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INTEGRATED COASTAL MANAGEMENT (ICM): A BRIEF LEGAL AND INSTITUTIONAL COMPARISON AMONG CANADA, THE UNITED STATES AND MEXICO

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EXECUTIVE SUMMARY

I. INTRODUCTION

A recent study by the Food and Agricultural Organization of the United Nations (FAO) determined that 20.6% of the world's population currently lives within 30 km of the nearest coastline, 29.2% within 60 km, 35% within 90 km, and 39.5% within 120 km.1 By the year 2050 more people will live within 120 km of the coastline than are alive in the world today. Canada, the United States, and Mexico are adjacent coastal nations where the impact of significantly increased human activity in the coastal zone by the year 2050 may be potentially catastrophic. Integrated coastal management (ICM) may have a role to play within, and between, all three countries to help ameliorate this situation.

The objectives of this paper are threefold. First, it seeks to define what is meant by the term “ICM.” Second, it seeks to describe the current legal context for ICM in Canada, the United States, and Mexico. Third, it seeks to identify “lessons” that Canada, the United States, and Mexico can learn from each other with a view towards the more sustainable management of

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the coastal zones within and between all three countries. This paper concludes that there are a number of key gaps in the way that ICZM issues in all three countries are currently being addressed.

II. DEFINING ICM

ICM is a difficult term to define because there appears to be no universal approach to ICM. However, there are various definitions of ICM with common elements that have emerged from both conferences and international agreements, as well as from the academic literature. For example, the 1993 World Coast Conference Statement defined ICM as "the comprehensive assessment, setting of objectives, planning and management of coastal systems and resources, taking into account traditional, cultural, and historical perspectives and conflicting interests and uses" of coastal areas. Alternative definitions of ICM abound. ICM has been variously described as:

1. "A resource management system which employs an integrative, holistic approach and an interactive planning process in addressing the complex management issues in the coastal area." 

2. "[A] dynamic process in which a co-ordinated strategy is developed and implemented for the allocation of environmental, social, cultural, and institutional resources ...." 

3. "A dynamic and continuous process of administering the use, development, and protection of the coastal zone and its resources towards common objectives of national and local authorities and the aspiration of different resource user groups."

4. "To maximize the benefits provided by the coastal zone and to minimize the conflicts and harmful effects of activities upon each other. Its goal has been defined as the production of the

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optimal mix of products and services from a coastal system, with 'optimal' being the mix that results in maximum social benefit.\textsuperscript{7}

ICM generally focuses on the interactions between activities that take place within the coastal zone and activities in other regions. ICM can theoretically guide the sustainable development of coastal areas by reducing the degradation of coastal ecosystems, providing a common framework for the management of multi-sectoral activities, and maintaining options for future uses of coastal resources. ICM also provides policy direction and a process for defining objectives and priorities, and for planning development beyond sectoral activities. It adopts a systems perspective that takes into account all sectoral and stakeholder interests, and deals with economic, social, environmental, and ecological issues.\textsuperscript{8}

For the purposes of this paper the key elements of ICM are its abilities to prevent urban sprawl, as well as the proliferation of non-water dependent activity in the coastal zone.

III. THE LEGAL CONTEXT FOR ICM IN CANADA, MEXICO, AND THE UNITED STATES\textsuperscript{9}

The extent to which it is possible for Canada, the United States, and Mexico to successfully engage in ICM is dictated, in part, by the legal context in each country. In this section, the basic legal structure and the state of ICM in Canada, the United States, and Mexico are briefly discussed.

A. The Legal Context for ICM: Canada

1. Basic Structure

Canada is a "constitutional monarchy, a federal state, and a parliamentary democracy."\textsuperscript{10} "Canada has two official languages: English and French, and two legal systems: the common law and the civil law, the latter

\textsuperscript{7} ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, COASTAL ZONE MGMT.: INTEGRATED POLICIES? (OECD 1993).
\textsuperscript{10} CEC, supra note 9, \textit{Summary of Environmental Law in Canada} at topic=1.
of which is used only in private law in Quebec.” Canada is composed of federal, provincial, and territorial governments. Each type of government consists of three main branches: executive, legislative, and judicial. The Canadian Constitution lists the exclusive and joint powers allocated to both the federal and provincial levels of government (territorial governments are subject to federal legislation). The division of legislative powers in Canada between the federal, various provincial and, increasingly, First Nations (aboriginal) levels of governments is complex and continues to be the subject of many judicial interpretations. It also continues to be the subject of numerous agreements and protocols.

The executive branch of the federal government includes the Prime Minister, Ministers, the Cabinet, the Privy Council, the Governor in Council and the administration, but the real power is held by the Cabinet. The Governor General appoints the Prime Minister, who in turn selects approximately thirty Ministers usually from the Members of Parliament (MP) belonging to the party in power to be appointed to the Cabinet. The Ministers “are in charge of particular departments and each is responsible, answerable, and accountable to the House of Commons for his or her own department.” The link between the Minister and the bureaucracy is made through the appointment of a Deputy Minister, the senior public servant in each department.

The Parliament of Canada is composed of three parts: the head of state, the House of Commons, and the Senate. As Canada is a constitutional monarchy, the head of state is the Queen of the United Kingdom (currently, Queen Elizabeth II). Section 9 of the Constitution delegates all of her powers to the Governor General, whose role has largely become ceremonial, acting on the advice of the government.

The House of Commons is made up of 301 elected MPs. The political party with the largest number of MPs usually forms the government, and the Governor General appoints the leader of this party to become Prime Minister. General elections must be held at least once every five years; however, there is no set election date, so elections can be called at any time.

The Senate is composed of 104 senators representing four regions of Canada: the Maritimes, Quebec, Ontario, and the West. Senators are

11. Id.
12. Id.
13. Id. at topic=1 #2.
14. Id.
15. CEC, supra note 9, Summary of Environmental Law in Canada at topic=1 #2.
16. Id.
17. Id.
18. Id.
appointed by the Governor General on advice from the Cabinet. The appointments are for life, though the senators may sit in the Senate until they reach seventy-five years of age.

Canadians are governed by both common law, statutes, and regulations. Different documents have different legal ramifications. For example, "[s]tatutes, regulations and orders in council are considered binding law. Guidelines, codes of practice, policies and procedures are usually much less formal and often provide guidance rather than enforceable rules." Case law is important in the interpretation of the Constitution, statutes, and regulations. Supreme Court of Canada decisions are binding on lower courts, as are provincial courts of appeal. In Canada, courts sometimes refer to decisions from other countries such as the United States or other Commonwealth members.

In Canada, international treaties require the adoption of new legislation or modification of existing legislation, either at the provincial level or the federal level, or both. Canada may be found to be contravening its international obligations if its "internal law is not in conformity with a binding treaty." In the case of clear discrepancies between Canada's internal law and an international treaty, in general, the internal law takes precedence.

As previously mentioned, the Canadian legal system is one of common law with the exception of Quebec. Almost all the courts in Canada are provincial, though the judges are federally appointed. The highest court in the country is the Supreme Court of Canada, established in 1875. Its judgments are binding on all other courts.

The provincial governments are similar to the federal government, as they have the same separation of the legislative, executive, and judicial branches. "Legislative power is vested in the Parliament (Lieutenant Governor and the Legislative Assembly) of each province." The Governor General appoints Lieutenant Governors whose functions are similar to those of the Governor General. The Premier of the province is the leader of the political party with a majority of seats in the provincial
legislature. Like their federal counterparts, Provincial Ministers are chosen by the Premier and then appointed by the Lieutenant Governor. The various territories have "governments that are the creation of federal statutes, and lack the independent constitutional status enjoyed by the provinces." Although they are subject to the plenary legislative powers of the federal Parliament, the territories have increasingly had extensive self-government powers delegated to them.

Local or municipal governments are created by the provincial legislatures, and have the power to regulate matters within their boundaries through bylaws. However, local governments must exercise this power in compliance with the provisions of the enabling provincial act. Local governments are subordinate to the provincial authority that has delegated its power, and thus the structure (which includes towns, townships, villages, counties, regional municipalities, and cities, which vary greatly in size) of these governments is determined by each provincial legislature.

From the Atlantic to the Pacific, the Aboriginal peoples of Canada "consist of First Nations (Indians), Inuit (Eskimos) and Métis (descendants of Indians and French settlers and traders)," representing eleven different language groups and a population of approximately 700,000. The federal government, through the Canadian Constitution has been authorized to "make laws in relation to Indians and lands reserved for Indians." In 1982, Aboriginal peoples received constitutional recognition (Section 35).

Aboriginal rights refer to the survival of certain customs and traditions that have continued to be exercised since the imposition of European sovereignty. Treaty rights generally refer to obligations/responsibilities owed by the federal Parliament to native people in return for the surrender of land rights. In recent years, these rights have been the subject of numerous Supreme Court of Canada decisions.

Indian bands and tribes signed treaties with various British colonial governments before the formation of Canada in 1867, and with Canadian governments after that date. Although the federal government will usually not reopen existing treaties, specific land claims arising from alleged non-

27. Id.
28. Id.
29. Id.
30. CEC, supra note 9, Summary of Environmental Law in Canada at topic=1 #3.
31. Id.
32. Id.
33. Id.
34. Id.
35. CEC, supra note 9, Summary of Environmental Law in Canada at topic=1 #3.
fulfillment of Indian treaties and other lawful obligations, or from the alleged improper administration of lands and other assets under the Indian Act or other formal agreements, may be brought forward for negotiation. In areas where treaties were not signed, such as in most of British Columbia and in the North, comprehensive land claim negotiations have been initiated to clarify the rights of Aboriginal groups to certain lands and resources, and to facilitate their economic growth and self-sufficiency. These land claims are based on the concept of continuing Aboriginal rights and title, which have not been dealt with by treaty or other specific agreements, and involve negotiations between the aboriginal group, the federal government, and applicable provincial or territorial governments. Land claim agreements usually involve such issues as the transfer of certain lands to Aboriginal groups, the establishment of various institutions ensuring the involvement of Aboriginal peoples in a variety of decisions, the establishment of protected areas such as parks, and provisions in contemplation of Aboriginal groups' sharing in royalties generated from the development of non-renewable resources.

2. ICM Initiatives in Canada (British Columbia)

There is no formal province wide ICM scheme in British Columbia. Rather, coastal management in British Columbia is fragmented between more than two dozen federal and provincial departments and agencies which administer legislation relating to the marine and coastal environment. This fragmentation is, in part, a product of lingering uncertainty over who has jurisdiction over the seabed, the water column, and the coastal zone of British Columbia. There are two kinds of jurisdiction to consider in this context: ownership jurisdiction and legislative jurisdiction.

The general rule in British Columbia with regard to ownership jurisdiction is that the provincial government "owns" the seabed in the intertidal zone between the mean low tide mark and the mean high tide mark, and that the federal government "owns" the seabed below the mean low tide mark. Exceptions to this rule include the fact that the provincial government asserts ownership over the seabed beneath waters considered to be landward of the line used to demarcate the baseline for the territorial sea; "historic"; or, *inter terres fauci* (within the jaws of the land). Exceptions to these exceptions include where the federal government has legal title to the seabed, such as the seabed beneath federal harbors and the seabed beneath waters considered to be in the federal "railway belt."

The general rule with regard to legislative jurisdiction is that the federal and provincial governments have such jurisdiction to legislate with regard to certain subjects as has been given to them in the Canadian
Constitution Act. For example, the federal government has legislative jurisdiction over such matters as seacoast and inland fisheries, as well as navigation and shipping. There continue to be ongoing disputes between the federal and provincial governments regarding who has legislative jurisdiction over a number of matters, such as environment, that are not clearly stated in the Constitution. The entire situation is further complicated by the yet unknown extent to which First Nations may have constitutionally protected rights to various parts of the British Columbia seabed, water column, and coastal zone.

Despite the conspicuous lack of a comprehensive British Columbia ICM scheme, both the federal and provincial governments, along with various municipal, regional, and First Nations governments have been experimenting with various aspects of ICM in British Columbia for many years. The driving force behind these initiatives has been an increasing perception that key resource issues are not being adequately and properly dealt with by current initiatives. These key resource issues include: increasing urban sprawl, a proliferation of non-water dependant industry and residential development in the coastal zone, the conspicuous lack of an enforceable growth management strategy, increasing loss of critical fisheries and wildlife habitat, increasing loss of biodiversity, and increasing loss of economic development opportunities. Among recent British Columbia ICM initiatives at the federal, provincial, First Nations, and NGO levels have been the following:

a. Federal

i. The Department of Environment (DOE) and the Department of Fisheries and Oceans (DFO) were active participants in Coastal Zone Canada 1994 which was held in September 1994, in Halifax, Nova Scotia. The Departments also participated in subsequent Coastal Zone Canada conferences.

ii. As far back as 1993, DOE constructed a draft policy document entitled “Coastal Zone Management: A Framework for Action.”


iii. Various federal departments, along with the province and other interested parties, are currently actively participating in two high profile west coast initiatives: the Georgia Basin initiative and the Pacific Marine Heritage Legacy initiative. In October 2003, the federal and provincial governments signed an agreement to protect some of British Columbia’s marine ecosystems, notably the Southern Strait of Georgia and the Gwaii Haanas National Marine Conservation Areas.39

iv. DFO has taken the lead in helping to fund a number of local “sustainability” initiatives throughout British Columbia, e.g., the Comox Valley Round Table and the Howe Sound Round Table.

v. The Fraser River Estuary Management Program (FREMP) and the Fraser Basin Management Board (FBMB) are important British Columbia models to consider for both their successes, and for their failures, to coordinate different levels of government.40

vi. The relatively recently enacted Oceans Act gives the Federal Minister of Fisheries and Oceans the power to implement “integrated management” plans. Integrated management (IM) is the name that the federal government gives to a self described, more proactive approach towards sound oceans management. IM is an ongoing and collaborative planning process intended to bring together interested parties, stakeholders and regulators to reach general agreements on the best mix of conservation, sustainable use, and economic development of coastal and marine areas for the benefit of all Canadians.41


b. Province of British Columbia


ii. Provinces such as British Columbia have the ability to impose land use restrictions affecting developments on the ocean foreshore. For example, British Columbia's Land Act prohibits unauthorized construction on Crown land, including the ocean foreshore.

iii. The work of the (now disbanded) Commission on Resources and Environment (CORE) underscored the need for ICM on the west coast by demonstrating that it is possible to successfully involve the public in land use planning processes.

iv. The Central Coast Land Resource Management Plan (LRMP) is a multi-stakeholder process that is currently underway to try to deal with a range of ICM issues in the central coast of British Columbia.

v. Recently, British Columbia announced that it will revisit the current moratorium on the exploration for oil and gas off its coast.

c. First Nations and NGOs

Many First Nations (aboriginal people) in British Columbia are increasingly concerned about ICM issues as part of their overall commitment to a more enlightened stewardship of coastal resources. However, many First Nations communities are also justifiably reluctant to become involved in planning exercises that they feel might potentially prejudice their unresolved aboriginal land and sea claims. Recently, the First Nations in British Columbia have won a number of important victories in court that appear to entitle them to significantly more consultation with government than had been previously thought. In 2002, the Haida First Nation filed a landmark lawsuit seeking recognition of aboriginal rights and title over the coastal zone and offshore areas of its ancestral homeland of Haida Gwaii,

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43. SALASAN ASSOCIATES, INC., TOWARDS A COASTAL RESOURCE STRATEGY, COASTAL RESOURCE STRATEGY STEERING COMMITTEE (1993).
British Columbia.\textsuperscript{44} In the \textit{Haida} decision, the Court of Appeals ruled that the duty to consult with First Nations lies not only with government, but also with third parties, such as private companies.\textsuperscript{45}

There are also a number of NGO ICM initiatives currently underway in British Columbia. Prominent among these is an initiative by the Canadian Parks and Wilderness Society (CPAWS), which is spearheading a “Baja to Bering” (B2B) initiative to champion the creation of a systematic network of marine protected areas that would stretch from Baja, Mexico to the Bering Sea in Alaska.\textsuperscript{46}

\textit{B. The Legal Context for ICM: The United States}

1. Basic Structure

The United States is a federalist republic where the federal government has certain powers. However, “the fifty sovereign states retain substantial autonomy and authority over their respective citizens and residents.”\textsuperscript{47} The federal government, as well as the state governments, are divided into three branches: executive, legislative, and judicial. A system of checks, balances, and separation of powers is found in the constitutions of the federal government and the states.\textsuperscript{48}

Due to its authority to regulate interstate commerce, the federal government is “the predominant force in environmental regulation in the United States.”\textsuperscript{49} The states also have significant authority to protect the environment through state legislation.\textsuperscript{50}

The Supremacy Clause of the U.S. Constitution governs all potential conflicts between state and federal regulation.\textsuperscript{51} The Supremacy Clause states that if federal laws are contradicted by state and local laws, such laws are preempted “and can be declared unconstitutional by a federal court.”\textsuperscript{52}

The executive branch of the federal government “includes the President, the Vice President, the Cabinet, all federal departments, and

\begin{itemize}
  \item \textsuperscript{44} Haida v. British Columbia Minister of Forests, [2002] B.C.J. 378.
  \item \textsuperscript{46} \textit{See CPAWS Bering to Baja Initiative, available at http://cpawsbc.org/b2b/ (last visited Apr. 1, 2004).}
  \item \textsuperscript{47} \textit{CEC, supra note 9, Summary of Environmental Law in the United States at topic=1.}
  \item \textsuperscript{48} \textit{Id.}
  \item \textsuperscript{49} \textit{Id.}
  \item \textsuperscript{50} \textit{Id.}
  \item \textsuperscript{51} \textit{Id. at topic=1 #4.}
  \item \textsuperscript{52} \textit{CEC, supra note 9, Summary of Environmental Laws in the United States at topic=1 #4.}
\end{itemize}
most governmental agencies." The government's executive power is "vested in the President, who serves a four-year term." Foreign affairs are primarily the responsibility of the President, who also has the authority to make treaties. The heads of the departments are chosen by the President, and form the Cabinet, which advises the President.

The U.S. Congress, which consists of the Senate and the House of Representatives, holds all federal legislative power. The U.S. Constitution sets out the specific powers of Congress which include "the power to lay and collect taxes, duties, and tariffs," as well as regulating foreign trade, trade among the states and trade with American Indian Tribes. It is this "Commerce Clause" that has served as the primary vehicle for implementing many of the existing federal environmental statutes.

The House of Representatives and the Senate must both pass a bill which must then be signed by the President to become federal law. Although legislation can be vetoed by the President, this can be overridden by a two-thirds vote in Congress. The House of Representatives and the Senate essentially have the power to oversee the executive branch.

The role of the federal judiciary is to decide cases and resolve disputes in a fair and impartial manner. Both the federal and state (except Louisiana) legal systems are based on common law, where previous decisions can set binding precedents for future decisions. Each level of the federal courts can interpret the U.S. Constitution and federal laws and regulations, as well as review federal statutes and agency actions, "and determine the constitutionality of federal and state laws." Specific standards for judicial review are included in many federal environmental statutes.

53. Id. at topic=1 #2.
54. Id. However, the President still needs the approval of two-thirds of the U.S. Senate. Id.
55. Id.
56. Id.
57. U.S. CONST. art. 1, § 8. See also CEC, supra note 9, Summary of Environmental Laws in the United States at topic=1 #4.
58. CEC, supra note 9, Summary of Environmental Laws in the United States at topic=1 #2.
59. Id.
61. CEC, supra note 9, Summary of Environmental Law in the United States at topic=1 #7.
62. Id.
The reviewing court has the authority to: (1) compel any agency action that is unlawfully withheld or unreasonably delayed; and (2) to hold unlawful and set aside agency action, findings, and conclusions found to be—
(A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law;
(B) contrary to constitutional right, power, privilege, or immunity; in excess of statutory jurisdiction, authority, or limitations, or short or statutory right;
(C) adopted without procedures required by law;
(D) unsupported by substantial evidence in administrative cases; or
(F) unwarranted by the facts to the extent that the facts can be reviewed by the court.63

"Treaties entered into by the United States are also considered the supreme law of the land pursuant to the U.S. Constitution."64 They are usually implemented by federal statutes.65 If there is "a conflict between a treaty and a federal statute, the one that is later in time or more specific will typically control."66

The fifty states in the United States substantially mirror the federal government: their governments are based on written constitutions, they are divided into the same three branches and they have similar systems of separation of powers and checks and balances.67 Despite these similarities, the state governments can also differ significantly from each other.

Local governments are not defined in the same way as their state or federal counterparts, though many state constitutions outline the process for the creation of local governments.68 Typical local governments include counties, cities, villages, and townships. Important environmental responsibilities are often vested in local governments and include issues such as "managing solid waste, ensuring clean drinking water, developing and enforcing land-use plans, inspecting local restaurants and other establishments for health and safety, and providing emergency services and planning."69 Local governments also have the power to administer some

63. Administrative Procedure Act, 5 U.S.C. § 706 (2000); see also CEC, supra note 9, Summary of Environmental Law in the United States at topic=1 #7.
64 CEC, supra note 9, Summary of Environmental Law in the United States at topic=1 #4.
65. Id.
66. Id.
67. Id.
68. Id. at topic=1 #3.
69. CEC, supra note 9, Summary of Environmental Law in the United States at topic=1 #3.
state and federal programs, levy taxes, and enact and enforce local ordinances.

Native Americans (First Nations or aboriginal peoples) have significant rights of self-government which stem from their own sovereignty. In addition to other powers, tribal governments can levy taxes, pass laws, and have their own courts. However, general federal laws largely apply equally to Native Americans and their property, except where Congress has intentionally exempted Native Americans. This is usually “where the issues relate to the core of Native American self-governance and self-organization, or where application would abrogate rights guaranteed by Native American treaties.” However, these exemptions do not guarantee that Congress will not apply such a statute to Native Americans. As a result, many federal environmental laws specifically explain the application of the law to Native American tribal lands. Native American tribal governments are generally granted similar rights and responsibilities as those granted to states.

2. Current ICM Initiatives in the United States

70. Id.
71. Id.
72. Id.
Formal ICM programs in the United States first came about as a result of the implementation of a national Coastal Zone Management Program (CZMP), authorized by the federal Coastal Zone Management Act of 1972 (CZMA) and administered at the federal level by the Coastal Programs Division (CPD) within the National Oceanic and Atmospheric Administration's Office of Ocean and Coastal Resource Management (OCRM). States are supported by the CZMP "through financial assistance, mediation, technical services and information, and participation in priority state, regional, and local forums."  

As a result of the CZMP's unique state-federal partnership, day-to-day management decisions are left with the states who have approved coastal management programs. Currently, the CZMP manages 99.9% of the United States' shoreline. The CZMP is guided by its Strategic Framework "which is organized around three major themes: Sustain Coastal Communities, Sustain Coastal Ecosystems, and Improve Government Efficiency." The CZMP is specifically authorized by the CZMA in the United States to:

(A) Preserve, protect, develop, and, where possible, restore and enhance the resources of the nation's coastal zone for this and succeeding generations;
(B) Encourage and assist the states to exercise effectively their responsibilities in the coastal zone to achieve wise use of land and water resources, giving full consideration to ecological, cultural, historic, and aesthetic values, as well as the needs for compatible economic development;
(C) Encourage the preparation of special area management plans to provide increased specificity in protecting significant natural resources, reasonable coastal-dependent economic growth, improved protection of life and property in hazardous areas, and improved predictability in governmental decision-making; and
(D) Encourage the participation, cooperation, and coordination of the public, federal, state, local, interstate and regional agencies, and governments affecting the coastal zone.

(1992); David W. Owens, National Goals, State Flexibility, and Accountability in Coastal Zone Mgmt., 20 COASTAL MGMT. 143 (1992); Thomas Wakeman & George Domurat, The California Coastal Zone Experience, in THE CALIFORNIA COASTAL ZONE EXPERIENCE (George W. Domurat et al. eds., 1991).

75. Id.
76. Id.
The CZMA confirms the primary authority of the individual states in the United States to regulate land use on and near the coasts, including tidelands. The CZMA offers federal funding to the states for developing and implementing coastal zone management programs that meet certain federal requirements. The CZMA requires all federal agencies and programs to be consistent with approved state programs. Currently, virtually all coastal states and territories have federally approved coastal zone management programs.

Coastal zone management in the United States must also apply the principle of "federal consistency." This means that any federal action that may affect the coastal zone "will be consistent with the enforceable policies of a coastal state's or territory's federally approved coastal zone management program."

In 1990, a new program, the Coastal Zone Enhancement Program (CZEP) was created. The CZEP provides incentives for states and territories to make changes in any of eight areas of national significance. Still another important component of coastal zone management is the Coastal Nonpoint Pollution Control Program. This amendment requires the development and implementation of nonpoint pollution programs by states and territories with approved coastal zone management programs. Once these programs are approved, changes will be required to the state nonpoint source program and to the state coastal zone management program.

The Environmental Protection Agency (EPA) has developed management measures for five categories of nonpoint pollution (agricultural runoff, urban runoff, forestry runoff, marinas, and hydromodification), as well as for wetlands, riparian areas, and vegetated treatment systems.

Other federal statutes specifically designed to protect the coasts include the Coastal Barrier Resources Act, and the Estuarine Areas Act of 1968.

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79. 16 U.S.C. § 1456(c).
81. Id.
82. These eight areas include wetlands protection, coastal hazards, cumulative and secondary impacts of development, public access to the coast, special area management planning, ocean governance, marine debris, and government and energy facility siting. NOAA, National, supra note 80.
84. NOAA, National, supra note 80.
85. Id.
86. 16 U.S.C. § 3501.
The latter requires federal agencies to consider the value of estuaries in their planning. In addition, the Clean Water Act’s permitting and other requirements apply to discharges in coastal areas and the 1990 Clean Air Act (CAA) Amendments require the EPA to monitor and assess the impact of hazardous air pollutants on coastal areas. The state statutes, land-use programs, and the state judicial application of the public trust doctrine may also offer particularly important protection for coastal areas.

According to a 1997 study by Marc Hershman, the U.S. coastal zone management laws over the past twenty-five years have been very effective. The study relied on case studies to show that coastal states and territories have developed effective policies promoting protection of critically important estuaries, wetlands, and beach areas while at the same time ensuring public access to the coast. The law has also been important in stimulating economic development of urban waterfronts and the promotion of environmentally responsible seaport development. The Hershman study was a two year undertaking, aimed at assessing the effectiveness of the policies, processes and tools that state and regional coastal programs used to accomplish five management objectives of the Act: protection of wetlands and estuaries; protection of beaches, dunes, bluffs, and rocky shores; provision of public access to the coast; revitalization of urban waterfronts; and promotion of seaports.

C. The Legal Context for ICM: Mexico

1. Basic structure.

Mexico is a “representative, democratic and federal republic” as set forth under Article 40 of the Mexican Constitution. Unlike Canada and the United States, the Mexican legal system is a civil law system of codified law. In general, laws are created through regulations and official standards that implement existing legal provisions. Like the United States, the Mexican federal government is divided into three branches: executive,
legislative, and judicial.\textsuperscript{94}

The President of Mexico heads the executive branch. Through direct citizen vote, the President is elected for a single six-year term and is responsible for the implementation and administration of laws.\textsuperscript{95} The President is assisted by a cabinet which is "composed of the heads of the secretariats and administrative departments and several advisory councils."\textsuperscript{96} Auxiliary administrative bodies within the executive branch can also resolve certain legal conflicts, including ecological issues.

Legislative power is concentrated in the Congreso de la Unión, which is composed of two chambers: the House of Representatives (Cámara de Diputados) and the Senate (Cámara de Senadores).\textsuperscript{97} Five hundred local "deputies," elected for a three-year term, make up the House of Representatives. "Three hundred deputies are elected directly by a majority vote from an election district, while 200 are appointed by the parties based on the proportion of the national votes received by each one of the parties."\textsuperscript{98} The representatives are not allowed to run for consecutive terms.

The Senate is composed of four senators from each of the states and the Federal District (Distrito Federal (DF)), who are elected for a six-year term.\textsuperscript{99} Like their counterparts in the House of Representatives, senators are not allowed to run for consecutive terms. A relative majority elects three of the four senators, while the fourth is assigned to the first minority.\textsuperscript{100}

Judicial power is held by "the Supreme Court of Justice (Suprema Corte de Justicia de la Nación), an elections court, the Collegiate and Unitary Circuit Courts (Tribunales Colegiados u Unitarios de Circuito), and the Council of the Federal Judiciary (Consejo de la Judicatura Federal)."\textsuperscript{101} In addition, there is a Federal Citizens Jury (Jurado Federal Ciudadano), which looks at a few special cases submitted by district judges.

Similar to the United States, the Mexican Federal Republic is composed of states (thirty-one) and a Federal District, which serves as the seat of the Republic's powers. The form and structure of state governments are set out in the Constitution. "Each state has its own local constitution, as well as a governor who serves as the highest local executive authority."\textsuperscript{102} The Federal District has Government Bylaws (Estatutos de
In Mexico, indigenous groups receive special protection as minorities. Although their political organizations are not officially recognized by the Mexican government, "[i]ndigenous people are subject to all applicable federal and state laws and provisions and may only use their own organizations to deal with local issues." However, in August 2001, the Constitution was amended to acknowledge and guarantee "the rights and autonomy of indigenous peoples and communities, to decide internally the form of their community living and their social, economic, political and cultural organization ...." Article 133 of the Mexican Constitution states that the supreme laws of the union are the provisions contained in the Mexican Constitution, the laws of Congress emanating from the Constitution, and the international treaties signed by the President and ratified by the Senate. Once ratified by a simple majority in the Senate, international treaties become part of Mexico’s domestic laws.

2. Current ICM Initiatives in Mexico

In general, oceans and coastal zones in Mexico are governed by laws based on Article 27 of the Mexican Constitution, which grants Mexico "exclusive ownership and jurisdiction over all territorial seas, bays, estuaries, ocean minerals and the continental shelf." The rules for setting official boundaries within Mexico’s maritime jurisdiction, which include a contiguous ocean zone and an exclusive economic zone, are set out in the Federal Oceans Law (Ley Federal del Mar), in accordance with international law. In addition, two other laws regulate the Mexican coastal area:

The National Property Law [Ley General de Bienes Nacionales] establishes a general regime for the granting of land use rights to private individuals and corporations over lands belonging to the nation, including coastal zones. [In comparison.] [The Coastal

103. Id.
104. Id.
105. Id.
106. Id.
107. CEC, supra note 9, Summary of Environmental Laws in Mexico at topic=1; see also George R. Gonzales & Maria Gastelum, Overview of the Environmental Laws of Mexico (2000), in 2 TRANSNATIONAL JOINT VENTURES at 60.8 01 (2003).
108. CEC, supra note 9, Summary of Environmental Laws in Mexico at topic=1.
109. Id.
Zone Regulation . . . governs the administration and development of all federal coastal land zones, which are lands above the mean high tide line. National ownership rights over coastal lands are inalienable and may not be assigned; use rights depend on the terms of the concession granted, the payment of lease rights and the protection of important ecosystems.

The Secretariat of the Environment and Natural Resources (Secretaría del Medio Ambiente, Recursos Naturales (SEMARNAT)), is granted administrative authority over coastal zone management, and is required to:

(A) Establish general management policies regarding coastal land use in coordination with state and municipal governments and the Secretariat of Communications and Transport (Secretaría de Comunicaciones y Transportes (SCT));
(B) Devise regional development and exploitation master plans in order to provide guidelines for the granting of concessions;
(C) Undertake and publish technical studies, as well as an inventory of the topography, boundaries, and landmarks of the coastal zones; and
(D) Set up a national registry that catalogues all concession and permit holders who have been granted use rights over federal coastal lands.

SEMARNAT must authorize all "use, development and exploitation of federal coastal zones and beaches," except for general public enjoyment and temporary businesses. Any use or development of maritime and port facilities must receive authorization from SCT. Through intergovernmental agreements executed by SEMARNAT, states, municipalities and other local or public entities are granted coastal land use rights. In general, public entities have precedence over private applicants. Ocean pollution is regulated under a variety of laws:

(A) The Federal Oceans Law provides that the prevention, reduction, and control of ocean pollution shall be regulated under the General Law of Ecological Balance and Environmental Protection (Ley General del Equilibrio Ecológico y Protección al Ambiente) (Ecology Law), the National Waters Law (Ley de Aguas Nacionales), the General Health Law (Ley General de Salud) and their implementing regulations.
(B) [The Coastal Zone Regulation (Reglamento de las Zonas Costeras) establishes that all other federal or common laws, customs, uses and general principles—including environmental pollution control laws—shall apply to and complement the Coastal Zone Regulation.

(C) The National Property Law requires that all concessionaires of national property, including oceans, must avoid damaging the ecosystems.

(D) The Navigation Law (Ley de Navegación) prohibits all vessels from discharging wastes, petroleum and petroleum byproducts, wastewater and other hazardous or noxious elements that could contaminate or harm waters under Mexican jurisdiction.

(E) The Ecology Law sets forth pollution control standards that apply to all aquatic ecosystems, including oceans . . . pursuant to Article 130 of the Ecology Law, SEMARNAT may authorize wastewater discharges into ocean waters, in accordance with the National Waters Law and the relevant Official Mexican Standards (Normas Oficiales Mexicanas (NOMs))).

SEMARNAT is given the authority to protect, conserve, explore, and exploit marine natural resources in Article 131 of the Ecology Law. The National Waters Commission (Comisión Nacional de Aguas), in charge of regulating wastewater discharges into all marine zones, is created under the National Waters Law. The regulations under the National Waters Law includes all “marine zones” in its definition of a wastewater receiving body. Both SEMARNAT and the Navy Secretariat have administrative powers over all wastewater discharges into oceans from mobile sources and fixed shelves. NOM-001-ECOL-1996 applies to wastewater discharges into oceans as well.

The Ocean Dumping Regulation is administered and enforced by the Secretariat of the Navy in the exclusive economic zone, the territorial seas, and the maritime fishing zones. Any deliberate dumping of substances into the ocean requires a permit; however, exceptions are provided:

(1) where human life is endangered or where the safety of any vessel or sea plane is at risk;
(2) where illegal dumping activities occur without the knowledge of the vessel owner; and
(3) when dredging activities are conducted for the purpose of

113. CEC, supra note 9, Summary of Environmental Laws in Mexico at topic=1.
114. Id.
115. Id.
116. Id.
facilitating navigation or preserving the marine ecological balance.\textsuperscript{117}

Liability and enforcement provisions are included in all laws and regulations concerning the coastal zone, except the Federal Oceans Law, which deals with national sovereignty and boundary issues and thus any liability and enforcement issues would most likely arise under international law.\textsuperscript{118} Contraventions of the Ecology Law may be sanctioned with administrative fines, penalties, or penal sanctions.

In addition to fines, contraventions of the National Waters Law and its regulation, "SEMARNAT has the authority to order all activities that caused the unauthorized discharge to cease, revoke any discharge permits or shut down the facility originating the discharges."\textsuperscript{119}

IV. LESSONS

In this section certain "lessons" are identified from the experience with ICM in Canada, the United States, and Mexico to date that might lead to more sustainable management of the coastal zones within and between all three countries. There are at least two caveats to these lessons. First, it is exceedingly challenging to compare what are unquestionably very different legal, political, economic, and social circumstances in all three countries. Second, the overall effectiveness of ICM in each country can really only be measured in comparison with the objectives of ICM in each country and the objectives of ICM in each country appear to have varied over time. Nevertheless, the following lessons are noted.

First, all three countries are federal states and have seemingly strong federal laws to conserve and protect the coastal zone. However, all three countries have struggled, and continue to struggle, with implementation and enforcement issues at the local level with regard to such key indicators of ICM success as protecting estuaries and wetlands; protecting natural beaches, dunes, bluffs, and rocky shores; accommodating seaport development; revitalizing urban waterfronts; and providing public access to the shore.

Second, international measures for the protection of marine ecosystems or species at the continental scale are generally lacking within and between all three countries. However, such measures would seem to be essential to ensure the protection of species such as the gray whale, which migrates between Alaska, through Canadian territory, to the U.S. mainland and

\textsuperscript{117} Id.
\textsuperscript{118} CEC, supra note 9, \textit{Summary of Environmental Laws in Mexico} at topic=1.
\textsuperscript{119} Id.
Mexican waters, as well as the enormous number of migratory birds who also migrate between all three countries. Bilateral agreements for marine ecosystem protection are increasing, but there are few trilateral initiatives. Such bilateral initiatives as exist tend also to take a regional, border-area specific focus, rather than a broader continental perspective.

Third, "downstream," cross-border effects on ecosystems do not seem to be effectively addressed within and between all three countries. For example, the Lower Basin of the Colorado River (Cuenca Baja del Río Colorado) faces serious environmental (and other) problems related to the allocation and use of water, including the problem of the salinity of the waters that flow into Mexico across the international border.

Fourth, some of the challenges in linking ICM programs internationally between Canada, the United States, and Mexico include: the lack of a shared vision as to what ICM should be striving to achieve, poor communication processes, and unnecessarily complex institutional arrangements for ICM in all three countries. Interestingly, a recent initiative of the trilateral Commission on Environmental Cooperation (CEC) between Canada, the United States, and Mexico encourages a common view of North America's terrestrial ecosystems and outlines a rationale for an ecosystem perspective that might provide a possible model for marine ecosystem work.120

Fifth, incompatibility of databases challenges scientists interested in ICM on international borders. For example, at more detailed scales, mapped coastlines of the three countries often do not meet at the border. When classification systems are developed by countries independently, representatives often establish broader scales. Therefore, North America, as a whole, becomes difficult to assess.

Sixth, the multiplicity of jurisdictions involved in the coastal and marine environment poses a challenge to the establishment of ICM and to the control of an area or particular activities, particularly in Canada and the United States. The multiplicity of jurisdictions similarly complicates the coordination of programs. For example, Canada's complex legal and institutional framework creates a major challenge for coordinating actions and achieving integration of environmental, economic, and social considerations within and between ICM programs.

Seventh, intra-agency conflict in all three countries appears to impair ICM efficiency and effectiveness. For example, in British Columbia this plays out in the form of conflict within and between various provincial departments and their federal counterparts. In the United States, even within the National Oceanic and Atmospheric Administration, it can be

**difficult to reconcile the mandates of different agencies.**

Eighth, federal governments and agencies in all three countries appear to put insufficient priority on marine conservation. Elliot Norse comments that although the Convention on Biological Diversity has been incorporated into the policies of the United States Fish and Wildlife Service, and the U.S. Forest Service, its ethic is not adopted by the National Marine Fisheries Service, which continues to focus on increasing biomass for the fishing industry.\(^{121}\)

Ninth, national agencies in all three countries appear to be slow in implementing their mandates for national and regional initiatives in integrated coastal zone management. Meltzer identifies what she describes as a "leadership vacuum" in Atlantic Canada, which is being only partially filled by communities.\(^{122}\) Community initiatives, in turn, need to be better defined and politically and financially supported.

Tenth, scientific knowledge, information and data are lacking on many topics critical to ICM. As well, scientific opinions on aspects of ICM design and management are inconsistent, and there are serious breakdowns in the transfer of scientific information to decisionmakers. Glen Jamieson and Colin Levings state that given the "current relatively poor understanding of both the life cycles and habitat needs of different life history stages of most important marine species, and the complexity of nearshore oceanography," "science" input into siting of Marine Protected Areas (MPA) is likely to be mostly based on pragmatic criteria rather than hard scientific evidence.\(^{123}\) Likewise, lack of knowledge on the marine environment makes it difficult to design (e.g., set boundaries, zones, and controls of) MPAs.

Eleventh, support for ICM is limited by the public's lack of awareness of the marine environment and the benefits of protecting it. For example, the Canadian public is not pushing for conservation in the marine environment as much as they are in the terrestrial environment, in part because of their lack of information. Because people far less frequently experience biological diversity in the sea than they do on land, they do not appreciate

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its value.

Finally, the involvement of a wide array of communities and stakeholders in ICM is proving to be difficult in all three countries. For example, the sheer numbers of people and interests on Canada’s West Coast creates a challenge in coordination of a diversity of people over an area that is also appreciated for commercial, tourism, recreation, and other social values.