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Chapter 4

Oceans Policy: A Canadian Case Study*

Camille Mageau,** David L. VanderZwaag, and Susan Farlinger

4.1. Introduction

Over the years, Canada, like most other coastal nations, has developed an intricate set of policies and regulatory instruments focused on the management of traditional sectoral uses of the oceans. A decade ago, the necessary steps were taken to modernise the way in which Canadian authorities manage ocean-based activities. Canada did not set out to design “one” comprehensive, all inclusive oceans policy. The primary approach taken was to identify, through Canada’s *Oceans Act*,¹ one federal lead authority responsible for the coordination and harmonisation of existing policy and statutory instruments and to formulate a national vision and guiding principles for oceans management within which existing and emerging policies and laws would be interpreted and implemented.

This chapter outlines Canada’s statutory and policy instruments and implementation approach to oceans management. The political and environmental context within which a new management approach was developed will be described as well as the processes which led to the development of the *Oceans Act*, its policy framework, Canada’s Oceans Strategy² and finally, the Government of Canada’s blueprint for action, Canada’s Oceans Action Plan.³ The relationship between key ocean-related

* This chapter is an updated version of a chapter expected to appear in B. Cecin-Sain, M. Balgos and D. L. VanderZwaag, eds, *Integrated National and Regional Ocean Policies: Comparative Practices and Future Prospects* (United Nations University Press, forthcoming).

** The views expressed in this paper do not necessarily reflect the views of the Government of Canada.

¹ *Oceans Act*, S.C. 1996, c. 31.

² Fisheries and Oceans Canada, *Canada’s Oceans Strategy: Our Oceans, Our Future* (Ottawa: Fisheries and Oceans Canada, Oceans Directorate, 2002), available: <http://www.dfo-mpo.gc.ca/oceans-habitat/oceans/ri-rs/cos-soc/pdf/cos-soc_e.pdf> (retrieved 15 November 2008).

³ Fisheries and Oceans Canada, *Canada’s Oceans Action Plan for Present and Future Generations* (Ottawa: Fisheries and Oceans Canada, Communications Branch, 2005), available:

agreements and Canadian domestic law and practice is summarised. In closing, lessons learned during the past decade will be examined, as will the challenges which lie ahead.

4.2. Ocean Policy Context, Processes and Institutional Arrangements

4.2.1. Basic Information

Canada is a maritime nation which borders on the North Pacific, the Arctic and the North Atlantic oceans, with marine areas covering a broad range of ocean climactic and oceanographic environments. Canada's current ocean regions total almost three million square kilometres,⁴ and this will likely increase significantly once the extended continental shelf is delimited through the 1982 United Nations Convention on the Law of the Sea (LOS Convention) process.⁵

Eight out of the ten provinces and all three territories border on oceans, and approximately 24 percent of Canada's population inhabits the coastal zone along a coastline which is one of the longest in the world at about 245,000 kilometres.⁶ The oceans provide the recreational, environmental, employment, income, and cultural staples to over seven million Canadians who live in coastal communities.⁷

Challenges in coastal and marine environments are recognised by governments worldwide. Canada has, in the past, defined itself as a fishing and shipping nation, with a long history and culture based on the rich productivity and diversity of its ocean resources. With the emergence of a number of other ocean-related industries, many of which vie for access to the same ocean space, the footprint of each industry and that of the sum of these activities have taken their toll on the environment resulting in:

<http://www.dfo-mpo.gc.ca/oceans-habitat/oceans/oap-pao/index_e.asp> (retrieved 14 November 2008).

⁴ World Resources Institute (WRI), *Earth Trends – The Environmental Information Portal. Country Profiles, Canada* (2004), available: <http://earthtrends.wri.org/pdf_library/country_profiles/coa_cou_124.pdf> (retrieved 14 November 2008) [hereinafter WRI].

⁵ *United Nations Convention on the Law of the Sea*, 10 December 1982, 1833 *U.N.T.S.* 397, reprinted in *I.L.M.* 21(6): 1261–1354 [hereinafter LOS Convention].

⁶ Fisheries and Oceans Canada, "Oceans Management," (n.d.), available: <http://www.dfo-mpo.gc.ca/oceans-habitat/oceans/index_e.asp> (retrieved 15 November 2008).

⁷ WRI, n. 4 above.

- failing oceans health, including declining fish stocks, increasing numbers of marine species at risk and invasive species, declining biodiversity, and marine habitat loss;
- growing oceans user conflicts and administrative, jurisdictional and regulatory complexities; and,
- an oceans industry sector that is significantly weaker than its potential.

The marine areas that border Canada are vastly different from one another. The Pacific coast of Canada is characterised by a relatively narrow continental shelf about 50 kilometres in width and a very indented coastal area of bays, fjords with inlets, wetlands, and estuaries. In addition to shipping, and aboriginal, recreational and commercial fishing activities, the dominant industries include ecotourism, with an increasing focus on aquaculture in some areas of the coast.

The Atlantic coast has a much wider continental shelf. Offshore areas have traditionally supported extensive and varied fishing, marine transportation activities and, increasingly, initiatives related to oil and gas, ecotourism and aquaculture.

The Arctic marine area along the northern coast of Canada and its archipelago is characterised by a broad shallow shelf and land fast ice. Transportation activities in the Arctic are largely seasonal and predominantly community re-supply oriented. Land mining, oil and gas exploration, ecotourism, and subsistence harvesting all contribute to the marine-based northern economy.

Canada still has unresolved ocean boundaries.⁸ In the Arctic, the offshore boundary in the Beaufort Sea between Alaska and the Yukon remains in dispute, while Canada and Greenland (Denmark) have yet to settle the boundary in the Lincoln Sea. On the Pacific coast, Canada has maritime boundary issues with the United States in the Dixon Entrance region (British Columbia – Alaska) and seaward of the Juan de Fuca Strait (British Columbia – Washington). In the Gulf of Maine, on the Atlantic coast, Canada and the United States continue to dispute the ownership of Machias Seal Island in the Bay of Fundy and jurisdiction over adjacent waters.⁹

Over the last 15 years, the oceans have been a dynamic growth sector for the Canadian economy, and currently generate over CAD22 billion (2002 estimate) directly through ocean-related industries. Commercial fishing

⁸ D. L. VanderZwaag, *Canada and Marine Environmental Protection: Charting a Legal Course Towards Sustainable Development* (London: Kluwer Law International, 1995).

⁹ T. L. McDorman, P. M. Saunders, and D. L. VanderZwaag, "The Gulf of Maine Boundary: Dropping Anchor or Setting a Course?" *Marine Policy* 9, no. 2 (1985): 90–107.

continues to make an annual contribution to Canada's oceans economy totalling CAD2 billion (harvest value), supplemented by a further CAD1 billion from the fish processing industry. Employment in aquaculture has grown by over 460 percent, and the value of fish farm production has increased by more than 500 percent. Offshore oil and gas production has increased in annual investment value over the past decade from CAD250 million to CAD5 billion. Employment in the offshore oil and gas sector now represents 4.0 percent of the overall oceans industry compared to past levels of 0.3 percent. Considerable renewable energy resources such as offshore wind, wave and tidal energy have been identified on all three of Canada's coasts and initial projects are currently in early development in both British Columbia and the Bay of Fundy. Recreation and tourism have grown by over 33 percent in the past decade despite a drop in the number of recreational anglers. There has been major growth in both coastal tourism (156 percent) and cruise ship tourism (176 percent in the number of passengers); and although tourism still remains a relatively small contributor to the oceans economy, it is increasing in its significance. As a maritime nation, Canada has a significant and vibrant shipping industry. CAD143.7 billion worth of goods and commodities moved through Canada's national marine transportation system in 2006.¹⁰

Aboriginal communities have the longest history of coastal occupancy. Coastal aboriginal cultures are tied to ocean resources for food, social, and ceremonial reasons. Commerce between First Nations, and after contact between aboriginal communities and Europeans, were often based on oceans activities or resources.

Canada is a confederation of ten provinces and three northern territories. Federal jurisdiction extends to marine navigation and shipping, international affairs, defence, environmental protection, as well as the protection of living resources within offshore areas.¹¹ Provinces, the sub-national authorities within Canada, may also exert jurisdiction over some offshore waters. In general, provinces own and manage the seabed within the coastal inter-tidal area. Provinces have constitutional authority over property and civil rights within the province pursuant to section 92(13) of the *Constitution Act, 1867*.¹² Canadian case law has recognised two legal foundations for provincial offshore jurisdiction, marine areas considered *inter fauces terrae* (between the jaws of

¹⁰ Transport Canada, *Transportation in Canada 2007, An Overview* (Ottawa: Minister of Public Works and Government Services, 2007), available: <<http://www.tc.gc.ca/pol/en/Report/anre2007/index.html>> (retrieved 21 November 2008).

¹¹ Fisheries and Oceans Canada, *The Role of the Federal Government in the Oceans Sector* (Ottawa: Fisheries and Oceans Canada, Oceans Directorate, 1997).

¹² *Constitution Act, 1987* (U.K.), 30 & 31 Vict., c. 3, reprinted in R.S.C. 1985, App. II, No. 5.

land) and marine areas considered to be part of a province at the time of confederation.¹³

Management of activities within Canadian marine waters has developed on a sector or regional basis and is therefore diverse and lacks a cohesive approach. For example, there are ten major and 13 minor federal agencies that have mandates that impact on oceans. There are roughly 50 federal statutes directly impacting ocean-related activities and more than 80 provincial laws that affect coastal and marine planning.¹⁴

In addition to this legislated division of power, Canada sets as a high priority its constitutional obligations to Aboriginal peoples. The *Constitution Act, 1982* recognises and affirms existing aboriginal and treaty rights.¹⁵ Where land claim agreements have been settled, and include specific resource management responsibilities and commitments by the federal government to cooperate and collaborate with the signatories, the situation is clear. In many cases, however, claims which may impact on ocean areas have not yet been settled, and interim arrangements which do not prejudice the outcomes of land claims discussions are in place, being developed, or needed.¹⁶

The *Oceans Act* contains an explicit provision to provide certainty that it does not abrogate or derogate from existing aboriginal and treaty rights.¹⁷ This provision sets out the framework for the relationship of *Oceans Act* programmes and activities with Aboriginal peoples. While integrated planning and the development of marine protected areas are without prejudice to rights and title, the involvement and support of Aboriginal peoples is clearly required where their interests are potentially affected. Many coastal communities, of and by themselves, have large Aboriginal populations and in some areas, specific arrangements respecting harvesting and co-management have been made with aboriginal authorities.

The importance of the oceans to the federal, provincial, First Nations, municipal, and local communities, stakeholders, and interest groups requires engagement of these interests in setting priorities and planning oceans activities. It is this context that informed the development of an *Oceans Act*. The federal Department of Fisheries and Oceans Canada (DFO) is the lead

¹³ *Reference Re Ownership of the Bed of the Strait of Georgia*, 1 S.C.R. 388 [1984].

¹⁴ Fisheries and Oceans Canada, *The Role of the Provincial and Territorial Governments in the Oceans Sector* (Ottawa: Oceans Directorate, Fisheries and Oceans Canada, 1997).

¹⁵ *Constitution Act, 1982*, being Schedule B to the *Canada Act 1982* (U.K.), 1982, c. 11.

¹⁶ C. R. Brown, C. Rebecca, and J. I. Reynolds, "Aboriginal Title to Sea Spaces: A Comparative Study," *University of British Columbia Law Review* 37, no. 2 (2004): 449–493; D. J. R. Moodie, "Aboriginal Maritime Title in Nova Scotia: An "Extravagant and Absurd Idea"?" *University of British Columbia Law Review* 37, no. 2 (2004): 495–540.

¹⁷ *Oceans Act*, n. 1 above, s. 2.1.

federal agency responsible for the coordination of both domestic and international oceans policy. This mandate is in addition to more traditional marine responsibilities related to the management of aboriginal, commercial and recreational fisheries, marine safety and communication, environmental response, and the provision of marine scientific advice and research.

4.2.2. Brief Overview of Nature and Evolution of National Oceans Policy

Although the development of a national oceans policy and legislation was first proposed in 1987,¹⁸ the first steps towards the elaboration of a national oceans policy for Canada were taken when the Government of Canada, in 1996, enacted the *Oceans Act*. This statute formalises, in a comprehensive way, how Canada's oceans are to be defined and managed.

The *Oceans Act* lays the foundation for the oceans policy by committing to a number of principles and is structured to delineate the geographic area over which Canada intends to apply its ocean management approach.¹⁹ The Act defines the guiding principles of integrated management, sustainable development, and the precautionary approach, provides the mandate to develop and implement programmes to implement these principles, and situates DFO's existing regulatory and management authorities within the context of oceans management. The Act also recognises other mandated authorities and provides guidance on how their mandates should be delivered within the marine environment.

The development and review of the *Oceans Act*, through the public and parliamentary processes, was complemented by a broad public consultation process which led to Canada's Oceans Strategy, the over-arching oceans policy framework for the integrated management of Canada's oceans.²⁰ During the five years immediately following the proclamation of the *Oceans Act*, the ocean management programmes outlined in the statute were piloted in the field to better define the policy guidance required and inform the development of the federal Oceans Action Plan.

Flowing from the political commitment in the October 2004 Speech from

¹⁸ Fisheries and Oceans Canada, *Oceans Policy for Canada: A Strategy to Meet the Challenges and Opportunities on the Oceans Frontier* (Ottawa: Fisheries and Oceans Canada, Information and Publications Branch, 1987).

¹⁹ *Oceans Act*, n. 1 above, ss. 28–30.

²⁰ Fisheries and Oceans Canada, *Canada's Oceans: Experience and Practices*, Monograph No. 7, Sustainable Development in Canada Series (Ottawa: Minister of Supply and Services, 1999).

the Throne and the 2005 Budget Speech,²¹ Canada's Oceans Action Plan outlines and funds priority areas for action under four major themes, namely: international leadership, sovereignty, and security; integrated oceans management for sustainable development; health of the oceans; and science and technology.²² As part of the National Water Strategy, the federal budget, on 19 March 2007, proposed CAD19 million over two years to support the Health of the Oceans, which will further support sustainable development, management and protection of ocean resources, and water quality.²³

4.2.3. Policy Development Processes

In Canada, the development of an oceans policy has been, and continues to be, an evolutionary process. In 1994, the National Advisory Board on Science and Technology (NABST), following extensive public consultations, recommended to the prime minister that Canada move decisively to address environmental issues confronting oceanic areas and maximise the economic benefits that could be derived by managing ocean resources more sustainably.²⁴ Specific recommendations focused on the need to develop a national policy as well as legislation focused on the management of ocean and coastal spaces and resources.

Although similar calls had been made in the past, there was, at this time, a convergence of domestic and international fishing and pollution issues, primarily in the North Atlantic, that served to focus public, as well as political, interest.²⁵ As a result of this heightened profile, drafting of a comprehensive *Oceans Act* was initiated and the act came into force on 31 January 1997.

²¹ Government of Canada, *Speech from the Throne to Open the First Session of the Thirty-Eighth Parliament of Canada* (Ottawa: Prime Minister's Office, 5 October 2004), available: <<http://www2.parl.gc.ca/Parlinfo/Documents/ThroneSpeech/38-1-e.html>> (retrieved 13 November 2008); Department of Finance Canada, *The Budget Speech 2005* (Ottawa: Department of Finance Canada, 2005), available: <http://www.fin.gc.ca/budget05/pdf/_speeche.pdf> (retrieved 14 November 2008).

²² Fisheries and Oceans Canada, n. 3 above, p. 5.

²³ Department of Finance Canada, *The Budget Speech 2007* (Ottawa: Department of Finance Canada, 2007), available: <<http://www.budget.gc.ca/2007/pdf/speeche.pdf>> (retrieved 12 November 2008).

²⁴ National Advisory Board on Science and Technology (NABST), *Opportunities from our Oceans: Report of the Committee on Oceans and Coasts* (Ottawa: NABST, 1994) [hereinafter NABST].

²⁵ Commissioner of the Environment and Sustainable Development, *Report of the Commissioner of the Environment and Sustainable Development to the House of Commons*,

4.2.3.1. *The Oceans Act*

The *Oceans Act* is comprised of three parts, which provide the necessary infrastructure to move forward with a modern oceans governance framework.

Part One of the Act recognises Canada's maritime zones and commits the Government of Canada to meeting its conservation and management responsibilities within these marine areas. Consistent with the terms of the LOS Convention, Canada has defined its territorial sea, contiguous zone, exclusive economic zone, and continental shelf excluding the outermost extent. Canada is in the process of delimiting the outer extent of the continental shelf and intends to make a submission to the UN Commission for the Limits of the Continental Shelf by the required deadline in 2013.²⁶

Part Two of the Act provides the Minister of Fisheries and Oceans with specific policy and programme authorities to implement Canada's approach to oceans management in estuarine, coastal, and marine ecosystems. Section 29 of the *Oceans Act* provides for the development of a national strategy, Canada's Oceans Strategy, which constitutes the policy framework for modern oceans management and serves as guidance for the development and updating of sector-based policies and processes. The Act calls upon the minister to develop this strategy in collaboration with federal colleagues, provincial and territorial governments, affected aboriginal organisations, coastal communities, and other persons and bodies, including those bodies established under land claims agreements. Finally, the Act includes provisions for the development of three specific programme areas: 1) marine protected areas; 2) marine environmental quality; and 3) integrated management plans. These programmes are the key tools to implement the national ocean policy objectives: understanding and protecting the marine environment, supporting sustainable economic opportunities, and international leadership.

Part Three of the *Oceans Act* sets out the accountabilities for the Act. It identifies the Minister of Fisheries and Oceans as the lead federal authority responsible for oceans management within Canada and situates the existing resource management, scientific, hydrographic, coast guard, and other responsibilities of the department within an oceans management context.

Chapter 1 Fisheries and Oceans Canada – Canada's Oceans Management Strategy (Ottawa: Office of the Auditor General of Canada, 2005), available: <[http://www.oag-bvg.gc.ca/domino/reports.nsf/html/c20050901ce.html/\\$file/c20050901ce.pdf](http://www.oag-bvg.gc.ca/domino/reports.nsf/html/c20050901ce.html/$file/c20050901ce.pdf)> (retrieved 12 November 2008).

²⁶ Foreign Affairs and International Trade Canada, Legal Affairs Branch, *Examples of Current Issues of International Law of Particular Importance to Canada – Oceans Law*, available: <<http://geo.international.gc.ca/cip-pic/library/oceanslaw-en.asp>> (retrieved 12 November 2008).

Following adoption of the *Oceans Act*, DFO re-allocated modest funds to support the implementation of the Act through a series of pilot projects and the development of Canada's Oceans Strategy in consultation with Canadians.²⁷ Pilot projects were selected based on feasibility criteria, including the complexity of the ocean issues involved, the receptivity of potential partners, the level of scientific information available, and the conservation imperatives of the area. Projects included the identification of areas of interest for marine protected areas, and the announcement of several pilot marine protected areas, such as the Sable Gully and Endeavour Hot Vents in 1998.²⁸ Pilot integrated management initiatives were also established in the area of the Eastern Scotian Shelf (ESSIM) in 1998, the Beaufort Sea in 2000, and the Pacific North Coast of British Columbia (PCIMA) in 2001.²⁹ The pilot integrated management and marine protected areas projects provided lessons with respect to policy integration, the building of relationships, the development of the governance structures, and related arrangements.

The policy development process continued its course with two public engagement and consultation processes. The first was focused on the vision for the *Oceans Act*.³⁰ The other focussed on a structured consultation on Canada's Oceans Strategy and was designed to solicit federal, provincial, First Nations, and public input. Over a period of five years, DFO engaged the views and perspectives of Canadians by supporting a wide range of discussions, workshops, and consultation activities across the country.

4.2.3.2. Canada's Oceans Strategy

Canada's Oceans Strategy and its companion Integrated Management and Operational Framework were released in 2002 following formal federal, provincial, territorial, aboriginal, and public consultations.³¹ Presented to Cabinet, the Oceans Strategy received government endorsement and became the basis upon which federal activities were to be conducted in marine waters.

²⁷ Fisheries and Oceans Canada, n. 2 above.

²⁸ Fisheries and Oceans Canada, Statement by David Anderson, Minister of Fisheries and Oceans Canada: Announcement on Offshore Marine Protected Areas (Ottawa: Fisheries and Oceans Canada, 8 December 1998).

²⁹ Commissioner of the Environment and Sustainable Development, n. 25 above.

³⁰ Fisheries and Oceans Canada, *A Vision for Ocean Management*, Ministerial Vision Paper (Ottawa: Fisheries and Oceans Canada, 1994).

³¹ Fisheries and Oceans Canada, n. 2 above; Fisheries and Oceans Canada, *Policy and Operational Framework for Integrated Management of Estuarine, Coastal and Marine Environments in Canada* (Ottawa: Fisheries and Oceans Canada, Oceans Directorate, 2002).

The release of the Canada's Oceans Strategy as a policy of the Government of Canada set out the achievement of its objectives as a shared responsibility for all federal departments with an oceans mandate.³² The following fundamental principles are set out in the *Oceans Act* and Canada's Oceans Strategy:

- *Integrated Management*: plan and manage human activities impacting on oceans in a comprehensive fashion while considering all factors necessary for the conservation and sustainable use of marine resources and the shared use of ocean space.
- *Sustainable Development*: integrate social, economic, and environmental aspects of decision making.
- *Precautionary Approach*: err on the side of caution in making management decisions.

Integrated management is a spatially-based planning process that results in common understanding of ecosystem and human activity objectives on the part of regulators, stakeholders, and interested parties and the production of an "integrated management plan" for a geographic area.³³ The plan provides a framework to conduct activities and to develop and implement integrated and adaptive management strategies and actions. The plans are based on the recognition that integrated management planning must occur in an ecosystem context for the decisions to be environmentally sound and ocean activities sustainable.

Canada's Oceans Strategy commits the government to work collaboratively within the federal government and among levels of government, to share responsibility for achieving common objectives, and to engage Canadians in ocean-related decisions in which they have a stake.³⁴ Integrated management planning includes the establishment of institutional governance mechanisms as a cornerstone of the national oceans approach. This integration is not limited to policies and legislative authorities that oversee the management of oceans activities; its primary focus is planning and managing activities on a geographic basis.

Integration is required to achieve *sustainable development*, which in itself requires that conservation issues be addressed and that economic diversification and multiple uses be recognised as legitimate objectives to be striven for.

³² Fisheries and Oceans Canada, n. 2 above, p. 18.

³³ B. Cicin-Sain and R. W. Knight, *Integrated Coastal and Ocean Management: Concepts and Practices* (Washington, DC: Island Press, 1998).

³⁴ Fisheries and Oceans Canada, n. 2 above, pp. 18–20.

The ability to adapt management decisions to reflect new scientific and technical developments, changing economic and social objectives, and to respond to positive or negative environmental responses, is key to achieving the principles of integrated management and sustainable development.

The *precautionary approach* should be followed as part of the decision-making process for integrated management. When there is a risk of serious or irreversible harm and there is significant scientific uncertainty, then decisions and management options will err on the side of caution. Within the context of oceans management, application of the precautionary principle is inextricably linked to two other concepts, an ecosystem-based and science-based approach to decision making.³⁵

The *ecosystem-based approach* relies on the identification of ecosystem objectives that, together with social and economic objectives, form the basis for integrated management planning and related decision making. These ecosystem objectives are based on an assessment of ecological information and an evaluation of the risk posed to ecosystem structure and function based on both available information and uncertainties. In this way, the risks of uncertainty are incorporated into decisions and are managed into the future through adaptive management.

4.2.4. Institutional Arrangements and Processes Used

Following prime ministerial acceptance of the recommendation by NABST's Committee on Oceans and Coasts (1994) that Canada formulate an overall oceans policy framework and develop ocean-focused legislation,³⁶ a ministerial vision paper on oceans management was released.³⁷ Public comments on the vision paper served to form the basis of the draft legislation. While parliamentary procedures do not allow for public review of draft legislation, information sessions outlining the intent of the legislation were held. The normal parliamentary consultation procedures, which involve formal publication of draft legislation by the House of Commons, as well as targeted consultations with affected parties, were conducted. Witnesses to the

³⁵ D. Cobb, M. Kislalioglu Berkes, and F. Berkes, "Ecosystem-based management and marine environmental quality indicators in northern Canada," in F. Berkes, R. Huebert, H. Fast, M. Manseau, and A. Diduck, eds., *Breaking Ice: Renewable Resource and Ocean Management in the Canadian North* (Calgary: University of Calgary Press, 2005): 71–94.

³⁶ NABST, n. 24 above.

³⁷ Fisheries and Oceans Canada, n. 30 above.

parliamentary review process, including potentially affected stakeholders, environmental non-government organisations, Aboriginal peoples, coastal communities, and academics, broadened the scope of the Act.

DFO also led the development of Canada's Oceans Strategy, incorporating the lessons learned from the pilot application of the *Oceans Act* programme and the views expressed during public engagement processes. Policy development entailed consulting a range of governmental and non-governmental stakeholders and using different mechanisms to connect with sub-national and aboriginal authorities and the academic community. Since 1997, DFO has engaged the views and perspectives of Canadians by supporting a wide range of discussions, workshops, and consultation activities across the country. These activities include the public discussion document, "Towards Canada's Oceans Strategy"³⁸; an interactive website (http://www.dfo-mpo.gc.ca/canwaters-eauxcan/index_e.asp); public opinion polls and research; an international Oceans Stewardship Conference³⁹; international workshops on integrated management; cross-country consultation sessions; the establishment and use of a Minister's Advisory Council on Oceans⁴⁰; and a national oceans discussion series in cooperation with the Canadian Broadcasting Corporation and the International Oceans Institute of Canada.⁴¹ Bilateral meetings were conducted with key national stakeholders including environmental non-governmental organisations and the main aboriginal organisations.

The development of a national oceans policy, therefore, involved a mix of legislation, policy development, pilot projects, and relationship building. While legislation and policy development take place at the national level in federal departments such as DFO, coordination and collaboration are required at many levels to create the environment and tools to implement such a horizontal collaborative initiative. Governance arrangements and processes are described below and Table 4.1 gives an indication of the complexity of these relationships.

³⁸ Fisheries and Oceans Canada, "Toward Canada's Oceans Strategy," Discussion Paper (Ottawa: Fisheries and Oceans Canada, 1997).

³⁹ Fisheries and Oceans Canada, "Partnerships for Living Oceans," Canadian Oceans Stewardship Conference Report, 6–8 June 2001, Vancouver, British Columbia (Ottawa: Oceans Directorate, Fisheries and Oceans Canada, 2001).

⁴⁰ Fisheries and Oceans Canada, "Thibault Appoints Two New Members to Minister's Advisory Council on Oceans," *News Release* (Ottawa, 10 December 2002).

⁴¹ Canadian Broadcasting Corporation (CBC), "Oceans Explorations 2001: Learning From Our Oceans" (IDEAS, CBC Radio One, 2001), available: <<http://www.cbc.ca/ideas/features/oceans>> (retrieved 10 November 2008) [hereinafter CBC].

Table 4.1. National, sub-national and local oceans governance structures and agreements

	Examples of Governance Structures			Examples of Agreements
	National	Sub-National	Local	
International	Membership in international committees, councils and science organisations, including regional fisheries management organisations, Arctic Council, Asia-Pacific Economic Co-operation (APEC), International Maritime Organization, Intergovernmental Oceanographic Commission			
Other government departments (OGD)	Deputy ministers' committee Support committees	Sub-national implementation committees	OGD planning or regulatory processes	National Marine Protected Area Strategy
Provinces and territories	Canadian Council of Fisheries and Aquaculture Ministers' Oceans Task Group	ESSIM Regional Oceans Management Committee	Lead on coastal planning	Canada/British Columbia MOU Canada/Quebec St. Lawrence Action Plan
Aboriginal organisations		Co-management bodies established pursuant to Inuvialuit Final Land Claims Agreement directly involved in Beaufort Sea ocean management planning bodies	Planning process/ traditional ecological knowledge consultation	Turning Point Agreement (British Columbia-First Nations agreement relating to Pacific North Coast LOMA)

Stakeholders				
Local communities	Sub-National Implementation Committees	Advisory/Planning Process		
Industry stakeholders	Sub-national implementation committees	Advisory/planning process		Ocean Management Research Network Canadian Association of Petroleum Producers /draft seismic regulations
Oceans interest groups	Sub-national implementation committees	Advisory/planning process		Membership on Canadian delegations

A Minister's Advisory Council on Oceans was established in September 2000 for a three-year term to provide advice on ocean management policy issues and to help engage the public and private sectors in issues related to oceans management.⁴² The council consisted of nine individuals from diverse backgrounds representing a range of interest groups, including Aboriginal peoples, industry members and academics.⁴³ As such, the council was instrumental in increasing public understanding and awareness of the nature and intent of Canada's ocean management approach.

In 2001, federal, provincial and territorial ministers agreed that an Oceans Task Group would be established under the aegis of the Canadian Council of Fisheries and Aquaculture Ministers to help develop and implement Canada's Oceans Strategy.⁴⁴ This task group continues to provide a forum for federal-provincial issues on oceans management with its work guided by an annual workplan approved by ministerial council.

Further, to foster the scientific understanding necessary to support ocean management policy, and to bridge the gap between natural and social sciences,

⁴² Fisheries and Oceans Canada, n. 40 above.

⁴³ Fisheries and Oceans Canada, "Members of the Minister's Advisory Council on Oceans (MACO)," Backgrounder (Ottawa: Fisheries and Oceans Canada, September 2000).

⁴⁴ Canadian Council of Fisheries and Aquaculture Ministers, "Fisheries and Aquaculture Ministers Make Progress in Key Areas," *News Release* Ref: 830-729/04 (Toronto: Canadian Intergovernmental Conference Secretariat (CICS), 20 September 2001), available: <http://www.scics.gc.ca/cinfo01/83072904_e.html> (retrieved 12 November 2008).

an Ocean Management Research Network (OMRN) was established as a joint initiative between the Social Science and Humanities Research Council (SSHRC) and DFO in 2001. The OMRN has created a national network of interdisciplinary and cross-sectoral research working groups to create knowledge and best practices for sustainable oceans management.⁴⁵

To aid federal government coordination and input to ocean policy development, a system of interdepartmental committees on oceans was established at the deputy minister, assistant deputy minister, and programme levels. Four interdepartmental working groups were also formed to focus on the four “pillars” set out in Canada’s Oceans Action Plan, namely, international leadership, sovereignty and security; integrated oceans management for sustainable development; health of the oceans; and oceans science and technology.⁴⁶

The call to advance modern ocean management in the Speech from the Throne in 2004 and the 2005 Budget Speech,⁴⁷ and the designation by the prime minister of a parliamentary secretary to support implementation of the Oceans Action Plan provided the high-level profile and the political pressure necessary to secure the funding needed for a government-wide initiative.⁴⁸ This resulted in the Oceans Action Plan (2005–2007). In 2007, the government further committed five years of funding to specific elements of the broad oceans agenda, namely, Health of the Oceans, a CAD61.5 million initiative comprised of 22 specific components being carried out by five partnered federal departments/agencies.⁴⁹

Overall, the various governance mechanisms and agreements have been effective in developing a policy framework and action plan that reflects a range of stakeholder interests. These initiatives have been endorsed at the highest levels of government.

⁴⁵ Ocean Management Research Network, “Review and Update from the National Secretariat: Network News” (Oceans Management Research Network, June 2004), available: <http://www.omrn.ca/eng_about.html> (retrieved 20 January 2007).

⁴⁶ Fisheries and Oceans Canada, “Performance Report for the Period ending March 31, 2004” (Ottawa: Treasury Board of Canada, 2004), available: <http://www.tbs-sct.gc.ca/rma/dpr/03-04/FO-PO/FO-POd34_e.asp> (retrieved 10 November 2008).

⁴⁷ Government of Canada, n. 21 above; Department of Finance Canada, n. 21 above.

⁴⁸ Fisheries and Oceans Canada, n. 46 above.

⁴⁹ Department of Finance Canada, n. 23 above.

4.3. Nature of the Policy and Legislation Established

4.3.1. Nature of the Resulting Policy

The *Oceans Act* is enabling legislation, designed to provide the Minister of Fisheries and Oceans with the responsibility of focusing current federal legislative and policy tools to increase the linkages among and overall effectiveness of federal government efforts in specific geographic areas.⁵⁰ This collaborative aspect of the legislation is the most challenging to implement in that willing partners are needed to advance ocean management. Intergovernmental agreements have been required, as well as negotiations with industry and aboriginal authorities. Implementation of *Oceans Act* programmes have moved at different paces in different areas, with more rapid progress achieved in ocean management areas where existing collaborative mechanisms were already in place. As lead and facilitator, DFO has had to concentrate on building the relationships while at the same time developing the science-based tools and fostering the governance arrangements needed to incorporate the values and interests of others.

The *Oceans Act* and the oceans policy framework do not supersede nor fetter other policies or statutes, but provide context within which other ocean-related mandates should operate. On this basis, both the Act and Canada's Oceans Strategy provide the broad framework to guide further federal policy development to work with other levels of government and provide new context within which to interpret older policies. Together, they provide the principles and key tools to implement modern oceans governance, within which existing policies and statutes, and traditional relationships between regulators and their traditional "clients," may operate. As the guiding principles such as precaution and adaptive management are interpreted and utilised in integrated management planning, they will be integrated into new sectoral policies. Since the building blocks of Canada's oceans policy framework, and the associated implementation programmes, are solidly anchored on precaution, ecosystem-based management, and sustainable development, these principles are by definition imbedded in decisions that will be taken within the integrated management planning areas.

⁵⁰ Oceans Act, n. 1 above, s. 29, 33.

4.3.2. Implementation of Principles

In Canada, an ecologically-based framework to guide the development of integrated management plans has been developed. The integrated management planning framework extends from the large to the small scale, i.e., from large ocean management areas (LOMAs) to coastal management areas (CMAs). The Canadian approach to integrated management recognises that management objectives and planning practices must reflect the fact that ecosystems nest within other ecosystems. Governance structures, practices, and decisions respecting resource and activities management are made with explicit consideration of ecosystem impact. As such, the precautionary approach is built into integrated management through the identification of ecosystem objectives that activities must respect within specified planning areas. A brief review of Canada's incorporation of the principles of ecosystem-based management, integrated management, the precautionary approach, and public participation and community-based management follows.

4.3.2.1. Ecosystem-based Management

The Preamble of the *Oceans Act* states that “conservation, based on an ecosystem approach, is of fundamental importance to maintaining biological diversity and productivity in the marine environment.” An ecosystem-based approach to management recognises that human activities must be managed in consideration of the inter-relationships between organisms, their habitats, and the physical environment, based on the best science available. The Act further holds that human activities should be managed such that marine ecosystems, their structure (e.g., biological diversity), function (e.g., productivity), and overall environmental quality (e.g., water and habitat quality) are not compromised and are maintained at appropriate temporal and spatial scales. It is in these key areas that ecosystem objectives will be set for each of the integrated management areas.⁵¹

Significant domestic and international efforts have been invested in making this principle operational.⁵² In 2001, Canada held a scientific workshop to develop a preliminary framework which had conservation of species and

⁵¹ B. Cicin-Sain, ed., “The Role of Indicators in Integrated Coastal Management, Special issue,” *Oceans and Coastal Management* 46, n. 3–4 (2003).

⁵² Intergovernmental Oceanographic Commission (IOC), *A Reference Guide on the Use of Indicators for Integrated Coastal Management*, ICAM Dossier 1, IOC Manuals and Guides No. 45 (Paris: UNESCO, 2003) [hereinafter IOC].

habitats and the sustainability of human use as the two over-arching objectives.⁵³ Work has continued in Canada, and internationally, to further refine the initial objectives identified at this meeting. Three over-arching ecosystem objectives have been identified: maintain populations, species and communities within bounds of natural variability; conserve the function of each component of the ecosystem so that it can play its natural role in the food web; and conserve the physical and chemical properties of the ecosystem.⁵⁴ This work has resulted in the development of a process and tools to apply ecosystem-based management to decision making within Canada's LOMAs.

Figure 4.1 outlines the process used in Canada to apply an ecosystem-based approach to integrated oceans management. Implementation of ecosystem-based management begins with the identification of marine ecoregions that are based on ecological features and functions.⁵⁵ Existing scientific and traditional information on the state and condition of the ecosystem bound within the planning area is then collected, and a science-based review of that information and an evaluation of the risks posed to ecosystem structure and function are conducted. As a result of the review and evaluation of known scientific information, ecologically and biologically significant areas, ecologically and biologically significant species, and community properties, as well as degraded areas and depleted species of special concern, are identified.⁵⁶ Priority ecosystem-based conservation objectives and limits are defined within these ecoregions. Management decisions and the choice of management measures adopted are informed by the conservation objectives.⁵⁷

⁵³ G. Jamieson, R. O'Boyle, J. Arbour, D. Cobb, S. Courtenay, and R. Gregory, et al., "Proceedings of the National Workshop on Objectives and Indicators for Ecosystem-based Management, Sidney, BC, 27 February – 2 March 2001," *Canadian Science Advisory Secretariat Proceedings Series No. 2001/09* (Ottawa: Fisheries and Oceans Canada, 2001).

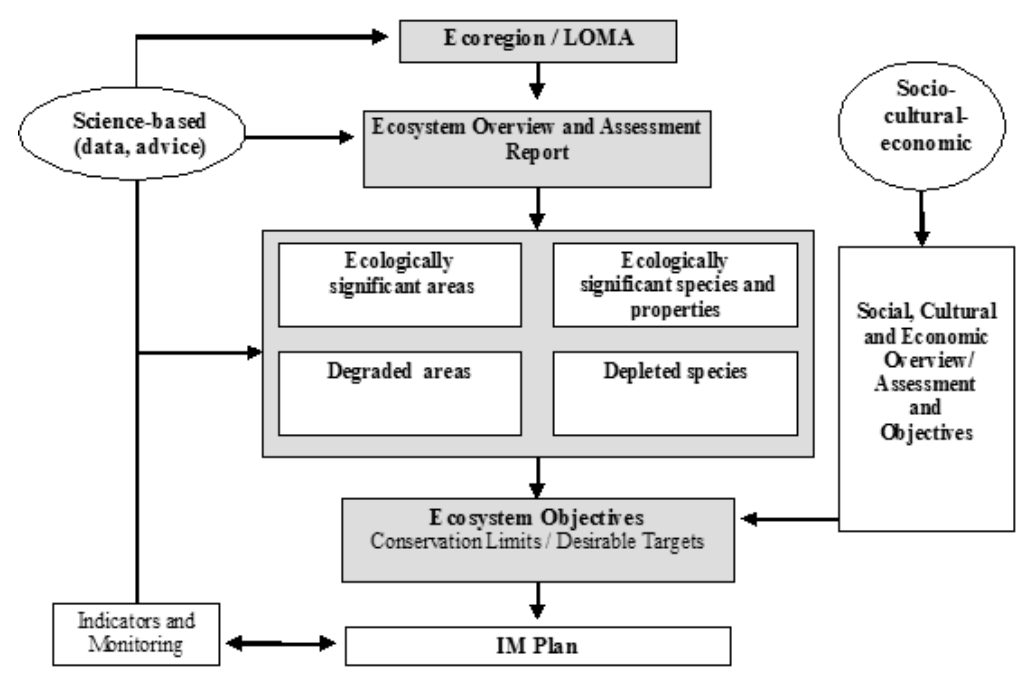
⁵⁴ Id., pp. 16–20.

⁵⁵ H. Powles, V. Vendette, R. Siron, and B. O'Boyle, "Proceedings of the Canadian Marine Ecoregions Workshop, Ottawa, March 23–25, 2004," *DFO Canadian Science Advisory Board Secretariat Proceedings Series 2004/016* (Ottawa: Canadian Science Advisory Secretariat, Fisheries and Oceans Canada, 2004), available: <http://www.dfo-mpo.gc.ca/csas/Csas/Proceedings/2004/PRO2004_016_B.pdf> (retrieved 10 November 2008).

⁵⁶ Fisheries and Oceans Canada, *Identification of Ecologically and Biologically Significant Areas*, Canadian Science Advisory Secretariat (CSAS), Ecosystem Status Report No. 2004/006 (Ottawa: Fisheries and Oceans Canada, 2005), available: <http://www.dfo-mpo.gc.ca/csas/Csas/status/2004/ESR2004_006_e.pdf> (retrieved 10 November 2008).

⁵⁷ Fisheries and Oceans Canada, *Habitat Status Report on Ecosystem Objectives*, Canadian Science Advisory Secretariat (CSAS) Habitat Status Report No. 2004/001 (Ottawa: Fisheries and Oceans Canada, 2004) available: <http://www.dfo-mpo.gc.ca/csas/Csas/status/2004/HSR2004_001_e.pdf> (retrieved 10 November 2008).

Figure 4.1. Development of ecosystem-based management objectives to support integrated management (IM) planning



Source: Oceans Directorate, Department of Fisheries and Oceans Canada, Ottawa, April 2009.

It is important to reiterate that integrated management is a means to achieve an end—the sustainable management of ocean resources and spaces. For this reason, Canada’s integrated management processes are designed to initially identify conservation objectives which must be respected by any activity wishing to operate in the planning area if the ecosystem is to continue to function and sustain the pressures of resource extraction and other ocean uses. Once the “conservation limits” are defined, the Canadian integrated management process focuses on the identification of social, cultural, and economic objectives or desirable targets that sub-national and local governments, stakeholders, and the public wish to achieve in the planning area.

Ecosystem considerations are being incorporated into fisheries management policies, plans, and practices. For example, in Canadian waters where relatively unique and highly sensitive marine ecosystems are known to exist, and where there is scientific evidence that fishing practices are having a long-term adverse effect on the ecosystem, action has been taken to mitigate these effects through the application of management measures. These measures include:

- fishing gear modifications, mesh and hook size considerations, and other measures to ensure that fishing practices conform to specific habitat conservation requirements
- application of seasonal and area fishing closures if impacts cannot be mitigated
- establishment of marine protected areas where long-term protection measures cannot be adequately addressed through fishing closures and other measures
- monitoring of the area for compliance and management effectiveness

However, ecosystems do not respect political or administrative boundaries. As a result, it has been important to give effect to the concept of collaborative planning and management systems. Domestic decision making across ecosystems will be connected by the participation of federal, provincial, territorial, aboriginal, and local authorities and programmes. The minister has the option to use bilateral agreements with provinces/territories and co-management arrangements with aboriginal groups to implement and achieve ecosystem objectives. For example, in 2004, the governments of Canada and British Columbia signed a Memorandum of Understanding Respecting the Implementation of Canada's Oceans Strategy on the Pacific Coast of Canada, with a commitment to develop sub-agreements focused on integrated management, marine protected areas, and information sharing.⁵⁸ In the Arctic, the Beaufort Sea Integrated Management Planning Initiative (BSIMPI) is guided by the Senior Management Committee, a collaborative body composed of representatives from government, aboriginal, and industry stakeholder groups.⁵⁹

Ecosystem-based management objectives for large oceans management areas are set at an ecosystem or broad ecoregion scale. Integrated management planning units, and sectoral management plans nested within these areas, do not necessarily correspond to an entire ecoregion. Consequently, the *Oceans Act*

⁵⁸ Fisheries and Oceans Canada, Memorandum of Understanding Respecting the Implementation of Canada's Oceans Strategy on the Pacific Coast of Canada (2004), available: <http://www.dfo-mpo.gc.ca/oceans-habitat/oceans/ri-rs/bc-cb/index_e.asp> (retrieved 10 November 2008).

⁵⁹ G. M. Elliott and B. Spek, "Integrated Management Planning in the Beaufort Sea: Blending Natural and Social Science in a Settled Land Claim Area," in N. W. P. Munro, T. B. Herman, K. Beazley, and P. Dearden, eds., *Making Ecosystem-based Management Work, Proceedings of the Fifth International Conference on Science and Management of Protected Areas, Victoria, BC, May, 2003* (Wolfville, Nova Scotia: Science and Management of Protected Areas Association, 2004): 1–10.

provides the authority to set marine environmental quality guidelines, requirements and standards which can be specific to one particular planning area, but which complement the broader scale ecosystem objectives.⁶⁰ Monitoring programmes tied to the ecoregion-level ecosystem objectives and the marine environmental quality targets linked to specific management plans provide a mechanism for tracking change over time and triggering management action.

4.3.2.2. Integrated Management

Recognising that integration must carry over to the planning of conservation areas as well, the *Oceans Act* calls for the Minister of Fisheries and Oceans to lead and coordinate the development and implementation of a national system of marine protected areas on behalf of the Government of Canada.⁶¹ Three federal agencies, DFO, Parks Canada, and Environment Canada, are mandated to establish federal marine protected areas, and provincial authorities also are active in protecting areas within their areas of jurisdiction.⁶² To maximise the effectiveness of federal intervention, and ensure that the appropriate tools are being used, DFO, in collaboration with other federal departments, has developed a Federal Marine Protected Areas Strategy to achieve a national network of marine protected areas.⁶³ Efforts to achieve a similar network with provincial authorities are focused on the development of federal-provincial collaboration agreements and their direct involvement in the five integrated management priority areas within which ecologically and biologically sensitive areas are being identified.

As part of the Oceans Action Plan, implementation of integrated management is focused in five priority geographic areas where mandated

⁶⁰ *Oceans Act*, n. 1 above, s. 32(d).

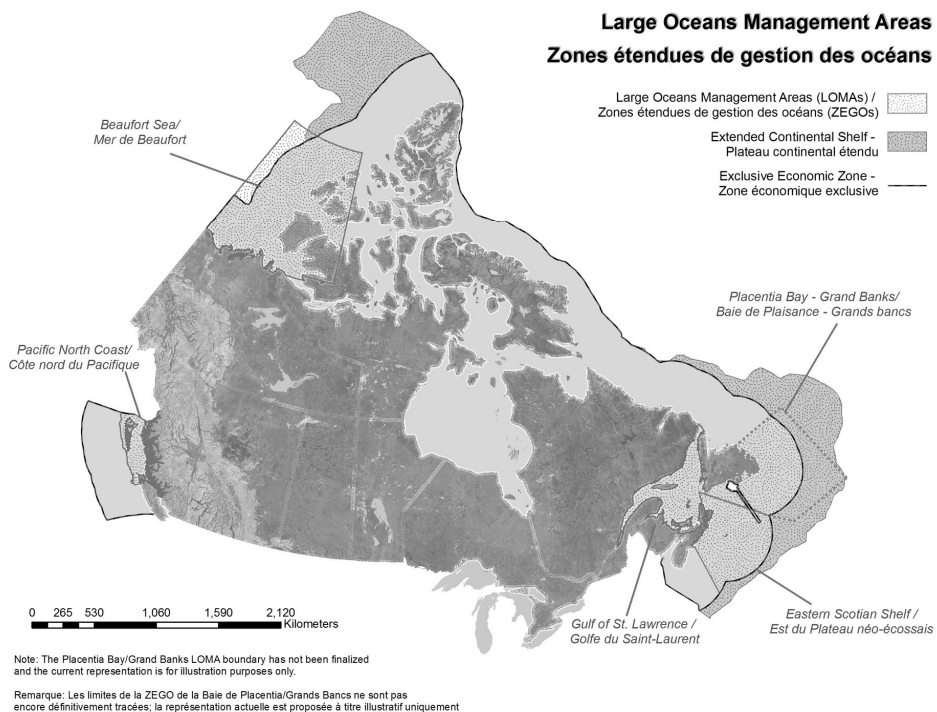
⁶¹ *Oceans Act*, id., s. 35(2); Fisheries and Oceans Canada, "National Framework for Establishing and Managing Marine Protected Areas," Work document (Fisheries and Oceans Canada, 1999), available: <http://www.dfo-mpo.gc.ca/oceans-habitat/oceans/ri-rs/mpaframework-cadre-zpm/index_e.asp> (retrieved 10 November 2008).

⁶² Government of Canada, "Working Together for Marine Protected Areas: A National Approach" (Ottawa: Fisheries and Oceans Canada, 1998), available: <http://www.dfo-mpo.gc.ca/oceans-habitat/infocentre/archives/natmpa-zpmnat/index_e.asp> (retrieved 10 November 2008).

⁶³ Government of Canada, *Canada's Federal Marine Protected Areas Strategy* (Ottawa: Fisheries and Oceans Canada, 2005), available: <http://www.dfo-mpo.gc.ca/canwaters-eauxcan/infocentre/publications/docs/fedmpa-zpmfed/pdf/mpa_e.pdf> (retrieved 10 November 2008).

federal, provincial, territorial, and aboriginal authorities are working cooperatively to develop integrated ocean management plans. These priority integrated management areas are Placentia Bay/Grand Banks off Newfoundland, the Scotian Shelf off Nova Scotia, the Beaufort Sea in the western Arctic, the Gulf of St. Lawrence, and the Pacific North Coast, or Queen Charlotte Basin, off British Columbia (Figure 4.2).

Figure 4.2. Priority integrated management planning areas



Source: Oceans Directorate, Department of Fisheries and Oceans Canada, Ottawa, April 2009.

Activities undertaken within each of the planning areas include the assessment and overview of the state of health of marine ecosystems, which provide mandated authorities and stakeholders with information on marine and coastal ecosystems, and recommendations to support planning and management decisions. In collaboration with the Geological Survey of Canada, DFO is mapping the seabed to better characterise benthic habitats, define bottom communities, and support identification of the most appropriate management

actions.⁶⁴ Areas, species, and community properties in need of special management and/or conservation measures have also been identified, as have degraded areas and depleted species. Governance arrangements to foster federal, provincial, territorial, and aboriginal collaboration have been established as have fora to engage citizens and stakeholders.

While some of these activities were already well advanced in some of the priority LOMAs due to previous federal investments and efforts, the influx of additional funds and the strict accountability attached to the special budget allocations have ensured implementation of Oceans Action Plan initiatives within a prescribed period of time. The Eastern Scotian Shelf is well advanced with the final draft of the ESSIM Integrated Ocean Management Plan released in July 2006.⁶⁵ In the other priority LOMAs of the Pacific North Coast, the Gulf of St. Lawrence, the Placentia Bay/Grand Banks, and Beaufort Sea, ecosystem overview report and assessments are complete. Ecologically and biologically significant areas, species, and properties have also been identified and priority conservation objectives formulated.

Integrated management is more than the development of spatially-based management plans. Effective management requires integration at a variety of levels. There are numerous examples of spatial integration where efforts between provincial authorities, responsible for land-based issues and inter-tidal seabed, and federal authorities, responsible for overlying waters and resources, are being coordinated to establish the necessary protection measures on land and in coastal waters to achieve the objectives of coastal marine protected areas. For example, coastal sand dunes adjacent to the Basin Head Marine Protected Area, off Prince Edward Island, have been protected under the authority of the provincial *Natural Areas Protection Act*.⁶⁶

There are numerous opportunities for science and spatial co-location of federal and provincial science programmes in the five geographic areas. A primary example is the targeted use of seabed mapping using side scan sonar to support integrated management within the priority areas while still addressing the primary agency's geological mandate. A further example is provided by the development of the Federal Marine Protected Areas Strategy by DFO, Parks Canada, and Environment Canada. The strategy requires the three federal agencies with marine protected area mandates to establish a network of marine protected areas, integrate information, engage public interests, and

⁶⁴ Fisheries and Oceans Canada, n. 3 above.

⁶⁵ ESSIM Planning Office, "Eastern Scotian Shelf Integrated Ocean Management Plan (2006–2011) – Final Draft" (Dartmouth, Nova Scotia: Fisheries and Oceans Canada, 2006).

⁶⁶ Government of Canada, "Basin Head Marine Protected Area Regulations, Regulatory Impact Analysis Statement," *Canada Gazette I*, Vol. 139, No. 25 (2005).

determine the best means to achieving the objectives of the marine protected area.⁶⁷

Integration among sectors is multifaceted. One example is the establishment of ONE OCEAN in 2002. This stakeholder driven information and public education group was established in Newfoundland by leaders in the oil and gas industry and the fishing industry to resolve issues of common concern through informal interventions and information exchanges.⁶⁸

At the international level, Canada has worked with the United States and the Intergovernmental Oceanographic Commission (IOC) to develop a handbook on the identification and use of governance, socioeconomic, and ecological objectives, and related indicators. These objectives and indicators measure the effectiveness of integrated coastal and oceans management.⁶⁹

4.3.2.3. Precautionary Approach

Canada has recognised the importance of the precautionary approach in key legislation and policy documents. The preamble to the *Oceans Act* calls for a precautionary approach to marine resources management. Section 30 of the Act mandates that Canada's national oceans strategy be founded on the principles of sustainable development, integrated management, and the precautionary approach.

Other Canadian legislation also incorporates the precautionary approach. The *Canadian Environmental Protection Act, 1999* (CEPA),⁷⁰ for example, requires that administrative decisions under the act, such as whether to allow new chemical substances into Canada, follows the precautionary principle. CEPA also encourages pollution prevention approaches. The 2003 amendments to section 4 of the *Canadian Environmental Assessment Act* (1992) specifically embed precaution as a fundamental purpose of the statute.⁷¹

⁶⁷ Government of Canada, n. 63 above, pp. 12–13.

⁶⁸ ONE OCEAN Secretariat, *ONE OCEAN: Identifying Industry Workshop Priorities and Future Direction*, Report Submitted to the ONE OCEAN Advisory Board (2003), available: <<http://www.oneocean.ca/pdf/ONE%20OCEAN%20REPORT.pdf>> (retrieved 10 November 2008).

⁶⁹ Intergovernmental Oceanographic Commission (IOC), "A Handbook for Measuring the Progress and Outcomes of Integrated Coastal and Ocean Management," ICAM Dossier 2, IOC Manuals and Guides No. 46 (Paris: UNESCO, 2006).

⁷⁰ *Canadian Environmental Protection Act*, S.C. 1999, c. 33, [hereinafter CEPA].

⁷¹ *Canadian Environmental Assessment Act*, S.C. 1992, c. 37, as amended by *An Act to amend the Canadian Environmental Assessment Act*, S.C. 2003, c. 9.

Through an interdepartmental consultation process, Canada has developed guiding principles to be followed by departments/agencies in applying precaution. The Framework for the Application of Precaution in Science-based Decision Making about Risk,⁷² issued in 2003, is broad and applicable to all federal mandates. It is, however, only one element which guides implementation of the precautionary approach. In oceans management, the primary guidance for the precautionary approach remains Canada's Oceans Strategy and in more detail,⁷³ the Policy and Operational Framework for Integrated Management.⁷⁴ The latter specifies that priority will be given to maintaining ecosystem health and integrity, especially in the case of uncertainty. DFO's Aquaculture Policy Framework also notes the need for aquaculture development to occur in the context of a precautionary approach.⁷⁵ Other DFO policies such as, the Wild Salmon Policy,⁷⁶ New Emerging Fisheries Policy,⁷⁷ and the development of an ecosystem-based model for recovery strategy development for endangered and threatened species, all require reference to ecosystem considerations and uncertainty.⁷⁸

Much work remains for all levels of government in working out the application of precaution, with laws varying between strong and weak versions. Canada has adopted a strong precautionary approach to ocean dumping through a "reverse listing" approach, where only wastes on an acceptable list may be disposed of at sea.⁷⁹ *Ballast Water Control and Management Regulations*,⁸⁰ issued to reduce the risk of harmful aquatic species being introduced into

⁷² Government of Canada, Privy Council Office, *Framework for the Application of Precaution in Science-based Decision Making about Risk* (Ottawa: Privy Council Office, 2003), available: <http://www.pco-bcp.gc.ca/docs/InformationResources/publications/precaution/precaution_e.pdf> (retrieved 10 November 2008).

⁷³ Fisheries and Oceans Canada, n. 2 above, p. 11.

⁷⁴ Fisheries and Oceans Canada, n. 31 above, p. 9.

⁷⁵ Fisheries and Oceans Canada, *DFO's Aquaculture Policy Framework* (Ottawa: Fisheries and Oceans Canada, 2002), Principle 2.

⁷⁶ Fisheries and Oceans Canada, *Canada's Policy for Conservation of Wild Pacific Salmon* (Vancouver: Fisheries and Oceans Canada, 2005), available: <<http://www.pac.dfo-mpo.gc.ca/publications/pdfs/wsp-eng.pdf>> (retrieved 22 April 2009), pp. 12–13, 22–23.

⁷⁷ Fisheries and Oceans Canada, *New Emerging Fisheries Policy* (2001), available: <<http://www.dfo-mpo.gc.ca/fm-gp/policies-politiques/efp-pnp-eng-updated-eng.htm#5>> (retrieved 10 November 2008).

⁷⁸ V. Sheppard, R. Rangeley, and J. Laughren, "An Assessment of Multi-species Recovery Strategies and Ecosystem-Based Approaches for Management of Marine Species at Risk in Canada," WWF-Canada Report for Fisheries and Oceans Canada (Ottawa: Fisheries and Oceans Canada, 2005).

⁷⁹ CEPA, n. 70 above, Schedule 5

⁸⁰ *Ballast Water Control and Management Regulations*, S.O.R./2006-129.

Canadian waters through ships' ballast water, are arguably another example of precautionary application. The regulations prescribe management measures for ballast water, requiring exchange at least 200 nautical miles from shore and in water depths greater than 2,000 metres before entering Canadian waters. Emergency ballast exchange within Canadian waters is also restricted to specific zones. These zones are identified based on lowest ecological risk. Although the *Fisheries Act* prohibits the deposit of deleterious substances into waters frequented by fish,⁸¹ discharge standards for six major industries, including pulp and paper mills and petroleum refineries, are set in regulations that do not explicitly emphasise pollution prevention and precaution. Canada is also party to various international bodies, working groups, regional fisheries management organisations, and international scientific organisations where the precautionary approach continues to evolve, and implementation tools are developed, for fisheries.⁸²

Tensions have arisen in Canada over how the precautionary principle/approach should be applied.⁸³ For example, concerns have been raised with respect to the potential risks associated with escapees and the possible spread of parasites from finfish aquaculture operations. There have been calls for the removal of existing open pen salmon farms and prohibition of new farms.⁸⁴ Instead of a prohibitory approach to precaution, governments have responded with various regulatory and licensing controls to mitigate the impact of fish farms, including mandatory monitoring programmes with specific intervention measures.⁸⁵

⁸¹ *Fisheries Act*, R.S.C. 1985, c. F-14, section 36.

⁸² See for example, Food and Agriculture Organization (FAO), *Precautionary Approach to Capture Fisheries and Species Introductions*, FAO Technical Guidelines for Responsible Fisheries No. 2 (Rome: FAO, 1996)

⁸³ For a discussion of the spectrum of precautionary measures and ongoing tensions, see: D. L. VanderZwaag, "The Precautionary Principle in Environmental Law and Policy: Elusive Rhetoric and First Embraces," *Journal of Environmental Law and Practice* 8, no. 3 (1998): 362–363; and D. L. VanderZwaag, S. D. Fuller, and R. A. Myers, "Canada and the Precautionary Principle/Approach in Ocean and Coastal Management: Wading and Wandering in Tricky Currents," *Ottawa Law Review* 34, no. 1 (2002–2003): 119–123.

⁸⁴ S. Leggatt, *Clear Choices, Clean Waters: The Leggatt Inquiry into Salmon Farming in British Columbia, Report and Recommendations* (Vancouver: David Suzuki Foundation, 2001), available: <http://www.davidsuzuki.org/files/Leggatt_reportfinal.pdf> (retrieved 10 November 2008).

⁸⁵ For sea lice, required actions may include chemical treatment or harvesting. See British Columbia Ministry of Agriculture and Lands, "Sea Lice Management 2005" (2005), available: <http://www.agf.gov.bc.ca/ahc/fish_health/Sealice/sealice_strategy_05.pdf> (retrieved 10 November 2008).

The Supreme Court of Canada has opened the legal door for Canadian courts to review administrative decisions in light of adherence to the precautionary principle. In the 2001 *Spraytech* case,⁸⁶ Justice L'Heureux-Dubé referred to the precautionary principle's wide acceptance in international law and policy and relied on the principle to help justify a broad interpretation of provincial legislation as authorising municipalities to regulate pesticides. She recognised that the values and principles reflected in international law may help inform the contextual approach to statutory interpretation and judicial review.⁸⁷

4.3.2.4. Public Participation and Community-based Management

Canadian ocean management policy clearly indicates a commitment to citizen engagement. The overall objective is to create governance mechanisms that foster a greater involvement of the people most affected by decisions. LOMAs primarily address large-scale ecosystem and economic development issues; they also provide the context for nesting a network of smaller CMAs or other ocean management tools, such as marine protected areas.

Participants in ocean and coastal management are clearly identified, including the federal government, provincial/territorial/local authorities, aboriginal organisations and communities, industry, NGOs, community groups, and the academic/science/research community. In keeping with the enabling (rather than directive) and collaborative nature of the *Oceans Act*, oceans management programmes in Canada clearly direct and enable community involvement in the design and management of integrated management plans and marine protected areas.⁸⁸

CMAs enable communities to play a stronger role in issues affecting their future by matching local capabilities and development priorities to the opportunities and carrying capacity of the local ecosystem. Local economic issues, such as inshore fisheries, conventional tourism and ecotourism, aquaculture sites, ports, and other transportation facilities may all be matters considered. Local community groups and individuals play essential roles in

⁸⁶ 114957 *Canada Ltée (Spraytech, Société d'arrosage) v. Hudson (Town)*, [2001] 2 S.C.R. 241.

⁸⁷ For a further review of the decision, see K. Chapman (2002) "114957 *Canada Ltée (Spraytech, Société d'arrosage) v. Hudson (Ville)*: Application of the Precautionary Principle in Domestic Law," *Canadian Journal of Administrative Law & Practice* 15, no. 1 (2002): 123–136.

⁸⁸ Fisheries and Oceans Canada, "National Engagement Summary on Canada's Oceans Strategy" (2003) (unpublished).

helping to understand the management area and issues, ensuring that the planning process and associated actions are relevant to the area, and providing “on the ground” expertise and capacity for plan implementation, monitoring, and compliance promotion.

4.3.3. Authority at National Level

In addition to leading and facilitating the development and implementation of an oceans management strategy, the Minister of Fisheries and Oceans is authorised to

- coordinate the activities of ocean stakeholders to develop a strategy,
- develop tools and coordinate with stakeholders the development of specific plans to implement the strategy,
- develop integrated management plans for all Canadian marine waters,
- establish, as required, sub-national and local bodies to assist with the implementation plans,
- establish and enforce measures/regulations associated with marine protected areas, and
- develop marine environmental quality guidelines.

In the October 2004 Speech from the Throne, the Government of Canada made better management of its ocean spaces and resources a government-wide priority and called for the development of “an Oceans Action Plan by maximising the use and development of oceans technology, establishing a network of Marine Protected Areas, implementing integrated management plans and enhancing the enforcement of rules governing oceans and fisheries, including rules governing straddling fish stocks.”⁸⁹ The government also made a significant investment in strengthening initiatives related to international fisheries and oceans governance. These efforts are focused on improving compliance within the Northwest Atlantic Fisheries Organization (NAFO), creating conditions for change, and strengthening global fisheries and oceans governance.

With the endorsement of the government-wide Oceans Action Plan, seven federal departments are now responsible for the delivery of specific elements of this national work plan. Their tasks range from international coordination,

⁸⁹ Government of Canada, n. 21 above.

completion of ecosystem overview reports, and developing governance arrangements, to seabed mapping. Table 4.2 identifies key activities in Phase 1 of the Oceans Action Plan.

Table 4.2. Key activities of Phase 1 of the Oceans Action Plan

Oceans Action Plan Phase 1 Initiative	Key Activities
International Leadership, Sovereignty and Security	
1. Gulf of Maine Canada-United States collaboration	Joint ecosystem overview and objectives setting for integrated management planning
2. Arctic Marine Strategic Plan	Eight countries address key issues in the circumpolar Arctic via the Working Group for the Protection of the Arctic Marine Environment (PAME) of the Arctic Council
3. International fisheries and oceans governance	Ecosystemic research with a focus on the Grand Banks Appointment of an ambassador for fisheries conservation Strengthening global governance
Integrated Management in Large Ocean Management Areas (LOMAs)	
4. Ecosystem overview and assessment reports	Review and assessment of scientific knowledge in five LOMAs
5. Ecologically and biologically significant areas (EBSA)	Identification of areas and species requiring special management measures in LOMAs
6. Seabed mapping	Characterisation of habitat in LOMAs
7. Ecosystem objectives (EO)/ Smart regulations	Ecosystem specific EOs and possible regulatory options
8. Economic assessment and analysis	Documentation of value of activities in support of integrated management planning
9. Targeted sub-national consultations	Engagement of affected and responsible parties in LOMAs, marine protected areas
10. Agreements with provinces, territories, and aboriginal authorities	Development of agreements on roles and responsibilities.
11. Sub-national management and advisory bodies	Intergovernmental and stakeholder for LOMA planning and management
Health of the Oceans	
12. <i>Oceans Act</i> marine protected areas (MPAs)	Key MPAs designated by 2007

13. Canadian Wildlife Service marine wildlife areas	Key marine wildlife areas designated
14. National Marine Protected Area Strategy to establish a network	Implementation of federal MPA strategy to establish a network
15. Science research and advice for marine protected areas	Development of tools including selection criteria for EBSAs
16. Ballast water and marine pollution regulations	Science support and completion of the regulatory process
17. Pollution prevention surveillance for sea-based sources	Increased surveillance
Oceans Science and Technology	
18. Oceans technology network	Support of technology networks and research priorities
19. Placentia Bay Technology Demonstration Project	Integration of real time data to support oceans management decisions

An Oceans Action Plan Secretariat coordinates integration of the inter-departmental efforts to deliver the Oceans Action Plan. In addition to housing the secretariat, DFO is responsible for the implementation of ocean programmes key to plan implementation (integrated management, marine protected areas, and marine environmental quality).

4.3.4. National and Sub-National Division of Authority

While there is a clear federal responsibility for the protection of the marine environment and the sustainable use of marine resources, effective environmental protection and conservation require broad-based partnerships. Provincial, territorial, and local governments have roles and responsibilities with regards to oceans activities. Provinces and territories have primary responsibility for their lands, the shoreline and specific seabed areas, and municipalities have responsibility for many of the land-based activities affecting the marine environment, such as sewage and waste disposal. Aboriginal authorities also have a key governance role to play where settled land claims include marine resource management responsibilities

There is a strong provincial/territorial desire and a practical need for sub-national engagement. To this end, the federal, provincial, and territorial governments collaborate under the auspices of the Canadian Council of Fisheries and Aquaculture Ministers (CCFAM) through the Oceans Task Group

and through existing and developing regional governance mechanisms to develop joint work plans and approaches.⁹⁰ One of the goals is the development of agreements or memoranda of understanding similar to the Canada-British Columbia memorandum of understanding (MOU) on oceans to support integrated planning and ensure complementary and harmonised regulation. This initiative also involves collaboration with Aboriginal peoples and governments in priority areas and, where possible, establishes agreements to strengthen oceans management and address oceans priorities.

The efforts of the Oceans Task Group are supplemented by regional federal and provincial implementation committees focused on the Oceans Action Plan. An Aquaculture Task Group under the CCFAM, composed of both federal and provincial representatives, has facilitated discussions on clarifying and coordinating federal-provincial responsibilities in relation to aquaculture.⁹¹

Management and advisory bodies are currently in place, or being established, to support specific integrated management plans and marine protected area management plans. They involve a forum for stakeholders, including industry, academia, NGOs, Aboriginal peoples, and citizens. Their goals are to provide on-going communication, information-sharing, input, and to effectively inform oceans management planning processes. For example, the ESSIM Stakeholder Advisory Council is a representative multi-stakeholder working group that provides “regular input, advice and support” to the initiative’s planning process.⁹²

Various other federal-provincial coordination mechanisms also exist. For example, councils of federal-provincial/territorial ministers address environment, wildlife, and energy issues. Joint federal-provincial offshore petroleum boards have been established for Nova Scotia and Newfoundland and Labrador through accords and mirror federal-provincial legislation.⁹³ The boards are responsible for reviewing environmental impacts of proposed offshore hydrocarbon activities and for imposing operational conditions.⁹⁴

⁹⁰ Canadian Council of Fisheries and Aquaculture Ministers, n. 44 above.

⁹¹ See “Canadian Council of Fisheries and Aquaculture Ministers,” available: <http://www.aquaculture.ca/English/CAIA_CCFAM.html> (retrieved 22 April 2009).

⁹² ESSIM Planning Office, n. 65 above, p. 1

⁹³ V. Penick, “Legal Framework in the Canadian Offshore,” *Dalhousie Law Journal* 24, no. 1 (2001): 1–22; A. Taylor, and J. Dickey, “Regulatory Regime: Canada-Newfoundland/Nova Scotia Offshore Petroleum Board Issues,” *Dalhousie Law Journal* 24, no. 1 (2001): 51–86.

⁹⁴ More information on the Canada-Nova Scotia Offshore Petroleum Board is available from <<http://www.nsopb.ns.ca>> and for the Canada-Newfoundland and Labrador Offshore Petroleum Board from <<http://www.cnlopb.nl.ca>> (both retrieved 10 November 2008).

4.3.5. Domestic Implementation of International Agreements

The effectiveness of Canada's management efforts in the Arctic, Pacific and Atlantic oceans requires close collaboration and cooperation with adjacent nations and with other states. Canada has worked with the United States and Mexico through the Commission for Environmental Cooperation (CEC) since 1994⁹⁵ and, more recently, through the Security and Prosperity Partnership of North America⁹⁶ to address issues of common concern. Canada and the United States are also coordinating efforts under their respective oceans action plans. Canada also participates in the Arctic Council,⁹⁷ which provides a mechanism for eight circumpolar nations to collaborate with respect to addressing Arctic marine environmental issues.

While a broad array of international environmental agreements have relevance to the oceans, this chapter briefly discusses Canada's implementation efforts and challenges under five key documents: the LOS Convention, the Convention on Biological Diversity, MARPOL 73/78, the 1996 Protocol to the London Convention, and the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities.

4.3.5.1. UN Convention on the Law of the Sea

Although Canada was a leading country in negotiations for the LOS Convention and signed the convention in 1982,⁹⁸ it did not ratify the LOS Convention until 7 November 2003 with the convention entering into force for Canada on 7 December 2003.⁹⁹ Delays in ratification were, in part, due to deep concerns relating to high seas and straddling stock fisheries issues. Canada had

⁹⁵ Commission for Environmental Cooperation (CEC), *Strategic Plan for North American Cooperation in the Conservation of Biodiversity* (Montreal: CEC, 2003), available: <<http://www.cec.org/files/pdf/BIODIVERSITY/Biodiversitystrategy.pdf>> (retrieved 10 November 2008).

⁹⁶ Information on the Security and Prosperity Partnership of North America, launched at Waco, Texas, in 2005 is available from <<http://www.spp-psp.gc.ca/menu-en.aspx>> (retrieved 10 November 2008).

⁹⁷ Information on the activities of the Arctic Council is available from <http://www.arctic-council.org>. See also, Chapter 6 in this volume.

⁹⁸ T. L. McDorman, "Will Canada Ratify the Law of the Sea Convention?" *San Diego Law Review* 25, no. 3 (1988): 535–579, pp. 536–538.

⁹⁹ T. L. McDorman, "Editorial – Canada Ratifies the 1982 United Nations Convention on the Law of the Sea," *Ocean Development & International Law* 35, no. 2 (2004): 103–114.

already, through the *Oceans Act*,¹⁰⁰ incorporated into domestic law its maritime zones and the jurisdictional entitlements set out in the LOS Convention, namely a 12 nautical mile territorial sea, a contiguous zone out to 24 nautical miles from the territorial sea baselines, a 200 nautical mile exclusive economic zone (EEZ), and a continental margin extending beyond the EEZ in accordance with Article 76 of the LOS Convention.¹⁰¹

Recent federal funding has enabled Canada to initiate the process to delimit the outer extent of its continental shelf. Canada plans on making a submission to the UN Commission for the Limits of the Continental Shelf by 2013. A number of challenges related to LOS Convention implementation face Canada, including issues related to revenue sharing responsibilities of federal and provincial authorities for oil and gas production beyond 200 nautical miles,¹⁰² and the scope of Canada's powers to regulate shipping as new areas become accessible in the Arctic due to climactic variations.¹⁰³

By ratifying the 1995 UN Agreement on Straddling and Highly Migratory Fish Stocks in August 1999,¹⁰⁴ Canada has made international fisheries reform and modernisation a major priority.¹⁰⁵ In May 2005, Canada hosted a major international conference on high seas fisheries governance,¹⁰⁶ and Canada continues to push for more effective addressing of illegal, unreported and

¹⁰⁰ *Oceans Act*, n. 1 above, Part 1.

¹⁰¹ LOS Convention, n. 5 above.

¹⁰² A. Chircop, "Energy Policy and International Royalty: A Dormant Servitude Relevant for Offshore Development," in M. H. Nordquist, J. N. Moore, and A. S. Skaridov, eds., *International Energy Policy, the Arctic and the Law of the Sea* (London/Boston: Martinus Nijhoff, 2005), pp. 247–270.

¹⁰³ The effects of climate change could open up Canadian Arctic waters to commercial traffic by as early as 2015. See Foreign Affairs and International Trade Canada, *Canada's International Policy Statement: A Role of Pride and Influence in the World – Diplomacy* (Ottawa: DFAIT, 2005), available: <http://geo.international.gc.ca/cip-pic/current_discussions/ips-archive-en.aspx> (retrieved 10 November 2008), p. 7.

¹⁰⁴ *Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks*, 4 August 1995, 2167 U.N.T.S. 88, reprinted in *I.L.M.* 34, no. 6: 1547–1580; *Regulations Amending the Coastal Fisheries Protection Regulations*, SOR/2004-110, Regulatory Impact Analysis Statement, *Canada Gazette II*, Extra Vol. 138, No. 6 (2004).

¹⁰⁵ Foreign Affairs and International Trade Canada, n. 103 above.

¹⁰⁶ Government of Canada, *Conference on the Governance of High Seas Fisheries and the UN Fish Agreement – Moving from Words to Action, St. John's, Newfoundland and Labrador, May 1 to 5, 2005: Conference Report* (1 June 2005), available: <http://www.dfo-mpo.gc.ca/fgc-cgp/conf_report_e.pdf> (retrieved 10 November 2008).

unregulated (IUU) fishing.¹⁰⁷ Various high seas biodiversity and fishing issues remain to be worked out, not only in Canadian ocean policy, but globally. For example, how might discrete high seas fish stocks be better managed¹⁰⁸ and how should access to genetic biodiversity beyond national jurisdiction be addressed?¹⁰⁹

4.3.5.2. Convention on Biological Diversity

The Convention on Biological Diversity (CBD), as an international treaty, identifies a common problem, sets overall goals, policies and general obligations, and organises technical and financial cooperation.¹¹⁰ The responsibility for achieving its goals rests with countries themselves. Under the convention, governments undertake to conserve and sustainably use biodiversity. Parties are required to develop national biodiversity strategies and action plans and to integrate these into broader national plans for environment and development. Following the adoption of a Canadian Biodiversity Strategy in 1995,¹¹¹ Canada's progress has varied in implementing the key commitments under Article 8 of the CBD. Implementation of the Oceans Action Plan addresses several key components of the national biodiversity strategy, including a focus on the establishment of a network of marine protected areas, regulating the risk associated with the use and release of living modified organisms, preventing and controlling the introduction of alien species, and developing necessary legislation or other regulatory provisions to protect threatened species and populations.

¹⁰⁷ Government of Canada, *Canada's National Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing* (Ottawa: Communications Branch, Fisheries and Oceans Canada, 2005), available: <http://www.dfo-mpo.gc.ca/misc/npoa-iuu/npoa-iuu_e.pdf> (retrieved 10 November 2008).

¹⁰⁸ See generally, K. M. Gjerde and D. Freestone, eds., "Unfinished Business: Deep-Sea Fisheries and the Conservation of Marine Biodiversity Beyond National Jurisdiction," Special Issue, *International Journal of Marine and Coastal Law* 19, no. 3 (2004): 209–222.

¹⁰⁹ Major disagreements have arisen among countries as to whether the high seas freedom principle or the principle of common heritage of humankind should apply. See United Nations, *Report on the Work of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea at its Fifth Meeting*, UN Doc. A/59/122 (New York: General Assembly, United Nations, 2004), available: <<http://daccessdds.un.org/doc/UNDOC/GEN/N04/412/21/PDF/N0441221.pdf?OpenElement>> (retrieved 10 November 2008), pp. 23–24.

¹¹⁰ *Convention on Biological Diversity*, 5 June 1992, 1760 U.N.T.S. 79, reprinted in *I.L.M.* 31, no. 4: 822–841.

¹¹¹ Government of Canada, *Canadian Biodiversity Strategy: Canada's Response to the Convention on Biological Diversity* (Ottawa: Canadian Museum of Nature, 1995).

Marine protected areas are established under the authority of the three federal agencies, DFO, Parks Canada and Environment Canada. Under the authority of the *Oceans Act*,¹¹² seven offshore marine protected areas have been established: the Endeavour Hydrothermal Vents (2003) and the Bowie Seamount (2008) off British Columbia; the Gully (2004) off Nova Scotia; Basin Head (2005) off Prince Edward Island; Gilbert Bay (2005) off Labrador; Eastport (2005) off Newfoundland; and the Musquash Estuary Marine Protected Area (2006) off New Brunswick.¹¹³ Three additional *Oceans Act* marine protected areas are at various stages in the designation process (one of which may be officially designated before Parliament recesses for the summer in 2009) and a further six areas of interest identified via conservation setting priorities and consultations but not yet endorsed by the Minister and for which formal regulatory work has not been undertaken but will need to be completed before the end of fiscal year 2012 under the Health of the Oceans initiative. These *Oceans Act* marine protected areas (Figure 4.3) complement the contributions of the other federal marine protected area authorities to building a domestic network. The national biodiversity strategy also links Canada's marine protected areas network on a continental basis, through a proposed regional marine protected area action plan with the United States and Mexico,¹¹⁴ and on a global level, particularly through the World Summit on Sustainable Development commitment to establish a representative network by 2012.¹¹⁵

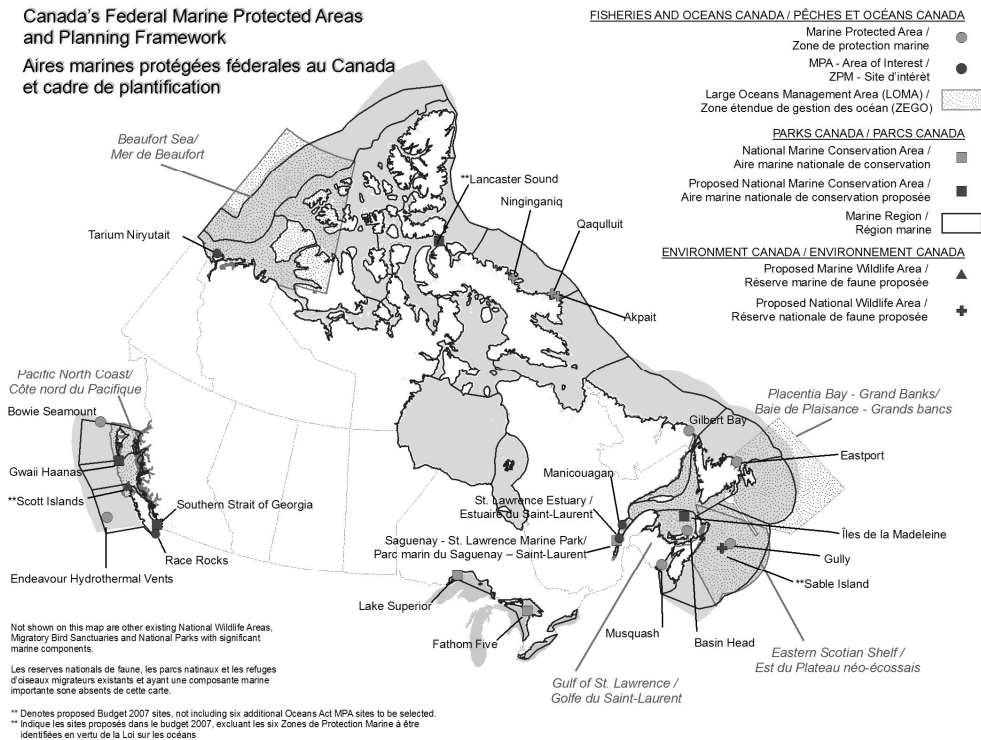
¹¹² *Oceans Act*, n. 1 above, s. 35.

¹¹³ *Endeavour Hydrothermal Vents Marine Protected Area Regulations*, SOR/2003-87; *Gully Marine Protected Area Regulations*, SOR/2004-112; *Basin Head Marine Protected Area Regulations*, SOR/2005-293; *Eastport Marine Protected Area Regulations*, SOR/2005-294; *Gilbert Bay Marine Protected Area Regulations*, SOR/2005-295; *Musquash Estuary Marine Protected Area Regulations*, SOR/2006-354; and *Bowie Seamount Marine Protected Area Regulations*, SOR/2008-124.

¹¹⁴ Fisheries and Oceans Canada, n. 3 above, pp. 6, 11.

¹¹⁵ United Nations, *Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August – 4 September 2002* (New York: United Nations, 2002), available: <<http://www.world-tourism.org/sustainable/wssd/final-report.pdf>> (retrieved 10 November 2008), p. 26.

Figure 4.3. *Oceans Act* marine protected areas and areas of interest



Source: Oceans Directorate, Department of Fisheries and Oceans Canada, Ottawa, April 2009.

With respect to the introduction of new alien aquatic species via ballast water in ships, Canada initially relied upon voluntary measures set out in the Guidelines for the Control of Ballast Water Discharge from Ships in Waters under Canadian Jurisdiction.¹¹⁶ However, in light of the 2004 International Convention for the Control and Management of Ships' Ballast Water and Sediments,¹¹⁷ Canada issued binding *Ballast Water Control and Management Regulations* which came into force 8 June 2006.¹¹⁸

¹¹⁶ Transport Canada, *Guidelines for the Control of Ballast Water Discharge from Ships in Waters under Canadian Jurisdiction*, Transport Canada Publication No. 13617 (Ottawa: Canadian Marine Advisory Council, Transport Canada, 2001), available: <<http://www.tc.gc.ca/MarineSafety/TP/Tp13617/Tp13617Erev1.pdf>> (retrieved 10 November 2008).

¹¹⁷ *International Convention for the Control and Management of Ships' Ballast Water and Sediments*, IMO Document BWM/CONF/36 (2004).

¹¹⁸ *Ballast Water Control and Management Regulations*, n. 80 above.

In December 2002, Canada enacted the *Species at Risk Act* (SARA).¹¹⁹ The Act is part of a three-pronged Government of Canada strategy for the protection of wildlife species at risk, which also includes commitments under the 1996 national Accord for the Protection of Species at Risk and activities under the Habitat Stewardship Programme for Species at Risk. SARA implements key elements of the Canadian Biodiversity Strategy. The Act requires recovery strategies and action plans to be prepared for listed endangered and threatened species and management plans for species of special concern. SARA formally recognises the role of the independent advisory Committee on the Status of Endangered Wildlife in Canada (COSEWIC) in assessing species at risk. SARA applies to all federal lands in Canada, all wildlife species listed as being at risk, and their critical habitat. The Act also puts in place various prohibitions, such as prohibiting persons from killing, harming, harassing, or taking an individual of a listed endangered or threatened species and from damaging or destroying the residence of one or more individuals of a listed endangered/threatened species. The need to better define with scientific rigour key provisions of the act relating to critical marine habitat and residences, as well as the shared accountability between federal ministers, and between federal and provincial ministers, make it difficult to fully assess the effectiveness of the statute and to make recommendations for its improvement.¹²⁰

However, listing of some marine fish species has been a challenge since listing under SARA involves a political decision rather than scientific determination. For example, COSEWIC has listed as endangered Cultus Lake and Sakinaw Lake sockeye salmon populations, Interior Fraser River coho salmon, the Newfoundland and Labrador population of Atlantic cod and the porbeagle shark and has categorised as threatened, the Laurentian North population of Atlantic cod.¹²¹ Because of potential social and economic impacts of SARA listing for these populations, the Canadian government has chosen against listing.¹²² Other tools, such as government programmes and initiatives by NGOs and industry, are expected to protect and assist recovery of these non-listed species.

¹¹⁹ *Species at Risk Act*, S.C. 2002, c. 29 [hereinafter SARA].

¹²⁰ For an early critique, see D. L. VanderZwaag and J. A. Hutchings, "Canada's Marine Species at Risk: Science and Law at the Helm; but a Sea of Uncertainties," *Ocean Development and International Law* 36, no. 3 (2005): 219–259.

¹²¹ Committee on the Status of Endangered Wildlife in Canada (COSEWIC), *Canadian Species at Risk* (Ottawa: COSEWIC, 2007).

¹²² See SI/2005-2 (decision not to list Cultus and Sakinaw salmon); SI/2006-61 (decision not to list Newfoundland and Labrador population Atlantic cod and Interior Fraser population of coho salmon); and SI/2006-110 (decision not to list the porbeagle shark).

The CBD's Programme of Work on Marine and Coastal Biological Diversity includes consideration of protected areas beyond national jurisdiction.¹²³ High seas issues, particularly as they relate to ecosystem health, are of interest to Canada. Canada is working with existing governance bodies and their scientific advisors to integrate scientific knowledge and expertise to provide best available scientific advice to inform decisions. For example, in December 2005, Canada hosted an international scientific experts' workshop to review and assess ecologically-based criteria for the identification of areas and/or resources that are ecologically and biologically significant and may require special management measures, including protected area status in high seas.¹²⁴ The intent of the workshop was to provide integrated advice to authorities such as the CBD, the United Nations Food and Agriculture Organization (FAO), and the International Maritime Organization (IMO) for their consideration.

4.3.5.3. MARPOL 73/78

Canada has only formally accepted the first three annexes of MARPOL¹²⁵ dealing with oil pollution, noxious liquid substances carried in bulk and harmful substances carried in packaged form respectively. However, Canada has adopted *Regulations for the Prevention of Pollution from Ships and for Dangerous Chemicals*¹²⁶ which will allow accession by Canada to the other three annexes covering sewage (Annex (IV)), garbage (Annex V) and air pollution (Annex VI). The regulations issued under the *Canada Shipping Act 2001*, also bring Canada into line with the revisions to Annexes I and II of MARPOL which came into force 1 January 2007. Prevention of pollution from

¹²³ Conference of the Parties (COP) CBD, "Decision VII/5 on Marine and Coastal biological diversity: Review of the Programme of Work on Marine and Coastal Biodiversity," Seventh Conference of the Parties to the Convention on Biological Diversity (CBD COP-7), 9–20 February 2004, Kuala Lumpur, Malaysia (2004).

¹²⁴ World Conservation Union (IUCN), "Update on MPAs beyond National Jurisdiction, February 2004 – February 2006", (Gland: IUCN, February 2006).

¹²⁵ *International Convention for the Prevention of Pollution from Ships*, London, 2 November 1973, 1340 U.N.T.S. 184, as amended by *Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships of 1973*, 17 February 1978, 1340 U.N.T.S. 61 [hereinafter MARPOL].

¹²⁶ *Regulations for the Prevention of Pollution from Ships and for Dangerous Chemicals*, SOR/2007-86.

harmful substances in packaged form continues to be addressed by the *Dangerous Goods Shipping Regulations*.¹²⁷

Canada has chosen to apply stricter vessel-source pollution control standards for its Arctic waters. Pursuant to the *Arctic Waters Pollution Prevention Act*,¹²⁸ passed in 1970, Canada has imposed special pollution discharge and other restrictions for vessels operating in a 100 nautical mile pollution prevention zone. For example, oil deposits from ships are generally prohibited with just a few exceptions, such as when due to stranding or collision and when due to engine exhaust.¹²⁹ Canada is proposing to extend the special shipping standards out to 200 nautical miles in the Arctic in light of Article 234 of the LOS Convention.¹³⁰ Article 234 grants coastal states special legislative and enforcement jurisdiction over vessels navigating in ice-covered waters.¹³¹

4.3.5.4. 1996 Protocol to the 1972 London Convention

Becoming the tenth country to accede to the 1996 Protocol,¹³² which takes a precautionary approach to ocean disposal, Canada ensured its implementation through the provisions of the *Canadian Environmental Protection Act, 1999*.¹³³ The Act adopts a “safe list” approach by only allowing ocean disposal of a limited list of wastes listed in Schedule 5 and any disposal must be in accordance with the conditions of a Canadian permit. Before issuing an ocean disposal permit, the Minister of Environment is required to subject the application to a waste assessment process, set out in Schedule 6 of the Act, which, among other things, requires refusal of a permit if re-use, recycling, or treatments of the waste are practical options.

¹²⁷ *Dangerous Goods Shipping Regulations*, S.O.R./81-951, as amended.

¹²⁸ *Arctic Waters Pollution Prevention Act*, R.S.C. 1985, c. A-12.

¹²⁹ *Arctic Shipping Pollution Prevention Regulations*, C.R.C., c. 353.

¹³⁰ Bill C-3, An Act to amend the Arctic Waters Pollution Prevention Act, is presently before the Canadian Parliament. For information see: <<http://www2.parl.gc.ca/Sites/LOP/LEGISINFO/index.asp?List=ls&Query=5652&Session=22&Language=e>> (retrieved 22 April 2009).

¹³¹ D. M. McRae and D. J. Goundrey, “Environmental Jurisdiction in Arctic Waters: The Extent of Article 234,” *University of British Columbia Law Review* 16, no. 2 (1982): 197–228.

¹³² *Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter*, London, 7 November 1996, (1997) *I.L.M.* 36: 1; *Disposal at Sea Regulations*, SOR/2001-275; Regulatory Impact Analysis Statement, *Canada Gazette II* Vol. 135, No. 17 (2001).

¹³³ CEPA, n. 70 above, Division 3.

4.3.5.5. Global Programme of Action for the Protection of the Marine Environment from Land-based Activities

Canada became the first country to develop a National Programme of Action for the Protection of the Marine Environment from Land-based Activities (NPA) in 2000.¹³⁴ The NPA sets national priorities for addressing land-based marine pollution and activities through a high, medium, and low ranking approach. Listed as high contaminant priorities are sewage and persistent organic pollutants. Responding to shoreline construction/alteration and wetland and salt marsh alteration are also listed as high priorities. Through separate chapters for four main coastal regions (the Pacific, Arctic, Southern Quebec/St. Lawrence, and the Atlantic), the NPA also describes regional problems, priorities, and needed actions. A federal/provincial/territorial committee, established in 1996 soon after the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) Washington Conference and co-chaired by Environment Canada and DFO, has been responsible for the development and implementation of the NPA.

Tracking implementation activities is difficult because of the numerous sources of land-based marine pollution, the multiple jurisdictions and programmes involved along Canada's extensive coastlines,¹³⁵ and the lack of a dedicated funding for GPA implementation. Canada's report to the 2001 Intergovernmental Review Meeting on Implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities included an annex highlighting more than 90 key programmes, within government, NGOs, and communities that address the goals and priorities of the GPA.¹³⁶ For example, the collaborative development, by federal, provincial and local authorities, of integrated management processes and plans at the coastal management area (CMA) scale is contributing directly

¹³⁴ Federal/Provincial/Territorial Advisory Committee on Canada's National Programme of Action for the Protection of the Marine Environment from Land-based Activities, *Canada's National Programme of Action for the Protection of the Marine Environment from Land-based Activities (NPA)* (Ottawa: Government of Canada, 2000).

¹³⁵ For a summary of the various programmes in the four Atlantic provinces, see P. G. Wells, "Invigorating the United Nations Global Programme of Action (GPA) for the Protection of the Marine Environment from Land-based Activities – utilising both bottom-up and top-down approaches," *Marine Pollution Bulletin* 44, no. 8 (2002): 719–721.

¹³⁶ Federal/Provincial/Territorial Advisory Committee on Canada's National Programme of Action for the Protection of the Marine Environment from Land-based Activities, *Implementing Canada's National Programme of Action for the Protection of the Marine Environment from Land-based Activities: National Report to the 2001 Intergovernmental Review Meeting on Implementation of the Global Programme of Action* (Ottawa: Environment Canada, 2001).

to the implementation of the NPA. In a national report on GPA implementation prepared for the Second Intergovernmental Review Meeting in Beijing, China in October 2006, Canada described various other projects contributing to GPA implementation including a technology investigation for enhancing municipal wastewater treatment in Arctic climates and an inventory of land-based sources of pollution in the Hudson Bay watershed.¹³⁷

Canada also contributes to the GPA by advancing GPA activities at the regional level. The Regional Programme of Action for the Protection of the Arctic Marine Environment from Land-based Activities (RPA), adopted by Arctic Council ministers in 1998, established two high priorities for regional action: addressing persistent organic pollutants and heavy metals, and identified pollution hot spots in the Russian Federation.¹³⁸ The Arctic Council's Protection of the Arctic Marine Environment (PAME) Working Group has updated the RPA, under the lead of Canada and Iceland, with revisions going before the Arctic Council ministers for approval in April 2009.¹³⁹

Projects to assess effluent discharges from seafood processing plants have been undertaken on both the Atlantic and Pacific coasts.¹⁴⁰ The Global Programme of Action Coalition for the Gulf of Maine (GPAC), a network of hundreds of individuals from community organisations, government, industry, indigenous communities, and researchers, was forged through a pilot project of the North American Commission for Environmental Cooperation and has facilitated the convening of various bi-national workshops to further GPA implementation.¹⁴¹ GPAC helped to convene, in collaboration with the Gulf of Maine Council on the Marine Environment, a Gulf of Maine Summit where

¹³⁷ Environment Canada, *National Report on GPA Implementation* (2006), available: <http://www.gpa.unep.org/documents/national_report_Canada_english.pdf> (retrieved 10 November 2008).

¹³⁸ Arctic Council, *Regional Programme of Action for the Protection of the Arctic Marine Environment from Land-based Activities* (Ottawa: Public Works and Government Services Canada, 1999), available: <http://www.arctic-council.org/About/376_eng.pdf> (retrieved 10 November 2008).

¹³⁹ See PAME, "PAME Progress Report to Senior Arctic Officials, 19–20 November 2008, Kautokeino, Norway," available: <<http://arcticportal.org/uploads/BW/p8/BWp8LeLvRW6AKx9HfLECHQ/Dec-08.PAME-Report-to-SAOs-Nov-2008.pdf>> (retrieved 23 April 2009).

¹⁴⁰ Environment Canada, *Protecting Canada's Coastal and Marine Environment* (2004), available: <http://www.npa-pan.ca/youth/NPA_brochure.pdf> (retrieved 20 January 2007), p. 15.

¹⁴¹ For a further review of the pilot projects, see D. L. VanderZwaag, "Transboundary Challenges and Cooperation in the Gulf of Marine Region: Riding a Restless Sea Toward Misty Shores," in H. N. Scheiber, ed., *Law of the Sea: The Common Heritage and Emerging Challenges* (The Hague: Martinus Nijhoff, 2000), pp. 279–281.

participants discussed ecosystem indicators for three priority areas: contaminants and pathogens, fisheries and aquaculture, and land use.¹⁴²

4.3.6. Enforcement

While each federal statute pertaining to oceans has its own set of regulations, enforcement procedures, penalties and fines, Section 35 of the *Oceans Act* provides the Minister of Fisheries and Oceans with the authority to develop specific regulations pertaining to the designation of marine protected areas and the prescription of measures needed to achieve the conservation objectives of the marine protected area. Section 37 of the Act provides for penalties if prescribed measures are contravened, with persons liable to a fine not exceeding CAD100,000 on summary conviction or up to CAD500,000 for an indictable offence. The Act also provides the authority to make regulations prescribing marine environmental quality requirements and standards. In practice, this is intended to give effect to those ecosystem objectives that require the force of regulation.

With respect to enforcement and surveillance, the approach adopted by the Canadian government is to multi-task pollution prevention among fishery officers and other federal and provincial enforcement officers active in the geographic area where the oceans conservation or management measure is being applied. Notwithstanding the above, enforcement is only one of many measures on the compliance continuum. Consequently, substantial effort is dedicated in both the integrated management and marine protected area processes to engaging stakeholders and involving them in advisory and management bodies. Better understanding and “ownership” of the management plans and associated regulatory measures provides support and potentially reduces the more costly surveillance and enforcement efforts.

Regulations developed under the *Oceans Act* include those to designate seven current marine protected areas and to date no contraventions have been detected. Regulations focused on the mitigation of seismic sound in the marine environment are also under development. As part of this process, DFO held targeted public consultations in 2005 and 2006 and revised its draft Statement

¹⁴² P. King and C. MacKenzie, eds, *Gulf of Maine Summit: Committing to Change, Summit Report* (Boscawen, NH: Gulf of Maine Council on the Marine Environment and the Global Programme of Action Coalition for the Gulf of Maine, 2005), available: <http://www.gulfofmainesummit.org/Summit_%20Report/Summit_Report.pdf> (retrieved 10 November 2008).

of Canadian Practice Respecting the Mitigation of Seismic Sound in the Marine Environment.¹⁴³ The Statement of Canadian Practice has now been given effect under the authority of the Newfoundland and Labrador and Nova Scotia Petroleum Boards for oil and gas applications, and *Oceans Act* regulations are under development for non-oil and gas seismic surveys.

Canada has been a leader in developing legislative provisions supportive of effective enforcement and creative sentencing options for those convicted of environmental and fisheries offences. Most federal and provincial statutes provide for strict liability offences where the Crown does not have to show fault (intentional, reckless, or negligent behaviour) by the offender but only a guilty act, such as a deleterious deposit into waters frequented by fish. Many statutes allow judges to be innovative in issuing sentencing orders beyond the traditional sanctions of fines or imprisonment. For example, section 79.2 of the *Fisheries Act* allows courts to impose various requirements on offenders, including prohibiting activities that may continue or repeat the offence, directing remedial and avoidance measures, directing convicted persons to publish the facts relating to the offence, requiring persons to pay governmental costs of remedial or preventative actions, ordering persons to perform community service, directing persons to contribute funds for the purpose of promoting fish habitat conservation and fisheries management, and requiring persons to comply with any other conditions for securing the person's good conduct.

A recent legislative effort to bolster enforcement in the oceans sector is aimed at more effectively countering ship-source pollution, especially in contravention of MARPOL standards, which has had damaging consequences to migratory seabirds. The 2005 amendments to the *Migratory Birds Convention Act, 1994* and the *Canadian Environmental Protection Act, 1999* expand the scope of persons who may be held responsible for offences,¹⁴⁴ extends the jurisdiction of Canadian courts to cover infringements in the EEZ, and substantially increases penalties.¹⁴⁵

¹⁴³ Fisheries and Oceans Canada, "Performance Report for the Period ending March 31, 2006" (Ottawa: Treasury Board of Canada, 2006), available: <http://www.tbs-sct.gc.ca/dpr-rmr/0506/FO-PO/fo-po_e.pdf> (retrieved 10 November 2008).

¹⁴⁴ *Migratory Birds Convention Act*, S.C. 1994, c. 22, as amended by *An Act to amend the Migratory Birds Convention Act, 1994 and the Canadian Environmental Protection Act, 1999*, S.C. 2005, c. 23; CEPA, n. 70 above.

¹⁴⁵ Persons responsible for depositing a substance harmful to migratory birds not authorised under the *Canada Shipping Act* may include masters, chief engineers, owners and operators of a vessel, and directors/officers of a corporation which is the owner/operator of a vessel (*An Act to amend the Migratory Birds Convention Act, 1994 and the Canadian Environmental Protection Act, 1999*, S.C. 2005, c. 23, s. 5.4). Persons or vessels contravening provisions of the *Migratory*

4.3.7. Research and Education

Canada's Oceans Strategy emphasises the need to base decisions on sound science and to address uncertainties in our knowledge base so that management actions can be adjusted as new scientific information becomes available.¹⁴⁶ The importance given to improving our understanding of marine ecosystems, their properties and critical functions, as well as the impacts of single and multiple activities on these parameters, has resulted in a shift in the orientation and organisational structure of the research and scientific support services within DFO and by other service providers. Increased partnerships with academia, international scientific organisations, and sister agencies in other governments have facilitated the development of tools for the application of ecosystem-based considerations of ocean issues and the building of a rigorous peer-review scientific advisory process designed to support all ocean managers.

To further develop the scientific understanding necessary to support the implementation of Canada's ocean management policy, an Ocean Management Research Network (OMRN) was established as a joint initiative between the Social Science and Humanities Research Council and the Department of Fisheries and Oceans. The OMRN creates a national network of interdisciplinary and cross-sectoral research working groups to develop and integrate knowledge and best practices for sustainable oceans management.¹⁴⁷

The commitment to advance ocean science and technology is anchored in Canada's Oceans Action Plan with the objective to improve information sharing through connecting information networks, promote innovation and new technologies by supporting prototype development and targeted research and development, and enhanced commercialisation through demonstration projects in the priority LOMAs.¹⁴⁸

Birds Convention Act, 1994 or its regulations are subject to a fine of up to CAD1,000,000 upon conviction by indictment and to a fine of not more than CAD300,000 upon summary conviction. Persons may also be subject to imprisonment up to three years (upon indictment) or up to six months (on summary conviction) (s. 9(1)). Persons and vessels may be convicted for a separate offence for each day the offence is committed or continued (s. 9(2)).

¹⁴⁶ Fisheries and Oceans Canada, n. 2 above, pp. 12–13, 22.

¹⁴⁷ See OMRN website at <<http://www.omrn-rngo.ca/>> (retrieved 27 April 2009).

¹⁴⁸ Fisheries and Oceans Canada, n. 3 above, p. 10.

4.3.8. Financing

Due to fiscal restraints in 1997, no new funds were provided to implement the *Oceans Act* or Canada's Oceans Strategy. Until the federal government's approval of the *Oceans Action Plan* in 2005, funding for implementation of the national ocean management approach had been achieved through reallocation of funds within DFO. The programmes delivered in the six administrative regions of DFO have been dependant on transfers of national funds on an annual basis. Since 1997, the department has redirected approximately CAD100 million to fund the activities in support of the oceans strategy.

The Oceans Action Plan, however, provided some new funding, in the order of CAD28 million over two years across involved departments.¹⁴⁹ The 2007 federal budget proposed CAD19 million over two years to help clean and protect Canada's oceans and support increased water pollution prevention, surveillance, and enforcement along its coasts.¹⁵⁰ Once approved by Cabinet (May 2007) and Treasury Board (September 2007), the Health of the Oceans commitment grew from CAD19 million over two years to CAD61.5 million over five years, projected through 2011–2012. This amount is allocated to five federal departments/agencies as follows: Transport Canada - CAD23.85 million; DFO - CAD23.173 million; Environment Canada - CAD8 million; PCA - CAD6.25 million; and Indian and Northern Affairs Canada - CAD0.175 million.

4.4. Implementation, Evaluation and Long-term Outlook

As referenced earlier, the single greatest challenge in implementing a "horizontal" oceans policy in Canada is the need to persuade or show other sectors, departments, levels of government, and traditional stakeholders that the policy and the integrated management process have benefit and interest for them. Moving from the theoretical level to the application of concepts, such as ecosystem-based management and precaution, in day-to-day decisions is fraught with science challenges, as well as concerns about change. The focus on

¹⁴⁹ Fisheries and Oceans Canada, "Backgrounder: Oceans Action Plan – Phase 1" (May 2005), <<http://www.dfo-mpo.gc.ca/media/back-fiche/2005/hq-ac47a-eng.htm>> (retrieved 27 April 2009).

¹⁵⁰ Department of Finance Canada, n. 23 above.

developing operational tools and guidelines for application has helped to overcome some of these challenges.

There are many challenges in implementing an oceans policy which seeks integration of the planning and management of ocean activities among various levels of government. An additional challenge is re-orientating single species, single activity decisions to decisions focused on the sustainability of the ecosystem and, therefore, of the industries and traditions dependent upon ocean resources. Perhaps the greatest challenges are implementing the institutional changes and building the relationships and capacities essential to achieving integration.

It is through the development of area-based integrated management plans, such as the ESSIM Integrated Ocean Management Plan, that agencies and stakeholders will see themselves (or not) in the product and understand the ecosystem, social and economic objectives that will guide activities in the area.

When addressing an ocean management issue, it is key to accurately assess the spatial and temporal scale at which the management action needs to be taken. If an environmental or economic issue is ecosystem-wide, a sub-national or local intervention will not be effective in addressing the problem. Alternately, if the management issue is multi-sectoral and requires action by different government authorities, intervention by a limited number of responsible authorities will not result in the desired outcomes. An additional challenge is the selection of the appropriate performance indicators. Such indicators must also be chosen in consideration of the spatial and temporal scale at which the system will respond.

4.4.1. Monitoring and Reporting

The *Oceans Act* requires a review of the administration of the Act by Parliament within three years after its enactment.¹⁵¹ The *Report on the Oceans Act* by the Standing Committee on Fisheries and Oceans, in October 2001, concluded that the Act was fundamentally sound. It made 12 recommendations including a recommendation that a performance-based reporting system be established and reports provided to Parliament on an annual basis. A further recommendation called for the preparation of a state of the ocean report on

¹⁵¹ Oceans Act, n. 1 above, section 52.

a periodic basis to track the health of the oceans, ocean communities, and related ocean industries.¹⁵²

On 29 September 2005, the Commissioner of the Environment and Sustainable Development reported to the House of Commons on *Oceans Act* implementation and issued key recommendations.¹⁵³ Recommendations directed to DFO included:

- having Canada's Oceans Action Plan recognised and managed as a government *horizontal initiative*;
- finalising and implementing operational guidance for integrated management planning, including marine protected areas, in the five priority ocean areas;
- planning and managing its resources to ensure commitments and targets set out in departmental documents, such as the annual report on plans and priorities, are met, as well as the 2002 World Summit on Sustainable Development oceans commitments;
- finalising and implementing an accountability framework for its management activities, and
- improving communications to the public, including periodic information on the state of the oceans.

The recommendations were addressed by the Government of Canada through Phase 1 of the Oceans Action Plan released in May 2005.¹⁵⁴ The recommendations continue to be addressed, in part, through the horizontal management of the Health of the Oceans initiative involving five federal organisations, as well as the ongoing convening of Interdepartmental Oceans Committees (ICOs) at the director general, assistant deputy minister, and deputy minister levels.

Federal departments are required to provide a performance report to Parliament as part of their annual report on plans and priorities. Information on programmes, their budgets, plans, and expected results for integrated management, marine protected areas and other ocean management activities are provided for public scrutiny.¹⁵⁵

¹⁵² Standing Committee on Fisheries and Oceans, *Report on the Oceans Act*, (Ottawa: House of Commons, Parliament of Canada, 2001), available: <<http://cmte.parl.gc.ca/cmte/Committee/Publication.aspx?COM=216&SourceId=37019&SwitchLanguage=1>> (retrieved 10 November 2008).

¹⁵³ Commissioner of the Environment and Sustainable Development, n. 25 above.

¹⁵⁴ Fisheries and Oceans Canada, n. 3 above.

¹⁵⁵ Fisheries and Oceans Canada, n. 46 above.

DFO has developed a Results-based Management and Accountability Framework to monitor the progress and implementation of the national ocean policy.¹⁵⁶ This framework sets out performance measurement goals and indicators to assess departmental progress. The Results-based Management and Accountability Framework was designed to track how DFO uses resources to undertake activities in order to affect the desired results and achieve stated outcomes.

From an oceans management programme perspective, monitoring, assessment, reporting, and re-evaluation of management measures applied to achieve the marine environmental quality objectives and social and economic objectives defined for integrated management and marine protected areas are an integral part of the operational frameworks of *Oceans Act* programmes.

4.4.2. Outlook

Funding for Phase 1 of the Oceans Action Plan, renewed funding in the 2007 federal budget and interest shown by other levels of governments to develop collaborative governance arrangements and processes, augur well for short-term implementation of Canada's Oceans Strategy. Integrated management processes are ongoing in five LOMAs and seven marine protected areas have been designated. Work is progressing towards the designation of the remaining candidate marine protected areas originally identified during the pilot phase of the policy development process. For the implementation of the international pillar of the Oceans Action Plan, an international fisheries and oceans governance strategy is being implemented to provide a coordinated approach to addressing key fisheries and oceans governance issues. Key partnerships have been developing with coastal nations with shared interests and maritime boundaries, and considerable international efforts are being directed to addressing environmental issues in the high seas.

Priority actions completed under Phase 1 of the Oceans Action Plan include the development of some ocean management agreements with federal, provincial, territorial, and aboriginal partners. Although these governance arrangements are pivotal, so too is the development of capacity at all levels of government, and within the stakeholder community, to implement integrated management in all Canadian marine waters. Changes in relationship among sectors, and between sectors and their regulators, require time and investment.

¹⁵⁶ Commissioner of the Environment and Sustainable Development, n. 25 above, p. 12.

Successful replacement of sectoral relationships by multiple industry coalitions and management decisions integrated to focus on a geographic space rather than single activities all define the long-term outlook of successful oceans management in Canada. Health of the Oceans funding has secured support for the integrated management process with respect to the advancement of federal and national marine protected area networks, through to 2012. This augers well for meeting international biodiversity commitments. However, the broader commitment to applying integrated oceans management beyond the LOMA boundaries continues to be a challenge due to funding and capacity issues.

4.5. Lessons Learned

While Canada, like other countries, is still learning in the complex field of ocean policy and governance, seven major lessons do stand out.

1. Enabling ocean management legislation provides a useful guide

Canada's *Oceans Act* has provided an important framework for directing how human uses of Canada's oceans may be better managed. The Act has defined Canada's maritime zones and recognised the attendant rights and responsibilities within those zones in conformity with the LOS Convention. The Act has clearly designated DFO as the lead federal authority for developing integrated management plans for marine areas, for setting the environmental quality standards which must be met, and for designating/establishing marine protected areas. The Act has facilitated the development of a broad policy framework and a government-wide plan of action.

2. Passing an oceans act should not detract from the need for other legislative and regulatory reforms

While Canada's *Oceans Act* has substantially advanced ocean governance initiatives and arrangements, there remain several sectoral laws which do not yet reflect the modern ocean governance commitment of the Government of Canada. For example, Canada's *Fisheries Act*, dating back to 1868, has yet to be "modernised" to reflect modern ocean governance principles, although the policies guiding its application have evolved over time.

In response to this problem, the Minister of Fisheries and Oceans introduced two proposed revisions of the *Fisheries Act*, Bill C-45 in December

2006 and Bill C-32 in November 2007. The proposed revisions explicitly supported the application of the principles of sustainable development, including the ecosystem approach, precaution, and increased stakeholder participation in decision making. However, both bills died on the order paper when the parliamentary sessions were prorogued (formally ended). As of the time of writing, a new fisheries bill had not been reintroduced.

3. Including sustainable development principles in national oceans-related legislation is very important

While principles by their nature tend to be general and open to various interpretations, principles such as integration, precaution, and the ecosystem approach do serve useful functions. At the very least, principles invite decision makers and others to rethink traditional management approaches. Principles may be considered part of the search for “good governance.” They facilitate discussions and debate within government bureaucracies, but also among the broader public.

4. Developing integrated management plans and establishing marine protected areas takes time

Building the relationships and capacity required to bring participants at all levels to the table takes time and requires skilled negotiation. The special relationship of the government with Aboriginal peoples must be considered and managed in the development of marine protected areas and integrated management planning processes. Both of these processes involve multiple steps, all of them requiring, to a greater or lesser extent, the involvement of other government authorities and meaningful consultation with affected parties.

In going forward, one of the major tests will be the management of public expectations for timely and focused intervention to address issues of immediate concern to them. User conflicts and environmental degradation have evolved over years. To change human relationships and to detect positive responses in the marine environment will likely require decades.

5. Federated states face particular challenges in achieving integrated coastal/ocean management

Being a country with eight provinces and three territories fronting ocean areas, Canada faces special challenges in achieving integrated coastal/ocean management. Canada’s *Oceans Act* recognises the constitutional limitations of

the federal government by limiting integrated management planning to marine waters and not directly encompassing provincial coastal lands and rivers.¹⁵⁷ The *Oceans Act* requirement for the federal government to collaborate with other levels of government seeks to draw in other government authorities as partners in the integrated management process while respecting the current division of powers. The extent to which integrated management planning initiatives will influence provincial laws, policies, and interests remains to be seen.

The complexity of shared federal-provincial responsibilities may also affect the pace of legislative and regulatory developments. For example, development and enactment of Canada's *Species at Risk Act* was prolonged in part due to the jurisdictional complexities and sensitivities surrounding species at risk. Several other ocean-related activities, such as aquaculture management, involve both federal and provincial authorities and, therefore, present significant challenges because of federal-provincial jurisdictional issues.

The relationship of the federal government with provinces and territories continues to develop, and much of the success of integrated planning will depend on continuing progress. It is through these inter-jurisdictional relationships, and between regulators, that an existing fragmented set of laws and policies will be coordinated in the domestic management of oceans activities.

6. Limited marine ecosystem understanding continues to be a major challenge

While Canada is firmly committed to implementing an ecosystem-based approach to management, including fisheries management, the limited scientific data and understanding of complex marine ecosystems remains a challenge. Canada's Oceans Action Plan has recognised that ecosystem-based science needs to be strengthened and one of the pillars of the plan is to enhance ocean science and technology.¹⁵⁸

7. Incentives are critical for changes in governance and accountability

Ecosystem-based integrated management of oceans requires changes in governance both within the federal agencies and between levels of government.

¹⁵⁷ Oceans Act, n. 1 above, s. 28.

¹⁵⁸ Fisheries and Oceans Canada, n. 3 above, pp. 9–10.

Until implementation of the Oceans Action Plan was initiated, neither the necessary inter-agency structures, nor other departmental accountabilities were in place. During the first years of implementation of Canada's *Oceans Act* and oceans policy, both accountability and financing (internal reallocation) were located with only one department (DFO). This situation did not support a coordinated federal approach.

As recommended in the 2005 *Report of the Commissioner of the Environment and Sustainable Development*, a horizontal, all-of-government approach is a fundamental requirement for success in bringing all federal regulators to the table. Sub-national authorities (provincial, territorial, aboriginal) and stakeholders may require capacity-building and incentives to participate in a national programme. Financial investment is required to build integrated management and may be an important incentive both at the federal and sub-national level.

4.6. Conclusion

Integrated management objectives involve significant changes in science advice, regulatory activities, and intergovernmental and stakeholder relationships. While progress has been made in pilot areas, the advent of the targeted Oceans Action Plan with federal government political and financial support is allowing the coherent development of integrated management plans in five key areas of Canada's oceans.

Experience gained since the promulgation of the *Oceans Act*, and adoption of Canada's Oceans Strategy as the federal policy framework, has highlighted the need for clear implementation strategies. Efforts will need to continue on advancing

- intersectoral and inter-departmental buy-in (Canada's Oceans Action Plan),
- intergovernmental(federal-provincial) relationships (Canadian Council of Fisheries and Aquaculture Ministers and federal-provincial agreements),
- increased collaboration internationally to address issues of common concern, and
- clear guidelines for the interpretation and implementation of ecosystem-based management.

Implementing a results-based system of monitoring and reporting for government-wide initiatives is daunting, with ministerial accountabilities continuing to be linked to single activities as opposed to the horizontal target of integrated oceans management. Generating the political will, profile, and resources to support a robust policy and effective implementation of the integrated approach continue to be long-term goals.