region.
- Step 1b is the completion of field studies by Parks Canada officials to confirm representative areas in the marine region.
- Step 2a is the completion of a selection report that recommends the preferred representative area for protection in the marine region.
- Step 2b is official acknowledgement from senior management of a preferred area as an MPA candidate site.
- Step 3 is the completion of a detailed feasibility assessment, including public consultations.
- Step 4 is the negotiation of agreements with provinces, territories, and Aboriginal peoples, where necessary, setting out the terms and conditions under which the MPA will be established and managed.
- Step 5 is the establishment of a new MPA under legislation.

3.58 The Agency has made substantial progress on MPA planning. Parks Canada has defined and mapped 29 marine regions with distinct biological and oceanographic features and plans to establish MPAs representing each of these regions. It has so far identified preliminary representative marine areas (step 1a) within 28 of the 29 regions, and selected candidate sites for MPAs in 14 marine regions (step 2b). Exhibit 3.8 shows the Agency's progress in establishing MPAs.

3.59 Despite this progress, Parks Canada's plan for representing each of its marine regions and contributing to the national network of MPAs remains incomplete. It has not yet identified final candidate sites in 15 of its marine regions.

Exhibit 3.8 Parks Canada has marine protected areas in 3 of its 29 marine regions



* Step 1a has not been completed.

** Step 3 (feasibility assessment) was not completed for these marine regions, because agreements to establish marine protected areas (MPAs) in these regions were already in place.

3.60 Parks Canada's 1994 National Marine Conservation Areas Policy and the *Canada National Marine Conservation Areas Act* require that it identify and select MPAs that are the most representative of the marine region, and that are the most natural. We examined the studies that Parks Canada has completed since the policy was put in place. We found that the Agency has identified and selected MPAs in keeping with its legislation and policies. Parks Canada conducts studies on geological, oceanographic, and biological characteristics and the impact of human activities to identify areas that are representative of the marine region. It completes further studies to assess these sites and choose one as an MPA candidate.

Parks Canada followed its legislative requirements for MPA establishment

3.61 Once candidate sites for marine protected areas are selected, Parks Canada requires ministerial approval to proceed with a feasibility assessment and, ultimately, with the establishment of new MPAs. Two feasibility assessments have been completed and three are currently under way. Parks Canada involves stakeholders in its feasibility studies. When a study is completed, the relevant governments and, in specific cases, Aboriginal peoples, will determine whether there is enough community and stakeholder support to declare the MPA feasible. Broad support is considered a key success factor for ensuring long-term compliance with zoning restrictions that may be imposed within MPAs. Parks Canada has stated it will not proceed with a feasibility study where there is a lack of provincial or territorial support. If consultations support the feasibility of the proposed MPA, Parks Canada may proceed with formal agreements, which set out terms and conditions for creating and managing the area.

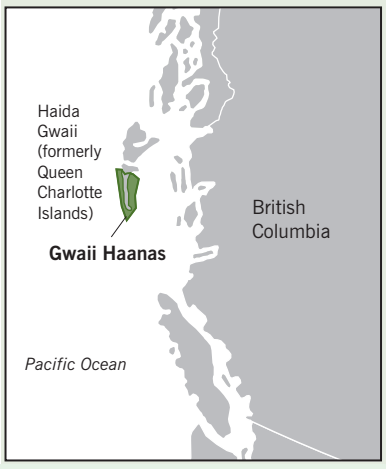
3.62 We found that Parks Canada has established two MPAs under legislation that cover three of its marine regions (Saguenay–St. Lawrence and the Gwaii Haanas site, which straddles two marine regions). It has also negotiated agreements for two additional MPAs in the Great Lakes (Fathom Five National Marine Park and Lake Superior National Marine Conservation Area). The Gwaii Haanas MPA is the first and so far only MPA to be designated under the *Canada National Marine Conservation Areas Act*. We found that it was established in accordance with the legislative requirements under that Act. Exhibit 3.9 summarizes the establishment process for the Gwaii Haanas MPA, showing the consultations and compromises involved in creating that MPA.

3.63 Although agreements have been negotiated for two new MPAs in the Great Lakes, these areas have not yet been designated under the legislation and as a result, zoning regulations cannot be enacted or enforced to protect them. However, Parks Canada indicated to us that, since the agreements allow the Agency to carry out operational development, including management planning, it considers these sites to be established MPAs.

3.64 Parks Canada does not have a timeline for establishing MPAs in each of its 29 marine regions. However, the Agency has made short-term commitments. For example, in 2002, Parks Canada committed to establishing five new MPAs by 2007. No MPAs were established in legislation during that period. In 2010, the Agency revised its target to establish a total of four MPAs by March 2013, even though, at that time, it had already reported that it had succeeded in establishing four MPAs. However, as noted, the two Great Lakes MPAs have not been formally designated under legislation and therefore MPA zoning cannot be enacted or enforced to protect these areas.

Exhibit 3.9 Parks Canada manages the Gwaii Haanas National Marine Conservation Area Reserve and Haida Heritage Site cooperatively with the Haida Nation

Partnership agreements led to a unique cooperative management arrangement for the Gwaii Haanas MPA, officially named Gwaii Haanas National Marine Conservation Area Reserve and Haida Heritage Site. In 1993 and 2010, agreements were signed by the Government of Canada and the Haida Nation to cooperatively manage the terrestrial and marine areas of Gwaii Haanas respectively.



Gwaii Haanas MPA

Source: Parks Canada

Before the Gwaii Haanas MPA was established in 2010, Parks Canada and the Council of the Haida Nation jointly conducted extensive scientific studies and used scientific, cultural, and socio-economic information to guide decision making in the planning process for the Gwaii Haanas area.

Parks Canada researched international best practices and drew on advice from Canadian scientists to determine that fully protecting 30 percent of the Gwaii Haanas MPA would be an optimal starting point to guide zoning consultations. The Haida Nation recommended that about 23 percent of the total area be fully protected. The area of full protection was refined to 10 percent based on socio-economic considerations and consultations, and further reduced, in the interim zoning plan, to 3 percent. According to Parks Canada, this 3 percent includes key ecological areas, the protection of which will not have a substantive impact on the fishing sector or other stakeholder groups. The zone of full protection will not be finalized until the completion of the full zoning plan, which is due in 2015.

One third of British Columbia's sea lion population calls Haida Gwaii home.

Photo: Parks Canada / Debbie Gardiner

Parks Canada has not systematically monitored or managed its marine protected areas

3.65 Under the *Canada National Marine Conservation Areas Act*, an interim management plan containing management objectives and a zoning plan must be tabled in each house of Parliament as part of establishing an MPA under legislation. An interim management plan was tabled in 2010 for the Gwaii Haanas MPA, with a full management plan due in 2015. The *Saguenay–St. Lawrence Marine Park Act* (in force in 1998) requires that a management plan on resource protection, zoning, and visitor use be reviewed at least once every seven years. Parks Canada's 2008 Guide to Management Planning prescribes content requirements for management plans. A management plan was completed in 1995, prior to the Park's establishment. The management plan was revised 15 years later, in 2010. The revised management plan meets legislative and policy requirements.

3.66 Parks Canada has a regulation on marine activities in the Saguenay–St. Lawrence Marine Park (primarily whale watching) that it enforces. It has finalized a zoning plan with the province of Quebec. However, that zoning plan has not yet been legislated, and as a result, Parks Canada does not yet have the regulatory means to enforce it. There are also outstanding issues to resolve, ranging from access to private property to commercial fish harvesting. We examined the management approach for the Saguenay–St. Lawrence Marine Park and documented our observations (Exhibit 3.10).

3.67 An important part of managing MPAs is the ability to measure the results achieved against established objectives. In 2003, the Agency committed to developing a set of core marine indicators and monitoring protocols. It has not yet done so. A report on the Saguenay–St. Lawrence Marine Park was prepared in 2007, but the absence of performance measures prevents Parks Canada from objectively evaluating the health of the park or results achieved against established objectives. A report on the health of the Gwaii Haanas MPA is expected in the 2013–14 fiscal year.

3.68 As a result, we found that while Parks Canada reports on its progress in establishing MPAs, it is not yet able to measure the ecological health of its established MPAs against planned results.

3.69 Under the *Canada National Marine Conservation Areas Act*, Parks Canada is required to manage its MPAs for ecologically sustainable use with protections ensured through different types of zoning in the

MPAs. However, the Agency has not formalized practical guidance on how ecologically sustainable use is to be assessed and implemented in relation to its MPAs.

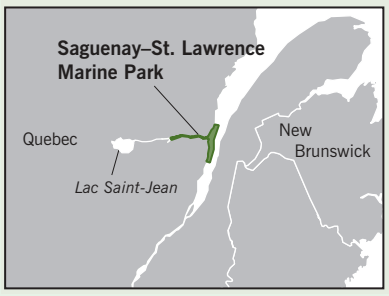
3.70 Recommendation. Parks Canada should develop practical guidance on how ecologically sustainable use is to be assessed and implemented in relation to its MPAs.

The Agency's response. Agreed. In 2012, Parks Canada established a Marine Policy unit to lead the development of guidance for the effective management of national marine conservation areas (NCMAs) [Parks Canada's term for marine protected area]. A priority for this new work unit is to formally articulate the Agency's understanding of ecologically sustainable use, a core concept with regard to the management and assessment of NMCAs. The articulation of this policy concept will subsequently form the basis for the development of national guidance for NMCA zoning, monitoring, and reporting. It will also support the NMCA establishment process by facilitating effective communications of the concept to stakeholders and partners.

Exhibit 3.10 Parks Canada is promoting environmental stewardship as part of its strategy for implementing the Saguenay–St. Lawrence Marine Park management plan

The Government of Canada and the province of Quebec jointly established the Saguenay–St. Lawrence Marine Park in 1998, in part because of community concern about the health of the resident beluga whale population and its habitat.

Parks Canada is implementing the park management plan in part by promoting environmental stewardship. For example, Parks Canada is part of a group of park managers, scientists, and industry members, called the Eco-whale Alliance. It has developed a charter for responsible whale watching practices. Almost all of the companies operating whale watching excursions in the area have signed on to the charter and committed to reducing their impact on the environment and on marine mammals.



Saguenay–St. Lawrence Marine Park MPA

Source: Parks Canada

Whale watching is a significant part of marine tourism in the Saguenay region.

Photo: Parks Canada / J-L Provencher

Sustainable Development Strategy commitments

The entities have not achieved their Federal Sustainable Development Strategy objectives for marine protected areas

3.71 The Government of Canada's 2010 Federal Sustainable Development Strategy includes commitments related to marine protected areas that were to be met by 2012. We compared the results of our audit work against these commitments for both Fisheries and Oceans Canada and Parks Canada. We found that only one of these targets had been substantially met by the end of our audit period (Exhibit 3.11).

Exhibit 3.11 Entities have not met their Federal Sustainable Development Strategy commitments

Federal Sustainable Development Strategy commitments	Our observations	Progress
Fisheries and Oceans Canada		
Develop a federal–provincial–territorial network of marine protected areas by 2012	Fisheries and Oceans Canada has not developed a plan for a network of MPAs. A framework has been developed to guide the design of a network of MPAs.	Not met
Identify indicators and develop draft monitoring plans for existing marine protected areas by 2012	The Department has identified indicators for six of its eight MPAs and has developed monitoring plans for, and is systematically monitoring, three of them.	Substantially met
Starting in 2007, establish six new marine protected areas under the *Oceans Act* by 2012	Since 2007, the Department has established only two MPAs (Bowie Seamount and Tarium Niryutait) and is currently working on eight potential MPAs.	Not met
Parks Canada		
Complete feasibility assessments for two potential national marine conservation areas by 2012	Parks Canada did not complete any feasibility assessments from 2010 to the end of our audit period.	Not met
Develop a national zoning framework for the national marine conservation area program by 2012	Parks Canada now aims to complete the zoning framework by 2013, according to its current Corporate Plan.	Not met

Conclusion

3.72 Although important work is being done to identify marine ecosystems that require protection, we concluded that Fisheries and Oceans Canada and Parks Canada have not planned, established, and managed a network of marine protected areas (MPAs) in accordance with their legislative mandates and policies and good practices in order to conserve and protect Canada's marine biodiversity and fulfill Canada's international targets under the Convention on Biological Diversity. As a consequence, Canada's marine biodiversity remains at risk. By extension, the prosperity of many coastal communities in Canada with marine-based economies also remains threatened.

3.73 Significant work remains to be done by both entities. Fisheries and Oceans Canada must complete a national MPA network plan for Canada, which will involve identifying what has been done by other federal and provincial authorities, and what remains to be done to establish functioning MPA networks in the 13 bioregions, including its own contribution to those networks. For its contribution to a national network, Parks Canada must select candidate sites in 15 additional marine regions and establish MPAs in 26 of its 29 marine regions where it has not already done so.

3.74 Continual improvement of management practices and processes will enhance the government's ability to conserve and protect Canada's marine biodiversity and monitor the effectiveness of its MPAs in achieving planned results. However, given the marked decline in marine productivity and the low level of marine protection in Canada, the slow rate of progress that has been made over the past two decades to establish a national network of MPAs is an issue that needs to be addressed. There is a need to learn from experience and explore innovative approaches, such as those applied in other jurisdictions. There is also a need to determine whether the human and financial resources being allocated to this effort are enough to get the job done in a timely manner. At the current rate of progress, it will take many decades for Canada to establish a fully functioning MPA network and achieve the target established in 2010 under the United Nations Convention on Biological Diversity to conserve 10 percent of marine areas.

About the Audit

All of the audit work in this chapter was conducted in accordance with the standards for assurance engagements set by The Canadian Institute of Chartered Accountants. While the Office adopts these standards as the minimum requirement for our audits, we also draw upon the standards and practices of other disciplines.

Objective

The objective of this audit was to determine whether Fisheries and Oceans Canada and Parks Canada have planned, established, and managed a network of marine protected areas in accordance with their legislative mandates and policies and recognized good practices in order to conserve and protect Canada's marine biodiversity and fulfill Canada's international targets under the Convention on Biological Diversity.

Scope and approach

The entities examined for the audit were Fisheries and Oceans Canada and Parks Canada.

We examined the coordinating and planning activities undertaken by Fisheries and Oceans Canada in relation to the development of a national marine protected area (MPA) plan. The scope included an examination of the planning approaches used, the consultations undertaken among departments, the actual plans, and supporting documentation.

We also examined the planning activities undertaken by Fisheries and Oceans Canada and Parks Canada to develop their department plans. The scope included an examination of the planning approaches used, the actual plans, and supporting documentation.

We examined whether Fisheries and Oceans Canada and Parks Canada have developed and followed their approaches for establishing MPAs, including the three key steps in the establishment process: obtaining information for decision making, consulting key stakeholders, and designating the MPA. We focused our examination work on two of the most recently established MPAs, as they would be the most representative of recent management practices and performance.

Finally, we examined the management and monitoring of the MPAs that have been established by Fisheries and Oceans Canada and Parks Canada. We examined whether the two entities have developed management plans that reflect department guidance for the 10 MPAs that have been established for the purpose of marine protection (8 by Fisheries and Oceans Canada and 2 by Parks Canada). For more specific questions on implementation of management plans and the monitoring and reporting of results, we focused our examination on 2 MPAs that have been established for a sufficient period of time to allow the entities to have proceeded with implementation of the plans and monitoring and reporting of the results achieved.

During the course of the audit, in addition to reviewing the supporting documentation, we interviewed key individuals at headquarters and at the regional offices for the two entities. We also conducted selected interviews with key stakeholders.

Criteria

Criteria	Sources
To determine whether Fisheries and Oceans Canada and Parks Canada have planned, established, and managed a network of marine protected areas in accordance with their legislative mandates and policies and recognized good practices in order to conserve and protect Canada's marine biodiversity and fulfill Canada's international targets under the Convention on Biological Diversity, we used the following criteria:	
Fisheries and Oceans Canada	1. *Oceans Act* (in force in 1997) 2. National Framework for Canada's Network of Marine Protected Areas, Fisheries and Oceans Canada, 2011 3. Canada's Federal Marine Protected Areas Strategy, Government of Canada, 2005 4. Federal Guide for Collaborative Planning of Marine Protected Areas, Fisheries and Oceans Canada, Parks Canada, and Environment Canada, 2009 5. Establishing Resilient Marine Protected Area Networks—Making it Happen, International Union for the Conservation of Nature, 2008 6. Oceans Act Marine Protected Areas Policy and Operational Framework—A Practitioner's Guide, Fisheries and Oceans Canada, 2009 7. Identification of Ecologically and Biologically Significant Areas, Canadian Science Advisory Secretariat Ecosystem Status Report 2004/006, Fisheries and Oceans Canada 8. Identification of Ecologically Significant Species and Community Properties, Canadian Science Advisory Secretariat Science Advisory Report 2006/041, Fisheries and Oceans Canada 9. National Framework for Establishing and Managing Marine Protected Areas, Fisheries and Oceans Canada, 1999 10. *Canada National Marine Conservation Areas Act*, 2002 11. Guiding Principles and Operational Policies—National Marine Conservation Areas Policy, Parks Canada, 1994 12. *Parks Canada Agency Act*, 1998 13. Parks Canada Guide to Management Planning, Parks Canada, 2008 14. Guidelines for Management Planning of Protected Areas, World Commission on Protected Areas, 2003 15. Canada's National Marine Conservation Areas System Plan, Parks Canada, 1995 16. *Saguenay–St. Lawrence Marine Park Act*, 1997 17. Convention on Biological Diversity, United Nations, 1992
Fisheries and Oceans Canada has coordinated with Parks Canada and identified stakeholders to develop a national plan for a network of marine protected areas in accordance with the Department's legislative mandate and policies and recognized good practices in order to conserve and protect Canada's marine biodiversity and fulfill Canada's international targets. (Sources: 1, 2, 3, 4, 5, and 17)	
Fisheries and Oceans Canada has developed departmental plans and programs to contribute to the national network of marine protected areas in accordance with its legislative mandates and policies, and recognized good practices. (Sources: 1, 2, 6, 7, and 8)	
Fisheries and Oceans Canada has established marine protected areas in accordance with its legislative mandates and policies. (Sources: 1, 2, 5, 6, and 9)	
Fisheries and Oceans Canada is managing marine protected areas in accordance with its legislative mandates and policies. (Sources: 6, 9, and 14)	
Parks Canada	
Parks Canada has developed agency-level plans and programs to contribute to the national network of marine protected areas in accordance with its legislative mandates and policies, and recognized good practices. (Sources: 2, 4, 10, 11, and 12)	
Parks Canada has established marine protected areas in accordance with its legislative mandates and policies. (Sources: 2, 5, 10, 11, and 15)	
Parks Canada is managing marine protected areas in accordance with its legislative mandates and policies. (Sources: 10, 11, 12, 13, 14, and 16)	

Management reviewed and accepted the suitability of the criteria used in the audit.

Period covered by the audit

The audit covered the period between April 2004 and April 2012, during which time several marine protected areas were established and key guiding documents—in particular, the National Framework for Canada's Network of Marine Protected Areas—were issued by the federal government. Audit work for this chapter was completed on 28 August 2012.

Audit team

Principal: Andrew Ferguson
Director: George Stuetz

Amélie Beaupré-Moreau
Erika Boch
Marie Duchaîne
Nicole Hutchinson
Teddy Sham
Erin Windatt

For information, please contact Communications at 613-995-3708 or 1-888-761-5953 (toll-free).

Appendix List of recommendations

The following is a list of recommendations found in Chapter 3. The number in front of the recommendation indicates the paragraph number where it appears in the Chapter. The numbers in parentheses indicate the paragraph numbers where the topic is discussed.

Recommendation	Response
Creation of marine protected areas	
3.34 Fisheries and Oceans Canada and Parks Canada should identify specific ecosystem services provided by existing and planned marine protected areas and assess their values so that Canadians and federal policy makers have better information to understand their associated benefits and costs. **(3.24–3.33)**	**Fisheries and Oceans Canada's response.** Agreed. In recognition of the complexity of the methodology to value ecosystem services and the complexity of the scientific information required for carrying out such evaluation, a case study will be undertaken to test existing methodologies and determine the types of scientific information and the level of detail required to illustrate the benefits of ecosystem services for an existing marine protected area or a common ecosystem service across existing marine protected areas. The results of the case study, along with the outcomes of the federal interdepartmental initiative entitled Measuring Ecosystem Goods and Services (MEGS) and international efforts (for example, The United Nations' System of Environmental-Economic Accounts (SEEA); The Economics of Ecosystems and Biodiversity (TEEB); The Natural Capital Project), will be used to develop guidelines to identify and assess the value of specific ecosystem services associated with marine protected areas so that Canadians and federal policy makers have better information to understand their associated benefits and costs. Fisheries and Oceans Canada will also improve its analyses to the extent possible and pursue available means to infer ecosystem service values from studies undertaken abroad. Implementation date: March 2014. **Parks Canada's response.** Agreed. In the case of proposed marine protected areas, Parks Canada will continue to look at a range of impacts and benefits associated with the creation of new national marine conservation areas [Parks Canada's term for marine protected areas] as part of the establishment process. With respect to ecosystem services, Parks Canada will develop such information where it will better inform the feasibility assessment process. Such work, however, will have to rely on existing information as much as possible so as to not unduly delay the establishment process. For its existing marine

Recommendation	Response
	protected areas, Parks Canada will identify ecosystem services in the development of management plans and, in particular, in zoning plans where the issue of impacts and benefits of putting in place special protection measures is best addressed.
Progress on MPAs—Fisheries and Oceans Canada	
3.53 Fisheries and Oceans Canada has indicated that marine protected areas (MPAs) will be managed so that sustainable economic opportunities compatible with the conservation objectives of the MPAs will be permitted through different zoning in the MPAs. The Department should develop practical guidance on how department officials are to assess economic opportunities to determine whether they are compatible with the conservation objectives of the MPAs. **(3.40–3.52)**	**The Department's response.** Agreed. Fisheries and Oceans Canada will develop operational guidance detailing an approach for determining which activities are compatible with the conservation objectives of the marine protected area. Implementation date: March 2014.
Progress on MPAs—Parks Canada	
3.70 Parks Canada should develop practical guidance on how ecologically sustainable use is to be assessed and implemented in relation to its MPAs. **(3.54–3.69)**	**The Agency's response.** Agreed. In 2012, Parks Canada established a Marine Policy unit to lead the development of guidance for the effective management of national marine conservation areas (NCMAs) [Parks Canada's term for marine protected area]. A priority for this new work unit is to formally articulate the Agency's understanding of ecologically sustainable use, a core concept with regard to the management and assessment of NMCAs. The articulation of this policy concept will subsequently form the basis for the development of national guidance for NMCA zoning, monitoring, and reporting. It will also support the NMCA establishment process by facilitating effective communications of the concept to stakeholders and partners.