



COASTAL AND OCEAN MANAGEMENT STRATEGY AND POLICY FRAMEWORK

FOR NEWFOUNDLAND AND LABRADOR

A DISCUSSION PAPER



For additional copies, please contact:

Department of Fisheries and Aquaculture
Government of Newfoundland and Labrador
PO Box 8700, St. John's, NL, A1B 4J6

t. 709-729-1140
f. 709-729-6082
e. coastsandocean@gov.nl.ca

Also available electronically at www.fishaq.gov.nl.ca

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MESSAGE FROM

DEPARTMENT OF FISHERIES AND AQUACULTURE

A Coastal and Ocean Management Strategy will provide long-term strategic direction on sustainable use of coastal and ocean resources in Newfoundland and Labrador. Due to our historical attachment to the fishing industry, and responsibilities related to emerging aquaculture investment, my department is honoured to have the responsibility of leading the development of a Coastal and Ocean Strategy.

The coastal and ocean agenda is consistent with the historical priorities of this department. While we support aquaculture investment and emerging ocean use sectors, we are very cognizant of historical, cultural and social needs of the fishing industry. In recognition of economic diversification, this strategy will present a balanced recognition of all sectors.

Implementing a balanced approach is a challenge for all of us. We will proceed with this change together, fostering principles of collaboration, integrated management and sustainable development.

This Discussion Paper attempts to recognize all industry sectors and encompasses economic, environmental and socio-cultural goals of our province. It will guide the consultation process, so that the final strategy is built on the views and ideas of Newfoundlanders and Labradorians. We look forward to receiving your input.

Honourable Clyde Jackman
Minister of Fisheries and Aquaculture



MESSAGE FROM

DEPARTMENT OF ENVIRONMENT AND CONSERVATION

Newfoundland and Labrador has extensive coastlines and ocean areas, which we have relied on for economic development and growth. For centuries, the people of Newfoundland and Labrador have derived a livelihood from the sea with our coastal areas providing places to live and work. However, increasing human activities and development can have a significant impact on our marine areas.

Protection of our coastal and ocean environments is vitally important for the future of Newfoundland and Labrador. Initiatives are underway by the Provincial and Federal Governments, as well as numerous environmental non-government organizations, to clean up our coastal areas and the ocean. Everyone has a role to play in enhancing our coasts and marine environment by supporting clean-up activities, preventing ocean and coastline dumping, and respecting and protecting all of our natural environments.

Use of our coastal areas and our ocean wealth will and can continue, if done in a sustainable manner, and if an integrated approach is taken when making decisions about how to best use these resources. The Coastal and Ocean Management Strategy and Policy Framework that will result from this Discussion Paper will provide guidance about how our coastal and ocean areas are to be used and protected. The Strategy and Policy Framework will complement other processes overseen by my department, including the Climate Change Action Plan, *Environmental Protection Act*, *Lands Act* and the Protected Areas Strategy, to name a few. These initiatives, and others, are in place to protect our province and all it has to offer for our children and their future.

Honourable Charlene Johnson
Minister of Environment and Conservation



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INTRODUCTION

Overview of the Discussion Paper

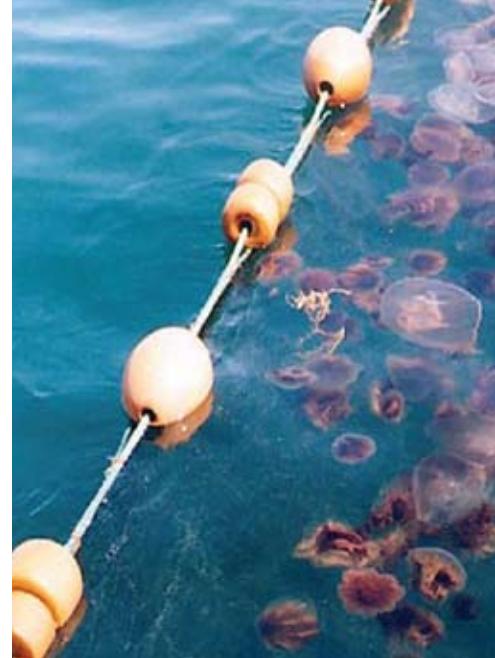
For hundreds of years, the people of Newfoundland and Labrador have relied on the marine resources from our waters. The strong connection to the sea is reflected in the depth of our culture and heritage. In fact, 90 per cent of Newfoundland and Labrador's population resides in coastal areas.

For centuries, the provincial economy was largely based on the cod fishery. It has now diversified to include the harvesting of many different species. Marine industries such as aquaculture, marine tourism, oil and gas, and ocean technology have emerged as important contributors to the provincial economy. Increased use can place more stress on the marine environment. Today, it is recognized that human activities must be managed to ensure a balance between a strong economy, informed societies, and a healthy environment.

Coastal and ocean areas are protected and governed by all levels of government including Provincial, Federal, Municipal and Aboriginal. In areas where jurisdictions overlap, governments will work together to achieve strategic goals and collaborate with stakeholders, Aboriginal groups as appropriate, and the public in developing policies and actions.

In 2006, the Government of Newfoundland and Labrador made a commitment to increase the province's capacity for coastal and ocean policy development. This Discussion Paper outlines the Provincial Government's vision to become more engaged in the management of the province's coastal and ocean areas and resources. It proposes goals and principles that can guide how this vision will be achieved. The second half of the Discussion Paper is a draft policy framework that defines and provides an approach to address challenges to achieving better coastal and ocean management. In some cases, programs and services exist, while in others, the Provincial Government will have to build capacity to respond.

This Discussion Paper is critical to the strategy development process, and its purpose is to engage public feedback on the proposed approach, which will be used in developing the **Strategy for Coastal**



and Ocean Management in Newfoundland and Labrador. A finalized strategy will formalize the vision, goals, and principles that will guide how coastal and ocean resources are developed in a sustainable manner. The accompanying **Coastal and Ocean Policy Framework** will use your feedback on existing and proposed actions to help address challenges to achieving the goals and vision.

The final Strategy and Policy Framework will not infringe upon or derogate from existing regulatory responsibilities. It will guide and assist coastal and ocean management and development, and raise the profile of related matters in the province.

The Department of Fisheries and Aquaculture has been identified as the lead provincial department in developing and coordinating the Strategy and Policy Framework. However, addressing coastal and ocean issues is a shared responsibility. The province is committed to working with all levels of government, the Nunatsiavut Government, stakeholders, Aboriginal groups as appropriate, and the general public, with a particular focus on areas that are within the jurisdiction of the Provincial Government.

Better management of coastal and ocean areas and resources is best achieved with involvement of the

local people. Coastal Management Area (CMA) committees made up of communities, businesses, local industries and other stakeholders, already exist within the province. They have shown the capacity for dealing with local and regional issues. However, current CMAs are restricted to coastal areas designated by the Federal Government; areas called Large Ocean Management Areas (LOMAs). Under the draft policy framework, **Coastal Management Area Planning** is proposed that does not restrict CMAs to the federally designated areas. Criteria are proposed for the future of CMA planning based on their function and the benefits that they will provide to the local area, the region and the province.

Governance

Governance refers to the relationship between government and its citizens. It is accomplished through laws, rules, processes, and behaviour that guide the management and use of public resources. Governance also describes how regulatory powers are exercised. Legislation, conventions, agreements, memoranda of understanding, and policy are often used to define the rules and ensure their application.

Maritime zones are defined by the United Nations Convention on the Law of the Sea



(UNCLOS) (Figure 1). Within these zones, governments' responsibilities regularly overlap. Various regulations assist with the management of ocean activities at the international, national and provincial levels. The Government of Newfoundland and Labrador has varying roles and responsibilities within these zones, which involve a number of departments.

Within Newfoundland and Labrador

Several provincial departments have responsibility for coastal and ocean programs and their input has been included in the development of the policy framework. Collectively, the Government of Newfoundland and Labrador will continue to offer programs and services to sustain coastal communities, and to promote a healthy marine environment and natural areas. The province will take a collaborative approach to promoting and developing ocean industries in a sustainable manner.

The Nunatsiavut Government was established by the Labrador Inuit Land Claims Agreement (effective December 1, 2005) and also has a role in coastal and ocean issues within the province. Labrador Inuit rights and benefits are defined in the Agreement and apply to the Labrador Inuit Settlement Area (LISA), which consists of 72,520

km² of land and 48,690 km² of land covered by tidal waters. Labrador Inuit Lands are contained within LISA and consist of 15,799 km² of land (primarily coastal) owned by the Labrador Inuit and are where most of the Inuit rights and benefits apply. All the rights and benefits of the Labrador Inuit and obligations of the Provincial and Federal Governments are contained within the Labrador Inuit Land Claims Agreement and can be found at www.laa.gov.nl.ca. Obligations in the Agreement include consultation with the Nunatsiavut Government before finalizing a strategy for the management of estuarine, coastal and marine areas that would apply in LISA and the preparation of a Land Use Plan for LISA. The Land Use Plan does not include lands under the administration and control of the Government of Canada and tidal waters.

The Government of Newfoundland and Labrador is currently negotiating a Land Claims Agreement with Canada and the Innu Nation. The Agreement will include provisions similar to the Labrador Inuit Land Claims Agreement with management responsibility for an Innu Government. Further information can be found in the New Dawn Agreement at www.laa.gov.nl.ca.

The Government of Newfoundland and Labrador recognizes the great value in engaging stakeholders

Maritime Zone Jurisdictions

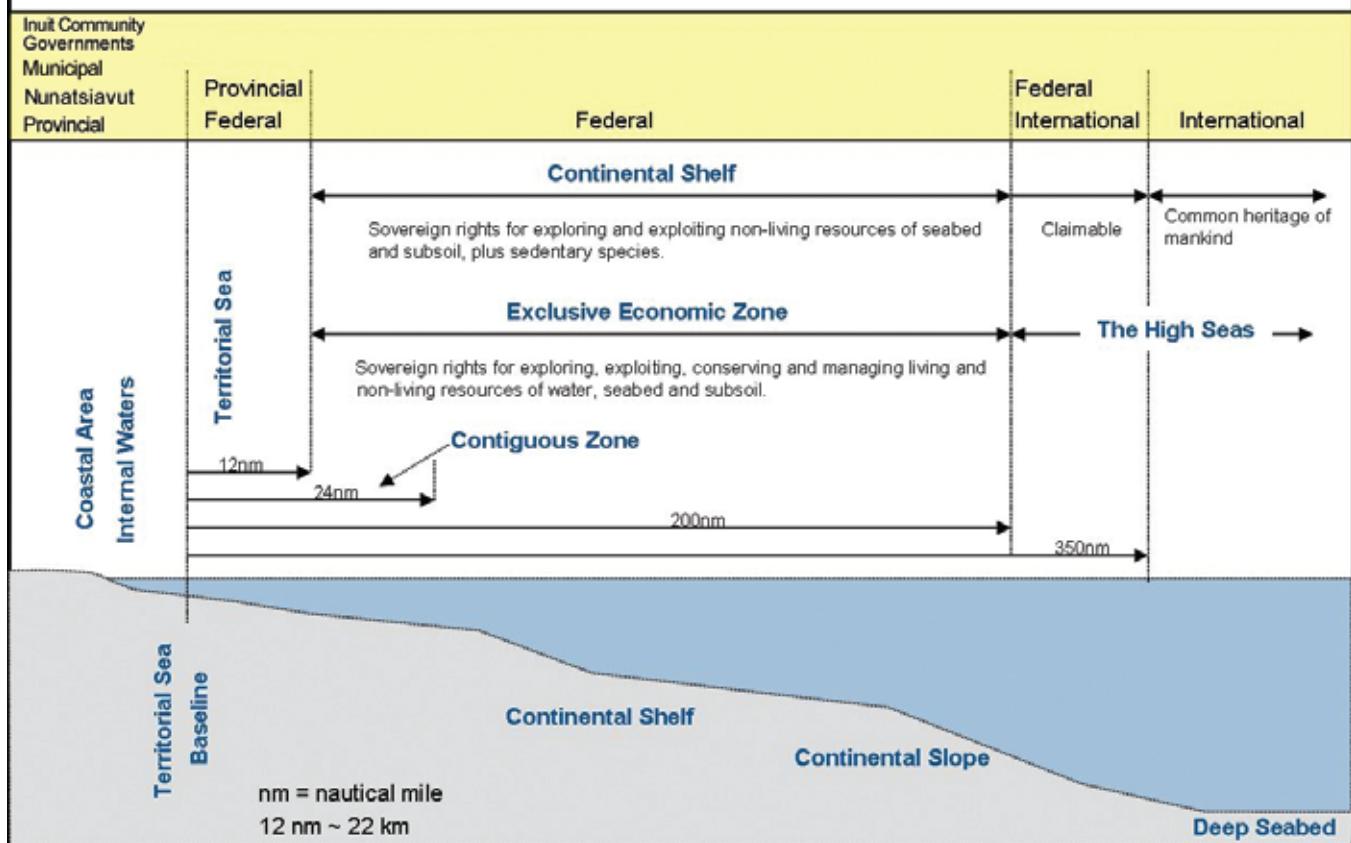


Figure 1. International, national and provincial marine zones established to assist with ocean management, including fisheries and environmental regulations¹.

to allow for sharing of knowledge, mutual understanding of issues, a greater understanding of the process by which regulators respond to issues, and the role of governments and organizations in decision making.

Within Canada

Canada's *Oceans Act* (1996) and *Oceans Strategy* (2002) are the tools through which Fisheries and Oceans Canada set regulatory and policy direction for modern oceans management. *Canada's Oceans Act* directs the Federal Government to work with Provincial and Territorial Governments, Aboriginal groups as appropriate, and all stakeholders through the integrated management approach in serving the public and in advancing coastal and oceans programs. Current priorities are shared by multiple federal departments under the *Health of the Oceans Initiatives* (2007) which aims to protect fragile marine environments, counter pollution and strengthen preventive measures. Initiatives include a National Network of Marine Protected Areas by 2012 and Oceans Centres of Expertise. In Fisheries and Oceans Canada-Newfoundland and Labrador Region, a National Centre of Oceans Expertise in Deep Sea Corals and Sponge Reefs has been established.

Established Governance Structures

Governance structures in which the Government of Newfoundland and Labrador participates to advance coastal and ocean planning for the province include:

¹Adapted from Canada's *Oceans Strategy* and the United Nations Convention on the Law of the Sea (UNCLOS).

Canadian Council of Fisheries and Aquaculture Ministers' Oceans Task Group

This Federal-Provincial-Territorial Governments task group was established in 2001 through the various fisheries and aquaculture departments of provinces and territories. It has a mandate of supporting and facilitating the implementation of Canada's Oceans Strategy (2002).

Regional Oversight Committee on Oceans Management

This is a Newfoundland and Labrador committee of Federal and Provincial Government representatives. It is co-chaired by the Regional Director General of Fisheries and Oceans Canada-Newfoundland and Labrador and the Deputy Minister of the Department of Fisheries and Aquaculture. The committee deals with current and emerging coastal and ocean issues in Newfoundland and Labrador and provides strategic direction based on priorities identified by federal and provincial departments.

Canada-Newfoundland and Labrador Committee on Coastal and Oceans Management

This is a committee of Federal and Provincial Government officials that works under the direction of the Regional Oversight Committee on Oceans Management.

Provincial Coastal and Ocean Network

This Provincial Government network consists of nine departments and three agencies with policies and programs related to coastal areas. This network was established in 2006 and is chaired by the Department of Fisheries and Aquaculture. This network and its members support the development of the strategy presented here. A priority role for the network is information exchange related to coastal and ocean management activities.

Placentia Bay-Grand Banks Large Ocean Management Area (PBGB-LOMA)

The PBGB-LOMA Committee is comprised of Federal and Provincial Government representatives and key stakeholders that have an interest in this LOMA. This committee supports research, conservation and sustainable resource use in the offshore area that is Placentia Bay and the Grand Banks. Nested within this LOMA are two Coastal Management Areas (CMAs) – Placentia Bay and Coast of Bays.

Gulf of St. Lawrence Integrated Management Large Ocean Management Area (GOSLIM-LOMA)

The GOSLIM-LOMA is bordered by five provinces and three federal regions. The Western Newfoundland and Southern Labrador GOSLIM Subcommittee consists of Federal and Provincial Government representatives and key stakeholders with an interest in the Gulf of St. Lawrence. This group also supports research, conservation and sustainable resource use in the region. Currently, the Newfoundland and Labrador portion of GOSLIM contains three CMAs – Bay St. George / Port au Port, Bay of Islands, and the Great Northern Peninsula.

Coastal Management Area (CMA) Integrated Management Committees

A CMA is defined in Canada's Oceans Strategy Policy and Operational Framework as a coastal area in which people are engaged in integrated management planning. Under the Federal Government definition of a CMA, these areas are designated and nested within LOMAs. There are currently five CMAs in Newfoundland and Labrador. These committees are chaired by a local representative, while Federal or Provincial Government departments are represented as ex-officio members.



STRATEGY FOR COASTAL AND OCEAN MANAGEMENT

Vision

The vision for coastal and ocean management is sustainable economic growth of coastal areas balanced with healthy ocean resources and marine environments.

Goals

The following goals are suggested to achieve the vision:

- Achieve diverse and thriving industries, such as fisheries and aquaculture, oil and gas, ocean technology, marine transportation, and tourism, that practice sustainable use of coastal and ocean resources.
- Support the development of sustainable coastal communities.
- Manage marine and coastal ecosystem health by minimizing or mitigating risks of irreversible environmental harm.
- Collaborate and consult with the Government of Canada and Nunatsiavut Government.
- Work with governments, industry sectors, Aboriginal groups as appropriate, non-government organizations, and the general public to find the best approach for coastal and ocean management.

Principles

- i. **Sustainable development** strives for a balance between social needs, economic opportunities and



environmental stewardship without compromising the ability of future generations to meet their own needs. The use and development of Newfoundland and Labrador's coastal and ocean areas must be sustainable.

ii. **Integrated management** engages all levels of government and stakeholders and allows for an informed decision-making process vital to sustainable use and development. Coastal and ocean areas have different resource users wherein the actions of one user can affect others. An integrated management approach supports sustainable practices and good communication between users, thereby reducing user conflicts while encouraging and supporting economic development.

iii. **Conservation** of coastal and marine ecosystems is essential to maintaining natural resources for future generations. All the impacts of resource use on the entire ecosystem will be considered.

iv. **Adaptive management** is a systematic approach to learning from the outcomes of management actions, accommodating change and improving management. This means that the strategy will be amended in response to changes in environmental and economic conditions, as well as the shifting needs of society. Given the dynamic state of coastal and ocean environments, policies must be flexible and adaptable in order to deal with emerging issues and new opportunities.

Direction

The Government of Newfoundland and Labrador wants to ensure that coastal and ocean resources are used in a sustainable manner. Engaging the Nunatsiavut Government and Aboriginal groups as appropriate, municipal and Inuit community governments, industry, non-government organizations and other interested stakeholders through integrated management is necessary to ensure sustainable resource use. The Government of Newfoundland and Labrador believes that the vision, goals, principles and existing governance committees can move coastal and ocean planning forward. A Coastal and Ocean Policy Framework will utilize these principles in addressing challenges that have been identified for the province.



COASTAL AND OCEAN POLICY FRAMEWORK

The Government of Newfoundland and Labrador is committed to becoming more engaged in the management of the province's coastal and ocean areas and resources. In order to reach the goals outlined in the Strategy, there are a number of challenges that must be addressed.

Question Boxes are placed within the document as they relate to the challenge being discussed. The questions are repeated and space is provided at the end of the document for your feedback. See the **Feedback Questions** section for information on submitting your response.

Issues Identification

Two issues scan projects were conducted in 2007 and 2008 to identify challenges at the community level. The scope of this work was to engage, inform and to hear the concerns of interested groups and individuals. By conducting roundtable discussions, personal interviews and correspondence, an external consultant identified the issues most important to the province's regions. The information within these scans provides the foundation upon which this Discussion Paper is based. The two issues scan documents can be found at www.fishaq.gov.nl.ca.

This policy framework outlines the approach being undertaken by the Provincial Government in the following areas:

- Social, cultural and economic sustainability
- Coastal land use planning
- Competing needs and interests
- Coastal and marine infrastructure
- A healthy marine environment
- Climate change



These issues are complex, broad in scope and cross jurisdictions. Actions taken to address them must consider multiple users and will require a long-term commitment by the Provincial Government and stakeholders to produce results. For some challenges, work is already ongoing within the Provincial Government, while for others, the issues scans highlighted the need to increase efforts to overcome them.

Social, Cultural and Economic Sustainability

The social, cultural and economic sustainability of Newfoundland and Labrador is directly linked to coastal and ocean resource use. Societal needs and cultural identity are currently challenged by changes to traditional industries, population dynamics and demographics. Governments must adapt to these changes in order to provide and maintain services and programs for the people of the province.

These changes are reinforced by changing environmental conditions and cultural and social values. Moreover, the ability of the Provincial Government to manage or influence the pace of change is limited in some circumstances. It can, however, seek to maximize the conditions that are necessary for long-term regional and rural sustainability, such as skills training, fiscal capacity, infrastructure investments, and the delivery of public services.

Offshore oil and gas revenues, mining and the fishing industry are major contributors to an enhanced provincial economy. Ocean technology industries, aquaculture, and marine tourism have shown recent growth. Service industries associated with these sectors provide increased revenue and employment opportunities. Coastal and ocean resources contribute about 41 per cent to the provincial GDP² (Figure 2). These resources, as well as emerging industry sectors, have the potential to contribute to the Newfoundland and Labrador economy for years to come.

²This data set is dated to September 2004 and can be seen in the Estimating the Value of Marine, Coastal and Oceans Resources of Newfoundland and Labrador (2005). It is available at: <http://www.economics.gov.nl.ca/pdf2005/oceans/NL.pdf>

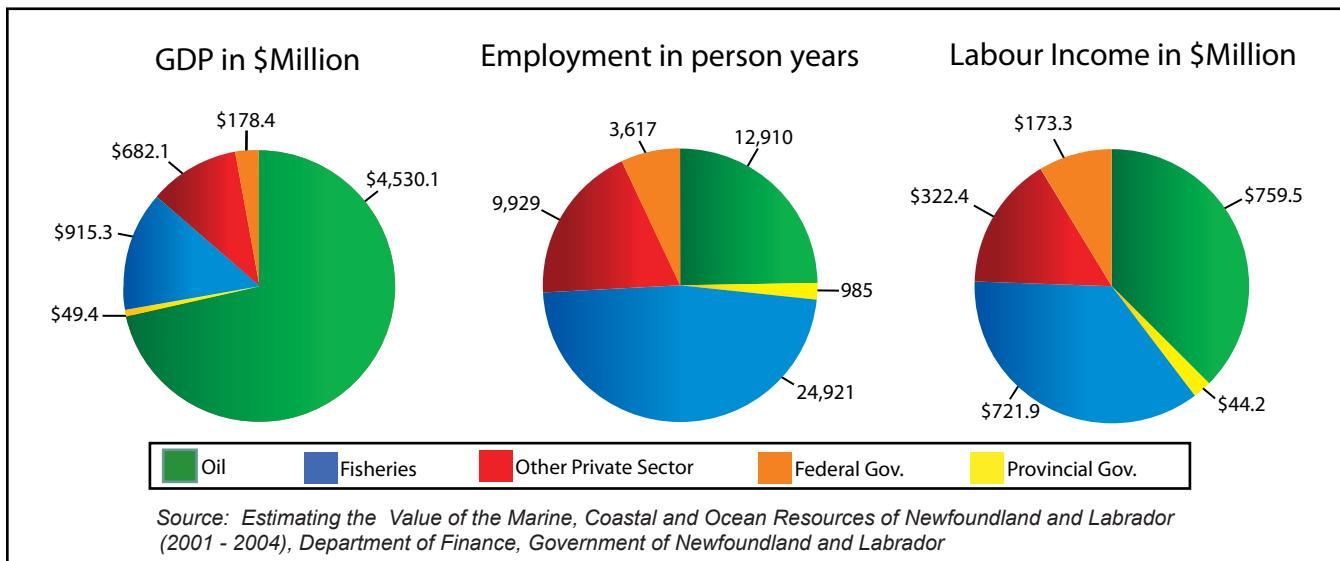


Figure 2: Economic value of marine, coastal and ocean activities as measured by GDP, employment and labour income (2005).

Addressing the Issue

Sustainable economic opportunities need to be encouraged while respecting the need to conserve the marine environment and to maintain the province's cultural identity. The Provincial Sustainable Development Act, once proclaimed, will help further economic development by ensuring that this balance is maintained.

The major challenge to achieving social, cultural and economic sustainability in Newfoundland and Labrador is finding ways to extend the economic benefits to coastal communities and rural regions. Industry and populations have been concentrating in larger centres, leaving smaller coastal communities with a shortage of skilled workers to support growth.

Several provincial departments are mandated to foster social, cultural and economic sustainability in coastal and marine environments. Each department is highlighted below.

Department of Fisheries and Aquaculture

The Department of Fisheries and Aquaculture is the lead provincial department for matters concerning fish processing and aquaculture, and fosters economic growth within the fishing and aquaculture industries. The department supports fish processing facilities through licensing and quality inspection procedures, as well as through market research. The department is also involved in several fisheries management and science processes lead by Fisheries and Oceans Canada. In support of aquaculture, the department works closely with operators, and provides business support through several programs.

In 2009, the fishing industry was valued at \$827 million and directly employed approximately 22,200 people throughout the province. Aquaculture production was valued at approximately \$92 million and directly employed approximately 650 people.³

In 2007, the Department of Fisheries and Aquaculture introduced the Fisheries Technology and New Opportunities Program under the Fishing Industry Renewal Strategy. This includes national and

³The Seafood Industry Year in Review provides annual economic and other industry information for the provincial seafood sector. The 2009 report is found at www.fishaq.gov.nl.ca/publications/yir_2009.pdf.

international marketing initiatives aimed at revitalizing the fishing industry. This initiative works to make Newfoundland and Labrador's seafood industry globally competitive. It outlines an approach by which fish harvesters, processors and Provincial and Federal Governments will work together on current and emerging issues.

The department provides advice on resource issues and scientific advice pertaining to the analysis and management of the province's fish stocks. The department supports integrated management initiatives and coordinates the provincial role with the Federal Government on ocean policy and governance issues such as large ocean management areas, coastal management areas and marine protected areas.

Department of Natural Resources

The offshore oil and gas sector is supported by the provincial Department of Natural Resources. This department and Natural Resources Canada established the Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB) to interpret and apply the provisions of the *Atlantic Accord Acts*⁴. All exploratory licenses for offshore oil and gas activities are regulated by the C-NLOPB, while onshore oil and gas activities are managed by the Department of Natural Resources. Oil and gas industry activities in the province include exploration and development offshore and on land.

The department promotes and facilitates the development of the province's mineral and energy resources through its resource assessment, management and development activities. The mining industry in the province currently has over 12 mineral commodities that contribute to the economy.

The department is responsible for the creation and implementation of the Energy Plan. It outlines that Newfoundland and Labrador's wind resources

are among the best in the world. Planning and implementation activities for wind developments are currently underway in Labrador and on the island. When developing wind projects, the Government of Newfoundland and Labrador will consult with the Nunatsiavut Government and Aboriginal groups as appropriate, and all interested stakeholders as the feasibility and benefits of wind power generation are realized.

Department of Innovation, Trade and Rural Development

The Department of Innovation, Trade and Rural Development is the lead agency for economic development in the province. The department administers several programs that support development and diversification, targeting both commercial and non-commercial clients. As well, the department provides funding support to Regional Economic Development Boards. These boards work to further strategic initiatives that focus on economic development within each region, including coastal zone management.

Additionally, the Department of Innovation, Trade and Rural Development is the lead provincial department responsible for ocean technology. This is further discussed in the *Ocean Technology* section of this document (Pages 26-27).



⁴The *Canada-Newfoundland and Labrador Atlantic Accord Implementation Newfoundland Act* and the *Canada-Newfoundland Atlantic Accord Implementation Act* are two pieces of legislation that govern offshore oil exploration, development and production rights in Newfoundland and Labrador and Canada respectively. The purpose of this legislation is to ensure offshore oil is developed sustainably and in a manner which guarantees Newfoundlanders and Labradorians and Canadians benefit from non-renewable natural resources.

Rural Secretariat of the Executive Council

The Rural Secretariat is an agency within the Executive Council of the Government of Newfoundland and Labrador that focuses on the sustainable development of the province's regions. It is a formal mechanism within government to ensure that matters impacting regions and rural areas are considered in the decision-making processes. The Rural Secretariat engages citizens to become more informed and engaged in policy development initiatives. One way it involves citizens is through Provincial and Regional Councils. The Rural Secretariat believes that regional sustainability can be strengthened by collaboration among departments and agencies that have mandates to implement policies, programs, services and investments that impact and have implications for regions and coastal areas.

The Rural Secretariat encourages integrated thinking and shared decision making on regional issues. It provides a forum where rural perceptions, realities, challenges and potential solutions can be openly discussed. It seeks to increase the capacity of citizens, stakeholders, Aboriginal groups as appropriate, and other interests to address regional issues. In this context, the Rural Secretariat plays a coordinating and advisory role, rather than the delivery of programs and services.

Department of Transportation and Works

The Department of Transportation and Works is responsible for administering the intra-provincial ferry service in Newfoundland and Labrador⁵. In March 2007, the department released the Island Vessel Replacement Consultation Document, a report outlining the current challenges faced by the intra-provincial ferry service on the island portion of the province. The department is addressing some of the issues outlined, and is looking further into others. The Sustainable Transportation Plan for Labrador: Consultation Document includes an analysis of the intra-provincial ferry service for the mainland portion of the province. This

ferry service provides much needed linkages for social, cultural and economic survival of these communities.

The Department of Transportation and Works is also involved in port divestiture, which is a federal program led by Transport Canada. Provincially, the department oversees this program, as it is concerned with ownership of the land and harbour beds associated with existing ports. Presently, it is difficult to class any of the properties as provincial jurisdiction as they remain federal properties until they are divested.



Department of Tourism, Culture and Recreation

The Department of Tourism, Culture and Recreation is responsible for advancing the tourism industry through the promotion and preservation of Newfoundland and Labrador's natural and cultural history. The department licenses tourism operations and works with regional industry participants on marketing and advertising initiatives as well as business development. The department also encourages social and economic growth by supporting the emerging eco-tourism sector and enforces legislation and regulations that ensure tourism operations are carried out in a sustainable manner.

Furthermore, the department has a mandate to protect, preserve and interpret the province's cultural heritage which is held in public trust

⁵Inter-provincial ferry service in Newfoundland and Labrador is provided by Marine Atlantic, a federal crown corporation that reports to the federal Minister of Transportation (www.marine-atlantic.ca).

for the people of the province. In doing so, the department provides attractions and infrastructure that support regional tourism efforts and promote growth.

The department focuses on a range of tourism and recreation activities that take place in the marine environment, including the coastal zone, estuaries, and offshore waters. Acknowledging the significant contribution of the marine and coastal environments to tourism, the department completed a Coastal and Marine Scoping Document. It is envisioned that this discussion document will form the basis for the development of a marine tourism strategy.

Department of Environment and Conservation

The Department of Environment and Conservation is responsible for developing and implementing the Sustainable Development Act, the Sustainable Development Strategy, and coordinating interdepartmental interests. It supports the Sustainable Development Roundtable, comprised of stakeholders from around the province, and the development and monitoring of indicators to ensure development adheres to the principles of sustainability.

The department is responsible for conserving natural areas and providing the public with opportunities for access and recreation. Traditional activities such as hunting, camping and other outdoor activities remain important aspects of our social and cultural activities.

The department is also responsible for all land use planning on Crown Land in the province outside of municipalities with approved municipal plans, and lands administered by the Nunatsiavut Government. Land use planning and protection of the natural environment are key to the social, cultural and economic sustainability of the province.

Q1: Is there opportunity in your region to bring social, cultural and economic issues into the decision making process?

Coastal Land Use Planning

Provincial coastal land use decisions fall under existing land use policies and legislation administered by the Department of Environment and Conservation. Applications for large scale land use development are assessed by the Inter-department Land Use Committee following submission to the department. Smaller applications are referred to the appropriate agencies by the department, based on the potential for land use conflict as identified using information compiled on the Land Use Atlas. The province-wide issues scans identified general public concern over the lack of a long-term plan for coastal development and protected areas.

All current land titles issued by the Department of Environment and Conservation maintain a 15 meter buffer between the shoreline and the boundary of the issued title. It is only in the case of squatters rights claims or some older land grants that a shoreline reservation is not maintained.



Addressing the Issue

Comprehensive land use planning for an entire province is complex. It must take into account a wide range of users who often have competing environmental, economic and social values.

Land use planning is generally long-term as built structures have at least a 30-50 year lifespan. The challenge is to develop a land use plan that is wide-ranging so that several overlapping plans are not required; will include environmental, economic, cultural and social interests; and will enable sustainable development. A land use plan must be able to adapt to changing conditions, whether natural or human induced.

Land use planning is the responsibility of the Provincial, Federal, Municipal, Inuit community and Nunatsiavut Governments, as well as private land owners. The largest land holder is the Provincial Government, where three departments share the responsibility: Municipal Affairs, which generally focuses on communities, however, the *Urban and Rural Planning Act* provides a broader mandate; Environment and Conservation, which manages and allocates publicly owned Crown Land; and Natural Resources, which is responsible for supporting and ensuring access to mineral resources. The Department of Environment and Conservation oversees ownership and use of the seabed within harbours and bays in the province. It reviews all applications for land use in the province, ensuring that approved applications concur with existing regulations and policies.

The Provincial Government recognizes that a provincial coastal land use plan is needed and the Department of Environment and Conservation is working to develop a strategy for land use management. Once approved, the strategy will take into account the principles of sustainable development, climate change adaptation, hazard prediction and preparedness, and economic development. Generally, it will apply to coastal

land use throughout the province, ensuring public access to coastal Crown Land and limiting near-shore development.

The guidelines for land use and development should ensure traditional access to coastal areas, the protection of green spaces and nature trails along the coast, limit development within a coastal buffer zone, and define a buffer zone that protects the coast from the impacts of a changing climate.

The Coastal and Oceans Management Strategy will complement and be consistent with the current approach of the Provincial Government to land use planning.



Labrador Inuit Settlement Area Land Use Plan

In April 2007, the Government of Newfoundland and Labrador and the Nunatsiavut Government (pursuant to the Labrador Inuit Land Claims Agreement) jointly appointed a Regional Planning Authority to prepare a comprehensive Land Use Plan for the Labrador Inuit Settlement Area (LISA) which includes Labrador Inuit Lands. The authority is scheduled to submit the draft plan in 2011. Once in effect, the Nunatsiavut Government will be responsible for administering the plan on Labrador Inuit Lands and the provincial government will be responsible for administering the plan in the LISA outside Labrador Inuit Lands.

Natural Areas System Plan

The Department of Environment and Conservation is responsible for establishing and managing provincial protected areas. Currently, 57 protected areas are managed by the department, and 34 of these have coastal components. The department is developing the Natural Areas System Plan, a major initiative designed to expand our protected areas network to include representative portions of all natural regions. In many cases these will include coastal areas and will, therefore, increase protection of green spaces along the coast. The department will conduct public consultations on the draft Natural Areas System Plan prior to releasing a final plan and implementation strategy. The Plan will ensure a carefully designed and managed system of protected areas, including coastal regions, for all Newfoundlanders and Labradorians.

Q2: Is additional protection required to ensure the conservation of our coastal and marine ecosystem?



Offshore oil and gas activities are regulated by the Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB), Fisheries and Oceans Canada, Transport Canada, Environment Canada and Natural Resources Canada. The provincial Department of Natural Resources is responsible for supporting the exploration, development and production of the province's hydrocarbon resources. Activities include issuing petroleum rights, processing applications for petroleum exploration programs, assessment of development options, drafting legislation and regulations relating to petroleum exploration, and production for the offshore area covered by the *Atlantic Accord Act*.

Competing Needs and Interests

Competing needs and interests occur when two or more entities desire to use similar space and time for activities. A second source of user conflict results when an activity negatively affects or prevents another activity from occurring.

Addressing the Issue

Oil and gas sector activities and the fishing industry

In Newfoundland and Labrador's offshore, there are two main uses of space, time and resources: the fishery, and oil and gas exploration, development and production. For marine safety, and to enable both industry sectors to succeed, it is important that the two industries communicate and avoid conflicts.

The C-NLOPB regulates and ensures that projects associated with oil and gas exploration, development and production are subject to environmental assessment screening under the *Canada Environmental Assessment Act (CEAA)*. Part of the environmental assessment process includes a review role for provincial and federal departments. A Memorandum of Understanding (MOU) has been established between the C-NLOPB, Fisheries and Oceans Canada, Environment Canada, Transport Canada, Natural Resources Canada, the provincial Department of Natural Resources and the Intergovernmental Affairs Secretariat. This MOU outlines federal

and provincial responsibilities for reviewing project proposals that require CEAA screening. The Department of Fisheries and Aquaculture and the Department of Environment and Conservation have a consultation and information sharing role in this process.

Direct exchange between the offshore energy sector and the fishing industry occurs through One Ocean, an organization outside government. This provides a forum for information exchange between the two sectors.

Industrial development and traditional users

Wherever there is development along the coastline in Newfoundland and Labrador, there is potential impacts on existing activities or industries, such as fishing. This raises the issue of the need for a coastal land use plan that considers all users.

Placentia Bay has an established Coastal Management Area (CMA). The Placentia Bay Integrated Management Planning Committee provides an opportunity for open communication and an integrated approach to discuss issues such as user conflict. New industries entering Placentia Bay are encouraged to consult with the committee, allowing members to inform their organizations about the development.



Aquaculture and marine users

Aquaculture and traditional fisheries coexist with few issues in many areas of the province. When conflicts arise, they are often related to access to marine resources, competition for wharf space and safe navigation. However, these issues are a concern shared by all marine users.

Some recreational users have also expressed concern regarding reduced access to cabins, hunting and fishing areas. All stakeholders have the opportunity to identify such concerns through Transport Canada's application of the *Navigable Waters Protection Act* and the process of public advertising of all aquaculture developments. Additionally, aquaculture operators will identify and consult with other marine resource users and, where possible, make changes to aquaculture sites to address concerns.

The aquaculture licensing process is administered by the Department of Fisheries and Aquaculture and includes federal environmental screening among other components. Applications require that fish farmers identify potential resource user conflicts in the area, and identify who has been consulted. It also ensures that a facility operates in a manner that does not compromise the integrity of adjacent aquaculture operations, the rights of resource users, or terrestrial health and navigational safety.

All industries need to be concerned about marine pollutants. The information requirements for aquaculture applications that are submitted to the Department of Fisheries and Aquaculture ensure that processes are in place to address all potential site-generated litter, including items such as feed bags, rope and the potential for fuel spills.

In 2008, the Department of Fisheries and Aquaculture prepared, in consultation with key environmental agencies, the Applicant Guidance Document-Environmental Information Review. In response, aquaculture applicants have made commitments to adopt practices that will ensure

material is not lost, or is cleaned up in a timely manner. The aquaculture application process requires that all applicants provide plans for dealing with all types of waste that aquaculture operators could generate.

The Government of Newfoundland and Labrador is working with industry and local communities to explore waste management and recycling options for inorganic waste material from aquaculture operations. Aquaculture operators are applying best available practices in relation to recycling options, where those options are available.

Q3: Do you support the establishment of governance structures as an effective means to share information and avoid conflicts at the local level?

Coastal and Marine Infrastructure

Issues concerning coastal and marine infrastructure are mainly associated with wharves. Repairing and building new wharves is expensive and the lack of funding has been identified as the reason why some have not been maintained.

In some areas, outdated marine infrastructure cannot accommodate multiple resource users where fish harvesters, aquaculture, eco-tourism ventures, the intra-provincial ferry service, and recreational



users may share an inadequate wharf. This can create an increased risk to safety and inefficient operational practices by industry. Additionally, poorly maintained wharf infrastructure and roads are associated with missed opportunities in the tourism sector. For example, some regions do not have wharf space to handle eco-tourism industries or cruise ship visits.

Addressing the Issue

The Government of Newfoundland and Labrador will continue to work with the Federal Government, industries and the public, to prioritize infrastructure needs in areas where multiple users need wharf upgrades and repairs.

Some initial steps have been taken to address the issue on a project-by-project basis. Funding support has come from joint federal, provincial, and private sector partnerships and generally support economic development opportunities. Four new aquaculture specific wharves are being built in the Coast of Bays region to promote the sustainable and biosecure growth of the aquaculture industry. Joint funding for these wharves is provided by the Department of Fisheries and Aquaculture and the Federal Infrastructure Stimulus Fund. An additional five new wharves and renovations to an existing facility have been identified for future development in order to support the sustainable development of aquaculture.

Q4: What coastal or marine infrastructure is required in your region to support existing activities and/or future development?

A Healthy Marine Environment

A healthy marine environment is critical for the sustainable use of coastal and ocean resources as it more easily recovers from the impacts of human use. Recognizing that the marine environment is not as resilient to pollution as once believed,

provincial and federal policies ensure new development follows established guidelines and standards.

Addressing the Issue

Addressing marine environmental health issues require several levels of government to respond.

Land-based sources of pollution

Existing sources of land-based pollution can be classified as community living or industrial waste. Community living sources of pollution are associated with the lack of adequate wastewater treatment for substances entering marine areas. For industrial development, there are concerns about risks of oil spills around the coast, other types of industry effluent, seafood processing facilities and aquaculture operations. The Global Program of Action (GPA) and National Program of Action (NPA) for the Protection of the Marine Environment From Land-based Activities engage multiple sectors in an effort to minimize negative effects to coastal areas from land-based sources.

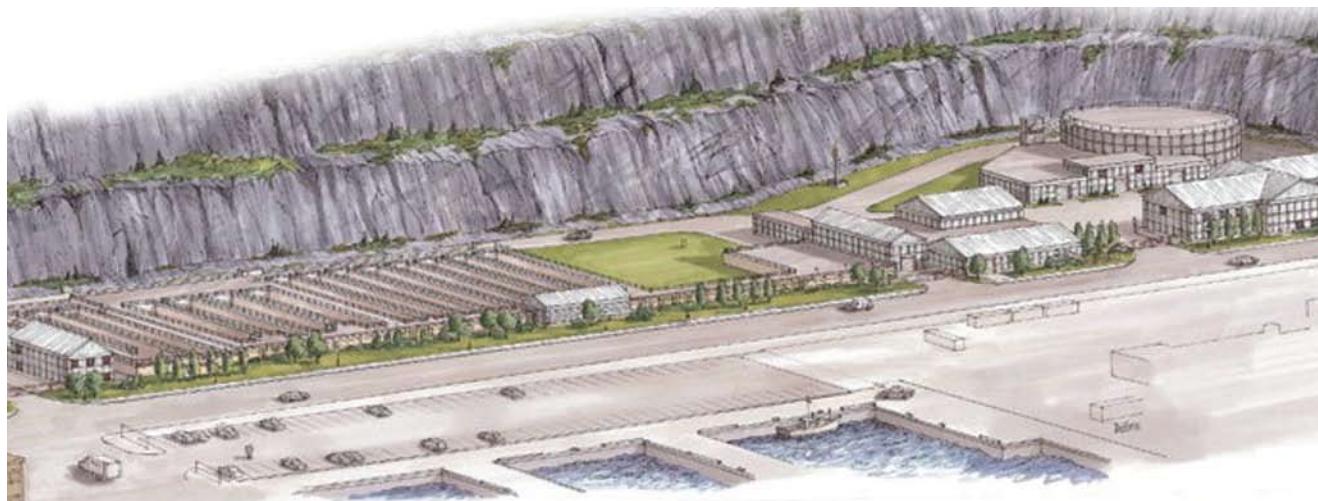
At-sea sources of pollution

At-sea sources of pollution include bilge dumping, litter and chemical spills. Responsibility for these

issues rests with the Federal Government under Fisheries and Oceans Canada, Transport Canada and Environment Canada.

Oil spills in the marine environment are also primarily a federal responsibility. The Canadian Coast Guard, Fisheries and Oceans Canada, Transport Canada and Environment Canada are the primary agencies in oil spill preparedness and response. The Canada - Newfoundland and Labrador Offshore Petroleum Board's (C-NLOPB) operational review and approval of drilling programs require that operators file a Safety Plan, an Environmental Protection Plan and a Contingency Plan that includes an Oil Spill Response Plan. The oil spill response plan describes in detail the command structure the operator will put in place to respond to a spill event. The C-NLOPB also announced special oversight measures for offshore well operations related to the drilling of the Lona O-55 exploration well in the Orphan Basin in addition to requirements contained in the drilling and production regulations and associated guidelines.

The Department of Environment and Conservation has been working with Transport Canada and industry on a review of oil spill response capacity for Placentia Bay and the south coast of Newfoundland and Labrador⁶. The Government of Newfoundland and Labrador will continue



Riverhead Wastewater Treatment Facility - Perspective Sketch

Image courtesy of the City of St. John's

⁶ Please see <http://www.tc.gc.ca/marinesafety/tp/Tp14617/menu.htm> for a copy of the "2006 Public Consultations Report for the Environmental Risk Assessment Study of the South Coast of Newfoundland."

to work with federal departments to ensure the capacity exists within Newfoundland and Labrador to respond to oil spills.

Wastewater treatment

A recent inspection of Newfoundland and Labrador's coastline by the Provincial and Federal Governments found 728 public sewage outfalls in 211 communities. A significant number of wastewater systems are discharged directly into the ocean with little to no treatment. Upgraded infrastructure and effluent systems are required to reduce the amount of pollutants into the ocean. The role of various levels of government is to establish guidelines and regulations to protect human health and the environment.

Effective wastewater treatment systems can remove or reduce the levels of harmful substances, but are challenging to construct and operate in all areas of the province.

The province is currently considering a modified Municipal Wastewater Effluent Regulatory Compliance Plan that is within the bounds of proposed federal regulations. Timeframes for compliance under the new regulations will extend up to 30 years and will depend on the risk posed by each outfall. This plan is an alternative to the Canada-wide Strategy for the Management of Municipal Wastewater Effluent which did not provide a program for implementation.

The Government of Newfoundland and Labrador will work with its partners and communities to help them achieve compliance and to increase awareness around those substances that should not be disposed of through wastewater systems.

Industry effluent

The regulation of industrial effluent is the responsibility of the Federal and Provincial Governments. Environment Canada is responsible for pollution prevention under the federal *Fisheries Act* and the *Canadian Environmental Protection*

Act as it relates to the disposal of harmful substances into waters frequented by fish. The Federal Government has established regulations for major industrial developments such as pulp and paper, mining and refineries.

The Department of Environment and Conservation monitors pollutants and environmental effects from land-based facilities to ensure industrial compliance with environmental regulations. The province regulates both land and ocean industrial effluent discharges. The Government of Newfoundland and Labrador is developing new industry-specific effluent regulations and, where possible, these will be more consistent with federal regulations.

Seafood processing facilities

Fisheries and Oceans Canada and Environment Canada are responsible for monitoring seafood processing effluents in the marine environment and liaising with provinces, territories, industry, other government departments, and the public.

The Department of Fisheries and Aquaculture is responsible for licensing fish processing facilities and enforcing effluent disposal regulations. These regulations ensure that effluents do not attract pests or contaminate the water supply for the processing facilities. The department also promotes full utilization to reduce and potentially eliminate organic waste from processing plants.





Regulations and enforcement monitoring ensure that facilities operating within 20 kilometers of a finfish farm collect, treat and neutralize liquid effluent prior to release into the marine environment. The Department of Fisheries and Aquaculture has provided financial assistance to processing facilities, adjacent to farming regions, for the installation of wastewater treatment systems. This approach has addressed a biosecurity concern for the aquaculture sector. The Department of Fisheries and Aquaculture, in conjunction with Environment Canada, has placed conditions on all processors in the Coast of Bays region that prohibit them from using open ocean offal disposal, resulting in the redirection of offal for composting.

The Government of Newfoundland and Labrador plans to work with industry to explore the feasibility of collecting, treating and neutralizing fish plant effluent in all areas of the province.

Aquaculture operations

The Department of Fisheries and Aquaculture monitors fish health at aquaculture facilities. Marine cages are sited away from salmon rivers and as a standard operational practice and condition of licensing, the Department of Fisheries and Aquaculture requires that finfish farms undergo a

fallow period after each production cycle. This is required to mitigate pathogen and parasite accumulation, such as sea lice. If pathogens or parasites are detected, treatment and mitigation is initiated. Fisheries and Oceans Canada administers and assesses monitoring to evaluate the effectiveness of the fallow period with regards to the recovery of the benthic environment from any impacts generated by the farming operation.

The Department of Fisheries and Aquaculture's policies support industry in finding best waste management options for processing plant wastewater and prohibiting ocean offal disposal in areas adjacent to finfish farms. The department monitors and audits introductions and transfers of cultured fish within the province or between provinces in conjunction with Fisheries and Oceans Canada. The aquaculture industry and the Department of Fisheries and Aquaculture have enforced policies and programs that ensure aquaculture farms produce healthy fish.

The Department of Fisheries and Aquaculture along with Fisheries and Oceans Canada and industry, have developed the Code of Containment for the Culture of Salmonids in Newfoundland and Labrador (2005). Since implementation of the code, escapement of cultured fish has been reduced by 83 per cent. The Department of Fisheries and

Aquaculture monitors and implements all parts of the code except for the section relating to recapture of escapes, which is the responsibility of Fisheries and Oceans Canada. The code meets or exceeds international best practices and it is periodically updated to reflect emerging issues and new technology.

Aquatic invasive species

Aquatic invasive species (AIS) are non-native species that can compete in the natural environment and cause negative effects to native species, habitats, ecological structure and even cultured fish. AIS are difficult to manage and nearly impossible to completely eliminate. Prevention is considered the key to management. AIS can be introduced by: vessels through ballast water and hull fouling; shellfish transfers by seed and product hitchhikers; transfers of live bait and seafood to and from other provinces; and the pet and aquarium sector.

The challenge with managing introductions of AIS is a shared jurisdiction between Federal and Provincial Governments. For wild fish health, Fisheries and Oceans Canada is the responsible

authority. The Department of Fisheries and Aquaculture has measures that can be implemented to treat and disinfect infrastructure and cultured stock prior to import and upon arrival to the province. This practice is intended to minimize AIS introduction. In 2007, an island-wide AIS survey was conducted in collaboration between Fisheries and Oceans Canada, the Department of Fisheries and Aquaculture and Memorial University of Newfoundland to quantify the level of AIS presence.

Q5: Can you identify actions that can be taken to improve marine health in your region?

Climate Change

Climate change is a change in the “average weather” that a given region experiences. There are two aspects of climate change: mitigation and adaptation. Mitigation focuses on reducing the amount of greenhouse gases emitted into the atmosphere which contributes to the warming of the earth. Adaptation addresses the fact that the

AQUATIC INVASIVE SPECIES IN PLACENTIA BAY

A positive example of integrated management at work was through the discovery of green crab (*Carcinus maenas*) in Placentia Bay. The information presented to the Placentia Bay Integrated Management Planning Committee on AIS allowed a fish harvester to identify green crab. Through committee activities, the process of bringing federal and provincial departments together to act upon AIS management was expedited. To implement the management of AIS, the Provincial and Federal Governments, along with industry and academia, have created an AIS steering committee to make recommendations on AIS matters in this province.





earth, as a whole, is already warming and weather is changing. Increase in the global temperature is being felt around the world. The challenge with climate change is that it will affect every aspect of the coast and ocean, and the extent of its effect is not clearly known.

Impacts related to flooding may be of greatest concern for the island portion of the province. Labrador will be less impacted by coastal flooding but will experience increases in temperatures and increased melting. Both negative and positive impacts will be felt in the coastal zones, by coastal communities and by coastal and ocean resource users. It is the negative impacts that are of greatest concern.

Areas with a history of flooding and storm damage are at the highest risk; however, they also have existing capacity to help overcome these impacts. It is predicted that rising sea level and increased wave-energy will erode the coast and damage vulnerable coastal structures. Sea ice is expected to become thinner and provide less protection to coastlines. Changes in ocean temperature around Newfoundland and Labrador will alter the habitat for both marine species and aquatic invasive species. These changes will influence

the occurrence of species, their distribution, population growth, migration patterns and animal size.

Ocean temperature changes may also bring new opportunities for fish harvesting and expanding aquaculture operations. These industries will need to watch for changes and take advantage of new prospects. Similarly, communities of Labrador are interested in identifying economic opportunities that can occur with climate change, such as increased shipping with decreases in ice cover. Becoming more aware of what the changes may be will better position the province to respond to the new circumstances climate change presents.

Addressing the Issue

The Department of Environment and Conservation is the lead for climate change adaptation programs and initiatives in Newfoundland and Labrador, while the Office of Climate Change, Energy Efficiency and Emissions Trading within the Executive Council (formed in 2009), is the lead Provincial Government agency for strategy and policy development. This new office is responsible for developing and overseeing a new Climate Change Action Plan, a greenhouse gas



strategy and a five-year energy efficiency strategy. The office recently released a public discussion paper entitled Responding to Climate Change In Newfoundland and Labrador to generate public discussion on the Provincial Government's strategy development on climate change and energy efficiency. There are also important roles for all levels of government, academic institutions, non-government organizations, and industry.

The Newfoundland and Labrador Climate Change Action Plan, released in 2005, identified 40 action items across Provincial Government departments. Many of these related to coastal and ocean areas and covered both mitigation and adaptation actions.

Efforts to reduce greenhouse gas emissions, particularly in coastal and ocean areas, focus on reducing emissions from the transportation sector (ferries) and other industries (fishing boats, tankers, offshore operations). The Departments of Transportation and Works, Fisheries and Aquaculture, and Natural Resources are working with the industry sectors to look for solutions to reduce emissions.

Even with reduced emissions, climate change will continue to occur. The Department of Environment and Conservation is leading adaptation initiatives to help communities identify increased risks from a changing climate, assess vulnerabilities and outline measures to adapt. The Department of Natural Resources houses the Geological Survey of Newfoundland and Labrador, which maps the bedrock and subsoil geology of coastal areas and manages hazard mapping and coastal erosion monitoring programs. This will support adaptation and preparedness for climate change impacts.

Work carried out by the province will build on existing initiatives, and be accomplished through collaboration with many government departments, local governments, non-government organizations, professional associations, academic institutions, and in partnership with other Atlantic provinces where applicable.

Q6: What changes are occurring in your region that you believe are linked to climate change?



COASTAL MANAGEMENT AREA PLANNING

Overview

In Newfoundland and Labrador, Coastal Management Areas (CMAs) are generally overseen by regional organizations. Integrated management planning is at the center of these groups and is accomplished by including representatives from all major stakeholder groups in the region. When decisions from the committee are required, they are made by consensus among all members.

Fisheries and Oceans Canada – Newfoundland and Labrador region, has provided seed funding for the five existing CMAs within the province, nested within Large Ocean Management Areas. Contributions have also been made by the Provincial Government through the Departments of Fisheries and Aquaculture, Environment and Conservation, and Innovation, Trade and Rural Development. Provincial and Federal Government representatives sit as ex-officio members of existing CMA committees. The five committees utilize the integrated management principle as a tool for success.

Benefits

The main benefit of CMA planning in Newfoundland and Labrador thus far has been making the principle of integrated management operational. The following benefits have been identified:

- Foster relationship building between various stakeholders.
- Promote dynamic information exchange between multiple stakeholders and government.
- Provide a mechanism to resolve user conflict through integrated management and consensus-based decision making.
- Support sustainable development of coastal and marine resources and encourage balanced economic growth.
- Provide an effective mechanism for consultation and respecting issues of regional concern.



- Reduce costs associated with public consultation, as an external party can reach a broader audience and interests in one meeting.
- Support education and awareness initiatives for coastal issues in a region.
- Enable more timely decisions in response to regulatory and regional challenges.
- Better stakeholder and community buy-in when leadership comes from the community level.

Proposed Criteria

Possible criteria for the establishment of Coastal Management Areas include the following:

- A lead proponent is willing and able to undertake the administrative functions of the committee. Current CMAs are administered in coordination with Regional Economic Development Boards.
- The proponent has identified challenges in a region where multi-stakeholders would benefit from an integrated management approach. Challenges should be prioritized by consensus.
- The CMA must be supported by the regional fishing industry representatives and local fish harvesters.
- The CMA should incorporate a large geographic area with multiple municipalities, in which stakeholders throughout the region can participate, and include a body of water that is manageable.
- The CMA must include all major stakeholders in the defined area.

Q7: How should the Government of Newfoundland and Labrador promote integrated coastal and ocean management throughout the province? Are Coastal Management Area structures the most effective way to achieve this?

Q8: Are the criteria proposed for 'Coastal Management Area Establishment' inclusive? If not, what criteria should be added or omitted?



Photo courtesy of the Marine Institute



OCEAN TECHNOLOGY

Overview

Ocean technology is an emerging industry sector that contributes to Newfoundland and Labrador's economy. In 2009, the Department of Innovation, Trade and Rural Development launched Oceans of Opportunity, a five-year, \$28 million economic development strategy aimed at growing this sector.

The ocean technology sector works independently and with other partners to research and develop marine products, services and expertise for applications in various fields such as ocean engineering, ocean observing systems, marine communications, navigation, and coastal and ocean mapping. Ocean technology is a fundamental tool that can be applied to aid in solving the issues that were identified in the issues scan reports.

OceansAdvance

OceansAdvance is a multi-stakeholder regional technology cluster initiative aimed at making St. John's an international location of choice for ocean technology. In 2005, revenues from the ocean technology sector amounted to \$250 million. OceansAdvance has targeted \$1 billion in revenues by ocean technology industries by

2015. This will be achieved through integration of several technology companies into long-term planning, research and development. The ocean technology sector is achieving results due to a number of Newfoundland and Labrador strengths, such as specialized world-class infrastructure and leading edge institutions.

School of Ocean Technology

The School of Ocean Technology is housed within the Marine Institute of Memorial University of Newfoundland. The school is responsible for developing and delivering education and training, applied research and development programs in various fields of ocean technology.

The School of Ocean Technology leads the Placentia Bay **SmartBay** Ocean Observation initiative. The vision of SmartBay is "to provide simple access by all stakeholders to data and information in support of effective management and sustainable development of coastal ocean areas and the safety and security of life at sea." Accordingly, SmartBay has been implemented as a user-driven ocean observing system, serving the information needs of the users of Placentia Bay in support of better decision making. The



Photo courtesy of the Marine Institute

applications of SmartBay are varied, ranging from safety, marine efficiency, and vessel operations management to industrial development, community socio-economics and environmental protection. Although initially supported under Canada's Oceans Action Plan, the initiative has since received both provincial and industry support. Opportunities are now being explored to expand SmartBay beyond Placentia Bay into Fortune Bay and on to the Grand Banks.

Technology Tools for Coastal and Ocean Management

Ocean technology supports integrated management on local, regional, national and international scales. Mapping and geographical information systems (GIS), remote sensing and resource inventories play a vital role in integrated management. The need for improved data management has been identified by various stakeholders.

Mapping programs are used when the locations and relationships of particular resources, activities or problems are important. Mapping of coastal and ocean resource use, locations of communities and demographics are an effective means of observing trends and changes to the economy and environmental conditions.

GIS systems are computer-based tools that can display geographical information. Information can easily be overlaid to help identify and assess the effects of human activities on resource systems. It can enable multiple users to monitor their activities in relation to other users, coastal hazards and communities.

Remote sensing technology involves the use of satellites or aircraft to observe broad areas of the Earth's surface. Existing applications include monitoring of fishing activities, potential oil spills, dumping at sea and ice monitoring. Additionally, coastal managers can use information to make decisions on coastal development and environmental protection.

Resource inventories allow linkages between scientific information, oceans observing, and traditional and local knowledge. Resource inventories assist the early stages of coastal and ocean planning. It provides an overview of the social, economic, cultural and environmental issues that managers must take into account when responding to various issues.

Q9: What are some of the issues ocean technology can help address in support of coastal and ocean management?



CONCLUSION

Final Remarks

Coastal and ocean resources are immensely important to our province's history, current well-being, and future prosperity. For this reason the Government of Newfoundland and Labrador is committed to developing a Coastal and Ocean Management Strategy and Policy Framework for the province in order to guide and facilitate provincial action. No one person, group or department can claim responsibility for our coasts and oceans. We all have a stake in the sustainable use of these resources. Achieving our vision of "sustainable economic growth of coastal areas balanced with healthy ocean resources and marine environments" for Newfoundland and Labrador, requires the collective effort of all those involved.

The Department of Fisheries and Aquaculture will lead the province towards its coastal and ocean vision. However, it is not the intention of the resulting strategy and policy framework to resolve all issues identified in this document, nor will it aim to replace existing structures, or override the roles and responsibilities of current government departments. Rather, it aims to provide overarching guidance to sustainable coastal and ocean management and resource use across the province. The Department of Fisheries and Aquaculture will coordinate communications between Provincial Government departments and relevant Federal Government departments, to ensure the province is represented on emerging, federal-led integrated ocean management initiatives.

This document set forth the key coastal issues identified as most important to the province's regions (including social, cultural and economic sustainability, coastal land use planning, competing needs and interests, coastal and marine infrastructure, healthy marine environments, and climate change), and the current status of provincial efforts to address these. It provides a baseline for discussion on moving forward with setting objectives and priorities for the province. Feedback on this document should be provided to the Department of Fisheries and Aquaculture as part of a process to properly develop a strategy and policy framework.

Feedback Questions

The following questions will help guide your feedback. The Strategy and Policy Framework is expected in 2011. With this in mind, we encourage feedback to be given no later than **August 31, 2010**. Comments can be made through mail, email, telephone or fax to:

Sustainable Fisheries Resources and Oceans Policy Division
Department of Fisheries and Aquaculture
P.O. Box 8700, St. John's, NL A1B 4J6
tel: 709-729-1140 fax: 709-729-6082 email: coastsandocean@gov.nl.ca

Q1: **Is there opportunity in your region to bring social, cultural and economic issues in the decision making process? (P.13)**

Q2: **Is additional protection required to ensure the conservation of our coastal and marine ecosystems? (P.15)**

Q3: Do you support the establishment of governance structures as an effective means to share information and avoid conflicts at the local level? (P.17)

Q4: What coastal or marine infrastructure is required in your region to support existing activities and/or future development? (P.17)

Q5: Can you identify actions that can be taken to improve marine health in your region? (P.21)

Q6: What changes are occurring in your region that you believe are linked to climate change? (P.23)

Q7: How should the Government of Newfoundland and Labrador promote integrated coastal and ocean management throughout the province? Are Coastal Management Area structures the most effective way to achieve this? (P.25)

Q8: Are the criteria proposed for 'Coastal Management Area Establishment' inclusive? If not, what criteria should be added or omitted? (P.25)

Q9: What are some of the issues ocean technology can help address in support of coastal and ocean management? (P.27)

Additional Comments:



**Department of Fisheries and Aquaculture
Government of Newfoundland and Labrador
PO Box 8700, St. John's, NL, A1B 4J6**

t. 709-729-1140
f. 709-729-6082
e. coastsandocean@gov.nl.ca

<http://www.fishaq.gov.nl.ca>