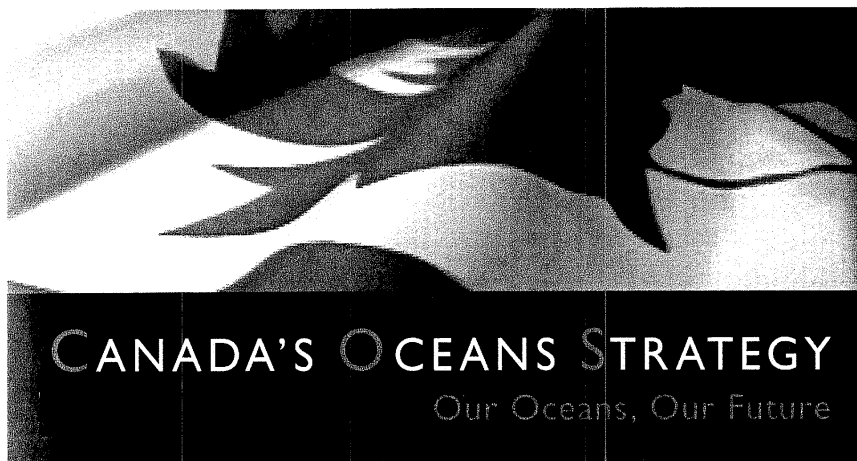


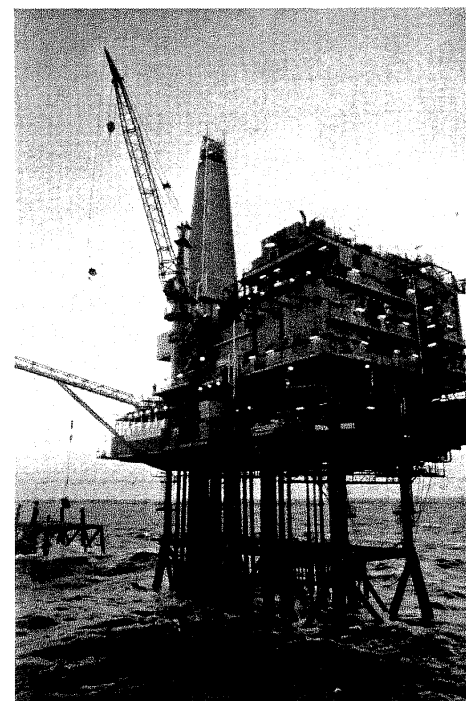
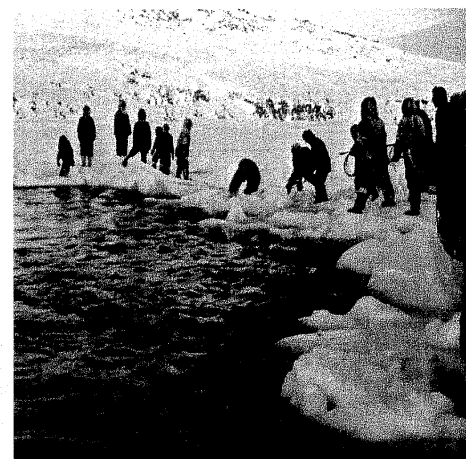


Government  
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**POLICY AND OPERATIONAL FRAMEWORK  
FOR INTEGRATED MANAGEMENT  
OF ESTUARINE, COASTAL AND MARINE  
ENVIRONMENTS IN CANADA**



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# Table of Contents

Executive Summary	i
1.0 Introduction	I
2.0 A Canadian Policy for Integrated Management	3
2.1 The Legislative Context	6
2.2 The Concept	7
2.3 The Principles	9
3.0 An Operational Framework for Integrated Management	II
3.1 Governance Model	II
3.1.1 Integrated Management through Collaboration	II
3.1.2 Integrated Management through Co-management	15
3.2 Management by Areas	15
3.2.1 Large Ocean Management Areas (LOMAs)	16
3.2.2 Coastal Management Areas (CMAs)	19
3.3 Integrated Management Bodies	20
3.4 The Integrated Management Planning Process	23
4.0 Conclusion:	33
Appendix 1 Oceans Act Legislative Framework	34
Appendix 2 Glossary of Terms	36

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Canada's estuaries, coasts and oceans are the focus of major economic activity, and are an integral part of the country's culture and identity. The coastline of Canada is the longest of any in the world, and its seabed represents an area two-thirds the size of its landmass. Oceans support commercial, recreational and Aboriginal fisheries, oil and gas exploration and development, marine recreation and tourism, aquaculture, shipping and transportation, and a variety of other economic uses that directly contribute over \$20 billion a year to Canada's economy. Oceans also support high technology and pharmaceutical industries, potential mining opportunities, and scientific and technical research.

The *Oceans Act* calls on the Minister of Fisheries and Oceans to lead and facilitate the development of a national oceans strategy that will guide the management of Canada's estuarine, coastal and marine ecosystems. *Canada's Oceans*

*Strategy* provides the overall strategic framework for Canada's oceans-related programs and policies, based on the principles of sustainable development, Integrated Management and the precautionary approach. The central governance mechanism of the *Strategy* is applying these principles through the development and implementation of Integrated Management plans.

The *Policy and Operational Framework for Integrated Management of Estuarine, Coastal and Marine Environments in Canada* is intended as a working document for Canada's oceans community. It is intended to foster discussion about Integrated Management approaches by setting out policy in the legislative context, along with concepts and principles. The document also proposes an Operational Framework with governance, management by areas, design for management bodies and the type of planning processes that could be involved.

### Policy Context •

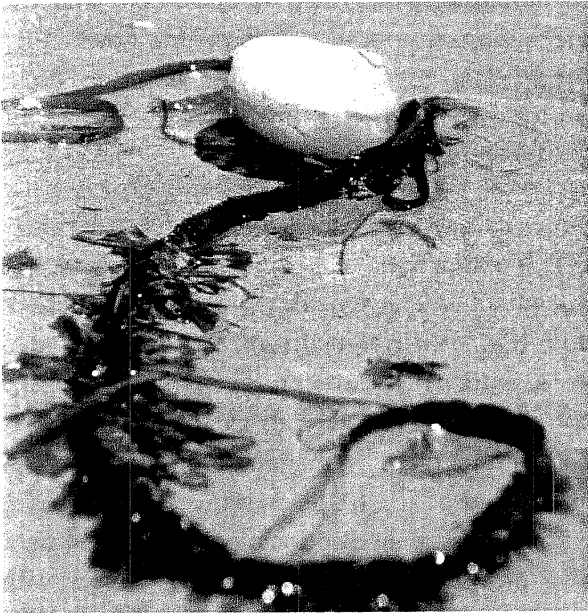
Marine and land-based activities have an impact on coastal waters and oceans waters. Intensive fishing, shipping, land-based pollution and development all have an impact on coastlines and ocean waters. An Integrated Management approach to oceans-related activities requires consideration of the impact that a variety of activities may have at an ecosystem level. Integrated Management establishes advisory bodies that consider both the conservation and



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protection of ecosystems, while at the same time providing opportunities for creating wealth in oceans-related economies and communities. It brings together the environmental, economic and social considerations by planning for sustainable use.



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## Legislative Context

With the passage of the *Oceans Act* in 1997, Canada became one of the first countries in the world to make a legislative commitment to a comprehensive approach for the protection and development of oceans and coastal waters. To reinforce this approach, the *Act* calls for the wide application of the precautionary approach to the conservation, management and exploitation of marine resources. It also recognizes the significant opportunities offered by the oceans and their resources for economic diversification and the generation of wealth for the benefit

of all Canadians, particularly those in coastal communities. To achieve these commitments, the *Act* calls on the Minister of Fisheries and Oceans to lead and facilitate the development of plans for Integrated Management.

## Integrated Management Concept

The Integrated Management concept involves comprehensive planning and managing of human activities to minimize the conflict among users; a collaborative approach that cannot be forced on anyone; and a flexible and transparent planning process that respects existing divisions of constitutional and departmental authority, and does not abrogate or derogate from any existing Aboriginal or treaty rights.

## Integrated Management Principles

The principles guiding Integrated Management include: ecosystem-based management, sustainable development, the precautionary approach, conservation; shared responsibility, flexibility and inclusiveness. In essence, Integrated Management and planning is a simple and common sense approach, representing a modern and qualitatively different way to use, protect and conserve Canada's oceans and coastal waters.



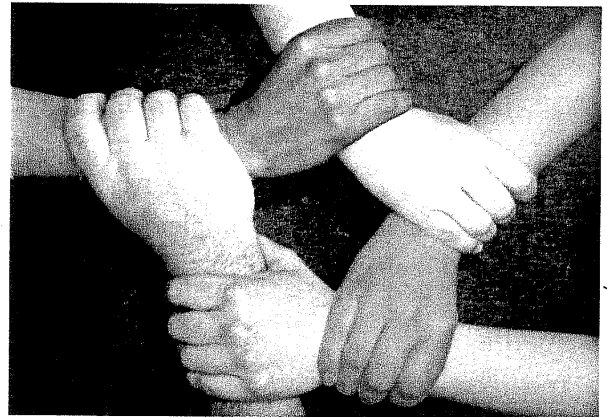
## Operational Framework

The Canadian approach to Integrated Management recognizes that management objectives and planning practices must reflect that ecosystems nest within other ecosystems. As a result, the governance model proposed for Integrated Management is one of collaboration. It involves ocean management decisions based on shared information, on consultation with stakeholders, and on their advisory or management participation in the planning process. It is also based on institutional arrangements that bring together all stakeholders. Participants take an active part in designing, implementing and monitoring the effectiveness of coastal and ocean management plans, and partners enter into agreements on oceans management plans with specific responsibilities, powers and obligations.

It is also recognized that in specific cases, Integrated Management and planning may be achieved through co-management. In areas where there are settled land claims, co-management will be the preferred approach.



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## Management Bodies

The Framework proposes that an Integrated Management body will be composed of both governmental and non-governmental representatives with interests in a given ocean space. The ultimate objective is to establish Integrated Management plans for all of Canada's coastal, estuarine and marine waters. In the short term, Integrated Management planning will need to reflect the intensity of ocean use activities and the capacity and interest of participants to engage in the process.

In coastal and ocean areas with relatively light levels of human use and impact, Integrated Management bodies may focus more on informing and consulting with local interests. In these circumstances, the Integrated Management body may mostly serve to facilitate information sharing.

As there is an increase in human activities and pressures on the marine environment, other arrangements will balance coastal and ocean uses with maximum social and economic benefits, while not exceeding ecological thresholds. In

these circumstances, substantial effort will be directed towards maximizing participation of all interests and establishing an Integrated Management body whose roles will be to provide decision-makers with advice and also to assume part of the responsibility for implementation of the approved management plan.

### Planning

The Integrated Management planning process involves six inter-related stages:

- (1) defining and assessing a management area;
- (2) engaging affected interests;
- (3) developing an Integrated Management plan;
- (4) receiving endorsement of the plan;
- (5) implementing the plan; and
- (6) monitoring and evaluating outcomes.

Progression through these stages is not necessarily linear, but there is general movement towards a proactive management approach as the process matures.

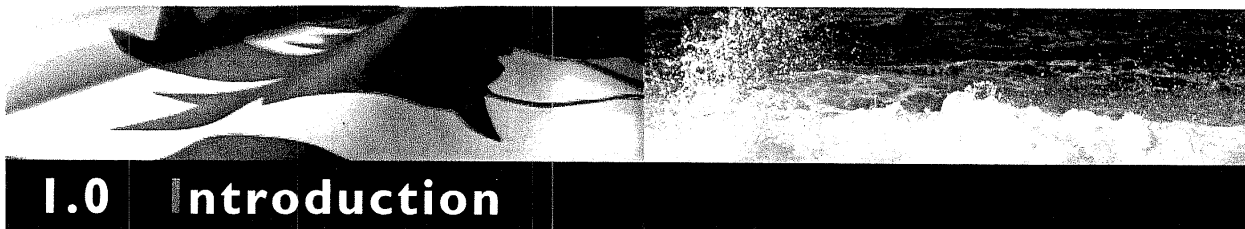


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### Summary

While Canada's long term goal is to develop a system of nested Integrated Management plans for all of its marine waters, and to establish within these a national network of marine protected areas, there is clearly a need to establish short term priorities.

This need can be met through the shift from a single species or single industry management approach towards a broader, more inclusive method of managing ocean resources and spaces. This shift must have investments of time, resources and effort, but the Integrated Management approach will, in the end, benefit all those who use and depend on Canada's oceans with an eye toward preserving them for future generations.



## 1.0 Introduction

### Canada's Oceans

"From sea to sea to sea" – Canada has long defined itself by its three oceans. In the 21<sup>st</sup> century, the waters of Canada's oceans, coasts and estuaries remain not only a major source of economic activity, but also an integral part of its culture and identity. The coastline is the longest of any country in the world, and the seabed over which Canada has control represents two-thirds of its landmass.

All Canadians are connected to the oceans. Oceans support commercial, recreational and Aboriginal fisheries, oil and gas exploration and development, marine recreation and tourism, aquaculture, shipping and transportation, and a variety of other economic uses that directly contribute over \$20 billion a year to Canada's economy. Oceans also support a wide variety of other uses and activities such as high technology and pharmaceutical industries, potential mining opportunities, and scientific and technical research.

Conservation, based on an ecosystem approach, is of fundamental importance to maintaining biological diversity and productivity in our marine environment. Canada's marine ecosystems have a remarkable diversity of species, including commercial and non-commercial fish, marine mammals, invertebrates and plants. For all Canadians and for the welfare of the planet, there must be long-term measures to protect the integrity and biodiversity of the

marine environment. As stewards of marine waters, Canada must strive to protect the ocean environment from growing pressures on ecosystems that come from both marine and land-based activities.

### Integrated Management

The *Oceans Act* calls on the Minister of Fisheries and Oceans to lead and facilitate the development of a national oceans strategy to guide the management of Canada's estuarine, coastal and marine ecosystems. The response is *Canada's Oceans Strategy*, a discussion paper designed to provide the overall strategic framework for Canada's oceans-related programs and policies. It is based on the principles of sustainable development, Integrated Management and the precautionary approach. The central governance mechanism of the *Strategy* is applying these principles through the development and implementation of Integrated Management plans.

The purpose of this paper, *Policy and Operational Framework for Integrated Management of Estuarine, Coastal and Marine Environments in Canada*, is to explain how Fisheries and Oceans Canada is addressing its responsibilities for Integrated Management under the *Oceans Act* and *Canada's Oceans Strategy*. It is intended to foster discussion with other federal, provincial and territorial governments, Aboriginal authorities and the general public. This paper also reflects the lessons learned by the federal and provincial, Aboriginal and

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regional authorities who have been involved in Integrated Management. It outlines a domestic policy framework and operational guidelines so that governments, community groups and others can be guided in their efforts to work together to better advance both sustainable development and the conservation and protection of oceans.

The overarching goal for Integrated Management is the sustainable development of



oceans and their resources. To meet this goal, a management approach must be adopted that maintains the integrity or health of marine ecosystems, addresses user conflicts and addresses the cumulative impact of many kinds of activities within a given ocean space. This *Policy and Operational Framework for Integrated Management of Estuarine, Coastal and Marine Environments in Canada* provides a unifying theme, linking plans for all of Canada's ocean waters. It is designed to be sufficiently flexible to permit the tailoring of plans to fit specific regional settings.

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## 2 Canada's Oceans Strategy

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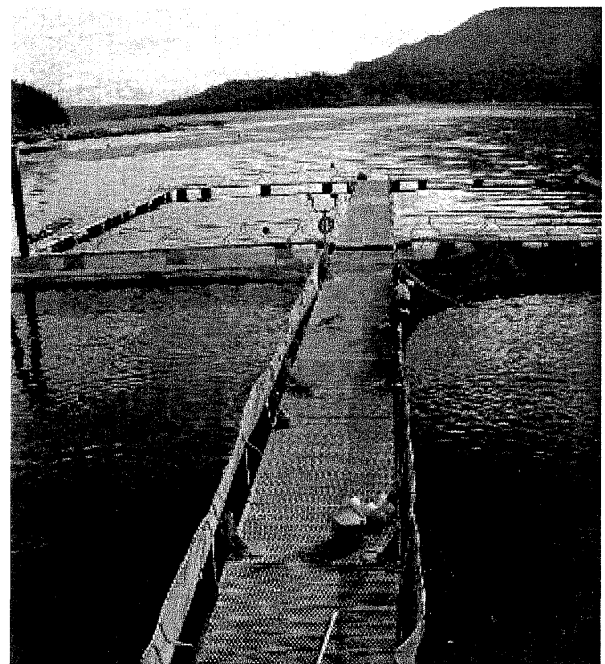
## 2.0 A Canadian Policy For Integrated Management

Integrating a management approach to oceans involves considering impacts from a variety of activities at an ecosystem level. Ecosystems occupy geographic space, but their boundaries are open and may shift over time, contracting and expanding in reaction to such diverse influences as the invasion of organisms from other ecosystems, global climate change, currents that are ocean basin wide as well as local and, increasingly and pervasively, the effects of humans. Each ecosystem interacts and nests within other ecosystems. Local ecosystems, such as estuaries and bays, are sub-sets of larger ecosystems and as such they are interdependent. Irreversible shifts in these large-scale systems may in turn be triggered by local change.

Throughout history, marine and coastal waters have supported two major activities: harvesting and transportation. These continue to be vitally important, but other economic and social activities are gaining significance in the waters of Canada and other parts of the world. For example, aquaculture is becoming an increasingly important source of food, particularly as wild fish stocks decline. Likewise, oil and gas exploration and development is an expanding industry in a number of areas off Canada's coasts. Meanwhile, oceans provide recreational opportunities and help make Canada a major tourist destination for the world. All such ocean uses make significant

contributions to building the national economy and sustaining Canadian livelihoods.

Over the past century, agencies involved in managing oceans activities have been typically concerned with managing a single species or a single activity. This approach has fostered "boom and bust cycles" that have often depleted valuable resources and foreclosed the future options and benefits associated with the use of those resources. Too often resource development measures have proceeded independently, without full consideration of long-term, direct and indirect impacts in social, economic, and environmental dimensions.



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Maritime and land-based activities have an impact on our oceans and coastal waters. Intensive fishing can deplete fish stocks, affecting not only the industry but also the habitats and ecosystems on which they depend. Shipping can disrupt the breeding, feeding areas and migration routes of marine mammals. Land-based pollution in the form of industrial effluent, agricultural run-off and human sewage can impose a burden on the ecosystem of the waters into which it flows, and may have implications for human health. Likewise, development along a coast can change the nature of the shoreline, and shoreline processes that may affect tourism and the biology of the area.



Equally challenging is oceans governance in the 21<sup>st</sup> century. It must establish decision-making structures that consider both the conservation and protection of ecosystems, while at the same time providing opportunities for creating wealth in oceans-related economies and communities. This is the essence of the integrated approach.

**The *Oceans Act* provides a creative response to the challenge of oceans governance through its commitment to three important principles. Coastal States around the world are working to implement these principles – ones that are also at the heart of *Canada's Ocean Strategy*. They are:**

- sustainable development of ocean resources;
- precautionary approach as part of all operations; and
- Integrated Management of ocean resources and activities.

Integrated Management brings together the environmental, economic and social considerations by planning for sustainable use. It offers a number of advantages:

- Collaborative frameworks for oceans governance that support transparent and open dialogue, with flexibility, responsiveness and diversity because of the wide range of participants.



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Integrated Management will support **diversified, balanced economic development** of oceans and coastal waters by protecting their health, preserving their biodiversity and maintaining their productivity. It will also enable the values and benefits of ocean use to be realized through inclusive processes that build confidence and credibility among governments, Aboriginal organizations, coastal communities and other ocean interests. These processes will balance protection of marine ecosystems and economic development potential and address uncertainty through appropriate levels of risk management including the precautionary approach, set pre-determined thresholds for action, promote investments in learning and secure commitments for protecting vital areas.

- Integrated planning processes that gather input from scientific and traditional knowledge, vigorous public debate, monitoring, assessment and reporting.
- New technologies and understanding of traditional ecological knowledge that become part of the approach.
- New sets of information and new types of relationships that will promote wealth generation and assist in managing conflicts.
- Efficiencies through an increased knowledge base, establishing effective networks and reducing regulatory delays.



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## 2.1 The Legislative Context

Canada led the world in 1997 when it passed the *Oceans Act*. It made a legislative commitment to a comprehensive approach for the protection and development of oceans and coastal waters.

Under international law, Canada enjoys sovereign rights in its waters, and in turn accepts its responsibility to the international community for sound governance, protection and preservation of the marine environment. The *Oceans Act* establishes the legal and policy basis for planning and decision-making in oceans and coastal waters, and recognizes that our three oceans are the common heritage of all Canadians. The *Act* commits Canada to promoting the understanding of oceans, ocean processes, marine ecosystems and marine resources. It also commits Canada to fostering the sustainable development of oceans and their resources while asserting that conservation, based on an ecosystem approach, is fundamentally important to maintaining biological diversity and productivity in the marine environment.

To reinforce this approach, the *Act* calls for the wide application of the precautionary

approach to the conservation, management and exploitation of marine resources. It also recognizes the significant opportunities offered by the oceans and their resources for economic diversification and the generation of wealth for the benefit of all Canadians, in particular for coastal communities.

To achieve these commitments, the *Act* calls on the Minister of Fisheries and Oceans to: “... *lead and facilitate the development and implementation of plans for the Integrated Management of all activities or measures in or affecting estuaries, coastal waters, and marine waters that form part of Canada, or in which Canada has sovereign rights under international law.*” (Appendix 1)

The *Act* also specifies that for the purposes of implementing these Integrated Management plans, the Minister of Fisheries and Oceans:

- shall develop and implement the specific policies and programs for which he/she has responsibility;
- shall co-ordinate the oceans-related policies and programs of other Ministers, boards and agencies of the Government of Canada;
- may establish management or advisory bodies (or recognise existing bodies);
- may establish marine environmental quality guidelines, objectives and criteria and standards; and
- will lead and co-ordinate the development and implementation of a national system of marine protected areas on behalf of the Government of Canada.



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The *Oceans Act* recognizes that Integrated Management can increase the effectiveness of marine conservation and protection initiatives such as marine protected areas. It also recognizes the need for Integrated Management as a means to apply marine ecosystem health controls such as application of marine environmental quality standards. More than 23 federal departments have mandates that impact on ocean policies and outcomes. Provincial/Territorial jurisdiction and the settlement of Land Claims in near-coastal areas require not only close collaboration and co-operation among all levels of authority but also commitment to a common goal and management approach. In all instances, Fisheries and Oceans Canada must consult, co-operate and collaborate with: other federal, provincial and territorial authorities; affected Aboriginal authorities; coastal communities; and others who are affected by Integrated Management plans. Fisheries and Oceans Canada has significant responsibilities and expertise that contribute to

the Integrated Management process. In addition to its role as oceans trustee, Fisheries and Oceans Canada continues to be responsible for the wise management of fishery resources and habitats, marine safety and environmental protection, and the provision of science understanding and advice.

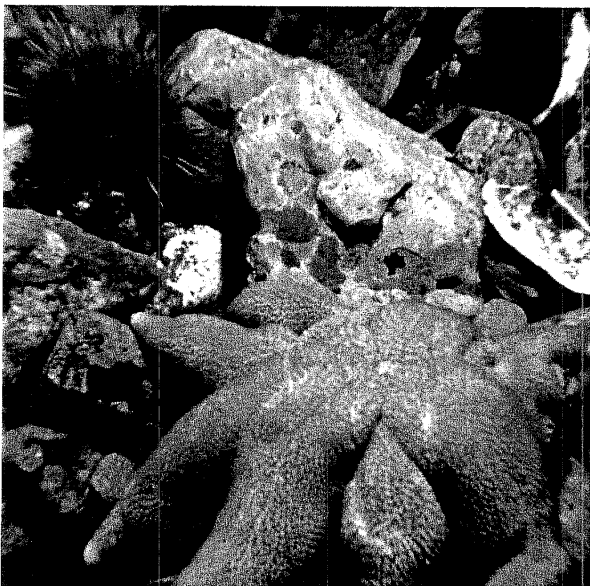
## 2.2 The Concept

Integrated Management is:

- a comprehensive way of planning and managing human activities so that they do not conflict with one another, and so that all factors are considered for the conservation and sustainable use of marine resources and shared use of ocean spaces;
- a collaborative approach that cannot be forced on anyone;
- a flexible and transparent planning process that respects existing divisions of constitutional and departmental authority, and does not abrogate or derogate from any existing Aboriginal or treaty rights.

There are a number of essential elements involved in Integrated Management for an ocean or coastal area:

- **Planning** on the basis of natural and economic systems rather than principally on political or administrative boundaries. This means Integrated Management plans may include more than one province or territory or span international boundaries;
- **Identifying** ecosystem-based management objectives, indicators and management targets/actions to guide decision makers;



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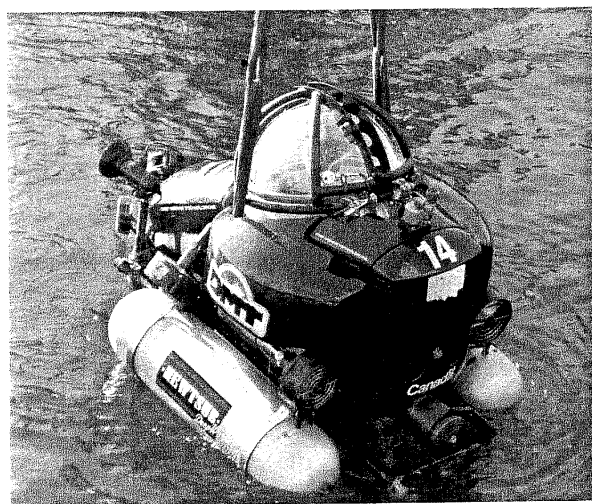


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- **Acknowledging** the interrelationships that exist between coastal and ocean uses and their potential impacts on the ecosystem in a way that overcomes the fragmentation inherent in the sectoral management approach;
- **Integrating** data collection, research, synthesis, and information sharing, communication and education as part of the full range of relevant knowledge to be applied to the planning and decision-making processes. This includes scientific studies and local and traditional knowledge;
- **Creating** a process to bring together affected and interested parties (federal and provincial, territorial, regional or Aboriginal authorities, industry, coastal communities, and environmental groups, and citizens);
- **Building** a process of collaborative and co-operative planning that takes essential elements from sectoral management so that new work is not always necessary. This process involves using existing legislation,

respecting regulatory authorities held by governments, and incorporating enhanced management practices;

- **Using** existing governance structures, or establishing new ones, that address multiple interest and user conflicts and encourage all resource managers to consider social, cultural, economic and environmental impacts of decisions;
- **Analyzing** implications of development, conflicting uses, and interrelationships between natural physical processes and human activities, and promoting linkages and harmonization among sectoral coastal and ocean activities;
- **Identifying** new opportunities for diversification and wealth creation, increased knowledge bases, supporting information networks and building capacity, confidence, trust and respect among participants;



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- **Considering** cumulative effects: the need to understand and consider the potential of current and approved future human activities and the associated cumulative effects;
- **Implementing** Integrated Management plans using adaptive management techniques, with outcomes monitored against specific objectives and plans altered in accordance with findings; and
- **Harmonizing** planning, management and regulatory policies and actions to increase effectiveness of sustainable development and conservation efforts.

### 2.3 The Principles

**Integrated Management is guided by a number of principles:**

- **Ecosystem-based management:** Ecosystem sustainability and function is of primary importance. The identification of ecosystem-based management objectives and reference levels will guide the development and implementation of management to achieve sustainable development.
- **Sustainable Development:** Environmental, economic, social and cultural values are taken into account - with the aim of meeting the needs of the present without compromising the ability of future generations to meet their needs.
- **The Precautionary Approach:** The *Oceans Act* defines the precautionary approach as, "erring on the side of caution." There is further guidance in the federal

government's paper on the precautionary approach, "*A Canadian Perspective on the Precautionary Approach/Principle*." The precautionary approach is described as "a distinctive approach within risk management which primarily affects the development of management options and decisions. It is ultimately guided by judgement based on values and priorities. Guidance and assurance are particularly needed when there is a risk of serious or irreversible harm, the scientific uncertainty is significant and a decision must be taken."

- **Conservation:** The protection, maintenance,

**Integrated Management and planning is essentially a simple and common sense approach to use, protect and conserve Canada's oceans and coastal waters. Its development and application will benefit all Canadians and ensure that Canada continues to set an international example in the stewardship of its marine resources.**

and rehabilitation of living marine resources, their habitats and supporting ecosystems are important.

- **Duty in Shared Responsibility:** Governments, Aboriginal groups, coastal communities, industries and other persons and bodies affected by or affecting marine resources have a duty and shared responsibility for supporting the sustainable development of marine resources. This responsibility takes

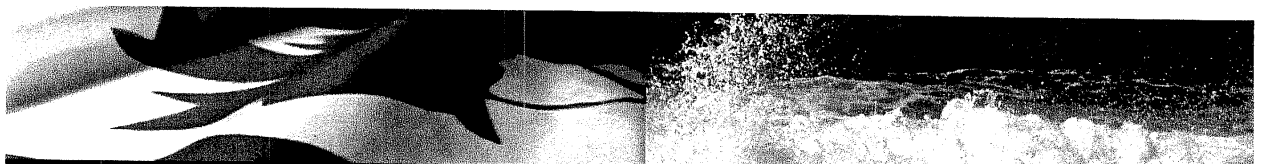
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on different forms depending on where it sits. For instance, individual responsibility differs from the corporate duty of resource developers. Governments' responsibility and accountability is more formal or mandated. Integrated Management principles respect existing responsibilities and jurisdictions, including those of federal, provincial, territorial, Aboriginal and local authorities.

- **Flexibility:** The implementation and monitoring efforts of many different authorities, organizations and interests are brought together and focussed on a jointly defined set of issues and objectives. A suite of legislative and regulatory processes and voluntary measures are relied on and co-ordinated, including those affecting fisheries, aquaculture, environment, transportation, oil and gas, and land use.
- **Inclusiveness:** Coastal communities, and other persons and interests affected by marine resource or activity management,

should have an opportunity to participate in the formulation and implementation of Integrated Management decisions because the objective is achievement of common goals. In this way, all interested and affected parties guide decisions from definition and articulation of goals to planning, implementation and evaluation.





## 3.0 Operational Framework for Integrated Management

### 3.1 Governance Model

#### 3.1.1 Integrated Management through Collaboration

Management and planning for sustainable development will be based on collaborative processes involving Integrated Management bodies, whose function will vary over time and according to the particular stage of the planning process. These structures will help balance coastal and ocean uses in a manner that maximizes protection, maintains conservation efforts and rehabilitates marine ecosystems and their resources while providing opportunities for social, cultural and economic benefits. As the process develops, the Integrated Management body's function may evolve from an initial focus on information and consultation through to providing advice on the development of the management plan. Following approval of the management plan by the mandated authorities, the Integrated Management body's role may shift to an "overseer" function as the plan is implemented, monitoring is initiated and assessment of the plan's effectiveness is evaluated.

Collaboration is the governance model proposed for Integrated Management. It draws on the Co-Management Guide developed by the National Roundtable on the Environment and the Economy (1998). For the purposes of the *Oceans Act*, the collaborative approach includes:

- ocean management decisions based on shared information, on consultation with stakeholders, and on their advisory or management participation in the planning process;
- institutional arrangements that bring together governments, user groups and other interests also responsible for resource management, conservation and economic development;
- management systems in which governments, user groups and other interests take an active part in designing, implementing and monitoring the effectiveness of coastal and ocean management plans; and
- institutional arrangements in which governments, user groups and other interests enter into agreements on oceans management plans with specific responsibilities, powers and obligations.

At the heart of Integrated Management is a commitment to citizen engagement in the broadest sense; that is governments at all levels, Aboriginal groups, corporate and sectoral interests, community interests, non-governmental organizations, and Canadians generally. The overall objective is to create governance mechanisms that foster a greater involvement of the people most affected by decisions.

---

## **Participants in the Integrated Management Collaborative Process**

### **Federal Authorities**

To be effective, the Integrated Management planning process requires the participation of various federal authorities with formal management and regulatory responsibilities for activities in the management area. In offshore waters, federal ocean-related authorities include the control of transportation and safety of navigation, pollution prevention and response and the management of living and non-living resources. Responsibilities for sovereignty and trade issues, for industrial development and for human health issues also lie mostly with federal authorities.

### **Provincial/Territorial/Regional Authorities**

Key to the success of Integrated Management is the participation by provincial and territorial departments, agencies and management boards, because of the impact of land-based activities on the marine environment, and their management and regulatory responsibilities within the oceans management area. Engagement in the Integrated Management planning process is also essential from land use planning boards, regional development authorities, provincial, and regional and municipal authorities responsible for pollution control. Authorities responsible for municipal waste discharges and the management and regulation of land-based activities, such as agricultural practices and controls, are key to successful Integrated Management.



### **Aboriginal Organizations and Communities**

Aboriginal organizations and communities are and will be important participants and collaborators in many Integrated Management planning processes. These organizations have traditional knowledge from their connection to the oceans, a holistic approach to environmental management that echoes the ecosystem approach, an interest and involvement in ocean related economic development opportunities and a legal right to be engaged in decisions that may affect their Aboriginal and treaty rights.

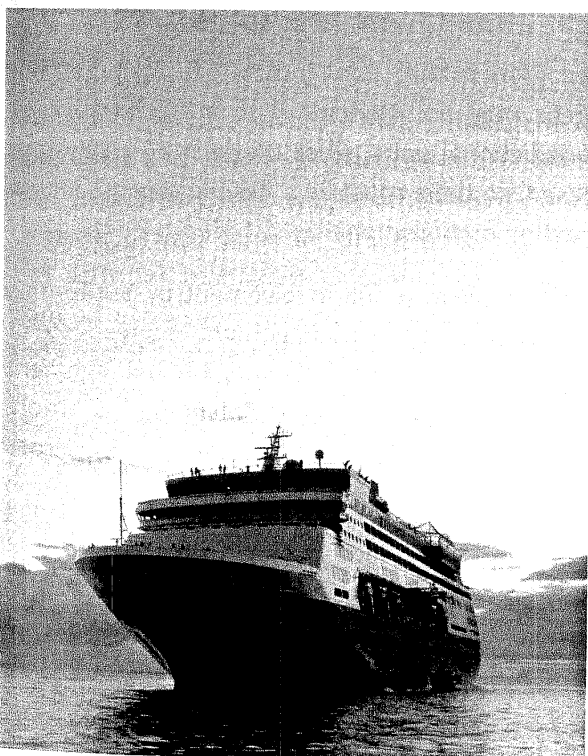
In areas where there are defined treaty or Aboriginal rights recognized under a settled land claim, and where there are established bodies, the co-management approach to Integrated Management will apply and respect the conditions of the settled claim. In some cases claims to land and marine resources may be unresolved, adding a significant dimension to the planning process. Aboriginal participation



in Integrated Management processes will be without prejudice to their claims, and will not displace treaty or self-government negotiations.

### **Industry and Resource Users**

Another key group of participants in the Integrated Management process is the economic sector and the industry associations that represent them. Key industries include those using the marine area or its resources directly, such as fishing, aquaculture, oil and gas, transportation and tourism. Considerations of land-based activities affecting the management area may involve a range of other industries, such as manufacturing, forestry and agriculture. In addition, there needs to be early engagement from new industries or those involved in new activities in the area.



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### **Non-Governmental Organizations**

Groups concerned with preserving the ecological, scenic and cultural values of the area also need to be engaged from the outset in the Integrated Management planning process. These organizations could include those at the local, national and international levels.

### **Community Groups**

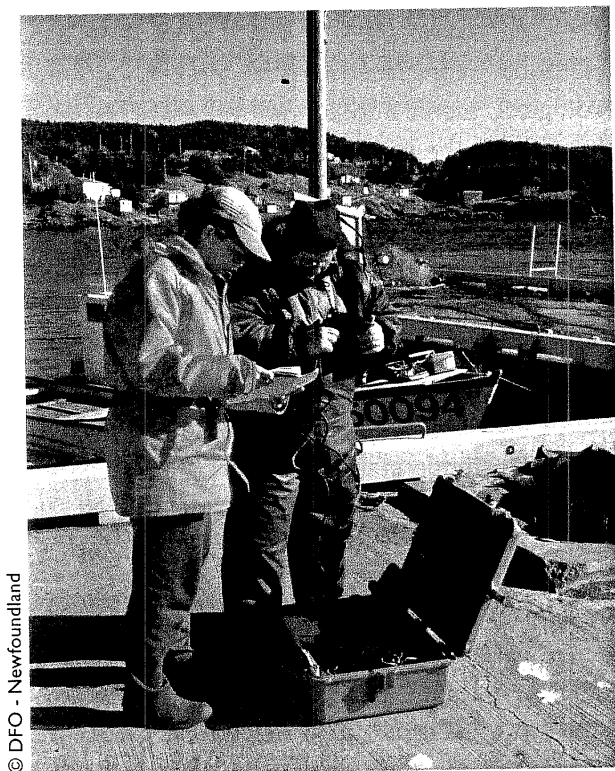
In Coastal Management Areas, local community groups and individuals will play essential roles in helping to understand the management area and issues, ensuring that the planning process and associated actions are relevant to the area, and providing "on the ground" expertise and capacity for plan implementation, monitoring and compliance promotion.

### **Academic, Science and Research Community**

Sound and effective management decisions cannot be made without science and ecosystem understanding. Key to this part of the process are academic and government researchers with expertise in ocean science, socio-economic and policy matters. The academic, scientific and research community can: facilitate the definition of planning area boundaries; compile, analyze and disseminate ecosystem knowledge; identify critical ecosystem functions and components; design indicators and monitoring activities; and report on the state of the oceans.

As the shift has progressed from sector or activity-specific management to ecosystem-based management, the domestic and international science community has responded by working





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to better understand marine ecosystems as dynamic entities, and to look at how the many different factors influencing those ecosystems are accumulating. They are also developing prediction models that will further help ocean managers to plan and manage. Integrating scientific, traditional and social knowledge will also help meet the additional challenge posed by the need to integrate knowledge from various disciplines and sources.

## Collaborative Management Systems

Collaborative management systems evolve through "learning by doing." First steps include an understanding of Integrated Management, engagement of interested parties and improved

consultations. This leads to the establishment of an Integrated Management body that serves initially to foster information exchange and then to advise decision-makers. Collaborative management means that those with the authority to make a decision, and those who are interested or affected by that decision, will jointly seek an outcome that meets the interests of all concerned. While wealth generation from the oceans is a desired outcome, there is an over-riding consideration to maintain ecosystem structure and function.

There are many benefits of collaborative management. For instance, it will not infringe on the legal authority of the participating decision-makers, administrative and legal jurisdictions will be respected, and existing regulatory authorities will remain responsible and politically accountable for implementation in their jurisdictions. It is recognized that the Integrated Management areas may not coincide with administrative or jurisdictional units, since they will be ecosystem based, so there must be a flexible process within existing organizations.

When there is full involvement by authorities accountable for the management of a resource or activity, along with direct users, the management is better informed and planning is more efficient. In other words, decision-making across ecosystems will be connected by the participation of federal, provincial, territorial, Aboriginal and local authorities and programs. They bring both experience and knowledge to the process. While roles may range from informational to advisory in the beginning, some bodies may take on more operational responsibilities as the plans mature.

### 3.1.2 Integrated Management through Co-management

In certain cases, Integrated Management and planning may be achieved through co-management. For instance, such a structure might be used to develop and implement Integrated Management plans in areas where legislative provisions provide for the sharing of management responsibilities. A prime example is in areas of settled land claims agreements. In such cases, the Integrated Management process may best be applied through structures established through land claims agreements. However, decision-making and implementation responsibilities will remain with the existing co-management authorities and respect the conditions of the settled claim.

### 3.2 Management by Areas

The Canadian approach to Integrated Management recognizes that management objectives and planning practices must reflect that ecosystems nest within other ecosystems. Governance structures and practices for resource and activities management cannot be divorced from an ecosystem context: decisions on ocean and coastal use are made with full consideration of ecosystem impact. The proposed Integrated Management planning framework will extend from the large to the small scale – from Large Ocean Management Areas to Coastal Management Areas. There will also be a range of connected and nested structures that provide options for different scales of response within this spectrum.

The intent over the long term is to establish a system of Large Ocean Management Areas and smaller Coastal Management Areas. These would cover all marine waters within Canadian jurisdiction. Initial efforts will focus on areas currently under pressure, or soon to come under pressure, from human activities.



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Once adopted, Integrated Management will create opportunities for wealth generation through protecting critical marine environments and promoting sustainability of coastal and marine ecosystems. Management for sustainable development recognizes that most problems and opportunities in the oceans start on land. Planning for oceans must integrate the practices onshore and in the air that impact on water quality, life cycles of marine species and the vulnerability of coastal communities to marine hazards. This will require the integration of land use practices within catchment areas of rivers and streams that

feed estuaries and coastal waters. Planning must also incorporate the construction, management and regulation of coastal urban infrastructure.

Accordingly, the proposed approach to Integrated Management is based on a geographic framework that is nested to reflect linkages among ecosystems. It is important to note that planning must accommodate the capacity in local communities, and depends on the amount of ecological knowledge for a given area. At the same time, the boundary of the ecosystem may not correspond to that of the planners since ecological processes do not necessarily correspond. This points to the need for coordination among different stakeholders in an entire region, rather than a specific area.



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While the objective is to eventually establish Integrated Management plans for all of Canada's coastal, estuarine and marine waters, in many cases the institutional structures put in place to govern these areas will evolve in keeping with the intensity of ocean use activities and the capacity and interest of participants.

### **3.2.1 Large Ocean Management Areas (LOMAs)**

Ecosystem-based management objectives will be established for the Large Ocean Management Areas (LOMAs). As the name suggests, each Large Ocean Management Area covers a large portion of one of Canada's three oceans or coastal zones, typically extending from the coast out to the limit of Canada's jurisdiction. For example, the Eastern Scotian Shelf Integrated Management Area covers more than 325,000 square kilometres off the coast of Nova Scotia; the Gulf of St. Lawrence would comprise another Large Ocean Management Area, as would the Beaufort Sea in the Arctic. For practical purposes, the boundaries will be drawn using a mix of ecological considerations and administrative boundaries. In all instances, however, the boundaries will encompass an area sufficiently large so as to provide an appropriate context for management action in consideration of ecosystem characteristics.

Ecosystem-based management objectives will be established through joint agreement among participants, and used as management targets to guide the development of Integrated Management plans of various scales nested within a Large Ocean Management Area.

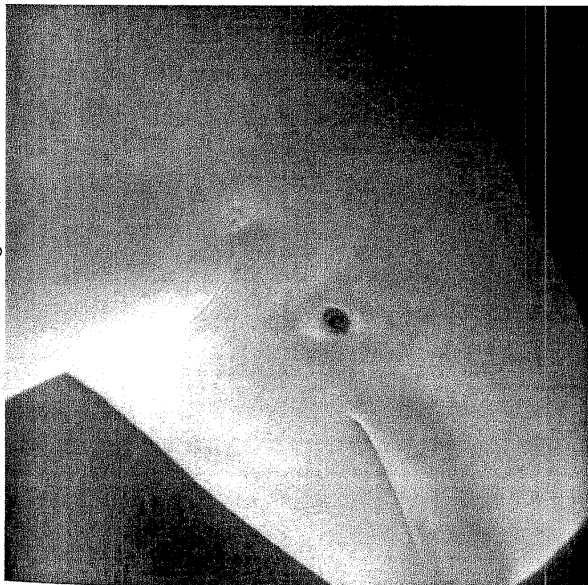
Within each Large Ocean Management Area, a number of aspects will be considered:

- Assessment of ecosystem characteristics that must be maintained to ensure the maintenance of the natural functions of the ecosystem. This will involve the establishment of ecosystem-based objectives to maintain aspects of ecosystem structure and function. These characteristics could include:
  - the diversity of ecosystem types;
  - species diversity;
  - genetic variability within species;
  - productivity of directly-impacted species;
  - productivity of ecologically-dependant species;
  - ecosystem structure and function; and
  - water quality.

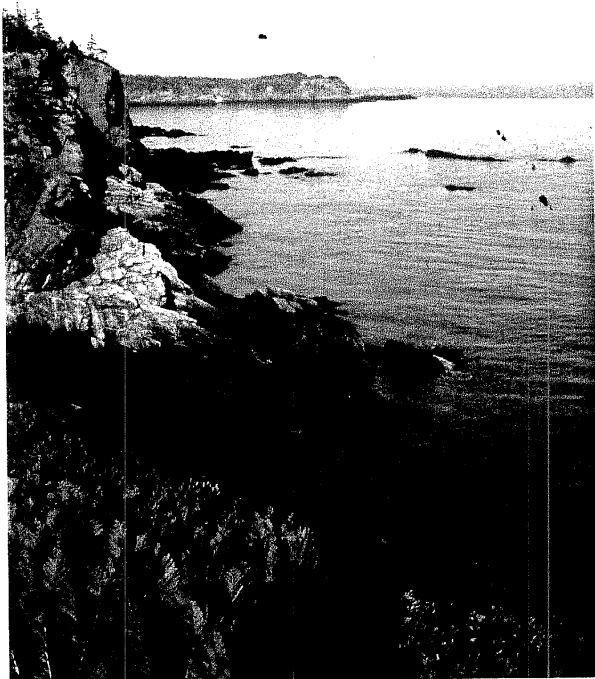
**Ecosystem-based management objectives**

are set for aspects of marine ecosystem structure and function, such as productivity, key species and sensitive habitats. These should not be compromised, as they describe a desired physical, chemical or biological condition of the ecosystem or of one of its constituents and ensure ecosystem integrity. Such objectives may also be expressed as limits, where an ecosystem condition should be avoided. Surpassing these limits will trigger management actions.

- Identification of ecologically sensitive habitat, marine species and special features in need of special protection. This will include:
  - Identification of areas of interest for marine protected areas (MPAs) to be established by the Government of Canada, including:
    - those under the *Oceans Act*;
    - Marine Conservation Areas; and
    - Marine Wildlife Sanctuaries.
- From the *Oceans Act* perspective, consideration must include:
  - the conservation and protection of commercial and non-commercial fishery resources, including marine mammals;
  - endangered or threatened marine species and unique habitats; and
  - areas of high biodiversity or biological productivity.



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- Assessment of existing ocean space uses and future economic opportunities:
  - Community, citizen and industry goals that should be incorporated into planning so that there are long-term socio-economic and environmental benefits.
  - Governance issues;
  - Resource and ocean space allocation issues;
  - Agreement on strategies to manage conflicts; and
  - Assessment of existing legislative, regulatory and policy controls, impediments or gaps.

In most cases, Fisheries and Oceans Canada will play a lead role and coordinate the development of Integrated Management plans for Large Ocean Management Areas. The main reason is that the Department has the overall

mandate for integrated ocean management and the responsibilities for science, fish and fish habitat management. Many of the marine issues that will be addressed fall clearly within federal jurisdiction and will require departmental coordination of federal policies and programs, along with development and implementation of plans. Fisheries and Oceans Canada would also facilitate and coordinate the involvement of any provincial, territorial, and Aboriginal authorities, pursuant to land claims, with specific authorities in these areas.

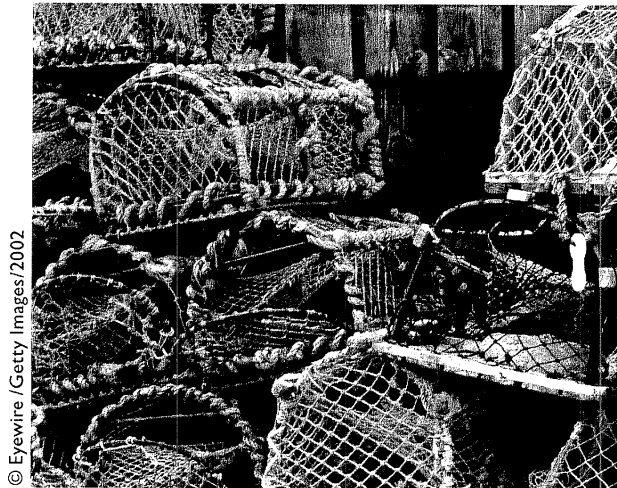
These plans will also provide the framework for Fisheries and Oceans Canada to coordinate the development of a national network of marine protected areas on behalf of the Government of Canada. The establishment of a coordinated network of National Marine Conservation Areas (Heritage Canada), of Marine Wildlife Areas (Environment Canada) and of Marine Protected Areas (Fisheries and Oceans Canada) will help provide the appropriate level of protection for special habitats and sensitive resources identified at a large ecosystem scale.



While Large Ocean Management Areas primarily address large-scale ecosystem and economic development issues, they also provide the context for nesting a network of smaller Coastal Management Areas.

### 3.2.2 Coastal Management Areas (CMAs)

One of the main considerations of Coastal Management Areas is how they relate both to adjacent coastal landmass and waters and to the Large Ocean Management Area where they are nested. Likewise, management plans for ocean waters must consider the coastal communities nested inside them.



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Coastal Management Areas will enable communities to play a stronger role in issues affecting their future by matching local capabilities and development priorities to the opportunities and carrying capacities of the local ecosystem. Local economic issues such as in-shore fisheries, conventional tourism and ecotourism, aquaculture sites, ports and other

transportation facilities may all be matters considered.

In a logical flow, ecosystem-based management objectives identified at the Large Ocean Management Area scale will need to be reflected in Marine Environmental Quality objectives and guidelines for the Coastal Management Areas. If the marine ecosystem within the planning area is at greater risk of being compromised, Marine Environmental Quality objectives and guidelines set for Coastal Management Areas may be more rigorous than the ecosystem-based objectives set at the Large Ocean Management Area scale.

A major concern for the Integrated Management process in Coastal Management Areas is the impact of land-based activities that may cause marine pollution and habitat degradation or alteration. In addition, the coastal area is the principal location where the effects of land-use and of climate change will be most readily apparent, and where planning and adaptive management is needed to address the local marine issues. Cooperative programs, such as the *National Program of Action for Protection of the Marine Environment from Land-Based Activities*, are helping federal, provincial and territorial governments to control or minimize pollution from land-based sources and to protect nearshore or coastal habitats. These programs will help facilitate and direct the development of Integrated Management plans in near coastal areas.

Many of the management issues to be addressed in these areas fall within provincial/territorial or community government jurisdiction.



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In many instances, the role of Fisheries and Oceans Canada will be that of a facilitator through:

- providing technical, scientific, and informational support to community-based initiatives;
- ensuring that planning takes place within the context of the relevant Large Ocean Management Area plan;
- providing guidance on the application of the principles of the *Oceans Act*; and
- providing advice and support to local capacity building efforts.

Not to be overlooked is the role of community groups and non-government organizations in advancing Integrated Management. Where information gathering and compilation can best be accomplished by community organizations or other partners, Fisheries and Oceans Canada may facilitate their efforts by providing expertise and access to suitable databases. Fostering ocean stewardship can also be achieved by promoting ongoing education, research, improved access

to information and specific on the ground activities.

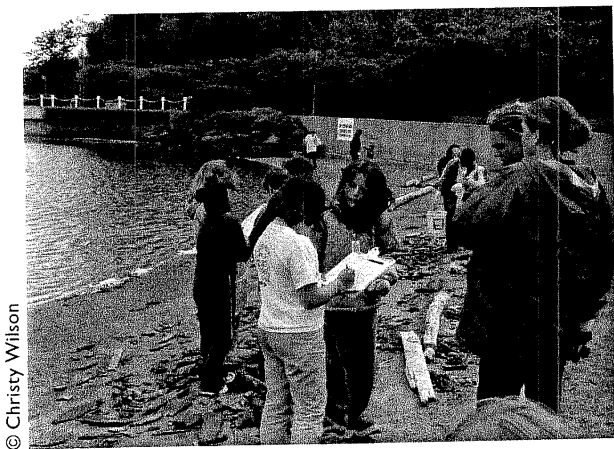
In other instances, however, the Department may lead the development of the Integrated Management plan. The exact role in each instance will depend on the issues to be resolved, and the willingness and capacity of local interests to lead the process.

### **3.3 Integrated Management Bodies**

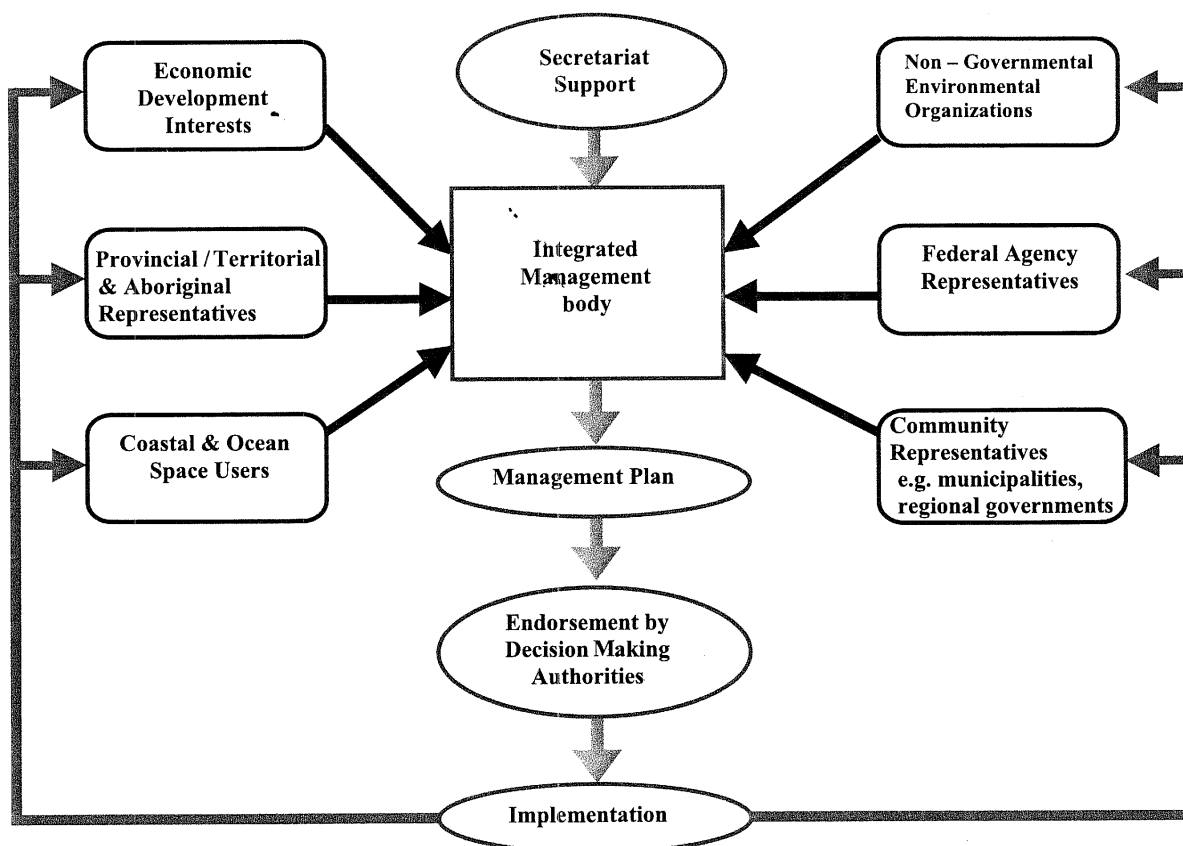
The specific composition and role of Integrated Management bodies will vary, depending on the scale of the initiative, the complexity of the issues, local and regional infrastructures and local capacity, local circumstances, the actual management area, issues and the level of concern.

While the objective is to eventually establish Integrated Management plans for all of Canada's coastal, estuarine and marine waters, in many cases the institutional structures put in place to govern these areas will evolve in keeping with the intensity of ocean use activities and the capacity and interest of participants.

In general, an Integrated Management body will be composed of both governmental and non-governmental representatives with interests in a prescribed ocean space, and committed to the Integrated Management process. Even without the full endorsement or participation of some interests, some management actions will still proceed to meet existing jurisdictional responsibilities. For example, actions necessary for conservation can proceed under the authority of the Minister of Fisheries and Oceans.



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**Model for an Integrated Management Body**

As the Integrated Management process and plan mature, incremental achievements will demonstrate the value of the process and spur others to become involved. In coastal and ocean areas with relatively light levels of human use and impact, Integrated Management bodies may focus more on informing and consulting with local interests. In these circumstances, the Integrated Management body may serve to facilitate information sharing, and to establish a collective vision, goals and objectives for a management area. The aim of this body will be to formulate a plan of action for the management

of activities that are in or affect a specified geographic area. Most Integrated Management initiatives in Canada and in other coastal nations have focused on these types of structures.

Participating program and regulatory authorities will remain chiefly responsible for implementation of the regulatory measures, policies and programs required to achieve the collective results. Where these authorities have pre-existing advisory processes or bodies, the Integrated Management body's recommendations will be forwarded to them, or



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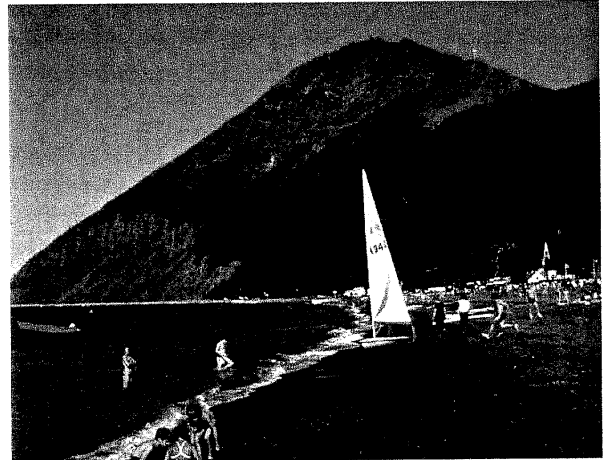
a representative of the Integrated Management body may be invited to participate directly in their body or processes. •

The value of Integrated Management in such circumstances is to provide a means of integrating scientific information on the marine environment to improve understanding among community members, interested parties, and government representatives. This information will lead to a greater understanding of:

- the value of adjacent marine space and the threats to the marine environment;
- the community's development of plans to take advantage of the economic and social benefits of the marine area;
- the development of community and corporate stewardship plans to address or remediate environmental degradation; and
- the development of plans by government bodies to address land-based sources of pollution and marine habitat degradation.

The role of Fisheries and Oceans Canada in this type of planning arrangement is as provider of scientific knowledge on the marine environment, and facilitator for integration of scientific, social and traditional user knowledge. The Department also acts as the facilitator of the Integrated Management planning process that requires the engagement of federal departments and other levels of government. In this context, Integrated Management may also involve delivery of federal or other programming, established or new, by local authorities.

As this type of arrangement will normally be associated with Coastal Management Areas, Fisheries and Oceans Canada will also provide the necessary linkages between the Integrated Management planning area and the Larger Ocean Management Area in which the coastal



plan is nested.

As human activities and pressures on the marine environment increase, other arrangements may be established aimed at a better balance of coastal and ocean uses with maximum social and economic benefits, while not exceeding ecological thresholds. In these circumstances, substantial effort will be directed towards maximizing participation of all interests and establishing an Integrated Management body whose role will be to provide decision-makers with advice and also to assume part of the responsibility for implementation of the approved management plan. For instance, the Integrated Management body may be developed and formalized through a series of agreements with the mandated authorities to undertake collaborative planning and implement some of

the body's recommendations. This body model differs from the advisory bodies with established arrangements that commit participants to the process and assign specific roles to the body in the management area. The same goal might be achieved by having key participants sign onto a management plan.

Integrated Management bodies may, under specific circumstances, have additional roles and responsibilities. For example, they could be made responsible for a specific task such as the acquisition, management and dissemination of data, or permit processing in accordance with specific agreements. These agreements however, would not affect the ultimate responsibility of the mandated regulatory body.

### 3.4 The Integrated Management Planning Process:

The Integrated Management planning process involves six inter-related stages:

1. defining and assessing a management area;
2. engaging affected interests;
3. developing an Integrated Management plan;
4. endorsement of plan by decision-making authorities;
5. implementing the plan; and
6. monitoring and evaluating outcomes.

Progression through these stages is not necessarily linear, but reflects the movement as the process matures. The Integrated Management

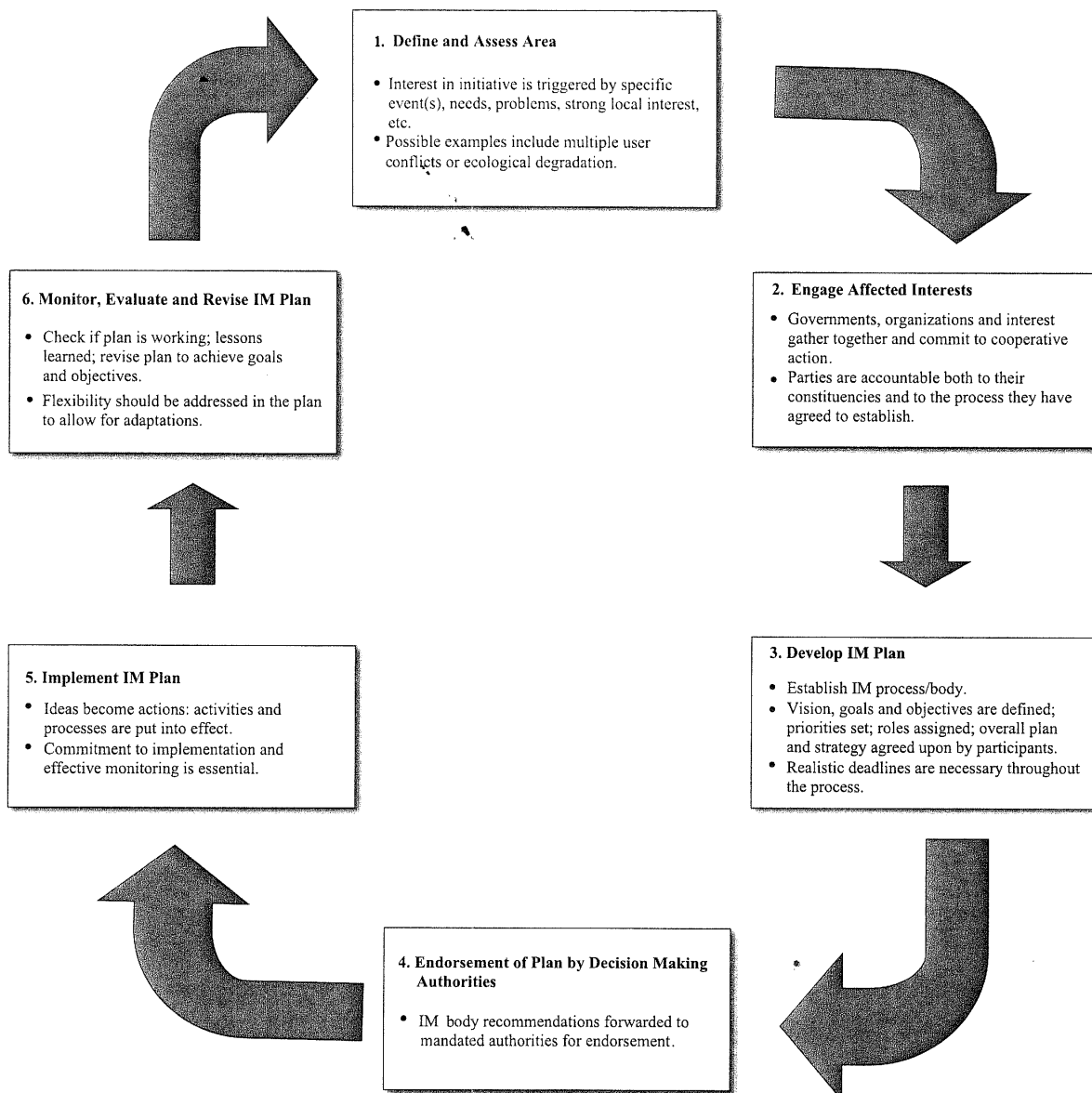
process outlined here encompasses all stages of full scale Integrated Management planning. Not all of these functions would be fulfilled by the Integrated Management body which functions primarily to develop the vision and to foster



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information exchange.

The iterative cycles and feedback loops among the six stages are themselves important attributes of the planning process. These loops allow the Integrated Management plan and activities to be adapted in response to the dynamic nature of the ecosystem and/or human uses of the ecosystem. Adaptive management is a key element of the Integrated Management planning process, from assessment and definition of the management area through to implementation, monitoring and reporting.



## The Integrated Management Planning Process

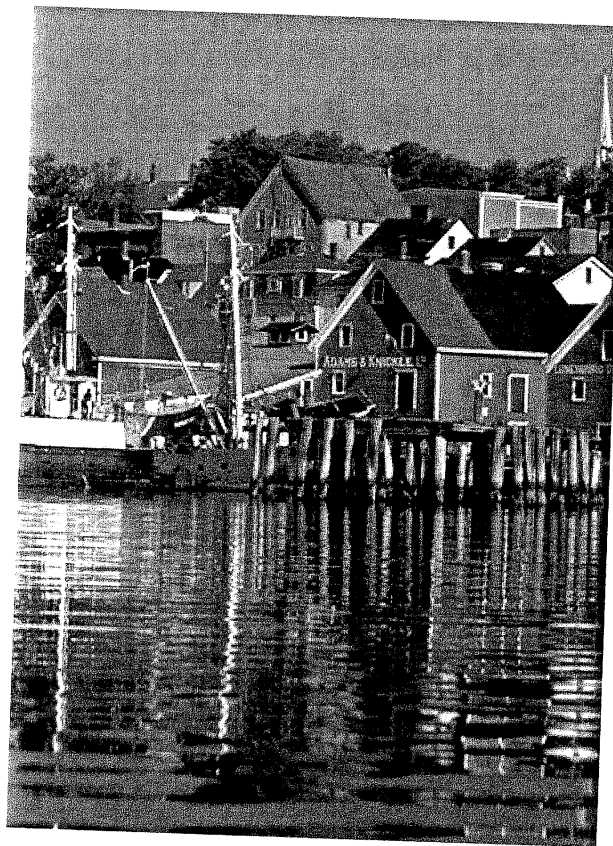
## Stage 1: Define and assess the Management Area

Defining the management area is the starting point for the Integrated Management planning process. This area must be based on ecological, economic and social considerations. For the process to succeed, these considerations must be balanced with a defined management area that is manageable, and that reflects the responsibilities and jurisdictions of existing management authorities.

The definition of the management area for an Integrated Management plan involves identifying the ecosystems involved and the relevant ecosystem-based management objectives. It also includes identifying and scoping the issues and priorities to be addressed by the planning process, and the interests and parties who need to be involved. This stage of the process also includes identifying and assessing available information and knowledge, including scientific and traditional knowledge. An important consideration at this stage is ensuring that all involved parties have access to the information such as:

- an assessment of the current health of the ecosystem and its resource base;
- ecological, social and economic use considerations; and
- pressures and issues associated with existing or potential human use activities.

The rationale for Integrated Management planning will vary on a regional and local basis. In some cases, the reason may be specific



management issues, such as multiple user conflicts or ecological degradation. In other cases it may be driven by community interest and a commitment to improve the management of a local marine area.

Beyond the directly related issues and activities, the Integrated Management planning process must be linked to the broader management picture. For example, considerations for Coastal Management Areas must include their links to land-based activities and management regimes, and link to management of adjacent coastal waters and the larger ocean areas in which they are nested. This is similar to coastal communities that nest in Large Ocean Management Areas.

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## Stage 2: Engage Affected Interests

Integrated Management requires the participation of a diverse range of parties with a decision-making role or with an interest or specific knowledge about the management area. Typically these parties include:

- national, regional and local management authorities;
- Aboriginal organizations and communities;
- coastal and ocean industries and resource user groups;
- non-governmental organizations;
- community groups;
- individual citizens; and
- representatives from the academic, scientific and research community.

Identifying principal interests provides a basis for developing an initial engagement process for information exchange. A shared understanding and dialogue can then occur on issues, objectives and options for the Integrated

Management planning process. In addition to raising awareness and building a collaborative planning approach, this stage will begin the process of identifying roles, responsibilities and commitments to action for all involved parties, both within and outside of government.

This stage may also include the establishment of an Integrated Management body, with an agreed mandate, composition and rules of operation. The establishment of possible sub-committees or technical working groups is also possible. As the Integrated Management planning process evolves, it will be important to continually build the constituency and involve key interests who may not initially be part of the process. In addition to ensuring that the process is as comprehensive and inclusive as possible, this practice recognizes that certain management actions cannot occur without the participation and buy-in of all relevant players.

## Stage 3: Develop the Integrated Management Plan

Although the development of an Integrated Management plan for a defined management area is the desired outcome of the process, establishment of a collaborative planning and advisory process is a significant achievement in itself.

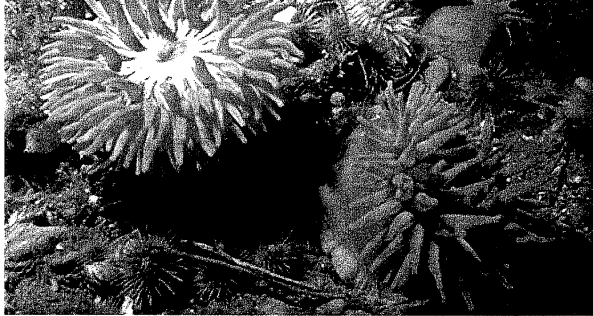
There are some key considerations to consider in Integrated Management plan development:

- I. Careful consideration and design of collaborative working arrangements that reflect the responsibilities and jurisdictions of the affected management authorities, the



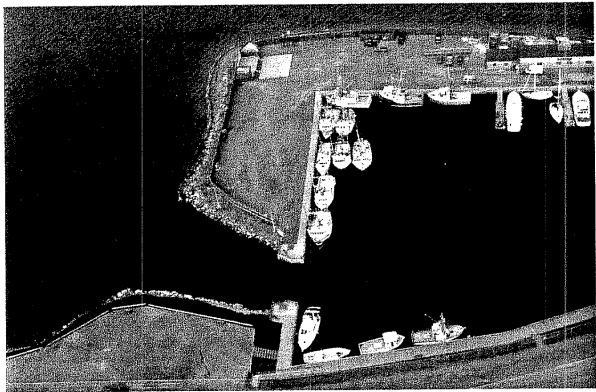
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issues and priorities for the management area itself, and the roles and activities of the broader constituency for the process.

2. An inclusive advisory process and infrastructure. There are various models and approaches, ranging from multi-stakeholder advisory bodies, more formalized management and decision-making bodies, and, in specific cases, co-management bodies. Wherever possible, existing management structures and processes will be involved in the Integrated Management plan development and used for implementation.
  3. Integrated Management is not intended to replace existing sectoral processes but rather to provide overall coordination, coherence and balance to the manner in which an ocean or coastal area is managed. This can involve coordination of government policies, regulatory approaches and management actions, the building of vertical and horizontal linkages to achieve more collaborative and balanced decisions, as well as agreed mechanisms for problem solving in support of consensus-based planning and decision-making.
  4. Defining roles and responsibilities of all parties is important as the Integrated Management process evolves.
  5. Boundaries and parameters of the management area may be refined as the process evolves through the definition and mapping of ecological, political/administrative and human use aspects of the area. This process will also serve to establish a regulatory road map, and identify existing management jurisdictions and
- 
- © Buzeta / Strong
- processes in order to determine management gaps, overlaps and areas of conflict.
  6. Ecological overviews and assessments can be used to supplement the knowledge base and to identify sensitive areas and ecosystem types. This will also help define ecosystem-based objectives, reference points, indicators, and appropriate management actions.
  7. The planning process can identify areas of interest for Marine Protected Areas and help establish a domestic and international network of protected areas. Mapping of existing and potential human use activities can be used in conjunction with ecological assessments to define threats to ecosystem components, as well as to estimate cumulative effects of human activities on the area. Spatial and temporal understanding of the human activities is also required to address issues of multiple and conflicting use and aid in the application of ocean-use planning and zoning tools.
  8. A vision with supporting strategic objectives to be used as a basis for developing the Integrated Management plan and associated

goals will require the design of ecosystem-based and socio-economic objectives, related management strategies and actions, and measurable indicators to monitor performance over time.

9. The Integrated Management planning process can be used, as required, to develop and apply Marine Environmental Quality standards.



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10. Conflicts that arise either during the planning process or outside of its boundaries need to be resolved. These conflicts may still arise even though the objective in the first place is of Integrated Management is to proactively plan for ocean space use so that conflict is avoided and ecosystem integrity is ensured. Use of conflict resolution techniques may be necessary, such as providing information, negotiation and arbitration. Conflicts can be reduced by:

- using knowledge-based decision making to dispel misunderstandings;
- providing factual information and applying principles that support Integrated Management;

- identifying ecosystem-based management objectives and thresholds;
- developing predictive models that enable scientists to assess the cumulative impacts of multiple activities before these impacts occur;
- identifying unique and sensitive habitats and resources; and
- integrating natural, social and traditional knowledge.

Ocean stewardship efforts and increased interdepartmental and intergovernmental cooperation will also help reduce ocean space use conflicts.

11. Allow enough time for the development of the plan. The process could take several years, and deadlines should be realistic. Not only must all the participants in the planning arrangements have an adequate opportunity to express their views, but the process of building trust, negotiation, compromise and consensus building needs adequate time.
12. Encourage the adoption of emerging directions before the plan is completed. During development, existing and anticipated ocean users and regulators can be encouraged to begin modifying their activities to respect the ecosystem based objectives of the Large Ocean Management Area and the Marine Environmental Quality objectives defined for the specific planning area. This may involve many participants going back to respective authorities or constituencies to reconsider issues in light of the evolving planning process.

13. Understand that there will be costs associated with the new ways of doing business, although in the long run planning marine activities in an integrated manner will result in increased efficiency and cost-effectiveness. Many costs involve consultation, public engagement, plan development and monitoring. There may be continued long-term expenditures associated with overseeing plan delivery, evaluation and modification. In addition, costs of developing and implementing plans will vary geographically and temporally. Participants' costs will relate to jurisdictional responsibilities.

14. Allow participants to seek broader approval, if needed, before an initial draft plan is endorsed. Federal participants, such as Fisheries and Oceans Canada, Transport Canada and Indian and Northern Affairs, for example, may need to seek policy or regulatory approval for specific elements of the plan. Over and above the involvement of particular interests and groups, it will be important that those developing the Integrated Management plan provide adequate information to the public throughout the process, and offer opportunities for input and consultation at all stages.

15. Remember that specifics of an Integrated Management plan will vary from one area to another. The plan will be tailored to the environmental setting and the suite of existing and proposed ocean uses; take into account the specific policies, plans and legislation that apply in the area; and may be presented as a series of recommended management actions directed towards specific ocean uses; or may be presented as a zone identifying areas of

preferred ocean use. However, the plans will share a number of common elements:

- a defined area of application;
- management structure and process;
- management objectives for the area (ecosystem-based, social and economic);
- recommended management actions including any conservation actions linked to the establishment of marine protected areas;
- monitoring and performance evaluation actions; and
- institutional arrangements.

16. Finally, it is important to acknowledge that some management actions will require a longer term commitment. Although plans should strive for early implementation actions, including public outreach and ocean stewardship initiatives, voluntary application of best codes of practice or immediate regulatory action, much can be lost by rushing the participatory process.



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## Stage 4: Endorsement of Plan by Decision-Making Authorities

One of the key principles of Integrated Management and planning is that each participant retains his or her authorities and responsibilities. Federal, provincial and territorial government departments, local and Aboriginal authorities will continue to be responsible within their respective jurisdictions where appropriate. The difference is that all participants agree to carry out respective responsibilities in accordance with the plan.

The Integrated Management plan represents an arrangement to act in accordance with the agreements arrived at through the planning process. Participants are accountable not only to their respective authorities or constituents but also to the process itself. In addition, participants are bound throughout the planning process to serve the best interest of residents of communities

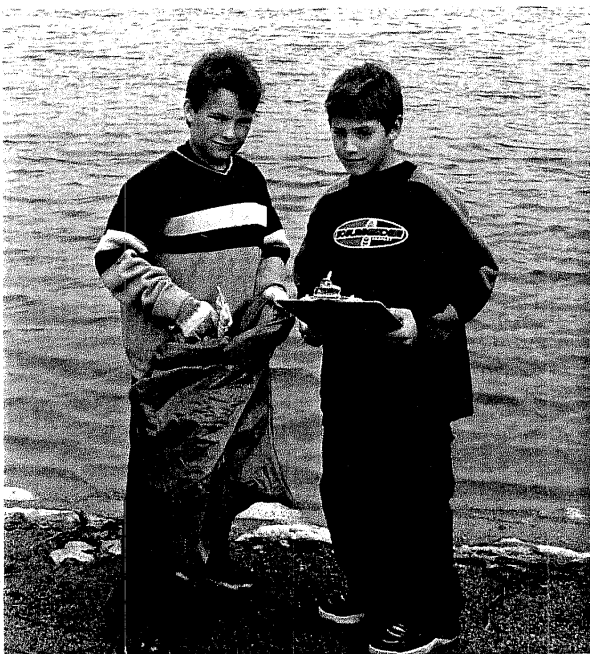
in the planning area and surrounding region, and of Canada as a whole, through their stewardship and sustainable development of the area's marine resources entrusted to them.

The proposed Integrated Management plan will therefore need to be reviewed and endorsed by the responsible mandated authority.

## Stage 5: Implement the Integrated Management Plan

Integrated Management plan implementation requires a shared commitment to meet the agreed-upon timelines for each phase of the plan. Key components of successful implementation are:

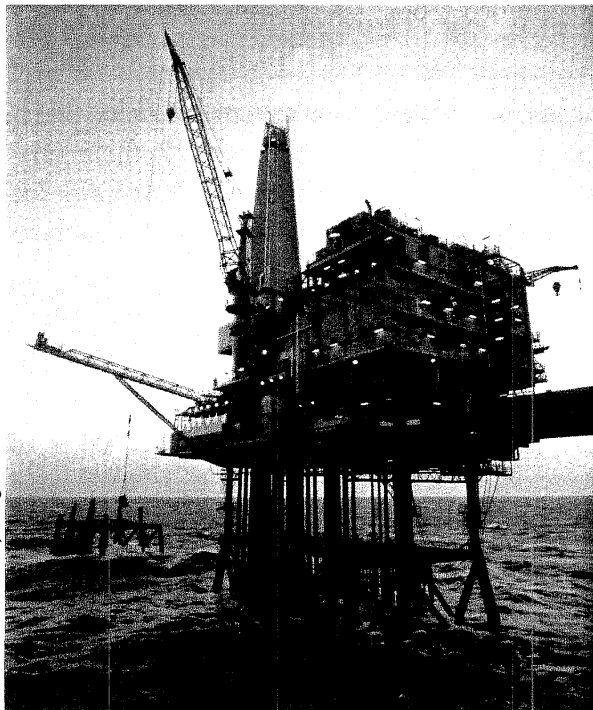
- Leadership and facilitation by the overall coordinating body formed under the Integrated Management planning process.
- Adequate funding, time and resource requirements identified for each phase of the plan.
- Appropriate reporting structures to ensure that plan objectives are met by each participant. In some cases it may be appropriate to formalize collaborative arrangements in support of the plan, including interdepartmental Memoranda of Understanding and agreements, joint research initiatives, and steering processes to oversee the plan's implementation.
- There may be a need for enforcement capabilities and mechanisms to ensure compliance with the objectives of the plan. In many cases this can be achieved through existing surveillance and enforcement programs, such as those for



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fisheries conservation and protection, maritime defence operations, or marine pollution prevention. Agencies with marine surveillance, monitoring and control capabilities can make significant contributions to the Integrated Management process through multi-tasking, and coordinating their efforts to address the full range of enforcement requirements in the management area.

- Incorporate the important roles of industry and the broader oceans community into the process. Examples of such activities can include coastal community watch initiatives, codes of conduct/best practices, and other stewardship initiatives. A range of educational and capacity building activities can also be used to further the process and to support various elements of the plan.



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It bears repeating that participants in the Integrated Management planning process will need to use their respective powers and resources to achieve plan objectives. This may involve specific management actions associated with marine environmental quality objectives and decision points defined in the plan, or the need to monitor the effectiveness of the management actions by tracking ecosystem indicators related to the objectives and triggers. In other cases, there may need to be a commitment from government to amend sectoral policies, management approaches or regulations, or industry and resource users may need to revisit development and harvesting plans to meet objectives for the management area.

Regulations could also be created under the *Oceans Act* if enforcement or other regulatory gaps exist regarding legal compliance with the objectives of the plan. Finally, participants from the scientific and research community may need to engage in collaborative, interdisciplinary research programs to answer the many questions inherent in ocean management issues.

### **Stage 6: Monitor, Evaluate, Report and Revise Integrated Management Plan**

Integrated Management is a long-term commitment. Once a plan has been implemented, it needs to be monitored so that appropriate steps can be taken to ensure the process remains on track. A necessary part of the management process is evaluation of the outcomes measured against specific objectives. Another necessary part of the process is taking corrective action when necessary.

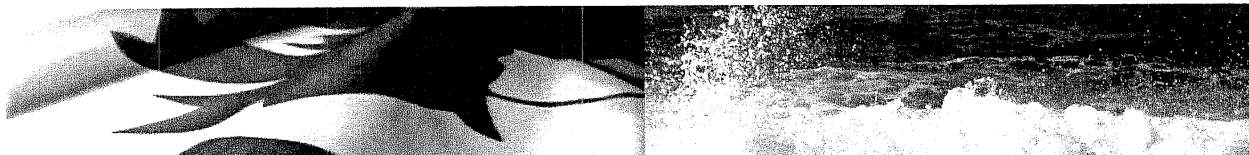
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An essential component of the Integrated Management planning process is the establishment of a practical performance evaluation framework to assess results. This framework will measure actions against objectives and targets, and needs to link required management actions to those with implementation, monitoring and/or enforcement powers. Results need to be clearly communicated to all partners to maintain on-going involvement and understanding of progress. This feedback should include regular performance reports on the ecosystem, institutional and socio-economic objectives, indicators, and associated management actions for the plan.

The performance reports and results from Marine Environmental Quality monitoring activities will also provide the necessary information for periodic reporting on the State of the Ocean within the planning area and for Canada's other ocean spaces.

The monitoring, evaluation and revision component of the plan is essentially the engine that keeps the cyclical Integrated Management process moving forward. Regular review of the plan is required to determine both how well it is working, and whether any significant new factors should be incorporated. The plan may need adaptations as a result of improved ecosystem understanding, increasing or cumulative pressures from ocean use activities, or the incorporation of new industries such as aquaculture or oil and gas development. Through adaptive management, various components of the Integrated Management plan may need to be revised based on findings and recommendations from on-going monitoring and review activities.





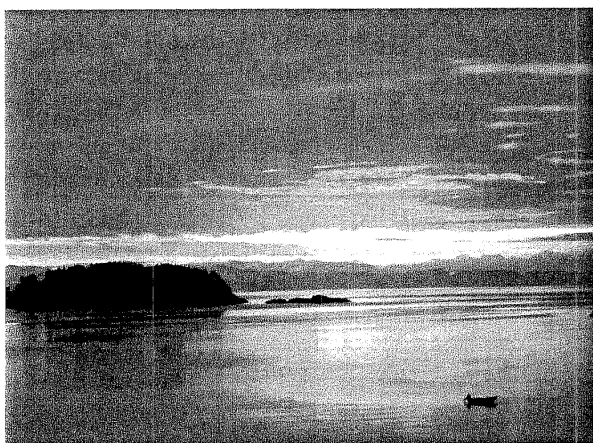
## 4.0 Conclusion

Canada's long term goal is to develop a system of nested Integrated Management plans for all of its marine waters, and to establish within these a network of marine protected areas. However, there is clearly a need to establish shorter term priorities.

Significant challenges must be addressed. The shift from a single species or single industry management approach towards a broader, more inclusive method of managing ocean resources and spaces can only occur with the investment of time, resources and effort by all concerned. There is a need for significant investment in relationship building, trust and capacity building among governments, Aboriginal peoples, environmental, industrial, and community groups.

The role of Fisheries and Oceans Canada in Integrated Management is not prescriptive, but rather as leader and facilitator in keeping with its jurisdictional mandate.

In offshore areas, the Department and other federal authorities will have a greater role to play in leading the development of Integrated Management plans in collaboration with other domestic and international interests. In near shore or coastal areas, the Department's role will more often be as participant or facilitator, one of many parties with an interest and mandated responsibility for sustainable management of the marine environment.

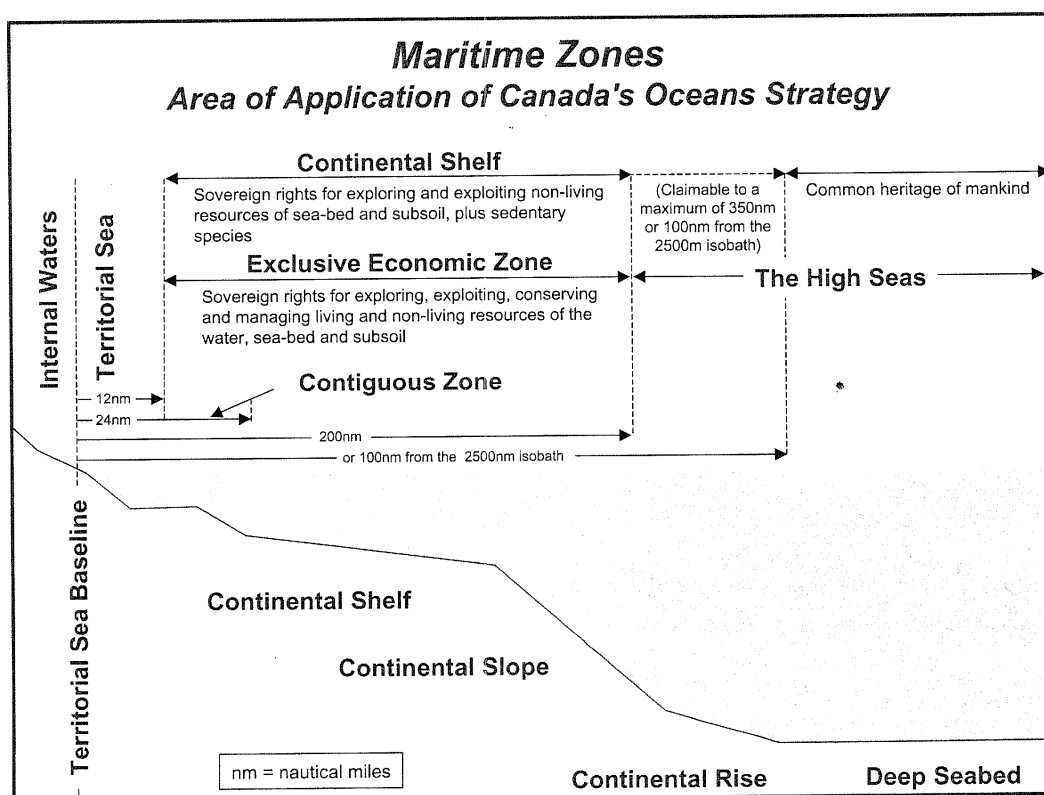


# Appendix I: Oceans Act Legislative Framework

## The Oceans Act: Legislative Framework for Integrated Management

The *Act* defines Canada's maritime zones as the internal waters, the territorial sea, the contiguous zone, the exclusive economic zone and the continental shelf. Within the internal marine waters and the territorial sea, all the laws of Canada apply. Within the exclusive economic zone, Canada has sovereign rights for the purposes of exploring and exploiting,

and conserving and managing the natural resources, whether living or non-living. This applies to the waters, the seabed and subsoil. In that zone, Canada also has jurisdiction over marine scientific research and the protection and preservation of the marine environment. On the continental shelf, Canada has the right to explore and exploit the non-living resources of the seabed and sub-soil, and to exploit living resources that are sedentary.



**Section 30** provides the foundation for a national Oceans Strategy to be "based on the principles of:

- "sustainable development, that is, development that meets the needs of the present without compromising the ability of future generations to meet their own needs;
- "the Integrated Management of activities in estuaries, coastal waters and marine waters that form part of Canada or in which Canada has sovereign rights under international law; and
- "the precautionary approach, that is, erring on the side of caution."

**Section 31** provides that "the Minister [of Fisheries and Oceans] "in collaboration with other ministers, boards and agencies of the Government of Canada, with provincial and territorial governments and with affected aboriginal organizations, coastal communities and other persons and bodies, including those bodies established under land claims agreements shall lead and facilitate the development and implementation of plans for the Integrated Management of all activities or measures in or affecting estuaries, coastal waters and marine waters that form part of Canada or in which Canada has sovereign rights under international law."

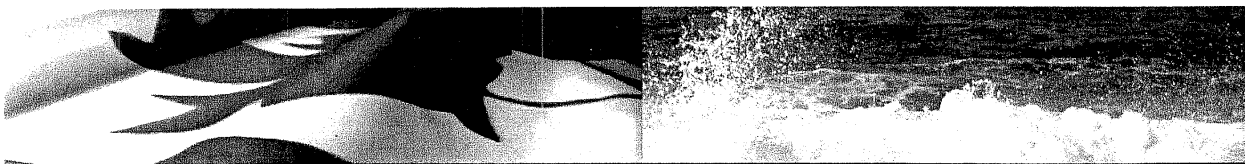
**Section 32** for the purposes of implementing Integrated Management plans, directs or empowers the Minister to:

- "develop and implement policies and programs with respect to matters assigned by law to the Minister;

- "coordinate . . . the implementation of policies and programs of the Government with respect to all activities or measures in or affecting coastal waters and marine waters;"
- unilaterally. . . or jointly with another person or body or with another minister, board or agency of the Government of Canada and taking into consideration the views of other ministers, boards and agencies of the Government of Canada, provincial and territorial governments and affected aboriginal organizations, coastal communities and other persons and bodies, including those established under land claims agreements:
- establish advisory or management bodies and appoint or designate, as appropriate, members of those bodies, and
- recognize established advisory or management bodies."
- establish marine environmental quality guidelines, objectives and criteria respecting estuaries, coastal waters and marine waters."

**Section 35(2)** directs the Minister "for the purposes of Integrated Management plans . . . (to) lead and coordinate the development of a national system of marine protected areas on behalf of the Government of Canada."

**Section 40** makes the Minister of Fisheries and Oceans the "responsible federal authority for all ocean matters not assigned by law to any other department, board or agency of the Government of Canada.



## Appendix 2: Glossary of Terms

**Assigned responsibility:** An assignment of specific decision-making responsibility by mutual agreement. Accountability remains with the statutory authority.

**Capacity building:** Enhancing the skills of people and the ability of institutions to participate in resources management through education and training.

**Collaboration:** An approach to planning and decision-making aimed at improving relationships and seeking resolutions that meet the needs and interests of all parties to greatest possible degree.

**Co-management:** A management approach in which responsibility for resource management is shared between the government and resource user groups.

**Consensus building:** The building of agreement regarding decisions among government agencies, user groups, and local communities through informed discussion, negotiation, and public participation.

**Consultation:** Participation in providing advice designed to provide many inputs to the decision-maker.

**Ecosystem:** The system of interactive relationships among organisms (e.g. energy transfer), and between organisms and their physical environment (e.g. habitat) in a given geographical unit.

**Ecosystem approach:** An approach to management that recognizes the complexity of ecosystems and the interconnections among component parts.

**Ecosystem-based management:** The management of human activities so that ecosystems, their structure, function, composition, are maintained at appropriate temporal and spatial scales.

**Integrated Management (IM):** A continuous process through which decisions are made for the sustainable use, development, and protection of areas and resources. IM acknowledges the interrelationships that exist among different uses and the environments they potentially affect. It is designed to overcome the fragmentation inherent in a sectoral management approach, analyzes the implications of development, conflicting uses and promotes linkages and harmonization among various activities.

**Ecosystem Objective:** A narrative or numeric statement on the desired condition of an ecosystem, or of one of its constituents. Objectives may be set at various levels of detail, for example conceptual objectives that establish desired conditions, measurable objectives that allow for monitoring and operational objectives relating to concrete implementation measures. Ecosystem objectives will be set for Large Oceans Management Areas.

**Marine Environmental Quality (MEQ) objective:** A numerical value or narrative statement describing a desired condition for a given ecosystem that is contained within an Integrated Management or Marine Protected Area. MEQ objectives are derived from broader assessment information such as ecosystem objectives.

**Sectoral management:** A management approach in which various resources (in the ocean context these include fisheries operations, coral mining, oil and gas development, tourism) are managed independently of one another.

**Stakeholders:** Individuals or groups of people with particular interests in an issue or area. In the ocean management context, stakeholders may include: oil and gas developers, fishermen, subsistence harvesters, hotel owners, port developers, aquaculture farmers, environmental groups, government authorities and others.

**Shared decision-making:** Participatory decision-making in which those with authority to make a decision, and those who will be affected by that decision, work together on an outcome that accommodates everyone's interests as much as possible. The desired outcome of the process is a recommendation to the appropriate statutory authority, except in the case of an assigned responsibility, where the desired outcome of the process is a decision. Shared decision-making does not affect the discretion or affect the legal authority of the participating governments.