



Integrated Ocean Management Plan for the Beaufort Sea: *2009 and beyond*



Beaufort Sea Partnership
Integrated Ocean Management Plan (IOMP)
for the Beaufort Sea: 2009 and Beyond

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Vision for the Beaufort Sea

*The Beaufort Sea ecosystem is
healthy and supports sustainable
communities and economies for the
benefit of current
and future generations*

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FOREWORD

The Beaufort Sea Integrated Ocean Management Plan (IOMP) represents the culmination of several years of work by dozens of people representing Aboriginal, Territorial and Federal government departments, management bodies, and northern coastal community residents with interests in the Beaufort Sea. Industry and other interested parties have also participated in a range of events and Working Groups and provided comments throughout the process leading to this Plan.

The IOMP initiative builds on the knowledge and experience acquired from a large number of earlier initiatives. Some of these include the Inuvialuit Community Conservation Plans, the Beaufort Sea Strategic Regional Plan of Action (BSStRPA), and the Beaufort Sea Integrated Management Planning Initiative (BSIMPI).

Over time, the objectives and strategies outlined in this Plan have been developed to reflect what the Beaufort Sea Partnership (BSP) has been striving to achieve through Integrated Ocean and Ecosystem-Based Management (EBM). The Plan incorporates social, cultural, economic and ecosystem values expressed by communities, Working Groups and members of the BSP. As new knowledge is gathered and circumstances change, the objectives of the Plan will evolve to accommodate and address these changes. In the meantime, climate change, coupled with renewed interest in onshore and offshore petroleum exploration, necessitate an immediate response. In recognition of the need for comprehensive resource management practices, the Plan represents a clear shift away from single-species or single-industry management towards a broader, more inclusive method of managing ocean resources and spaces.

The Plan is intended to facilitate integrated planning among all Beaufort Sea resource users and managers. While sectoral agencies will continue to deliver their mandated responsibilities as usual, shared implementation of the Plan is intended to achieve responsible and sustainable use of the Beaufort Sea.

The role of renewable and non-renewable natural resources in achieving economic and environmental security for the beneficiaries of the Inuvialuit Final Agreement (IFA) (Canada, 1984) must be kept in mind as this Plan is implemented. There is a strong desire by Inuvialuit and other local residents to ensure that the ability to harvest wildlife is maintained, while at the same time having the ability to pursue economic opportunities based on resources that will not require people to move out of the region. It is crucial to this Plan that healthy and harvestable quantities of fish, marine mammals, waterfowl and other wildlife continue to be available from the Beaufort Sea to provide for current and future users.

Likewise, many residents of communities are interested in seeing economic growth based on non-renewable resources. Therefore, one of the goals for this Plan is to provide a balanced and responsible way forward so that both hopes for the future may be realised.

The anticipated outcomes of working together on the implementation of the Beaufort Sea IOMP are:

- Increased cooperation across departments, governments and other organizations;
- Better integrated responses to cross-cutting issues;
- Better and more timely collection of information on key risks and their relationship to programs and values;
- Ongoing measurement of the actual effects of policies, programs and operations;
- Identification of areas of shared responsibility; and
- Greater accountability for management of shared responsibilities.

This Plan is the culmination of work that began long before the Integrated Ocean Management Planning process was officially recognized. The work and dedication of the people that have lived and worked in the area over the years has contributed to many of the ideas and principles contained in this Plan, and their contributions are gratefully acknowledged. This Plan takes what is relevant from the past and merges it with the hopes and aspirations of the people here today and for the generations to come. With this Plan, and others developed nationally, Canada is leading the way in effective ocean management.

EXECUTIVE SUMMARY

The Government of Canada brought the *Oceans Act* into force on January 31, 1997. This made Canada the first country in the world to have comprehensive oceans management legislation. Canada's Oceans Strategy was finalized in 2002 and this policy document defined the vision, principles and objectives for the management of Canada's estuarine, coastal and marine ecosystems. Funding needed to apply Canada's oceans management legislation and policy became available in 2006 under a Federal initiative known as the Oceans Action Plan. The Beaufort Sea was subsequently named as one of five areas to receive funding.

The Beaufort Sea is contained within the Inuvialuit Settlement Region (ISR), a region established by the *Inuvialuit Final Agreement* (IFA) (Canada, 1984). The IFA summarizes the basic goals of the Inuvialuit as being the preservation of Inuvialuit cultural identity and values, enabling Inuvialuit to be equal and meaningful participants in the northern and national economy and society, and protecting and preserving the Arctic wildlife, environment and biological productivity.

With the advantage of this solid foundation, Aboriginal, Federal and Territorial governments and co-management interests, as well as industry, coastal communities and other interested parties agreed to work together on the implementation of a process that would lead to a plan for managing activities occurring in the Beaufort Sea.

In practical terms, the approach taken was to first describe a large coastal and marine area as the management area of interest. In the Western Arctic, this area is known as the Beaufort Sea Large Ocean Management Area or LOMA. The next step involved developing a regional governance process that would complement national inter-departmental and inter-governmental Oceans governance processes. This led to the formation of a Regional Coordination Committee (RCC), the Beaufort Sea Partnership (BSP) and a number of Working Groups. The RCC is the overarching planning body for the LOMA, and the BSP serves as the primary forum for stakeholder engagement. Working Groups were responsible for producing foundation pieces for consideration by the BSP and the RCC. Together these three levels led early stages of the ocean management planning process in the Beaufort Sea.

Once these pieces were in place, the next step toward comprehensive management of the Beaufort Sea required the development of a common vision. Members of the BSP and the RCC adopted the following vision for this Plan in 2007: *The Beaufort Sea ecosystem is healthy and supports sustainable communities and economies for the benefit of current and future generations.*

Once the shared vision had been articulated, it remained to develop a management plan for the LOMA that would lead to the full realization of that vision. While the Beaufort Sea ecosystem is currently healthy, it should remain healthy as we pursue and achieve sustainable economies and communities. Development of this Plan has taken three years of very hard work grappling with difficult concepts, conflicting values, multiple interests and large-scale changes in the natural environment.

This plan responds to the interests and concerns of local citizens, Aboriginal, Federal and Territorial government bodies, industry and other interested parties. These include: How can the Plan be used to protect the Beaufort Sea itself? How will it influence the development of small and large-scale developments? Will the Plan affect how decisions are made, and how social and economic benefits will be distributed? How will local peoples' sense of place and cultural identity be strengthened through this Plan? Will it improve the quality of life for coastal people? Will the Plan promote the value of Traditional Knowledge (TK) and Local Knowledge (LK) in such a way that it will be there for future generations? How will the Plan be implemented on an ongoing basis?

A major consideration during the creation of the IOMP was the return of the oil and gas industry to the region, and how that might be used as an opportunity to begin to apply an integrated management approach to the area to assess effects on the environment as well as to the social, cultural and economic well-being of the area.

Though affecting climate change is beyond the scope of this Plan, articulating a way forward during a time of significant environmental change will foster resiliency in adapting to its impacts. As such, a key component of this plan is the coordinated dissemination of information and knowledge needed to effectively manage all resource uses in the Beaufort Sea.

This plan is organized around six thematic goals as follows:

Governance – To achieve effective governance for the sustainable use of the Beaufort Sea.

Economic – To foster sustainable economic opportunities and options for Canadians, northerners and coastal communities.

Cultural – To maintain and increase peoples' sense of place and preserve cultural identity and spiritual connections as they relate to oceans and coastal areas.

Social – To improve human capacity, health, quality of life and opportunities as they connect to oceans and coastal areas.

Traditional and Local Knowledge – To promote the value, credibility and use of Traditional Knowledge (TK) and Local Knowledge (LK) to current and future generations.

Ecosystem – To understand the Beaufort Sea ecosystem, to identify important areas and priority species and to maintain or enhance ecosystem integrity.

Table 1 summarizes the 24 objectives of the Plan and identifies the responsibilities of RCC members involved in the Beaufort Sea IOMP.

Table 1: Summary of 24 Objectives & RCC Organizations Involved in Implementing the Beaufort Sea Integrated Ocean Management Plan												
	RCC	DFO	EC	FIMC	GNWT	IGC	INAC	IRC	NRCan	PCA	TC	YG
Governance Goal - To achieve effective governance for the sustainable use of the Beaufort Sea / Objectives												
Establish collaborative inter-governmental and inter-departmental structures and processes												
Conduct spatial planning in the LOMA												
Promote an effective regulatory environment												
Promote effective planning and decision making												
Ensure Aboriginal organizations have the capacity to be involved in the IOMP												
Profile the Beaufort Sea LOMA in the circumpolar context												
Establish an inter-governmental Implementation Coordination Office to oversee implementation and renewal of this plan												
Assess and develop an adaptive management response to climate change.												
Social, Cultural and Economic												
	RCC	DFO	EC	FIMC	GNWT	IGC	INAC	IRC	NRCan	PCA	TC	YG
Economic Goal - To foster sustainable economic opportunities and options for Canadians, northerners and coastal communities/ Objectives												
Manage large-scale marine traffic												
Prepare to take advantage of large scale economic opportunities in the coastal and marine environment												
Strengthen and diversify local and northern economy												
Cultural Goal – To maintain and increase peoples’ sense of place and preserve cultural identity and spiritual connections as they relate to oceans and coastal areas/ Objectives												
Generate and promote opportunities to practice and share culturally important marine traditions, sites and artifacts												
Promote a vibrant local subsistence economy												

Table 1: Summary of 24 Objectives & RCC Organizations Involved in Implementing the Beaufort Sea Integrated Ocean Management Plan												
	RCC	DFO	EC	FIMC	GNWT	IGC	INAC	IRC	NRCan	PCA	TC	YG
Social Goal – To improve human capacity, health, quality of life and opportunities as they connect to oceans and coastal areas/Objectives												
Engage and support the objectives of the Beaufort Delta Agenda and the MGP Impact Fund												
Improve long-term local and northern career opportunities reliant on ocean based resources												
Increase educational success of the local population												
Increase individual and community mental and physical health and well-being												
Increase community capacity to respond to ocean based challenges and opportunities												
Traditional and Local Knowledge Goal - To promote the value, credibility and use of Traditional Knowledge (TK) and Local Knowledge (LK) to current and future generations / Objectives												
Use TK and LK in resource management, monitoring and identification of sensitive species and areas												
Establish a set of guidelines for the collection, validation and use of TK and LK												
Promote the respect, value and sharing of TK and LK												
Ecosystem Goal - To understand the Beaufort Sea ecosystem, to identify important areas and priority species and to maintain or enhance ecosystem integrity /Objectives												
Maintain ecosystem integrity within the LOMA												
Protect and conserve representative marine areas and special species within the LOMA												
Determine baseline environmental quality conditions within the LOMA												

This IOMP provides the general strategic direction that will be realised through development and implementation of detailed annual work plans. The work plans will be developed cooperatively under the leadership of the organizations identified for specific objectives in the IOMP, through the BSP. The RCC will continue to provide leadership and direction, and to serve as a forum to ensure that initiatives are known to all members and coordinated with other ongoing industry or sector-specific initiatives. The Plan will require an effective and comprehensive program for performance evaluation and reporting. The approach involves four main interrelated components of an effective

performance evaluation and reporting program: assessing plan outcomes; assessing plan performance; reporting; and Plan review and renewal. Through the process of review and renewal, the Plan will remain 'evergreen', responsive to the current needs in the LOMA.

1. INTRODUCTION

The preamble to Canada's *Oceans Act* (1997) reaffirms Canada's role as a world leader in oceans and marine resource management. It affirms Canada's sovereign rights, jurisdiction and responsibilities in the exclusive economic zone, and promotes the understanding of oceans, ocean processes, marine resources and marine ecosystems to foster the sustainable development of the oceans and their resources. Canada holds that conservation, based on an ecosystem approach, is of fundamental importance to maintaining biological diversity and productivity in the marine environment. Canada promotes the wide application of the Precautionary Approach to the conservation, management and exploitation of marine resources in order to protect these resources and preserve the marine environment. Canada recognizes that the oceans and their resources offer significant opportunities for economic diversification and the generation of wealth for the benefit of all Canadians, and in particular for coastal communities. Finally, Canada promotes the integrated management of oceans and marine resources.

Integrated Ocean Management in Canada is described in policy documents (Fisheries and Oceans, 2002a, b) as involving comprehensive planning and management of human activities to minimize conflicts among users. It is further characterized as a collective approach that cannot be forced on anyone. It is flexible, transparent, and respectful of existing divisions of constitutional and departmental authority, and Aboriginal rights. The principles guiding Integrated Management include sustainable development, the Precautionary Approach, conservation, shared responsibility, flexibility, inclusiveness and Ecosystem-Based Management.

2. INTEGRATED OCEAN MANAGEMENT PLANNING IN THE BEAUFORT SEA

The *Inuvialuit Final Agreement* (IFA, Canada, 1984), a comprehensive land claim protected under Section 35 of the *Constitution Act* (Canada, 1982), describes the Inuvialuit Settlement Region (ISR) as including portions of the Northwest Territories, the Yukon North Slope and much of the Beaufort Sea. The Agreement summarizes the basic goals of the Inuvialuit as:

- The preservation of Inuvialuit cultural identity and values within a changing Northern society;
- Ensuring the Inuvialuit are equal and meaningful participants in the Northern and national economy and society; and
- Protecting and preserving the Arctic wildlife, environment and biological productivity.

The Inuvialuit Regional Corporation (IRC) was established with the overall responsibility of managing the affairs of the Settlement as outlined in the IFA. Its mandate is to continually improve the economic, social and cultural well-being of the Inuvialuit through implementation of the IFA and by all other available means.

Against that backdrop, Section 31 of Canada's *Oceans Act* directs the Minister of Fisheries and Oceans (DFO) to collaborate with other ministers, boards and agencies of the Government of Canada, with Aboriginal organizations established under land claims, territorial governments and coastal communities and other persons and bodies, 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.

Possessing a complex marine ecosystem, the Beaufort Sea extends over 1,750,000 km² in Canada's western Arctic (Figure 1). It is characterized by the Beaufort Continental Shelf, the Cape Bathurst polynya and associated flaw leads, increased sediment and freshwater loading during spring and summer, and a relatively short ice-free season. It is an area affected by climate with more dramatic changes anticipated in the future. Productivity in terms of marine mammals, fish and birds, particularly in the near-shore zone, has been an important resource for humans for centuries. Considered healthy today, the area is still traditionally harvested by both the Inuvialuit and the Gwich'in. In

terms of non-renewable resources, the area contains an estimated one-third of Canada's undeveloped conventional oil and gas potential.

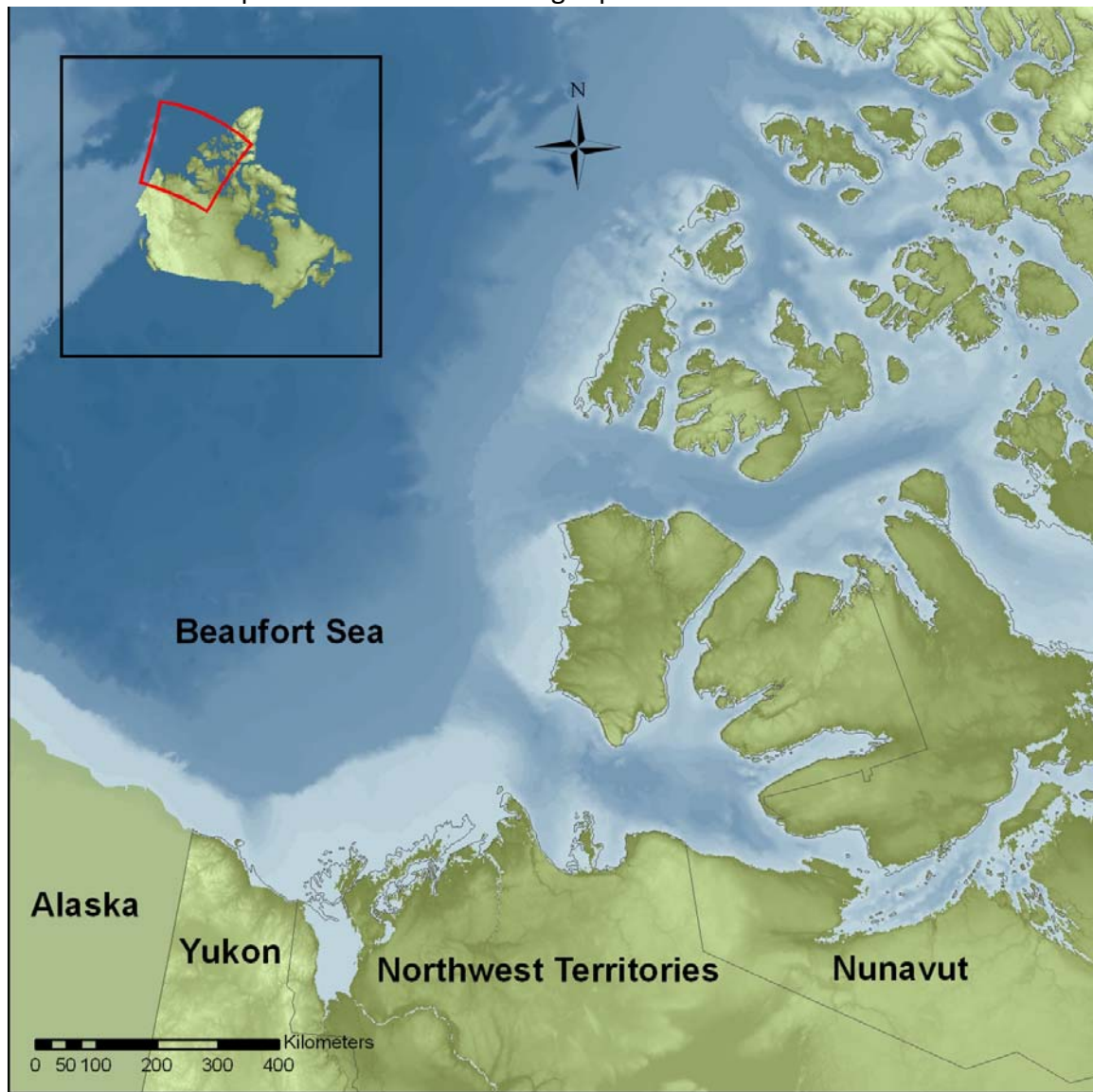


Figure 1: Map of the Beaufort Sea

Since the Arctic environment is shared by several nations, management of the Canadian portion of the Beaufort Sea must consider circumpolar interests. For this reason, it is important to be aware of international initiatives and remain aligned with circumpolar nations, as goals, objectives and guiding principles are developed. The eight member states of the Arctic Council, which includes Canada, have an obligation to promote and respect the Arctic Council's principles, and eventually adopt common approaches and practices in their national policy frameworks. For example, Large Marine Ecosystems (LMEs) have been delineated and are being used as the basis for several ongoing environmental assessments.

There may, in future, be interest in applying the LME model in the Beaufort Sea. Also, as neighbours sharing the Beaufort Sea, Canada and the United States have formed bi-regional agreements for various activities in the Arctic, including a Memorandum of Understanding for the Conservation and Management of Shared Polar Bear Populations, and the Inuvialuit-Inupiat Beaufort Sea Beluga Whale Agreement. By building on initiatives such as these, the Beaufort Sea IOMP will have the ability to link to and address broader issues requiring international cooperation or agreements.

Canada's sovereignty over the Arctic regions is a growing political factor in planning for the future. In recent years, Canada has been stepping up diplomatic efforts to protect its Arctic sovereignty, as other northern nations eye the region's resource wealth and melting ice and global warming invite new shipping through the Northwest Passage.

Future development of the oil and gas sector, as well as the effects of global climate change on the region, is another large scale driver at play in the Beaufort Sea. The oil and gas industry (See Appendix 3 – Oil and Gas Leases in the Canadian Beaufort Sea as of 2009) has the potential to bring great economic wealth to the region, to enhance the social structure of the area, and even to protect the Arctic ecosystem through careful planning. Climate change also has the potential to significantly affect the Inuvialuit way of life, and to greatly change the Arctic environment. For example, a warming climate has increased discussion and concerns over the possible impacts on wildlife and the traditional way of life that is likely to occur as a result of increased shipping. Other activities such as tourism, commercial fishing, and mining, will also bring change to the area and its residents. Planning for these possibilities in advance, and realizing that several factors may have a cumulative effect on some aspects of the environment and how it can be used, is necessary for effective and responsible long-term management of the resources.

Initiatives such as the creation of Marine Protected Areas (MPAs) or National Marine Conservation Areas are being used to identify and protect important or representative habitats within the Canadian Beaufort Sea. Management tools specific to certain activities will provide further guidance and regulation for industry. Aboriginal, Federal and Territorial governments, agencies and co-management bodies will continue to deliver on their management responsibilities with respect to their various legislative and regulatory mandates.

Another key aspect of planning for the sustainable future of the Beaufort Sea is to consider the cumulative impacts of activities. Activities which individually seem benign, or have a limited impact, may compound in one or more aspects of the environment. To ensure all negative impacts are properly managed and minimized where possible, collecting baseline information on the present state of the environment is the first step in addressing cumulative effects. The next step is understanding the potential impacts of these activities on the environment, with special attention paid to highly valued

portions of the ecosystem. In the context of the IOMP, the focus is on cumulative effects that can realistically be managed in the ISR. Tools are under development and may prove invaluable for identifying impacts and the cumulative effects they may create. These tools may be useful for conducting an exercise such as a Regional Environmental Assessment of the Beaufort Sea in anticipation of future development scenarios.

The intent of this IOMP is to consider all users of the marine environment, as well as the interactions among human activities and between those activities and the marine environment. The IOMP is not intended as an additional layer of regulation but rather as an opportunity for integrating the common goals of the various management partners. The IOMP acknowledges and recognizes previous work in the ISR such as the Community Conservation Plans and Fisheries Management Plans prepared for specific stocks, and efforts between the Inuvialuit and Inupiat to produce a plan regarding the management of beluga whales that move across international boundaries. Other initiatives in the ISR are described in Appendix 4.

In addition to the management considerations already described, there is another context which must be included in the planning process. This context requires a commitment to the fundamental principles contained in the Inuvialuit Final Agreement (IFA) (Canada, 1984). To plan for the sustainable, optimal use of marine resources, the services they provide must be identified and valued. Failure to consider the influence of these social, cultural and economic factors may lead to inappropriate or less informed decisions, economic loss, environmental damage and additional costs associated with social and economic disruption.

The use and potential competition for ocean resources is increasing at the same time as knowledge of the structure and connectivity of ecosystems is improving. As a result, clearer links and more consistent approaches to management will be required to support decisions aimed at improved recognition of natural ecosystems and the needs of all resource users. Achieving the stated vision described in the IOMP will require the active engagement of all participants in the LOMA process.

3. GUIDING PRINCIPLES

Governance bodies created to lead and implement all aspects of the Beaufort Sea Large Ocean Management Area include the Regional Coordination Committee (RCC), the Beaufort Sea Partnership (BSP), and a number of Working Groups (see Appendix 5 – Governance Structure). The Terms of Reference (RCC, 2006) developed for these bodies have been used to guide the work leading to this Plan. The principles inherent in the Terms of Reference reflect and are consistent with those in Canada's Ocean Policy documents, provided below.

Jurisdiction:	Management authorities and jurisdiction of government departments and agencies are acknowledged and affirmed.
Recognition:	Existing agreements and commitments are recognized.
Inclusion:	All stakeholders are included and commit to working together with all of the other ocean-related sectors.
Consensus:	Decisions and recommendations are made by consensus and the process includes mechanisms for dispute resolution.
Accountability:	Accountability is expected of and demonstrated by all parties.
Networking:	The process works through the network of Beaufort Sea stakeholders.
Transparency:	Decisions and recommendations are made openly, with information and results shared with all stakeholders.
Efficiency:	The process respects and strengthens existing approaches, facilitates cooperation and collaboration and avoids overlap and duplication, with issues being addressed in a timely manner.
Knowledge-Based:	Decisions and recommendations are based on the best available information, including Traditional Knowledge and Science.
Precautionary Principle:	Decisions made concerning the Beaufort Sea are taken with due diligence to the risks identified.

4. SCOPE, VISION AND PURPOSE

A broad range of government representatives, industry and non-government organizations met in February 2006 to form the Beaufort Sea Partnership (BSP). An overarching LOMA planning body - the Regional Coordination Committee (RCC) - was formed as a result of that initial meeting and first met in July of that year (the Governance Structure is described in Appendix 5).

SCOPE

The RCC has defined the geographic scope of the Beaufort Sea LOMA, and this IOMP, as the marine portion of the ISR. This includes the coastal and estuarine components of both the mainland and the islands. Thus, the land-water interface is included.

The social, cultural and economic scope of the LOMA includes the users of the marine area and/or those impacted by marine activities occurring in the LOMA. While these impacts will apply primarily to the Inuvialuit communities (Aklavik, Inuvik, Paulatuk, Ulukhaktok, Tuktoyaktuk and Sachs Harbour), it is recognized that secondary economic impacts will also be realized in the Yukon and in other areas of the NWT. Figure 2 shows the ISR boundaries, communities, and the Beaufort Sea LOMA.

VISION

The BSP reached an agreement on the following vision statement for the LOMA on April 19, 2007 at a meeting in Inuvik. The statement was referred to the RCC for approval and was adopted on September 5, 2007. This vision statement is the overarching goal of the IOMP for the Beaufort Sea.

**“The Beaufort Sea ecosystem is healthy and supports
sustainable communities and economies for the
benefit of current and future generations “**



Figure 2: The Beaufort Sea Large Ocean Management Area (LOMA), the Inuvialuit Settlement Region (ISR), and Communities

PURPOSE

The Beaufort Sea ecosystem is currently healthy. In achieving the vision of the IOMP we are aiming to keep the ecosystem healthy while creating sustainable economies and communities. The purpose of the Plan is to achieve the full vision of the IOMP while streamlining existing decision-making processes, and to guide and coordinate future activities during the implementation phase, especially as they pertain to development in the Beaufort Sea.

5. PLANNING PROCESS

The Beaufort Sea IOMP process moved through three general stages to prepare this Plan: defining and assessing the planning area; engaging partners and other interests; and developing the plan itself. Each stage is described below.

DEFINE AND ASSESS THE PLANNING AREA

After securing general agreement on the need for a plan, stakeholders needed to know the current status and trends of the Beaufort Sea's ecosystem in order to determine what impacts human activities might have on that ecosystem. An ecological assessment was conducted to compile available science and Traditional Knowledge (TK) of the area. The completed Ecosystem Overview and Assessment Report (EOAR) (Cobb et al., 2008) describes areas and activities that need priority actions. A key part of the EOAR was the identification of Ecologically and Biologically Significant Areas (EBSAs) in the Beaufort Sea (Figure 3). The EBSA process that was followed in producing this work is detailed in Appendix 6. Work leading to the EBSAs is a centerpiece of the planning process. They are a tool for calling attention to areas that have particularly high ecological or biological significance and require specific strategies and standards in order to manage them responsibly. They will have practical value for the Regional Coordination Committee as it moves to implement this Plan.

The Social, Cultural and Economic (SCE) Working Group documented the baseline conditions and objectives for communities in the ISR and contributed their findings to this Plan. A Social, Cultural and Economic Overview and Assessment Report (SCEOAR) (Social, Cultural and Economic Working Group, 2009) similar to the EOAR has been completed for the LOMA. It serves as a valuable source of information on key SCE conditions, issues and objectives for the integrated management process. The CEOAR is an excellent reference for decision makers requiring information about current and historic ocean based activities and stakeholder perspectives. Community profiles that outline the social, cultural and economic state of the communities are a key part of the CEOAR. In addition, the document contains an abundance of information on the organizations and processes involved in the integrated management of the Beaufort Sea LOMA.



Figure 3: Ecologically and Biologically Significant Areas in the Beaufort Sea LOMA

ENGAGE PARTNERS AND OTHER INTERESTS

The RCC, the BSP and Working Groups have been very active over the past three years organizing community tours and a series of workshops and meetings. This Plan is based on input and advice from the participants in those processes. A Beaufort Sea e-Forum served as a repository for workshop reports and minutes of meetings/consultations, and offered stakeholders the opportunity to ask questions and provide feedback on draft documents.

The comments and guidance received during the meetings and consultations are presented in the form of tables on the following pages. These tables, organized into four

themes - 'Governance', 'Social, Cultural and Economic', 'Traditional and Local Knowledge' and 'Ecosystem', represent the heart of this Plan. The tables present overarching goals and a series of objectives and strategies. The list of objectives is not exhaustive, but represents an attempt at prioritizing those issues that were most often raised or, through consensus, were viewed by Working Groups as those requiring immediate action.

DEVELOP THE INTEGRATED OCEAN MANAGEMENT PLAN

Draft IOMPs were circulated for comment in March 2008, and January/February 2009, and extensive feedback was solicited through workshops, meetings and over the Internet. The RCC met from March 30 to April 2, 2009 to review the draft IOMP, provide direction on its finalization and the transition from IOMP development to implementation. The following sections of the Plan reflect the input of that consultation process and are intended to guide the RCC and BSP in the future. The RCC provided approval-in-principle of the IOMP at a meeting June 4, 2009.

6. THE PLAN

The Beaufort Sea IOMP has been organized in terms of four overall themes:

- Governance;
- Social, Cultural and Economic;
- Traditional and Local Knowledge; and
- Ecosystem.

Each of these is described in more detail below, with tables summarizing the goals, objectives, and strategies within each theme. These tables will provide the foundation for the work planning activities for each theme/objective that will initiate the transition to IOMP implementation. Appendix 7 provides additional detail on the potential actions that will be further defined during work planning activities, and partners for each of the objectives and strategies. Organizations that have not been involved in the RCC or BSP during IOMP development (e.g., some regional authorities) may become involved as appropriate for specific actions.

The Plan strives for a fair balance between:

- The need for resource development (on- and off-shore) as a key part of regional and community stability and prosperity;
- Commitment to responsible environmental stewardship;
- Recognition of environmental changes and their origins - both natural occurrences and long cycles of variation, and human activity;
- Understanding that biophysical, social, cultural and economic impacts can, and often do, have both negative and positive impacts or outcomes; and
- The necessary capacity, knowledge (TK, LK and science) and processes to inform and support decision making (which fundamentally requires choices and trade-offs be made to ensure both environmental and economic security).

GOVERNANCE OBJECTIVES AND STRATEGIES

Governance is about how government and other social organizations interact, how they relate to citizens, and how decisions are made in an increasingly complex world. The RCC is the body tasked with implementing this IOMP for the Beaufort Sea. While it receives advice and recommendations for action from the BSP, which in turn is advised by various Working Groups, the RCC provides overall guidance (see Appendix 5 – Governance Structure).

Table 2 summarizes the objectives and strategies that are the responsibility of the RCC. These represent high level, strategic objectives beginning with the agreement to formalize the LOMA governance process by endorsing the IOMP. Other objectives pertain to large-scale spatial planning, ensuring the capacity of Aboriginal organizations to participate fully, considering the LOMA from a circumpolar perspective, committing to the Plan's implementation and developing a response to address the impacts of climate change on the region.

Table 2: Governance Goal – To achieve effective governance for the sustainable use of the Beaufort Sea	
OBJECTIVE	STRATEGY
Establish collaborative inter-governmental and inter-departmental structures and processes	• Endorse the IOMP
Conduct spatial planning in the LOMA	• Develop Ocean Use Plans for the LOMA beginning with priority areas
Promote an effective regulatory environment	• Identify priority areas for improvement within the regulatory process • Coordinate Science in support of regulatory decision making
Promote effective planning and decision making	• Develop tools to facilitate delivery of information to managers for effective planning and decision making
Ensure Aboriginal organizations have the capacity to be involved in the IOMP	• Continue to fund key elements of the IOM process
Profile the Beaufort Sea LOMA in the circumpolar context	• Make efforts to remain aligned with circumpolar nations
Establish an inter-governmental Implementation Coordination Office to oversee implementation and renewal of this Plan	• Commit to the implementation of this Plan by identifying and committing a baseline level of resources to the initiative
Assess and develop an adaptive management response to climate change	• Prepare the communities for anticipated social and economic changes

SOCIAL, CULTURAL AND ECONOMIC OBJECTIVES & STRATEGIES

The social, cultural and economic scope of the LOMA includes the users of the marine area and/or those impacted by marine activities occurring in the LOMA. While these impacts will apply primarily to the Inuvialuit communities, it is recognized that secondary economic impacts will also be realized in the Yukon and in other areas of the NWT. Changes in ecosystems can affect all components of human well-being, including basic material needs, health, social relations, security, and freedom of choice and action. The potential loss of culturally-valued ecosystems and landscapes could significantly impact cultural identity and social stability and lead to social disruptions, cultural erosion and economic losses.

Social, cultural and economic (SCE) information is used to identify the needs, interests, and expectations of the people that live in and use the LOMA. This information also enhances the ability to understand and anticipate conflicting interests, and reveals the values and potential interests which may influence decision-making. If managers incorporate communities' sense of identity, way of life, cultural distinctiveness, social network and kinship systems into their planning, their actions will better address local issues and visions for the futures. In turn, local communities will be more likely to play a leadership role in sustaining healthy ecosystems, cultures, and economies. Assessing SCE characteristics and issues allows diverse interest groups to find common ground and set priorities based on core social, cultural, economic and environmental values.

The six communities of the ISR (Aklavik, Inuvik, Paulatuk, Ulukhaktok, Tuktoyaktuk and Sachs Harbour) are located in the coastal and Mackenzie Delta regions of the LOMA (see Figure 2, above) and people from these communities use the area for fishing, hunting, harvesting and other subsistence, recreational and cultural activities. As well, the Beaufort Sea supports a number of other activities, including ecological and cultural tourism, year-round transportation and resource industries (including oil and gas exploration, gravel and sand extraction, and an increasing interest in commercial fisheries).

If not adequately planned or managed, future economic development in the Beaufort Sea region could cause stress on the fragile marine and coastal environment as well as to the people who live there. This Plan is needed to ensure all development proceeds in a sustainable manner that takes into consideration the values, interests, and rights of the region's stakeholders. By establishing agreed-upon SCE and ecosystem objectives, the Plan will help to balance user needs in the Beaufort Sea while identifying areas of joint interest and opportunities for collaboration. The objectives in Tables 3, 4 and 5 are

aimed at maximizing opportunities for economic and social well-being while ensuring long-term ecological integrity.

While the GNWT and IRC typically have the lead mandates in terms of social, cultural, and economic responsibilities in the ISR, the role of the federal government in this regard must also be noted. For example, the federal government provides funding to GNWT and IRC, and also has obligations under the IFA. Federal departments also have specific social, economic and resource management interests directly relevant to the social, cultural and economic theme. Regional authorities also have roles related to health and education.

Table 3 identifies three major objectives pertaining to the economy: managing large-scale marine traffic activities, taking advantage of large-scale economic opportunities and strengthening and diversifying the local economy. Table 4 addresses cultural goals including the objectives of strengthening culturally important marine traditions and promoting a vibrant subsistence economy. Table 5 lists objectives that encompass career opportunities, greater educational success, improved mental and physical health and a greater capacity to respond to ocean-related challenges and opportunities. Many of the objectives and strategies noted for the SCE theme are linked to engaging and supporting the objectives of the Beaufort Delta Agenda and the Mackenzie Gas Project Impact Fund (MGPIF), through the development of partnerships, cooperative relationships, initiatives (including IRC's Indicator Project) and funding arrangements.

Table 3: Economic Goal – To foster sustainable economic opportunities and options for Canadians, northerners and coastal communities	
OBJECTIVE	STRATEGY
Manage large-scale marine traffic	• Develop means to track Arctic marine traffic • Use Marine Mammal Regulations, Community Conservation Plans, the Environmental Impact Screening Committee and other processes to minimize negative impacts on communities and maximize economic opportunities
Prepare to take advantage of large-scale economic opportunities in the coastal and marine environment	• Support sustainable large-scale economic development (e.g., oil & gas, shipping) • Coordinate with community socio-economic development agendas
Strengthen and diversify local and northern economy	• Enhance existing small businesses and development of new innovative local and northern businesses connected directly or indirectly to marine resources and services

Table 4: Cultural Goal - To maintain and increase peoples' sense of place, and preserve cultural identity and spiritual connections as they relate to oceans and coastal areas.	
OBJECTIVE	STRATEGY
Generate and promote opportunities to practice and share culturally important traditions, sites and artifacts	• Identify and protect culturally important historic sites and artifacts • Support on-the-land teaching programs to transfer traditional skills and practices • Support and participate in local practices and events
Promote a vibrant local subsistence economy	• Assess and manage for a safe and accessible supply of marine resources and culturally important species • Support inter-community trade (e.g., traditional foods and crafts) and develop trade access to outside markets

Table 5: Social Goal - To improve human capacity, health, quality of life and opportunities as they connect to oceans and coastal areas	
OBJECTIVE	STRATEGY
Engage and support the objectives of the Beaufort Delta Agenda and the MGP Impact Fund	• Develop partnerships, cooperative relationships, initiatives and funding arrangements
Improve long-term local and northern career opportunities reliant on ocean based resources	• Enhance access to local training and skill development
Increase educational success of the local population	• Support the Beaufort Delta Agenda and Mackenzie Gas Project Impact Fund • Increase awareness and provide opportunities for people to participate in research and monitoring projects
Increase individual and community mental and physical health and well-being	• Educate on the nutritional value and quality of country foods • Promote active lifestyles and on-the-land activities related to ocean marine resources, services and traditions
Increase community capacity to respond to ocean based challenges and opportunities	• Increase local emergency response and management capabilities for ocean-related incidents • Strengthen local governance • Develop community infrastructure required for related economic growth (e.g., ports) and spin-off industries (e.g., taxis, tourism, hotels) • Provide public awareness on ocean-related issues

TRADITIONAL AND LOCAL KNOWLEDGE

OBJECTIVES AND STRATEGIES

For the purposes of this Plan, Traditional Knowledge is defined as a shared, collective body of knowledge incorporating environmental, cultural and social elements. Therefore, Traditional Knowledge is a combination of traditional environmental knowledge, traditional land use and traditional practices. It is a continuous body of knowledge passed on from generation to generation and continues to grow and evolve over time. The fact that Traditional Knowledge is continuous and evolving over time reflects the incorporation of current knowledge into Traditional Knowledge. Local Knowledge (LK) is current knowledge held by people within a community. It can be gained by any individual who has spent considerable time on the land or water observing nature and natural processes. Both types of knowledge are useful and can provide advice and direction when making management decisions, especially when scientific information is lacking.

Table 6 summarizes the IOMP objectives for Traditional Knowledge. These include the integration of Traditional Knowledge into all decision making, where possible, in the Beaufort Sea LOMA, and using this knowledge to complement science based research and monitoring programs. Traditional Knowledge has already been used to help identify the EBSAs in the Beaufort Sea LOMA and will continue to be used in making similar planning decisions. Traditional Knowledge may also contribute to the development of guidelines, plans and other decisions within the LOMA.

Traditional Knowledge in the Beaufort Sea ecosystem is strongest for coastal areas and for species harvested or captured by the Inuvialuit. In areas further offshore Traditional Knowledge may be limited or not available at all. Although Traditional Knowledge may be limited in offshore areas, there are many species which utilize both coastal and offshore areas and Traditional Knowledge can still complement or expand the understanding obtained from science-based studies on these animals. Traditional Knowledge also provides important insights into physical processes such as: ocean currents; upwellings; ice formation, structure and break-up; flaw leads; and meteorological events such as storm frequency or timing. Due to the value of Traditional Knowledge in the understanding of the Beaufort Sea ecosystem it is important that it continues to be used in management decision making, ocean space planning and the planning and implementation of scientific studies and monitoring activities.

Table 6: Traditional and Local Knowledge Goal – To promote the value, credibility and use of TK and LK to current and future generations	
OBJECTIVE	STRATEGY
Use TK and LK in resource management, monitoring and identification of sensitive species and areas	• Use community-based management, monitoring and indicator identification in the LOMA and for MPAs • Incorporate TK and LK into Ocean Use Plans • Use TK and LK in environmental assessments
Establish a set of guidelines for the collection, validation and use of TK and LK ¹	• Develop a strategy and framework for collecting, recording and applying TK
Promote the respect, value and sharing of TK and LK	• Work with schools and elders to identify opportunities to teach young people • Recognize holders of TK and LK

ECOSYSTEM OBJECTIVES AND STRATEGIES

The *Oceans Act* (Canada, 1997) states that “conservation, based on an ecosystem approach, is of fundamental importance to maintaining biological diversity and productivity in the marine environment”. Under Canada’s Oceans Strategy and Oceans Action Plan (Fisheries and Oceans, 2002a; 2005), an ecosystem approach to management is a key guiding principle for implementing integrated ocean management and preserving the health of the oceans.

Ecosystem-Based Management (EBM) recognizes that human activities must be managed based on an understanding of the ecosystem and in consideration of the interrelationships between all living organisms, their habitats and the physical environment, based on the best available knowledge. EBM recognizes that human activities can have impacts on ecosystems and that the environment is also subject to natural variability. EBM aims to maintain the biodiversity, productivity and physical-chemical properties of marine ecosystems.

The ecosystem objectives developed for the Beaufort Sea LOMA are summarized under a single goal (Table 7) - “to understand the Beaufort Sea ecosystem, to identify important areas and priority species, and to maintain or enhance ecosystem integrity”. Through better understanding of the ecosystem and important areas and species within the ecosystem, and co-ordinated planning and management of human activities, the productivity of the Beaufort Sea will be maintained and the ecosystem will remain resilient. This ecosystem goal has three broad objectives supported by a series of strategies and actions including collecting new scientific data, and co-ordinating new or

¹ The development of a traditional knowledge guide (2008) for the Inuvialuit Settlement Region was funded through the Environmental Studies Research Fund.

existing monitoring to provide the information required to make management decisions about proposed development or other activities.

Table 7: Ecosystem Goal – To understand the Beaufort Sea ecosystem, to identify important areas and priority species, and to maintain or enhance ecosystem integrity	
OBJECTIVE	STRATEGY
Maintain ecosystem integrity within the LOMA	• Identify all species likely to be affected by human activities within priority areas of concern • Minimize non-indigenous species in the LOMA • Reduce potential sources and effects of chemical introductions from industrial activities
Protect and conserve representative marine areas and special species within the LOMA	• Implement a national and federal marine protected area strategy • Identify additional rare and unique habitats within the LOMA
Determine baseline environmental quality conditions within the LOMA	• Carry out physical, desktop and/or TK surveys to determine baseline conditions within LOMA • Develop baseline information and determine rates of change in chemical properties of water • Develop baseline information on coastal processes • Improve knowledge of the relationship between the physical environment and ice as well as the impacts of ice processes on the seabed and coastal environments • Increase knowledge of productivity in the LOMA

7. PLAN IMPLEMENTATION

REGIONAL COORDINATION COMMITTEE

Endorsement of this Plan by the RCC demonstrates a commitment to implementation through a collaborative approach in accordance with government mandates, priorities and capacities for ocean management.

Aboriginal, Federal, Territorial and municipal governments may use both internal and external mechanisms to formalize and carry out their commitments under the Plan. Participating departments and bodies may incorporate elements of the Plan and their relevant provisions in their policy, program and planning documents. Examples include:

- Strategic and/or business plans;
- Work plans;
- Sustainable development strategies;
- Regional Environmental Assessments;
- Annual reports on plans and priorities; and
- Annual financial planning documents including budgets, staff commitments, and relevant management strategies and actions.

Governments and Land Claim Organizations may choose to formalize their commitment to the Plan through formal endorsement and other mechanisms, including letters of support or intent, and existing or new memoranda of understanding or agreement.

Federal government departments and agencies will use regional and national-level mechanisms in accordance with other organizational and line reporting structures.

BEAUFORT SEA PARTNERSHIP

The Beaufort Sea Partnership will continue to provide a forum for sharing information about activities and interests in the Beaufort Sea LOMA, serving as a network for determining new areas for collaboration, as well as for preventing duplication of efforts by increasing awareness of current and upcoming initiatives in the LOMA. Partnership organizations and Working Groups will be involved in work planning activities, as described below. Finally, the RCC will continue to use the BSP as a sounding board for analyzing complex management issues and providing recommendations to the RCC on

strategies for implementing the Plan. Communities will continue to be engaged in the process through the Community Consultation Working Group which will ensure a two-way flow of information and ideas between the formal governance bodies and community residents.

WORK PLANNING

The completion of the IOMP provides the general strategic direction that will be realized through development and implementation of detailed annual work plans. These will be developed cooperatively under the leadership of the organizations identified for specific objectives and in the IOMP, through the BSP. Organizations that were not engaged in the development of the IOMP (e.g., some regional authorities) may become involved during work planning and implementation.

The general approach to work planning involves the following steps: the establishment of work planning teams (leads and partners); identification of performance measures and baseline information, specific actions (those previously identified or new) and gap analyses; development of work plans (utilizing a business plan/project management approach) for specific objectives/actions, and consolidated work plans for each theme/priority objective; work plan implementation; regular progress reports; and performance measurement/ auditing. The approach to work planning is described in further detail in Appendix 8.

OUTREACH AND COMMUNICATIONS

Outreach and communication activities, including reporting, will need to be undertaken to ensure awareness and participation in IOMP implementation by all organizations with a variety of interests in the Beaufort Sea LOMA.

8. PERFORMANCE EVALUATION

Successful implementation of the Plan will require an effective and comprehensive program for performance evaluation and reporting. There are four main interrelated components of an effective performance evaluation and reporting program:

- Assessing plan outcomes;
- Assessing plan performance;
- Reporting; and
- Plan review and renewal.

The RCC will maintain overall responsibility for performance evaluation and reporting, supported by the Beaufort Sea Planning Secretariat and in consultation with the Beaufort Sea Partnership. Details of the approach to be taken will be developed early in the implementation planning process.

ASSESSING PLAN OUTCOMES

A key aspect of a performance evaluation and reporting program is the assessment of outcomes resulting from the objectives, management strategies and actions in the Plan. Annual work plans, approved by the RCC, will be developed to guide the implementation of the Plan. Progress on the work plans will be reported each year. The RCC will provide guidance on the preferred approach for evaluating Plan outcomes. The Beaufort Sea Partnership will be tasked with developing this approach.

Where possible, existing or proposed performance review processes and indicators that may be appropriate for the IOMP objectives, strategies and actions will be used. Where linkages exist with other processes² such as the Beaufort Delta Agenda and the Mackenzie Gas Project Impact Fund (MGPIF), a joint or supporting performance evaluation process should be developed. As an example, a clear method to measure whether the Sustainable Communities goal and Social, Cultural and Economic objectives of the Beaufort Delta Agenda and MGPIF are being met could be developed through the Inuvialuit Regional Corporation Indicators project. Similarly, the federal government has Service Level Agreements for performance measurement and reporting that could be tied into IOMP implementation. By linking these processes both in the work planning and performance evaluation stages, duplication of effort will be avoided and an

² Appendix 4 describes other initiatives relevant to the Beaufort Sea.

environment created in which seemingly separate processes work together to achieve their goals.

ASSESSING PLAN PERFORMANCE

Another key component of the performance evaluation and reporting program is focused on the effectiveness of the Plan itself, particularly in terms of efforts being made to undertake the various strategies and actions. This includes assessments of adherence to principles and objectives, as well as reviewing the effectiveness of the collaborative planning model.

Key evaluation mechanisms for the Plan include:

- Regular progress reports by the RCC describing annual achievements with respect to Plan implementation;
- Direct partner participation in evaluation and reporting through the RCC and the BSP; and,
- Possible use of external specialists or reviewers and the use of interviews, audits and questionnaires.

REPORTING

The Plan requires a practical and transparent reporting system agreed to by all members of the RCC to enable all participating governments, agencies and sector groups to demonstrate adherence to implementation of the Plan. This work will be led by the Beaufort Sea Partnership with support from the Planning Secretariat. The BSP will be involved in reviewing proposed evaluation and reporting mechanisms and making recommendations for acceptance to the RCC.

PLAN REVIEW AND RENEWAL

A comprehensive review of the Plan will be conducted at regular intervals. This first Plan (addressing 2009 and beyond) will be reviewed after three years and modified as needed. Thereafter, the Plan will be reviewed at least every five years (Figure 4). The review will focus on the achievement of the objectives and strategies in the tables (see Section 6, above) as a means of measuring performance. Findings from the performance evaluation and reporting process, as well as emerging management needs and priorities will be used to modify the Plan as necessary. The Beaufort Sea Planning Secretariat will

coordinate the plan review and renewal process with support and participation from all parts of the governance structure, for approval by the RCC. Through the process of review and renewal, the Plan will remain 'evergreen', responsive to the current needs in the LOMA.

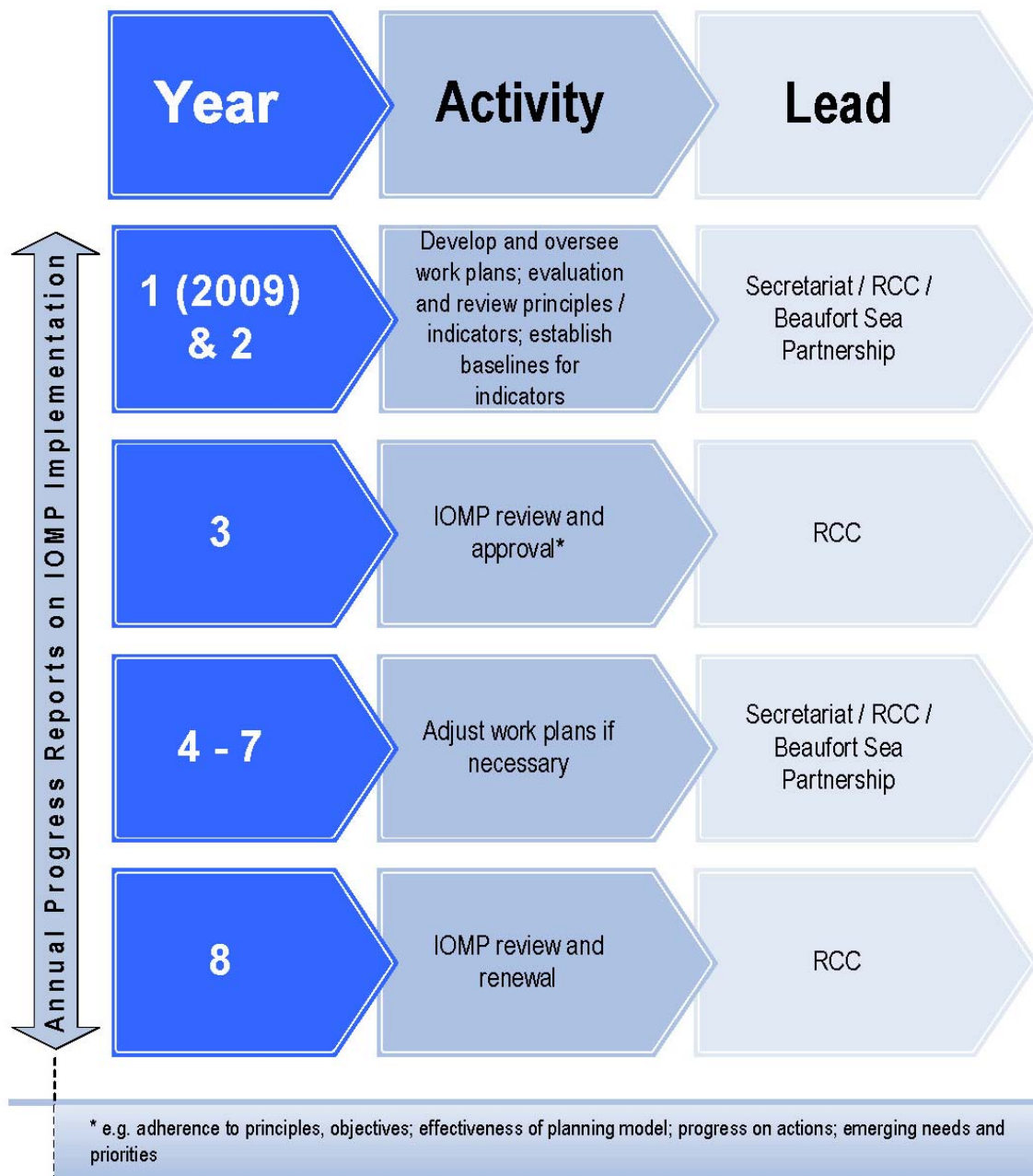


Figure 4: Review Cycle for the Beaufort Sea Integrated Ocean Management Plan

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RCC. 2006. Regional Coordination Committee & Beaufort Sea Partnership Draft Terms of Reference.

Social, Cultural, Economic Working Group. 2009. The Beaufort Sea Large Ocean Management Area: Social, Cultural and Economic Overview and Assessment Report. Available online: http://www.beaufortseapartnership.ca/documents/SCE_Report_for_the_Beaufort_Sea.pdf

The following documents are useful in understanding the background to the preparation of the Integrated Ocean Management Plan for the Beaufort Sea.

- Beaufort Sea Strategic Regional Plan of Action (BSStRPA) – Available online:
www.bsstrpa.ca
- Beaufort Sea LOMA homepage – Available online:
<http://www.beaufortseapartnership.ca/bslom.html>
- Repository for all minutes, workshop reports and proceedings – Available online:
http://www.thinkwell.ca/Beaufort/display/list_discussion.php
- Inuvialuit Settlement Region Community Conservation Plans – Available online:
<http://www.jointsecretariat.ca/>
- Arctic Marine Strategic Plan – Available online:
<http://arcticportal.org/pame/amsp>
- Eastern Scotian Shelf Integrated Ocean Management Plan (ESSIM) – Available online:
www.mar.dfo-mpo.gc.ca/oceans/e/essim/essim-reports-e.html
- Large Marine Ecosystem home page – Available online:
<http://www.lme.noaa.gov/>
- Northern Contaminants Program home page – Available online:
<http://www.ainc-inac.gc.ca/nth/ct/ncp/index-eng.asp>

APPENDICES

APPENDIX 1: ACRONYMS

The following acronyms are used in the context of Integrated Ocean Management for the Beaufort Sea.

BREA	Beaufort Regional Environmental Assessment
BSIMPI	Beaufort Sea Integrated Management Planning Initiative
BSP	Beaufort Sea Partnership
BSStRPA	Beaufort Sea Strategic Regional Plan of Action
CAPP	Canadian Association of Petroleum Producers
CCG	Canadian Coast Guard
DFO	Department of Fisheries and Oceans Canada
EBM	Ecosystem-Based Management
EBSA	Ecologically and Biologically Significant Area
EC	Environment Canada
EOAR	Ecosystem Overview and Assessment Report
FJMC	Fisheries Joint Management Committee
GNWT	Government of the Northwest Territories
IFA	Inuvialuit Final Agreement
IGC	Inuvialuit Game Council
IOM	Integrated Ocean Management
IOMP	Integrated Ocean Management Plan
INAC	Indian and Northern Affairs Canada
IRC	Inuvialuit Regional Corporation
ISR	Inuvialuit Settlement Region
JS	Joint Secretariat
LK	Local Knowledge
LOMA	Large Ocean Management Area
MGPIF	Mackenzie Gas Project Impact Fund
MPA	Marine Protected Area
NEB	National Energy Board
NRCan	Natural Resources Canada
OAP	Canada's Oceans Action Plan
PCA	Parks Canada Agency
RCC	Regional Coordinating Committee
SCEOAR	Social, Cultural and Economic Overview and Assessment Report
TC	Transport Canada
TK	Traditional Knowledge
YG	Yukon Government

APPENDIX 2: GLOSSARY

The following terms are part of the language associated with developing and implementing an Integrated Ocean Management Plan (IOMP).

Adaptive Management

A dynamic planning process that recognizes the future cannot be predicted perfectly and planning and management strategies are modified frequently as better information becomes available.

Beaufort Delta Agenda

A plan of action for programs and services in the Beaufort Delta, calling for collaboration between the IRC, territorial and federal governments for organizational change, focused and accountable decision-making, and resources for implementation. It focuses on five themes: culture, language and heritage; educating our children; health and wellness; fostering economic growth; safe communities and crime prevention. It is intended to be consistent with and supportive of the IFA, and advance the Beaufort Delta Political Accord, as well as devolution and resource revenue sharing.

Biodiversity

A term that refers to the sum of all living organisms within a given ecosystem.

Community

A social group of any size whose members reside in a specific locality, share government and often have common cultural and historical heritage. A community may also be defined in terms of collective interests, attitudes, or sectors, such as those engaged in specific types of ocean use activities. Identification of community boundaries still remains elusive in many cases, particularly in urban settings.

Culture

The way of life, customs, institutions, and achievements of a particular nation, people, or group including behaviours, beliefs, values and symbols that they accept, and that are passed along from one generation to the next.

Cumulative Impact

The impact on the environment which results from the incremental impact of an activity when added to other past, present, and reasonably foreseeable future activities. In the context of the IOMP, the focus is on cumulative effects that can realistically be managed in the ISR.

Conservation

The protection, maintenance, and rehabilitation of living marine resources, their habitats and supporting ecosystems.

Drivers

Drivers are typically human activities (e.g., oil and gas development, tourism) or result from human activities (e.g., climate change) that could potentially impact the environment or the social, cultural and economic well-being of communities.

Ecologically and Biologically Significant Areas

Ocean areas that have been identified as ecologically or biologically significant because of the functions they serve in the ecosystem and/or because of their physical properties.

Ecosystem-Based Management

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

Flaw Lead

A term for an area of open water that forms between land fast ice and pack ice. Leads form when pack ice drifts away from the shore.

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.

Goal

Worded statements that describe the desired end state with respect to a particular subject. Usually, goals are open ended in the sense that no time-frame is identified for their achievement. They are not normally expressed in quantitative terms. Goals typically reflect broad ideals, aspirations or benefits pertaining to specific environmental, economic or social issues.

Governance

Governance is about how government and other social organizations interact, how they relate to citizens, and how decisions are made in an increasingly complex world.

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.

Indicators Project

A project that reflects and measures cultural and traditional facets of well-being. It also develops an index of well-being that incorporates these factors that can be used for a variety of purposes in terms of social and economic development in the region. Work will analyse and build on current Mackenzie Gas Project Impact Fund (MGPIF) Plan Indicators Project and formalize indicators with stakeholders, including data collection, sharing and access arrangements for effective monitoring.

Indicator

Quantitative/qualitative statements or measured/observed parameters that can be used to describe existing situations and measure changes or trends over time.

Integrated Ocean Management

A commitment to planning and managing human activities in a comprehensive manner, while considering all factors necessary for the conservation and sustainable use of marine resources and the shared value of ocean spaces.

Local Knowledge (LK)

Local Knowledge is current knowledge held by people within a community. It can be gained by any individual who has spent considerable time on the land or water observing nature and natural processes.

Mackenzie Gas Project Impact Fund (MGPIF)

The Government of Canada has established a 10-year \$500M Social Impact Fund to assist in responding to the social impacts created by the Mackenzie Gas Project (MGP). Under this program, the Inuvialuit Regional Corporation has submitted a “Regional Investment Plan”, which describes: baseline socio-economic conditions in the six Inuvialuit communities; anticipated impacts from pipeline development; existing mitigation commitments by INAC, GNWT and IRC; Inuvialuit priorities, goals, projects and indicators with mitigative projects. The document recognizes the importance of planning for development in order to avoid or mitigate negative impacts and enhance beneficial ones while providing a comprehensive set of management strategies that should be implemented in the event of large-scale oil and gas development in the Beaufort Sea. Projects and services would be administered through the regional Aboriginal organizations along the pipeline route.

Non-indigenous Species

Plant or animal species in reproducing, isolated populations outside of their historic range. These species are not necessarily capable of establishing viable populations or being invasive, and have been introduced by human activities (e.g., transport in ballast water).

Objectives

Response to identified issues by describing a desired future state of a particular issue. They are more specific and concrete than goals. Objectives should be measurable, either directly or indirectly, as a base for evaluating whether or not they are being achieved over time.

Ocean Use Plan

The concept of Ocean Use Planning is similar to that of 'land use planning'. Detailed policies, agreements, memoranda of understanding, terms and conditions, guidelines and other tools may guide how each zone identified in a plan can be used and managed.

Pathways of Effect

A management tool that creates a graphic representation of the potential impacts of human activities on valuable ecosystem resources including fish, marine mammals and habitat. Each line or pathway from the activity to the stressors it causes to the ecosystem also represents an area where mitigation can often be applied to lessen or eliminate the stressor. Pathways of Effect models allow for identification of the cumulative effects of several activities on one component of the ecosystem and have proven themselves useful in Environmental Assessments.

Polynya

An area of open water surrounded by sea ice that remains unfrozen during the winter.

Precautionary Approach

The Precautionary Approach identifies that the application of precaution is to be used as a cost-effective decision making tool to be used when there is a need for a decision, there exists a risk of serious or irreversible harm, and, there is a lack of full scientific certainty.

Social Well-being

Related to aspects such as social structures (cohesion and interrelationships; political structures and institutions), education levels, health, safety and security, public infrastructure, and social services.

Species of Special Concern

As used in this document, refers to both species of special interest to the Inuvialuit and those identified as Special Concern, Threatened or Endangered under the Canadian *Species at Risk Act*.

Shared Responsibility

The duty in shared responsibility recognizes that 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.

Stewardship

Caring for the land, ocean, and associated resources so that healthy ecosystems can be passed on to future generations.

Strategy

A plan of action for how to achieve long-term objectives.

Subsistence

Harvesting for food, clothing and other items required for survival.

Sustainable Development

Development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Canada's *Oceans Act*).

Tradition

An inherited, established, or customary pattern of thought, action, or behaviour (as a social custom).

Traditional Knowledge

Traditional knowledge is the transfer of cultural, social and environmental information, both orally and written from one person to another – from generation to generation. Therefore traditional knowledge is a combination of traditional environmental knowledge, traditional land use and traditional practices. It is a continuous process of information that is transformed and adapted to current knowledge.

Value

A social norm manifested as a result of history and culture. It is a shared understanding among people of what is good, desirable or just.

Vision Statement

Embodies the desired outcome of Integrated Ocean Management. It provides the context for the development of all other objectives.

APPENDIX 3: OIL AND GAS LEASES IN THE CANADIAN BEAUFORT SEA AS OF 2009

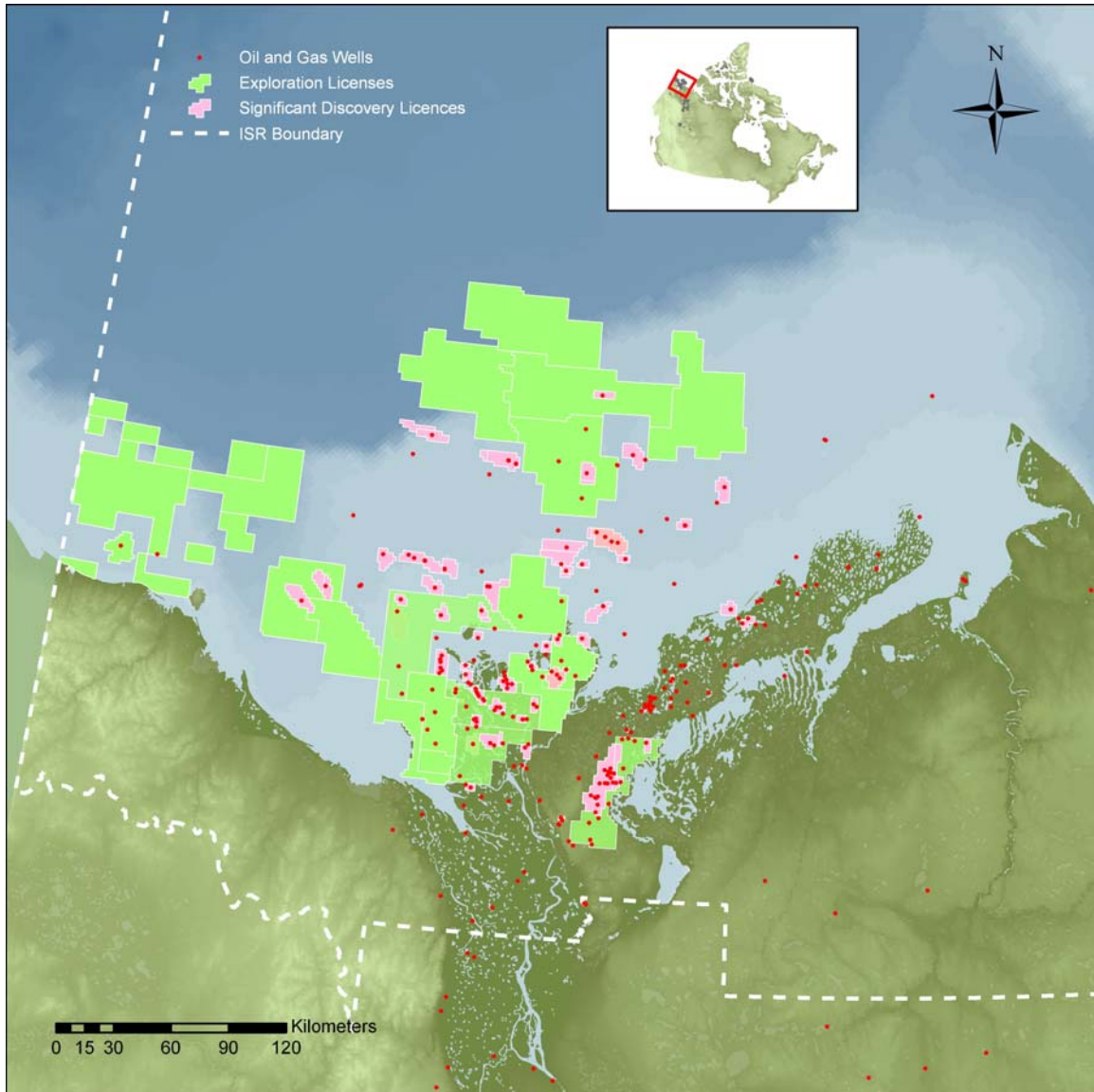


Figure 5: Oil and Gas Leases in the Canadian Beaufort Sea as of 2009
(Source: INAC <http://www.ainc-inac.gc.ca>)

APPENDIX 4: OTHER INITIATIVES

There are, and have been, many initiatives undertaken in the Beaufort Sea. These initiatives include science, planning, social, economic, and environmental, as summarized in Table 8. The number and scope of these initiatives demonstrates the need for an integrated planning process so that all initiatives in the Beaufort Sea support and build on each other as all parties work towards the common goal of sustainable development.

Table 8: Other Initiatives – Beaufort Sea		
YEAR	TITLE	COMMENTS
Beginning in 2009	Beaufort Regional Environmental Assessment (BREA)	Conducting a comprehensive, multi-agency environmental assessment on a regional level in advance of development would streamline the EA process once specific development is proposed.
2002-09	Federal Northern Oil and Gas Research Projects for Mackenzie Gas Project and induced oil and gas activities	The information will assist regulators: to fulfill their responsibilities when issuing licences, authorizations and permits; respond to panel recommendations; and ensure the proponents' mitigation, compliance and monitoring measures are sufficient to avoid negative environmental impacts.
2008 onwards	Healthy Foods North	Several organizations and members of northern communities have been working together to develop a program encouraging healthy diet and lifestyle. This program encourages the use of traditional foods, the use of healthy store-bought foods, and an increase in physical activity.
2007-2008	International Polar Year (IPY)	A two year program of science, research & education focused on the Arctic and Antarctic regions. Canadian and international researchers from universities, northern communities, and governments worked to advance our understanding of cultural, social, economic and health dimensions, as well as geophysical, climate and biological processes in polar regions.
2004 - 2008	Beaufort Sea Strategic Regional Plan of Action (BSStRPA)	A plan developed by governments, industry, the Inuvialuit and other northerners to prepare for an increase in oil and gas activity by preparing to manage the benefits and impacts of this type of development.

Table 8: Other Initiatives – Beaufort Sea		
YEAR	TITLE	COMMENTS
2007 on	A Northern Vision: A Stronger North and a Better Canada	The governments of the Yukon, Northwest Territories and Nunavut outline a future vision of the North with priorities focussed on sovereignty and sustainable communities, adapting to climate change, and circumpolar relations. It is an invitation for other governments, as well as non-governmental organizations and the private sector to partner with the territories to build a more prosperous, sustainable and secure North.
2006 on	Mackenzie Gas Project Impact Fund	The goal of this fund is to support community and regional projects that help to alleviate the socio-economic impacts on NWT residents affected by the proposed project, during the planning, construction and operation of the MGP. This fund will also deal with existing conditions that may be affected by the Project. The release of funding is contingent on the MGP proceeding. Planning has occurred for the use and distribution of the fund.
2005	Northern Information Network (NIN)	NIN supports a variety of research initiatives in and about the North, including project impact assessments, sustainable development strategies, wildlife management planning, land-use planning, and emergency preparedness.
2004-2006	Northwest Territories Biodiversity Action Plan	Two reports make up the Plan. The first attempts to list all actions related to biodiversity that were currently underway in the NWT. The second report looks for overlaps in biodiversity actions, suggests ways to streamline current actions and increase collaboration, and recommends new initiatives. It also looks for gaps between our commitments under the <i>Canadian Biodiversity Strategy</i> and our actions.
2004 on	Community Arctic Char Fishing Plans – Paulatuk and Ulukhaktok	One of several species-specific management plans prepared to provide further direction from the Community Conservation Plans. The Fishing Plans goals are to protect char stocks and habitats, manage and conserve char stocks to ensure subsistence needs of community residents for today and the future, and encourage cooperation among all users to ensure sound management and use of area char stocks.

Table 8: Other Initiatives – Beaufort Sea		
YEAR	TITLE	COMMENTS
2004	Beaufort Delta Agenda	The Beaufort Delta Agenda was developed and approved by Beaufort Delta community and regional leadership as part of the Inuvialuit Political Accord to seek improvements to current government programs and services by initiating policy changes, partnerships and funding arrangements.
2003	ArcticNet	The Canadian Networks of Centres of Excellence announced funding for the Network on northern research known as ArcticNet. This intensive, long-term, multidisciplinary climate variability research program was designed to accelerate scientific investigation into the many natural, social and health science issues and consequences in the North, at the university, private sector and government levels.
2001	Beaufort Sea Beluga Management Plan	A fundamental theme of the Inuvialuit Final Agreement is its emphasis on the “protection and preservation of Arctic wildlife, the environment, and its biological productivity.” The purpose of the Beaufort Sea Beluga Management Plan is to ensure the responsible and effective long-term management of the beluga resource by the Inuvialuit and the Department of Fisheries and Oceans. The goals of the plan are twofold, first, to maintain a thriving population of beluga in the Beaufort Sea, and second, to provide for optimum sustainable harvest of beluga by Inuvialuit.
2001	NWT Emergency Plan	This Plan sets out the policy and guidance whereby GNWT agencies and their partners support local emergency operations, and meet a collective responsibility to provide a prompt and coordinated response management for territorial emergencies.
2000 on	Community Conservation Plans	Plans prepared by each ISR community to guide guidance on the conservation and management of renewable resources and lands.
2000-2007	Beaufort Sea Integrated Management Planning Initiative (BSIMPI)	A partnership among Inuvialuit, government and industry that facilitated integrated management planning for marine and coastal areas of the Inuvialuit Settlement Region. Responsible for development of the proposed Tarniur Nirvutait Marine Protected Area (TNMPA). BSIMPI evolved into the Consultation Working Group under this initiative and is still working toward designating the TNMPA.

Table 8: Other Initiatives – Beaufort Sea		
YEAR	TITLE	COMMENTS
1999 on	Northwest Territories Protected Areas Strategy (NWT PAS)	A partnership of regional Aboriginal organizations, the federal and territorial governments, environmental non-government organizations and industry that have developed a framework and criteria to guide the identification and establishment of the protected areas in the NWT. The partnership developed the PAS so that communities lead the process and are able to benefit from both development and conservation.
1999 on	Northwest Territories Cumulative Effects Assessment and Management Strategy and Framework (CEAM) <i>(note: name changed to NWT Environmental Stewardship Framework in 2008)</i>	Makes recommendations to decision makers on the protection of ecological integrity, the building of sustainable communities, (including social and cultural dimensions) and responsible economic development within a sound environmental management framework. Recognizes that understanding and managing the cumulative effects of activities are essential for making informed decisions about land and water management and resource development in the NWT.
1999 on	Beaufort-Mackenzie Mineral Development Area (BMMDA)	The BMMDA project brings together resource information for the Inuvialuit Settlement Region (ISR). Minerals, Oil and Gas (MOG) Division is collaborating with the Inuvialuit and other agencies to develop a comprehensive Internet guide to the geology, infrastructure, environmental data, development processes, and economic studies in the ISR. This information supports resource development and assists the petroleum and mineral industries in drafting informed project proposals. The information presented will also be important to researchers, environmental reviewers, resource managers, and the interested public.
1998 on	NWT Cumulative Impact Monitoring Program (CIMP)	NWT CIMP will look at how all uses of land and water, and deposits of waste, affect the environment of the NWT now and in the future. The program is based in land claims and legislation, and follows a community-based approach to monitoring the human and biophysical aspects of the environment. NWT CIMP also addresses requirements under the <i>Mackenzie Valley Resource Management Act</i> .

Table 8: Other Initiatives – Beaufort Sea		
YEAR	TITLE	COMMENTS
1998 - 2008	Northern Ecosystem Initiative	NEI's vision was "to enhance the future health and sustainability of northern communities and the ecosystems on which they depend." NEI supports projects that address science and capacity-building needs throughout the Canadian North. These projects are led by or involve partnerships with Aboriginal organizations, communities, universities, northern colleges and research institutes, non-governmental organizations, as well as government and international agencies. NEI supports partnership-based efforts to improve our understanding of how northern ecosystems respond to climate change, contaminants, and resource use activities. NEI also supports the development of indicators and a network to monitor ecosystem changes.
1997 - 2006	Northern Ecological Monitoring and Assessment Network (EMAN-North)	EMAN-North was a network for the coordination of ecological monitoring in northern Canada. There are several issues unique to Northern Canada that are addressed by EMAN-North: Impacts of industrial development and climate change on northern ecosystems; Growing interest in monitoring changes across circumpolar north; Land claims both completed and pending that include requirements for environmental monitoring; Continental Conservation Initiatives – cooperative management based on migratory bird conservation; and Circumpolar Conservation Initiatives – obligations for conducting and reporting on northern ecological monitoring (i.e. the International Tundra Experiment).
1996 on	Arctic Council	A high level intergovernmental forum that provides a means for promoting cooperation, coordination and interaction among the Arctic States, with the involvement of the Arctic Indigenous communities and other Arctic inhabitants on common Arctic issues, in particular issues of sustainable development and environmental protection in the Arctic.
1996 on	<i>Oceans Act</i> (1996); Canada's Oceans Strategy (2002); Oceans Action Plan (2005)	To improve oceans management and preserve the health of marine ecosystems. The Inuvialuit Settlement Region of the Beaufort Sea is one of five Large Ocean Management Areas under the Oceans Action Plan. Leads to the development of this IOM Plan for the Beaufort Sea.

Table 8: Other Initiatives – Beaufort Sea		
YEAR	TITLE	COMMENTS
1996 on	Bowhead Whale Management Strategy	One of several species-specific management plans prepared in the Inuvialuit Settlement Region. This strategy prepared by the Aklavik Hunters and Trappers Committee, Fisheries and Oceans Canada, and the Fisheries Joint Management Committee.
1991 onwards	Northern Contaminants Program	Working to reduce and, wherever possible, eliminate contaminants in traditionally harvested foods, while providing information that assists informed decision making by individuals and communities in their food use.
1991	Regional Land Use Plan for the Mackenzie Delta-Beaufort Sea Region	A community based plan which formed the basis for the current community conservation plans. The Planning Commission recommended that land use decisions in the Mackenzie Delta-Beaufort Sea region adhere to the following principles: conservation; complementing land claims; economic development; community involvement in land use decisions; communication and coordination; and increased use of traditional knowledge.
1991	Beaufort Sea Steering Committee	Provided an 8-volume report to the federal government regarding environmental issues arising from the EIRB reviews of the Isserk and Kulluk drilling program applications. Recommendations ranged from government management to worst case scenarios, and research and scientific study.
1988 on	Alaska and Inuvialuit Beluga Whale Committee	Facilitates and promotes the wise conservation, management and utilization of beluga whales in Alaska and the western Canadian Arctic.
1988	Inuvialuit Renewable Resource Conservation and Management Plan	Prepared by Wildlife Management Advisory Council (NWT) and the Fisheries Joint Management Committee (FJMC); in partial fulfillment of obligations under the Inuvialuit Final Agreement. Recommended the creation of Community Conservation Plans.
1987 (revised 2004)	Environmental Sensitivity Atlas for Beaufort Sea oil spill response	Contains environmental information relevant to the planning and implementation of year-round oil spill countermeasures in both coastal and offshore areas of the Beaufort Sea.
1984	Report of the Beaufort Environmental Assessment and Review Process Panel Northern Oil and Gas Action Plan (NOGAP)	This Panel Report contained detailed recommendations to the proponent, government agencies and others following the review and public hearings on the Beaufort Sea EIS. These recommendations influenced much of the subsequent research listed below including NOGAP.

Table 8: Other Initiatives – Beaufort Sea		
YEAR	TITLE	COMMENTS
1984	Northern Oil and Gas Action Plan (NOGAP) Beaufort Environmental Monitoring Program (BEMP)	A seven- year Federal Government research and planning program to advance the state of federal and territorial government preparedness for hydrocarbon development with a budget of approximately \$70 M. It identified and assessed potential environmental effects of offshore and land-based oil and gas development, and identified important information gaps and appropriate studies to fulfill these gaps
1984	Beaufort Mackenzie Environmental Monitoring Program (BMEMP)	Identified and assessed potential environmental effects of offshore and near-shore oil and gas development, and identified important information gaps and appropriate studies to fulfill these gaps
1984	Mackenzie Environmental Monitoring Program (MEMP)	Identified and assessed potential environmental effects of onshore, land-based oil and gas development, and identified important information gaps and appropriate studies to fulfill these gaps. The focus was in the Mackenzie Valley along the potential pipeline corridor
1984	Beaufort Region Environmental Assessment Monitoring (BREAM) Program	This program combined and coordinated the efforts of BEMP and MEMP within a common framework, and involved governments, industry and Aboriginal people and co-management organizations
1982	Beaufort Sea Hydrocarbon Development Environmental Impact Statement	A comprehensive 7 volume EIS prepared by a consortium of oil and gas proponents led by Dome Petroleum.
1977	Cabinet Directive for the Beaufort Sea Project Technical Resource Series	Examined the consequences of a possible oil spill from drill ships in the Beaufort Sea
1975	Environmental Impacts of Arctic Oil and Gas Development process	Initiated by the Inuit Tapirisat of Canada
1970s on	Environmental Studies Series published by Indian and Northern Affairs Canada in the 1970s, 1980s and 1990s	This series of publications included over 70 research reports on the North, many of which concerned research related to oil and gas.
1970s on	Program of Energy Research and Development (PERD)	Program designed to address environmental and technical issues related to hydrocarbon development across Canada. PERD supports the energy-related research and development activities of twelve federal departments, including research in the Arctic.

Table 8: Other Initiatives – Beaufort Sea		
YEAR	TITLE	COMMENTS
1970s on	Environmental Studies Research Funds (ESRF)	ESRF assists in the decision-making process related to oil and gas exploration and development on Canada's frontier lands. As permit holders, oil and gas exploration companies pay a levy on frontier lands. These levies become part of ESRF and are then used to fund research within the energy sector.

APPENDIX 5: GOVERNANCE STRUCTURE

The regional governance structure, developed to advance sustainable development in the Beaufort Sea Large Ocean Management Area, has four components:

- 1) Regional Coordination Committee
- 2) Beaufort Sea Partnership
- 3) Working Groups
- 4) Beaufort Sea Planning Secretariat

Three federal interdepartmental committees on oceans meet at the Director General, the Assistant Deputy Minister and the Deputy Minister levels. National and regional governance bodies are complementary and linked.

Figure 6 illustrates the linkages between organizations, the IOMP, the communities, and other initiatives (the latter are described in Appendix 4).

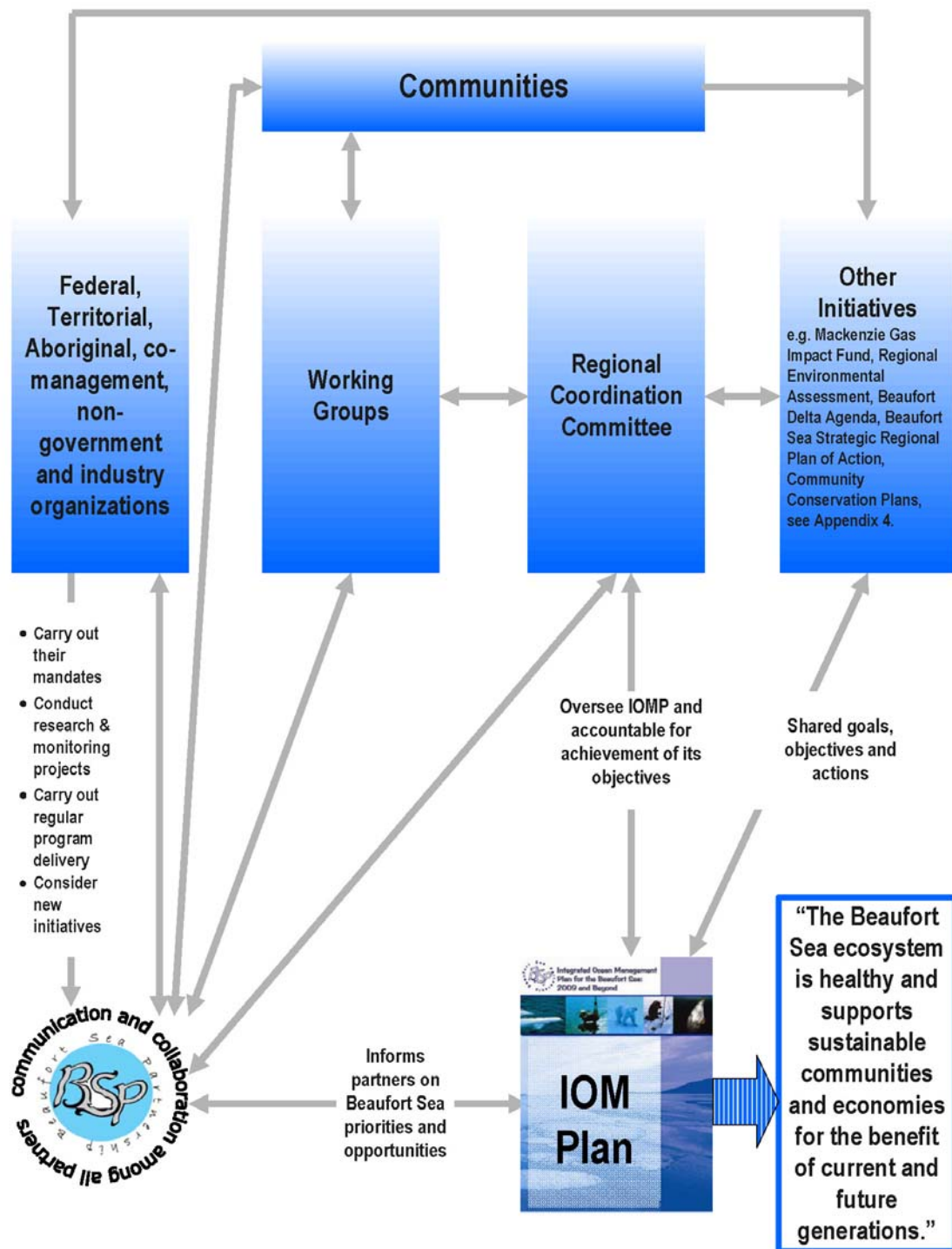
Regional Coordination Committee (RCC)

The RCC is the overarching planning body promoting integrated resource management in the LOMA. It is co-chaired by the Inuvialuit Regional Corporation (IRC), the Inuvialuit Game Council (IGC), and Fisheries and Oceans Canada (DFO). The RCC has representatives from federal regulators (DFO, INAC, NRCan, PCA, TC, and EC), territorial governments (GNWT and YG) and Inuvialuit organizations (IGC, IRC, and FJMC). The RCC provides leadership, coordinated planning, oversight and direction for the development of an integrated ocean management plan for the Beaufort Sea LOMA. The RCC will continue to serve as a forum to ensure that initiatives are known to all members and coordinated with other ongoing industry or sector-specific initiatives.

Beaufort Sea Partnership (BSP)

The BSP is the primary forum for stakeholder engagement in integrated ocean management of the Beaufort Sea area. The BSP has broad stakeholder representation with 82 members from 37 organizations providing a forum for all groups who are active or have an interest in the Beaufort Sea LOMA to share information about their activities/interests. The BSP is comprised of regional level representatives and has an open membership, meaning that any organization with an interest in the management of the Beaufort Sea can become a member with the approval of the RCC. The BSP builds on work done by the Working Groups, considers questions formulated by the RCC, and makes recommendations to the RCC. The BSP also serves as a network to identify new opportunities for collaboration and to prevent duplication of efforts by raising awareness of current and upcoming initiatives in the Beaufort Sea (RCC, 2006). For a complete list of BSP members, please see the Beaufort Sea Partnership website at: www.beaufortseapartnership.ca.

Figure 6: Linkages Between Organizations, the IOMP, Communities, and Other Initiatives



Working Groups

The Working Groups are created by the RCC on an as needed basis. These Working Groups are the work-horses of the IOM process, and are responsible for producing the foundation pieces on which integrated ocean management for sustainable development is based. Each Working Group includes experts from BSP member organizations.

The five Working Groups established to date focus on the following areas: community consultation; traditional knowledge; social, cultural and economic matters; biophysical issues which represent the natural science components of the planning process; and geographic/spatial aspects of the planning area. Additional Working Groups may be created if it is found that there are gaps in information, expertise, or opportunities for collaboration on a particular topic or project.

Purpose and Makeup of the Beaufort Sea Working Groups

Community Consultation (formerly known as BSIMPI)

- To ensure that the community perspectives, values and priorities are reflected into the Beaufort Sea Integrated Ocean Management Plan

Traditional Knowledge

- To develop a framework for incorporating traditional knowledge into integrated ocean management in the Beaufort Sea Large Ocean Management Area
- To identify traditional knowledge objectives, management strategies, indicators
- To identify traditional knowledge needs
- To identify traditional knowledge indicators
- To provide guidance on traditional knowledge issues
- Members: community representative from each of the six communities in the Inuvialuit Settlement Region

Social, Cultural, Economic

- To document Social, Cultural, Economic baseline conditions through an overview and assessment report
- To identify significant cultural areas in the Large Ocean Management Area
- To develop regionally relevant social, cultural, and economic objectives; management strategies; indicators; and implementation plans
- Members: IRC, DFO, YG, GNWT, INAC, PCA, JS and CAPP

Biophysical

- To document the biophysical baseline conditions through an overview and assessment report
- To identify ecologically and biologically significant areas, species and community properties in the Large Ocean Management Area
- To develop regionally relevant conservation objectives, management strategies, indicators and implementation plans including monitoring and evaluation
- Members: DFO, NRCan, EC, FJMC, IGC, GNWT, INAC and Community Consultation Working Group (CCWG)

Geographic Information

- To identify spatial information needs and ensure that it is accurately reflected in the integrated management plan
- To consolidate baseline spatial information on the Large Ocean Management Area
- Identify and develop tools that can be used to collect, maintain and monitor and the use of spatial information
- Provide guidance related to spatial information to other Working Groups
- Members were: Carleton University, DFO, INAC, IRC, GNWT, YG, CAPP, PCA, NRCan, ArcticNet, EC and GeoConnections

Beaufort Sea Planning Secretariat

The Planning Secretariat is comprised of DFO Oceans' staff. This office provides coordination and logistical support for integrated ocean management, draft correspondence, and acts as a central repository for information. The Secretariat also provides planning expertise and is responsible for drafting the integrated ocean management plan for the Beaufort Sea, using the outputs and advice of the Regional Coordination Committee, Beaufort Sea Partnership and the five Working Groups (RCC, 2006). The RCC is considering the creation of an inter-governmental Implementation Coordination Office that would be responsible for coordinating implementation and reporting on the Plans' progress. The Implementation Coordination Office would differ from the existing Beaufort Sea Planning Secretariat in that it would not be located physically or organizationally within DFO, and could be funded/staffed by other partner organizations.

APPENDIX 6: THE EBSA PROCESS

The identification of EBSAs within the Beaufort Sea LOMA went through several steps to ensure the inclusion of all available scientific and traditional/local knowledge. The first step was an intensive review of published and unpublished reports so that this information could be incorporated into the Ecosystem Overview and Assessment Report (EOAR) (Cobb et al., 2008). During this process, available Traditional Knowledge was incorporated into the ecological and the human use components of the report. The EOAR benefited significantly from inputs by northern experts who provided their knowledge through workshops and community tours. Many Inuvialuit shared their knowledge of the ecosystem and their desire for conservation and sustainable economic development, which has been incorporated into the EOAR.

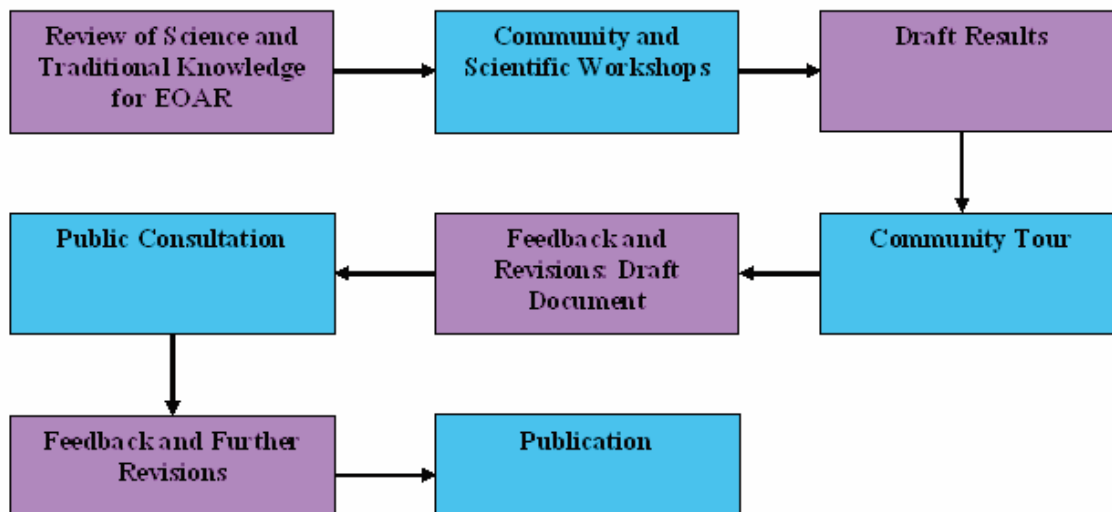


Figure 7: Flow Chart Showing Process Leading to Identification of Ecologically and Biologically Significant Areas in the Beaufort Sea

In order to collect ecological data for EBSA selection two workshops were held: one with the scientific community and one with regional community members. Once the candidate lists were compiled from these initial workshops, a community tour was held in February/March 2007 to give all community members the opportunity to comment on candidate area selection. Each candidate area was then put through the National Evaluation Framework developed by DFO (Fisheries and Oceans, 2004), which provided the necessary criteria. Each area identified as a potential EBSA was considered and evaluated against the three main dimensions of uniqueness, aggregation and fitness consequences and the additional dimensions of resilience and naturalness outlined in the Framework.

The first workshop to identify potential sites that would meet the criteria for EBSAs in the Beaufort Sea was held with DFO Science and other staff including Environment Canada, the Fisheries Joint Management Committee, Parks Canada and Indian and Northern Affairs Canada. Workshop participants were asked to identify candidate sites based on their knowledge or experience in the area and to bring their lists and evaluations to the workshop. The format of the workshop involved a review of the EBSA Evaluation Framework, a review of the potential sites identified by workshop participants and others, and application of the National Evaluation Framework to produce a potential list of candidate EBSAs in the Beaufort Sea.

A second workshop was held with representatives from the six communities located in the Beaufort Sea Large Ocean Management Areas (LOMA) to help identify potential EBSA candidates based largely on Traditional Knowledge. This workshop also included other federal and territorial government staff, but the focus was to obtain community and local Traditional Knowledge on significant areas and species in the LOMA. The six communities represented were: Aklavik, Inuvik, Sachs Harbour, Tuktoyaktuk, Paulatuk and Ulukhaktok. The first day of the workshop consisted of an overview of the EBSA National Evaluation Framework, the role of EBSAs in ocean management and presentations by two community elders.

The second day of the community workshop focused on identifying potential EBSAs by community representatives. This involved working in small groups with maps of the region to identify areas known to have aggregations of important aquatic or terrestrial species. In most instances these maps identified known breeding, feeding and rearing locations or migratory routes. On the third day of the workshop, the participants filled out the evaluation matrix. The results of the workshop were compiled and mapped and were presented in a poster to each of the communities during a follow-up community tour. Although all the Inuvialuit communities were represented at the workshop, not all of the available Traditional Knowledge was collected as several key community members were unable to attend. The community tour was an opportunity to present the results of the workshop and get additional feedback and information on the potential EBSAs.

A majority of the sites selected by the communities were the same as those identified during the science workshop and so these were combined to form the final list of 21 candidate EBSAs. Community Conservation Plans were reviewed for any outstanding information that might have been missed and then each candidate area was evaluated using the National Evaluation Framework developed by DFO (Fisheries and Oceans, 2004). The result was that of the 21 candidate sites, one was excluded and deemed not be an EBSA, ten were accepted and ten were accepted but considered data deficient. All EBSA boundaries are considered to be preliminary, as they will be refined based on future monitoring, community consultations and research efforts.

APPENDIX 7: DETAILED TABLES (GOALS, OBJECTIVES, STRATEGIES, ACTIONS AND PARTNERS)

As described above, the Beaufort Sea IOMP has been organized in terms of four overall themes:

1. Governance;
2. Social, cultural and economic;
3. Traditional and Local Knowledge; and
4. Ecosystem.

This appendix provides additional detail for the tables provided in Section 6 of the IOMP. The tables below summarize the goals, objectives, and strategies within each theme as well as potential actions that will be further defined during work planning activities, and partners for each of the objectives and strategies. These tables will provide the foundation for the work planning activities for each theme/objective that will initiate the transition to IOMP implementation. Additional actions may be developed as work planning proceeds. Organizations that have not been involved in the RCC or BSP during IOMP development (e.g., some regional authorities) may become involved as appropriate for specific actions.

Governance

Table 9: Governance Goal – To achieve effective governance for the sustainable use of the Beaufort Sea (Actions and Partners)			
OBJECTIVE	STRATEGY	ACTION	PARTNERS
1.1 Establish collaborative inter-governmental and inter-departmental structures and processes	1.1.1 Endorse the IOMP	• Implement the IOMP in 2009 • Conduct performance evaluation • Revise and renew IOMP	RCC
1.2 Conduct spatial planning in the LOMA	1.2.1 Develop Ocean Use Plans for the LOMA beginning with priority areas	• Identify the areas of the LOMA that need protection, and the areas that are available for development • Develop management tools that dictate where and when various types of activities can occur	RCC

Table 9: Governance Goal – To achieve effective governance for the sustainable use of the Beaufort Sea (Actions and Partners)			
OBJECTIVE	STRATEGY	ACTION	PARTNERS
1.3 Promote an effective regulatory environment	1.3.1 Identify priority areas for improvement within the regulatory process 1.3.2 Coordinate Science in support of regulatory decision making	• Continue EA Harmonization process • Develop tools for assessment of cumulative effects and integrate into environmental assessments and other planning processes • Produce a Regulatory Overview and Assessment Report • Develop tools to make the regulatory process more effective (e.g., Regional Environmental Assessment, Memorandum of Understanding)	RCC
1.4 Promote effective planning and decision making	1.4.1 Develop tools to facilitate delivery of information to managers for effective planning and decision making	• Develop an information management system to store, manage and disseminate social, cultural, economic, biophysical and IQ/TK information • Develop agreements among users to share and make information on the LOMA available and accessible • Develop a communication strategy to inform stakeholders of initiatives in the Beaufort Sea LOMA	RCC
1.5 Ensure Aboriginal organizations have the capacity to be involved in the IOMP	1.5.1 Continue to fund key elements of the IOM process	• Maintain IOM Working Groups as needed, and continue to include communities in the planning process	RCC
1.6 Profile the Beaufort Sea LOMA in the circumpolar context	1.6.1 Make efforts to remain aligned with circumpolar nations	• Share information and explore mutually beneficial partnerships with ICC and Arctic Council • Promote Beaufort Sea LOMA interests at international venues	RCC
1.7 Establish an inter-governmental Implementation Coordination Office to oversee implementation and renewal of this Plan	1.7.1 Commit to the implementation of this Plan by identifying and committing a baseline level of resources to the initiative	• RCC members to identify resources they are prepared to commit to the creation of a Implementation Coordination Office in 2009 • to facilitate the flow of information to planners, managers and decision makers	RCC
1.8 Assess and develop an adaptive management response to climate change	1.8.1 Prepare the communities for anticipated social and economic changes	• Model the impacts of climate change on species and the human communities that rely upon them • Develop strategies for adapting to anticipated changes	RCC

Social, Cultural, and Economic

Table 10: Economic Goal – To foster sustainable economic opportunities and options for Canadians, northerners and coastal communities (Actions and Partners)			
OBJECTIVE	STRATEGY	ACTION	PARTNERS
2.1 Manage large-scale marine traffic	2.1.1 Develop means to track Arctic marine traffic	Track and report marine traffic	TC, DFO(CCG), YG
	2.1.2 Use Marine Mammal Regulations, Community Conservation Plans, the Environmental Impact Screening Committee and other processes to minimize negative impacts on communities and maximize economic opportunities	Establish dialogue with cruise ship operators	TC, DFO(CCG), IGC, FJMC, PCA, YG
		Mechanism for early notification of planned large scale marine traffic	TC, DFO(CCG), IGC, FJMC
2.2 Prepare to take advantage of large-scale economic opportunities in the coastal and marine environment	2.2.1 Support sustainable large-scale economic development (e.g., oil & gas, shipping)	- Conduct a Regional Environmental Assessment (including a cumulative effects component) - Develop and apply sustainable standards of practice	INAC, DFO, EC, GNWT, NRCan, PCA, TC, YG
		Update community development plans and identify community infrastructure needs and priorities	RCC
	2.2.2 Coordinate with community socio-economic development agendas	Prepare economic development plan(s) for the LOMA	IRC, GNWT, YG
2.3 Strengthen and diversify local and northern economy	2.3.1 Enhance existing small businesses and development of new innovative local and northern businesses connected directly or indirectly to marine resources and services	Evaluate existing businesses and potential for expansion, enhancement and development	IRC, GNWT, YG
		Promote and provide support for the use of local contractors and businesses	IRC, GNWT, YG
		Evaluate entrepreneurial business ideas and tools for small businesses including crafts, tourism and renewable energy	IRC, GNWT, YG

Table 11: Cultural Goal - To maintain and increase peoples' sense of place, and preserve cultural identity and spiritual connections as they relate to oceans and coastal areas (Actions and Partners)

OBJECTIVE	STRATEGY	ACTION	PARTNERS
2.4 Generate and promote opportunities to practice and share culturally important traditions, sites and artifacts	2.4.1 Identify and protect culturally important historic sites and artifacts	• Support Community Plans dealing with the preservation and promotion of cultural continuity • Coordinate efforts to preserve and promote cultural continuity	IRC, PCA, GNWT, YG
	2.4.2 Support on-the-land teaching programs to transfer traditional skills and practices	• Develop and contribute to on-the-land programs	FJMC, IRC, DFO, INAC, IGC, PCA, GNWT
	2.4.3. Support and participate in local practices and events	• Support/sponsor celebrations highlighting Aboriginal cultures such as jamborees, Inuit games, festivals, Oceans Day, Parks Day	RCC
2.5 Promote a vibrant local subsistence economy	2.5.1 Assess and manage for a safe and accessible supply of marine resources and culturally important species	• Develop and use existing conservation and management plans to support subsistence harvesting, recreation, and commercial harvesting	DFO, FJMC, GNWT, IGC, EC
	2.5.2 Support inter-community trade (e.g., traditional foods and crafts) and develop trade access to outside markets	• Promote traditional foods and crafts	IRC, PCA, GNWT

Table 12: Social Goal - To improve human capacity, health, quality of life and opportunities as they connect to oceans and coastal areas (Actions and Partners)			
OBJECTIVE	STRATEGY	ACTION	PARTNERS
2.6 Engage and support the objectives of the Beaufort Delta Agenda and the MGP Impact Fund ³	2.6.1 Develop partnerships, cooperative relationships, initiatives and funding arrangements	• Enter into partnership arrangements and relationships to further the objectives of the Beaufort Delta Agenda and the MGPIF	GNWT, IRC, INAC, DFO
		• Develop a clear method using the IRC Indicators project to measure whether the Social, Cultural and Economic objectives of the Beaufort Delta Agenda and MGPIF Plans are being met and to ensure partners are accountable for their implementation commitments	IRC, GNWT, Statistics Canada
2.7 Improve long-term local and northern career opportunities reliant on ocean based resources	2.7.1 Enhance access to local training and skill development	• Provide career counselling and mentorship opportunities	GNWT, IRC, YG
		• Provide internships and on the job training programs • Provide and promote scholarships	IRC, GNWT, YG
2.8 Increase educational success of the local population	2.8.1 Support the Beaufort Delta Agenda and Mackenzie Gas Project Impact Fund	• Create a program which combines Science with “on-the-land” skills • Work closely with partners responsible in the implementation of initiatives	IRC, DFO, GNWT
	2.8.2 Increase awareness and provide opportunities for people to participate in research and monitoring projects	• Provide research and/or monitoring descriptions and information provided at public forums and buildings (e.g., Implementation Coordination Office) • Develop community monitoring projects	DFO, INAC, PCA, FJMC, NRCan, IRC, IGC
2.9 Increase individual and community mental health and physical well-being	2.9.1 Educate on the nutritional value and quality of country foods	• Provide information on the nutritional value and quality of country foods and keep communities informed on contaminant levels	IRC, INAC, GNWT, DFO

³ Note that this objective, theme and associated actions are generally relevant to other objectives/strategies in the Social, Cultural and Economic theme.

Table 12: Social Goal - To improve human capacity, health, quality of life and opportunities as they connect to oceans and coastal areas (Actions and Partners)

OBJECTIVE	STRATEGY	ACTION	PARTNERS
	2.9.2 Promote active lifestyles and on-the-land activities related to ocean marine resources, services and traditions	• Provide support for community-based health and wellness programs	IRC, GNWT, INAC
		• Provide opportunities for people to spend time on the land	IGC, IRC, GNWT
2.10 Increase community capacity to respond to ocean based challenges and opportunities	2.10.1 Increase local emergency response and management capabilities for ocean-related incidents	• Develop an Emergency and Spill Response Plan that includes roles and responsibilities • Provide spill response training and equipment to communities • Support community based surveillance and monitoring initiatives	IRC, GNWT, DFO(CCG), INAC, TC, FJMC, PCA, EC, YG
	2.10.2 Strengthen local governance	• Establish mentoring programs for youth to participate on co-management boards and committees • Provide training opportunities for existing committee and board members	DFO, INAC, PCA, FJMC, GNWT, IRC
	2.10.3 Develop community infrastructure required for related economic growth (e.g., ports) and spin-off industries (e.g., taxis, tourism, hotels)	• Evaluate various growth scenarios and infrastructure needs for sectors, such as oil and gas or tourism, that are expected to expand	IRC, GNWT, INAC, PCA, YG
	2.10.4 Provide public awareness on ocean-related issues	• Develop strong stewardship programs	DFO, INAC, PCA, IRC, FJMC, GNWT, YG

Traditional and Local Knowledge

Table 13: Traditional and Local Knowledge Goal – To promote the value, credibility and use of TK and LK to current and future generations (Actions and Partners)			
OBJECTIVE	STRATEGY	ACTION	PARTNERS
3.1 Use TK and LK in resource management, monitoring and identification of sensitive species and areas	3.1.1 Use community-based management, monitoring and indicator identification in the LOMA and for MPAs	• Identify the different types of TK and how this can be incorporated into these decision making processes	DFO, EC, PCA, FJMC, IGC, GNWT
	3.1.2 Incorporate TK and LK into Ocean Use Plans	• Direct involvement by Inuvialuit and Gwich'in in sharing their TK and working in their respective languages	
	3.1.3 Use TK and LK in environmental assessments	• Make TK and LK readily available to Science • Support other organizations that promote TK and LK • Develop TK and LK use indicators	
3.2 Establish a set of guidelines for the collection, validation and use of TK and LK ⁴	3.2.1 Develop a strategy and framework for collecting, recording and applying TK	• TK WG to develop or provide advice on other TK tools or guides • Develop protocols and guidelines for TK and LK	RCC
3.3 Promote the respect, value and sharing of TK and LK	3.3.1 Work with schools and elders to identify opportunities to teach young people	• Identify opportunities for TK holders to mentor youth • Incorporate TK into the course curriculum	IGC, FJMC, GNWT, IRC, PCA
	3.3.2 Recognize holders of TK and LK	• Recognize organizations proper use of TK and LK	

⁴ The development of a traditional knowledge guide (2008) for the Inuvialuit Settlement Region was funded through the Environmental Studies Research Fund.

Ecosystem

Table 14: Ecosystem Goal – To understand the Beaufort Sea ecosystem, to identify important areas and priority species, and to maintain or enhance ecosystem integrity (Actions and Partners)			
OBJECTIVE	STRATEGY	ACTION	PARTNERS
4.1 Maintain ecosystem integrity within the LOMA	4.1.1 Identify all species likely to be affected by human activities within priority areas of concern	• Identify areas of focus • Seek funding and task a lead agency • Carry out physical, desktop and/or TK surveys to determine species within these areas	RCC
	4.1.2 Minimize non-indigenous species in the LOMA	• Identify potential sources of non-indigenous species • Identify enforcement/compliance means for preventing their introduction • Initiate education program (printed materials/ displays) of what to look for, where and how to identify it • Prioritize areas for surveys most likely to be affected by non-indigenous species • Increase surveillance/compliance program for ballast water	DFO, FJMC, TC
	4.1.3 Reduce potential sources and effects of chemical introductions from industrial activities	• Co-ordinate surveillance monitoring and enforcement of arctic shipping pollution prevention regulations through: • Boarding and inspection of industry and tourist ships in the area • Air patrols or satellite imagery • Inspection of oil & gas platforms	DFO, TC, EC, NEB
		• Increase the preparedness for spill response including planning capacity and transboundary spill response agreements by: • Preparing for possible spills based on needs of current or projected activities • Updating all community pollution prevention training • Providing adequate supplies for first response to all communities (aquatic and terrestrial spills)	TC, EC, DFO (CCG), NEB, PCA, YG

Table 14: Ecosystem Goal – To understand the Beaufort Sea ecosystem, to identify important areas and priority species, and to maintain or enhance ecosystem integrity (Actions and Partners)			
OBJECTIVE	STRATEGY	ACTION	PARTNERS
4.2 Protect and conserve representative marine areas and special species within the LOMA	4.2.1 Implement a national and federal marine protected area strategy	• Coordinate efforts in establishing marine protected areas, such as: · Marine Protected Areas (MPAs) · National Conservation Areas · National Marine Conservation Areas	DFO, PCA, EC, GNWT, YG, IGC, IRC
	4.2.2 Identify additional rare and unique habitats within the LOMA	• Carry out physical, desktop and TK surveys to determine location within LOMA • Host a annual Science/TK forum to • Improve collaboration, coordination and participation in the BSP by representatives at appropriate levels • Science, TK and LK to determine if new areas have been detected or if modifications to existing EBSAs are required • Ongoing refinement, evaluation and monitoring of EBSAs	DFO, IGC, PCA, FJMC, EC, INAC, YG NRCan
4.3 Determine baseline environmental quality conditions within the LOMA	4.3.1 Carry out physical, desktop and/or TK surveys to determine baseline conditions within LOMA	• Update and publish revised EOARs	DFO, EC, PCA, IGC, FJMC
	4.3.2 Develop baseline information and determine rates of change in chemical properties of water	• Support/participate in programs like the Northern Contaminants Program • Identify and monitor local point sources of pollution • Identify sites/sources of chemicals from long distance transport • Compile baseline information from previous studies	DFO, NRCan, PCA, INAC, YG
	4.3.3 Develop baseline information on coastal processes	• Develop monitoring program in cooperation with community members	RCC, DFO, NRCan, YG, GNWT
	4.3.4 Improve knowledge of the relationship between the physical environment and ice as well as the impacts of ice processes on the seabed and coastal environments	• Improve coverage and resolution of seafloor bathymetry maps	DFO, NRCan
	4.3.5 Increase knowledge of productivity in the LOMA	• Prioritize need, areas and/or seek funding	IGC, DFO, EC, FJMC

APPENDIX 8: WORK PLANNING PROCESS

The general approach to work planning during implementation of the IOMP involves the following steps:

1. Identify lead(s) and supporting partners for each objective
2. Leads organize partners in the development of work plans for priority objectives
3. Develop indicators/performance measures (build on those started or already developed by a Working Group or another initiative)
4. Determine baseline information for the indicators
5. Use objectives and indicators to determine specific tasks that need to be done
6. Identify initiatives/activities that each partner or other initiatives already do that can contribute to a specific objective⁵
7. Conduct a gap analysis – what tasks are left that need to be done to meet the performance measures and thus achieve the objective?
8. Utilize a business plan/project management approach in developing work plans for specific objectives/actions (e.g., identify remaining tasks; specific leads/partners [at individual/organizational level] for each task; schedule/milestones; deliverables; outcomes; performance indicators; resources required/costs)⁶
9. Prepare a consolidated work plan for each theme/priority objective, for approval by the RCC
10. Implement work plans under the oversight of the RCC
11. Schedule regular progress reports (at least annually) and establish lines of communication with the partners working on each theme/objective and the Secretariat
12. Measure performance against Indicators annually, and provide information to Secretariat
13. Evaluate / audit the work plans and their overall effectiveness, reporting back to the RCC (see S. 8 'Performance Evaluation') and communication activities and progress to all interested parties

⁵ For example, elements of the Beaufort Regional Environmental Assessment may contribute directly to the several of the objectives identified in the IOMP.

⁶ Appendix 7 provides additional detail with respect to potential actions and partners for various objectives and strategies.