

**TECHNICAL ASSESSMENT:
PROPOSED BEAUFORT SEA MARINE PROTECTED AREA**

PREPARED BY
DEPARTMENT OF FISHERIES AND OCEANS
DECEMBER, 2002

PREAMBLE:

The three Zone 1a's of the Beaufort Sea Beluga Management Plan are being assessed as a potential Marine Protected Area under the *Oceans Act (1997)*. These three Zone 1a's are located in the outer delta and estuary of the Mackenzie River and are wholly within the Inuvialuit Settlement Region which was established through the Western Arctic Claim Act and Inuvialuit Final Agreement (IFA). The assessment is being conducted through the Beaufort Sea Integrated Management Planning Initiative (BSIMPI). BSIMPI is a collaborative arrangement between the Inuvialuit, Government and Industry to conduct integrated management planning for the marine and coastal area of the Inuvialuit Settlement Region (ISR).

The Beaufort Sea Beluga Management Plan was developed by the co-management body, Fisheries Joint Management Committee (FJMC) in cooperation with the six community Hunter and Trapper Committees and Fisheries and Oceans Canada (DFO). The plan created a series of beluga management zones with specific guidelines for each zone. The plan recommended that Zone 1 areas, which includes the Zone 1a's, be treated as if protected and recommended restrictions for a variety of activities within these areas. The Beaufort Sea Beluga Management Plan has no regulatory mechanisms associated with it therefore compliance to the plan is voluntary.

With the passage of the *Oceans Act* in 1997, discussions began between DFO and the FJMC on Ocean Act programs and priorities for implementation. These discussions led to a request from the FJMC to DFO to examine the Zone 1a's as a potential MPA. This request led to a broader discussion with the Inuvialuit including the Inuvialuit Game Council and the Inuvialuit Regional Corporation. These discussions along with those with other government agencies and the Canadian Association of Petroleum Producers resulted in the establishment of the BSIMPI process.

The approach adopted for assessing the proposed MPA is outlined in the DFO working document "National Framework for Establishing and Managing Marine Protected Areas". The National Framework describes three assessments; ecological, social-economic and technical, which would assist in the determination of the suitability of an area of interest as a MPA. A multiple account framework, a method of economic analysis has been added and will complement the social-economic assessment. BSIMPI has added a fourth assessment to examine issues related to non-renewable resources.

The purpose of the ecological assessment was to determine whether the proposed MPA complies with the reasons for MPA's as stated in the *Oceans Act*; and the ecological merits of the proposed MPA and their relative significance.

The focus of the socio-economic assessment is how the establishment of a MPA will affect human activities in and around the proposed MPA. The assessment also examined ways in which the social and economic benefits of the proposed MPA could be enhanced

or the costs reduced. The multiple account framework organizes and displays information and anticipated impacts (positive and negative) associated with the possible management objectives for the area.

The purpose of the technical assessment is to assess the feasibility of the designation of a MPA. In this assessment, administration and management (and co-management) related issues; a review of appropriate boundaries of the proposed MPA; and whether there is public and stakeholder support is addressed.

The non-renewable resource assessment describes the geological conditions, identifies potential and known commercial resource locations and assesses the feasibility of extracting resources from potential and known locations.

The four assessments in conjunction with consultations with communities, Inuvialuit organizations, industry and government form the basis for making an informed decision by the BSIMPI partners on whether the Zone 1a's should be established as a MPA or not.

EXECUTIVE SUMMARY

Canada's *Oceans Act* was passed in 1997. It directs that integrated management should be undertaken to ensure the sustainable use and health of marine ecosystems. One aspect of this broad objective is the development of an effective planning process. Such a process will identify social, cultural, environmental and economic values, thus providing a solid basis for the development of management plans.

In 1999 the Inuvialuit, the Department of Fisheries and Oceans and industry agreed to collaborate in the development of integrated management planning for marine and coastal areas in the Inuvialuit Settlement Region. This agreement is called the Beaufort Sea Integrated Management Planning Initiative (BSIMPI). Under BSIMPI the Senior Management Committee (SMC) seeks to guide initiatives related to the development of a management planning process for ocean-related activities in the Beaufort Sea. The SMC also formed a Working Group to implement effective collaboration on Oceans management initiatives.

The first major task assigned to the Working Group was to evaluate a proposal for the establishment of a pilot Marine Protected Area (MPA) in the Inuvialuit Settlement Region. The primary objectives of this proposed MPA would be to conserve and protect important subsistence beluga whale and anadromous fisheries.

The area selected for consideration as a MPA was consistent with the areas zoned as 1(a) in the Beaufort Sea Beluga Management Plan (BSBMP). The BSBMP was developed and implemented to ensure sustainable beluga management in a manner reflective of the Inuvialuit Final Agreement (IFA). Of the five zones defined by the BSBMP, Zone 1(a) are the most protected.

The process for evaluating the merits of an area proposed for consideration as a MPA under the *Oceans Act* is outlined in the *National Framework for Establishing and Managing Marine Protected Areas*. Part of the evaluation process includes the completion of 3 assessments: a Socio-economic Assessment; an Ecological Assessment; and a Technical Assessment.

According to the *National Framework* the Technical Assessment provides an overview of the proposed MPA from the point of view of the level of public and stakeholder support for the establishment of the MPA; management related issues including those of co-management and management resources; appropriate boundaries and adjacent uses. Accordingly, these topics form the basis of this document.

Results of this Technical Assessment indicate that the area of interest, namely the BSBMP Zone 1(a), could feasibly be designated a MPA under the *Oceans Act*. Public and stakeholder support for the proposed MPA is sufficient to warrant continuation of the evaluation process. Existing co-management arrangements including BSIMPI and the Fisheries Joint Management Committee (FJMC) have the capacity to provide some managerial support for the proposed MPA, but would likely need additional resources, or collaborative efforts, to manage the proposed MPA comprehensively. Modifications to the boundary of the proposed MPA may be necessary if alternative measures for dealing with existing significant discovery licenses are not acceptable to the license holders.

Technical Assessment

Three recommendations are provided to conclude this report. They are premised on the assumption that a decision is made to continue to the next level of evaluation of the proposed MPA.

- That the issue of the significant discovery licenses which overlap in the Kendall Island Zone 1(a) be addressed early in the process
- That the existing BSBMP be used as a basis for beginning further discussions if the decision is made to proceed to the next level of evaluation of the proposed MPA;
- That Community, partner and stakeholder consultations continue in order to ensure extensive input into the final decision and into selecting the type of management arrangement appropriate for the proposed MPA.

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ACRONYMS

AOI	Area of Interest
APG	Aboriginal Pipeline Group
BSBMP	Beaufort Sea Beluga Management Plan
BSIMPI	Beaufort Sea Integrated Management Planning Initiative
CAPP	Canadian Association of Petroleum Producers
CCP(s)	Community Conservation Plan(s)
CEAA	Canadian Environmental Assessment Act
COGOA	Canada Oil and Gas Operations Act
CWS	Canadian Wildlife Service
DCH	Department of Canadian Heritage
DFO	Fisheries and Oceans Canada
EC	Environment Canada
EIRB	Environmental Impact Review Board
EISC	Environmental Impact Screening Committee
FJMC	Fisheries Joint Management Committee
GNWT	Government of Northwest Territories
GSC	Geological Survey of Canada
HTC(s)	Hunters and Trappers Committee(s)
IBP	International Biological Program
IFA	Inuvialuit Final Agreement
IGC	Inuvialuit Game Council
IM	Integrated Management
INAC	Indian and Northern Affairs Canada
IRC	Inuvialuit Regional Corporation
ISR	Inuvialuit Settlement Region
JS	Joint Secretariat
KRDC	Kunnek Resource Development Corporation
MBS	Migratory Bird Sanctuary
MCA(s)	Marine Conservation Area(s)
MOU	Memorandum of Understanding
MPA	Marine Protected Area
NEB	National Energy Board
NHS	National Historic Site
NMCA(s)	National Marine Conservation Area(s)
NRCan	Natural Resources Canada
NWA(s)	National Wildlife Area(s)
NWT	Northwest Territories
PMA	Protected Marine Area
RA	Responsible Authority
RWED	Resources Wildlife and Economic Development
SDL	Significant Discovery License
SMC	Senior Management Committee (BSIMPI)
WG	Working Group (BSIMPI)
WMAC	Wildlife Management Advisory Committee
YNS	Yukon North Slope

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1.0 INTRODUCTION

Canada's *Oceans Act* provides for the establishment and management of Marine Protected Areas as part of the greater integrated management planning process for Canada's oceans. Under the *Oceans Act*, (Part II, Section 35) a Marine Protected Area is defined as:

“an area of the sea that forms part of the internal waters of Canada, the territorial sea of Canada or the exclusive economic zone of Canada and has been designated under this section for special protection ...”

Special protection as intended under the *Oceans Act* refers to the conservation and protection of: (a) unique habitats, (b) endangered or threatened marine species and their habitats; (c) commercial and non-commercial fishery resources (including marine mammals) and their habitats; (d) marine areas of high biodiversity or biological productivity; and (e) any other marine resource or habitat requiring special protection.

The evaluation of a proposed MPA under the *Oceans Act*, must be completed according to DFO's *National Framework for Establishing and Managing Marine Protected Areas* (DFO, 1999). As described in this framework, a Technical Assessment is one of three assessments used to evaluate the merits of an area proposed for consideration as a MPA. The Technical Assessment provides an overview of the proposed MPA from the point of view of the level of public and stakeholder support for the establishment of the MPA; management related issues including those of co-management and management resources; appropriate boundaries and adjacent uses. Together with a socio-economic and ecological assessment, the technical assessment is generally conducted at Step 3 of the MPA planning process (see Appendix A).

The area under consideration for MPA status, herein referred to as the Area of Interest (AOI), coincides with the areas designated as Zone 1(a) under the Fisheries Joint Management Committee's Beaufort Sea Beluga Management Plan (BSBMP) (see Figures 1 and 2). The AOI is located within the Inuvialuit Settlement Region (ISR). Fisheries Joint Management Committee (FJMC) was established to assist with administration of rights and obligations related to fisheries under the Inuvialuit Final Agreement (IFA), and to advise the Minister of Fisheries and Oceans on matters relating to the Inuvialuit and Inuvialuit Settlement Region (ISR) fisheries. The BSBMP is a community-based management plan for beluga whales that was prepared jointly by the Inuvialuit, through the Fisheries Joint Management Committee (FJMC), and Government of Canada representatives. The purpose of the BSBMP is to “ensure the responsible and effective, long-term management of the beluga resource by the Inuvialuit and the Department of Fisheries and Oceans.” (FJMC, 2001). The BSBMP supports the themes of resource conservation and cultural preservation that are emphasized in the IFA.

In 1999, the Inuvialuit, FJMC, DFO and industry decided to collaborate in the development of integrated management planning for marine and coastal areas in the ISR. This agreement is called the Beaufort Sea Integrated Management Planning Initiative (BSIMPI). The BSIMPI Senior Management Committee (SMC) seeks to guide initiatives related to the development of a management planning process for ocean-related activities in the Beaufort Sea. To implement effective collaboration on oceans management initiatives, the SMC formed the BSIMPI Working Group.

The BSIMPI Working Group was assigned the task of evaluating if the BSBMP Zone 1(a) areas are suitable for establishment as a Marine Protected Area. The primary objectives of this proposed MPA would be to conserve and protect important subsistence beluga whale

and anadromous fisheries. In accordance with DFO's *National Framework for Establishing and Managing Marine Protected Areas*, this report fulfills the requirement of the technical assessment.

Following this introductory section, this report is subdivided into four sections. Section 2.0 identifies and discusses the importance of the AOI, the technical and feasibility issues that affect the availability of the site, and stakeholder and public support for the proposed MPA. Section 3.0 reviews the proposal for the MPA and provides suggestions for refining and improving the practicality and acceptability of the proposal. In Section 4.0, the suitability of alternative types of Marine Conservation Areas are considered and compared to a MPA under the *Oceans Act*. Section 5.0 summarizes the findings of this document.

1.1 Purpose of the Technical Assessment

The purpose of this Technical Assessment is to address the following questions concerning the proposed MPA:

- Is the proposal feasible from a management and technical perspective?
- What adjustments can be made to improve its feasibility and practicality?
- What should the boundaries of the AOI be? and
- Is there public and stakeholder support?

Specifically, this assessment will consider the BSBMP Zone 1(a)'s with regard to the following:

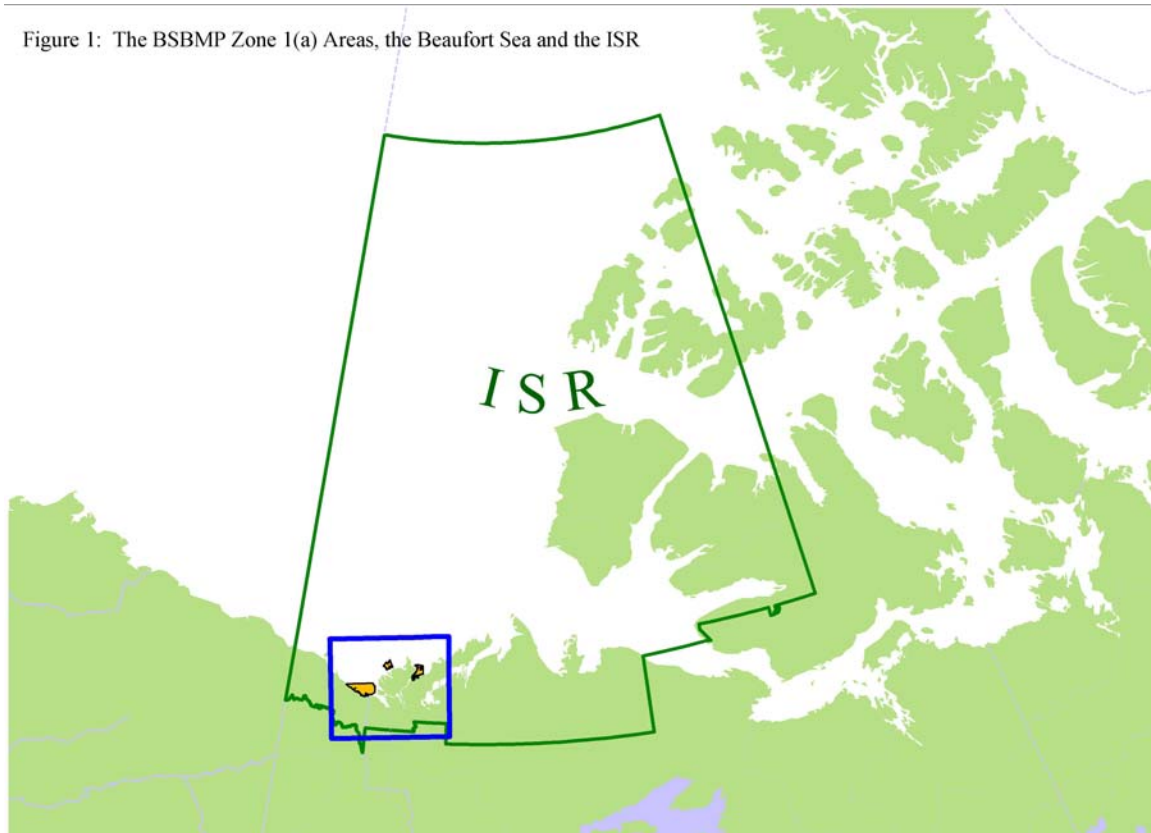
- Importance of the site including current recognition by national or international bodies
- Contribution of the proposed area to MPA systems plan and other agencies conservation and protection mandates
- Jurisdiction, tenure and legal issues that may affect the availability of the site for designation
- Boundaries and proposed management regulations
- Resources available for management and implementation
- Support from stakeholders and the public and the reasons if any for opposition to designation
- Agreements required for partnership and co-management following designation
- Consideration of adjacent uses and potential impacts or threats to the site
- Education, demonstration and research opportunities and benefits resulting from designation

1.2 Background

The AOI, namely the areas designated as Zone 1(a) under the Beaufort Sea Beluga Management Plan (BSBMP), is shown in Figures 1 and 2. Adopted in July 1991, work began on the BSBMP following the settlement of the Inuvialuit Final Agreement in 1984. The purpose of the BSBMP is to "ensure the responsible and effective, long-term management of the beluga resource by the Inuvialuit and the Department of Fisheries and Oceans." (FJMC, 2001).

While the BSBMP management zones cover a large area extending out to Amundsen Gulf and into the Arctic Ocean, the Zone 1(a) areas are all located near the Mackenzie Delta (Figure 1.).

Figure 1: The BSBMP Zone 1(a), the Beaufort Sea and the ISR

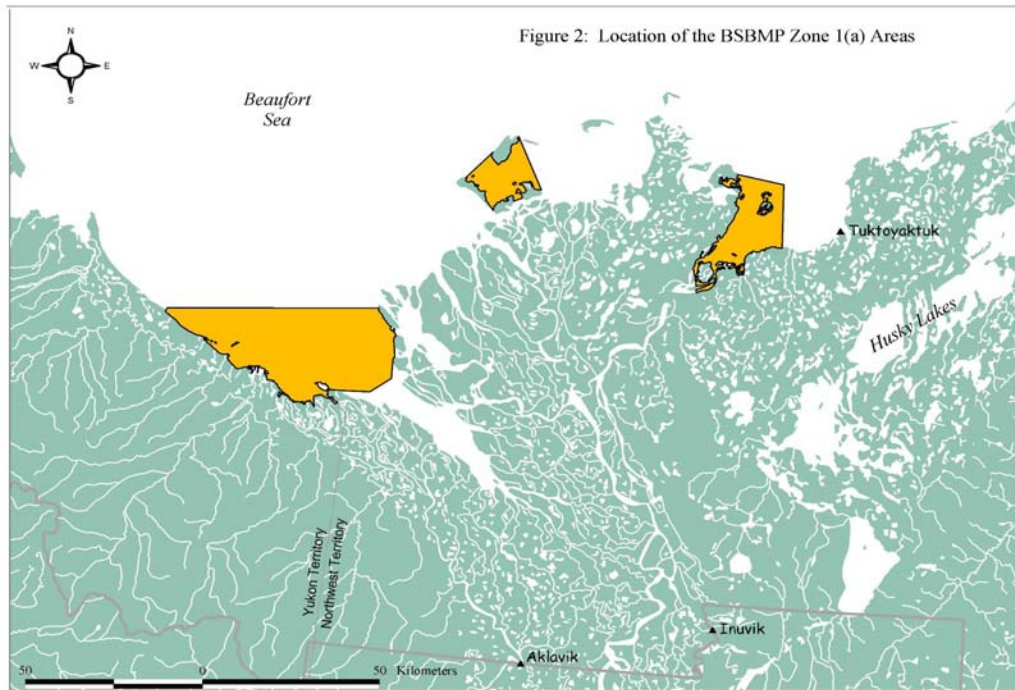


The BSBMP divides the Beaufort Sea into four management zones based on the biological significance of the area, and the importance of the area from a beluga harvest perspective. Guidelines for each zone outline management priorities and serve to assist Inuvialuit organisations and government agencies with the evaluation of development proposals. The Zone 1(a) areas are the most critical areas, representing those areas in which beluga whales are known to concentrate, and where subsistence beluga harvesting has traditionally occurred.

Three separate and distinct areas are designated Zone 1(a): Shallow Bay, east Mackenzie Bay near Kendall and Pelly Islands and Kugmallit Bay. In total, Zone 1(a) encompasses about 1800 square kilometres of the shallow waters of the Mackenzie River estuary (Figure 2.).

While the BSBMP has been effective in achieving its intended purpose there are concerns that activities related to oil and gas exploration and development, and increases in tourism will adversely affect the beluga, its habitat and the subsistence harvesting of beluga by the Inuvialuit. The FJMC recognised that under the *Canada Oceans Act*, a MPA can be designated "for the conservation and protection of commercial and non-commercial fishery resources, including marine mammals, and their habitats." (Oceans Act s.35(1)a). Designation of the BSBMP Zone 1(a) areas as a MPA and the subsequent enactment of regulations could restrict or control some classes of activity and protect beluga whales from disturbance as well as protect critical elements of their habitat from degradation. The establishment of an MPA would result in legal protection of the beluga and the beluga habitat within the MPA boundary, and would thus contribute to the conservation and protection of the subsistence harvest of beluga by the Inuvialuit. DFO was thus approached by the FJMC to evaluate the BSBMP Zone 1(a) areas as a candidate for MPA status under the *Oceans Act*.

Figure 2: Location of the BSBMP Zone 1(a) Areas



This Technical Assessment assumes that the proposed MPA will be based on the Zone 1(a) areas. It further assumes that the resource use guidelines in the Beaufort Sea Beluga Management Plan are an appropriate starting point for developing management guidelines for such an MPA.

2.0 ASSESSMENT

2.1 Significance and Recognition of the AOI

There is evidence that beluga have been harvested in the Mackenzie River estuary for more than 500 years. Historically, these harvests were so important that the hunters of the area were often identified as "people of the beluga". This dependency on the beluga for survival evolved into a strong cultural linkage that can still be seen today at the family whaling camps scattered along the coast. While reliance on beluga as a major dietary component has declined, the Inuvialuit continue to recognize the important cultural linkage to beluga and the subsistence hunt. The Inuvialuit Final Agreement, the Inuvialuit Renewable Resource Conservation and Management Plan and the Beaufort Sea Beluga Management Plan all recognize and emphasize the importance of protecting and preserving not only beluga but all Arctic wildlife as a key to the cultural survival of the Inuvialuit.

Acknowledgement of the importance of protecting beluga and beluga habitat in the Mackenzie River delta and Southern Beaufort Sea is also documented in numerous scientific studies and policy recommendations. Among the first was a recommendation that came out of the Berger Inquiry (Berger, 1977) "Report of the Mackenzie Valley Pipeline Inquiry" which identified the need to establish a "whale sanctuary" for the conservation and protection of beluga

in the southern Beaufort Sea/ Mackenzie River. Subsequent to the Berger Inquiry numerous other individuals, agencies and organizations reiterated the need for protection of the Arctic marine environment and species (Table 1).

Table 1. Initiatives and Recommendations Concerning Arctic Marine Conservation

Year	Initiative
1975	IBP Ecological Sites in Subarctic Canada
1977	Report of the Mackenzie Valley Pipeline Inquiry (Berger Inquiry)
1984	Report of the Task Force on Northern Conservation
1986	National Marine Parks Policy
1987	DFO Arctic Marine Conservation Strategy
1987 - 1991	Mackenzie Delta Beaufort Sea Regional Land Use Plan
1988	Inuvialuit Renewable Resource Conservation and Management Plan
1989	Arctic Environmental Strategy (AES)
1991	Beaufort Sea Beluga Management Plan – 1 st release
1990 - 1994	Community Conservation Plans
1994	National Marine Conservation Areas Policy
1995	Canada's National Marine Conservation Areas System Plan
1997	Canada's <i>Oceans Act</i>
1998	Beaufort Sea Beluga Management Plan – update & 3 rd printing
2002	Species at Risk Act

Of the items listed in Table 1, the BSBMP and the Community Conservation Plans (CCPs) for Tuktoyaktuk, Aklavik and Inuvik all specifically mention the significance of the AOI because of the areas' ability to support wildlife, and the subsequent cultural importance associated with traditional harvesting at the areas. The BSBMP and the CCPs are discussed further below.

The FJMC updated the BSBMP in 2001 in order to address increasing hydrocarbon activity in the region (FJMC, 2001). The plan was first developed to ensure that beluga management activities (aimed at protecting the beluga resource and ensuring efficient utilization of the beluga resource) were reflective of the legislation enacted as a result of the Inuvialuit Final Agreement (IFA) (FJMC, 2001).

Under the BSBMP the Zone 1(a) areas are identified as areas requiring the highest amount of protection possible. These shallow (depth less than 2m), brackish and highly turbid areas are considered of high value to the Inuvialuit people because they are areas in which the Canadian Beaufort Sea Beluga stock concentrate at the beginning of the summer months. These areas comprise the primary locations for the Inuvialuit subsistence beluga harvest. There are no total allowable catch limits on beluga as the number of beluga harvested is small relative to the size of the beluga stock. Between 1990 and 2000 an average 111 beluga were harvested per year (DFO-SSR E5-38, 2000). Aerial surveys from 1992 give an index of abundance of 19 629 belugas for the Beaufort Sea Beluga Stock (DFO-SSR E5-38, 2000).

The importance of the beluga harvest to the Inuvialuit extends beyond its monetary and subsistence value. The beluga subsistence harvest has been, and continues to be, one way by which the Inuvialuit pass down values, traditions and knowledge to their children, and help maintain their ties to the land (Storace, 1999). Maintaining these important ties to the traditional way of life is of utmost importance to the Inuvialuit, as is exemplified by the direct reference to this in the IFA (INAC, 1984). It is for these reasons that the BSBMP Zone 1(a) areas are so important to the Inuvialuit.

Community Conservation Plans (CCPs) have been prepared for each of the six communities within the Inuvialuit Settlement Region. The plans provide information on current conservation and resource management systems in the ISR. Each community plan outlines how to identify and manage important wildlife habitat, seasonal harvesting areas and cultural sites, and addresses educational initiatives and strategies for enhancing the local economy. The plans also outline a process for making land use decisions and protecting community values and resources.

The BSBMP Zone 1(a) areas are recognized and incorporated into the CCPs. In the classification hierarchy used in the plans the Zone 1(a) areas are identified as Category E - "Lands and waters where cultural or renewable resources are of extreme significance and sensitivity. There shall be no development in these lands or waters. These areas shall be managed to guarantee absolutely no damage or disruption. This category offers the highest degree of protection, short of legal designation." (WMAC/JS/Tuktoyaktuk 2000:19). The importance attached to the areas that incorporate the Zone 1(a) is not only because of the beluga. These same areas are also significant for fish, goose, caribou, and seal harvesting (see section 2.8).

The Zone 1(a) areas and surrounding lands and waters have received recognition by several bodies at the national and international level as well. A habitat classification system developed by DFO (Wright, 1994) has been applied to coastal zone planning and management initiatives in the Mackenzie Delta - Beaufort Sea. This classification system uses information related to: distribution and abundance of harvested and ecologically important species; status of fish and marine mammal stock; susceptibility to human activities; importance and susceptibility of habitats to human activities; location of harvesting; and extent of the knowledge base. When the classification system was applied to the Mackenzie Delta - Beaufort Sea Land Use Planning Region it revealed that most of the BSBMP Zone 1(a) was rated as Priority 1 Area.

Areas identified as Priority 1 are considered of "greatest importance" to fish and marine mammals and/or most susceptible to disturbance and should be afforded maximum protection. It is also recommended that no non-renewable resource or shipping be permitted in or adjacent to these areas with exceptions made only if it can be shown that there would be no adverse effects on fish, marine mammals or their habitats. Any such exceptions would be subject to temporal, spatial or other restrictions as deemed necessary (Wright, 1994).

The high concentration of Beluga whales in the Beaufort Sea, and in the Zone 1(a) areas in particular, has led DFO to look into the significance of the areas. The beluga move widely throughout the Beaufort Sea, ranging into Amundsen Gulf and into Viscount Melville Sound far to the north. Scientists have observed that individual beluga return to the Mackenzie Delta estuary in successive years. Their unique tolerance for freshwater is thought to indicate an important physiological dependence on particular sites. Both hunters and scientists have observed beluga rubbing themselves on sandbars to remove dead skin. The warmer waters of the estuary accelerate the rate at which the molt occurs. Hunters have observed beluga feeding in these areas.

At an Arctic Marine Workshop (Arctic Marine Workshop, 1994) scientists representing federal government departments, consultants and non-government organizations identified the Mackenzie Delta (which included the southern Beaufort Sea) as a "hot spot" in recognition of the importance of this area. A "hot spot" as defined by the report is an area of "high productivity, with high species diversity and/or high species abundance (particularly in terms of relative proportion of the Canadian or world population)." (Arctic Marine Workshop, 1994:31). In giving the Mackenzie Delta an overall "high" rating, participants at the workshop acknowledged the importance of the area as habitat for fish and invertebrates, marine mammals, and sea and shore birds. Of the large area of the Mackenzie Delta identified as a "hot spot" the BSBMP Zone 1(a) areas stand out for their importance as beluga habitat, overwintering area for fish, migratory waterfowl nesting and staging area, and their historical and cultural importance to the Inuvialuit.

The Zone 1(a) area of the Mackenzie Delta at Garry and Pelly Islands was also designated as an International Biological Program (IBP) site because of its importance to waterfowl and migratory birds. While formal protection mechanisms for the IBP sites did not evolve, IBP sites are recognized by federal and territorial agencies as important natural areas and are considered candidates for future establishment under environmentally protective legislation (Conservation Advisory Committee on the Northern Mineral Policy - Report on IBP Sites 1989).

2.1.1 Summary

From the foregoing discussion it is clear that the Zone 1a’s and the surrounding lands and waters are of high conservation value. For the Inuvialuit, the biological productivity and diversity of the area is part of their traditional ecological knowledge and has enabled generations to benefit from the renewable resources in the area, including beluga. For researchers and scientists, the Mackenzie Delta/ Beaufort Sea is a relatively new frontier. While extensive research has been underway since oil and gas discoveries in the region there are still significant gaps with respect to our understanding of the ecosystem and ecological processes that are at work. Fundamental questions such as why beluga frequent this area are still unclear. Nevertheless, with the data and information currently available, there is widespread agreement among researchers that the Mackenzie Delta/ Southern Beaufort Sea is an area of high biodiversity and high productivity.

Given that the “Precautionary Principle” is one of the cornerstones of the *Oceans Act* there is a strong incentive to proceed with the designation of an MPA for the BSBMP Zone 1(a) on the basis that until there is better understanding of the ecological processes it is preferable to err on the side of caution.

2.2 Conservation Interests and Existing Protected Areas In and Around the AOI

While the BSBMP was the first “formal” designation of a protected area that specifically focused on setting aside an area for the protection of beluga, there are other conservation designations and legal interests adjacent to or overlapping the Zone 1(a)’s. These interests are described below, including a brief description of any potential implications on the establishment of the proposed MPA.

2.2.1 Kendall Island Migratory Bird Sanctuary (MBS)

Established in 1961 the 606 km² sanctuary borders and partially overlaps a portion of the East Mackenzie Bay/Kendall Island Zone 1(a) (Figure 3). The Kendall Island MBS contains habitat for 7,500 Lesser Snow geese as well as some of the 60,000 pairs of shorebirds that nest in the outer Mackenzie Delta, which includes the sanctuary (Environment Canada). Migratory Bird Sanctuaries are established by Environment Canada under the *Migratory Birds Convention Act*.

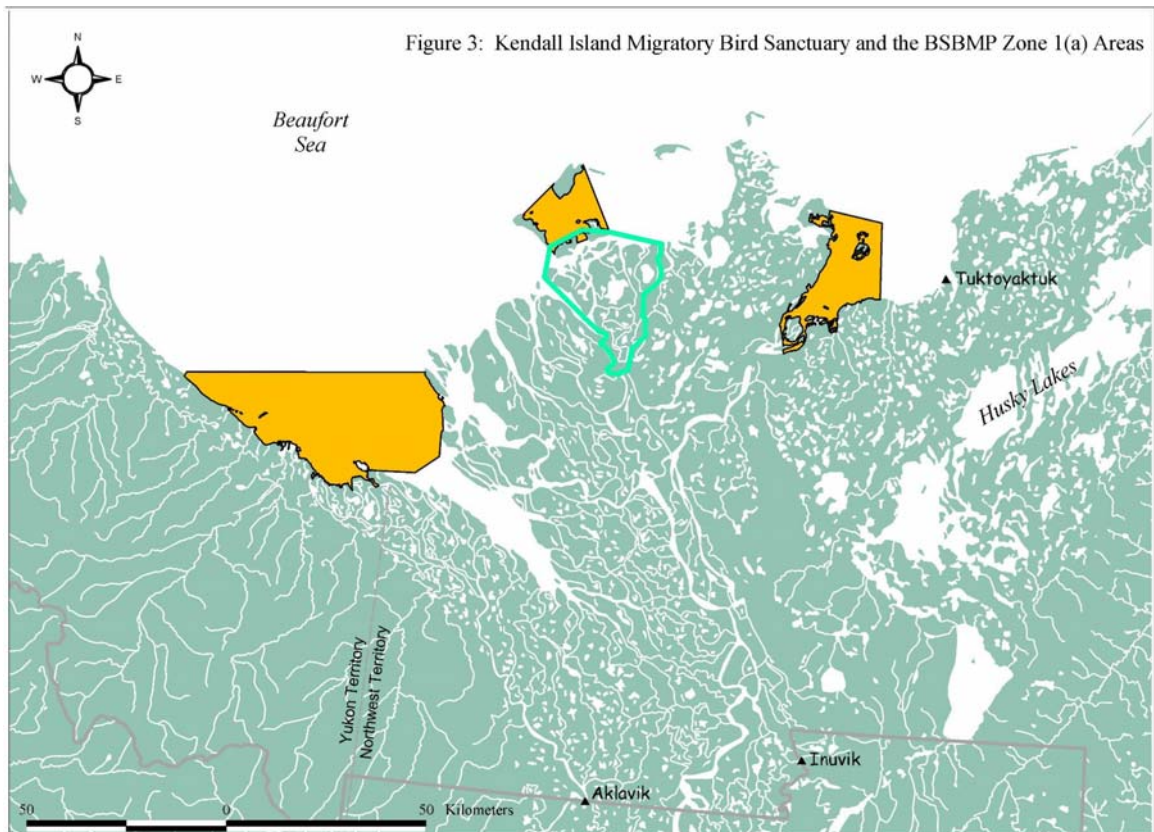
The Canadian Wildlife Service (CWS) is responsible for the conservation and management of migratory birds in Canada. CWS states that MBS are “ established to provide long-term protection to migratory bird populations and their key habitats” (EC/CWS, 1992:1). MBS seek to conserve the diversity of migratory birds by controlling human activities within the sanctuary boundaries. While hunting is generally prohibited in the Sanctuaries, hunting of non-migratory species by aboriginal peoples is allowed. Permits can also be issued to allow and regulate resource exploration and development activities within the Sanctuary, provided the activities are compatible with wildlife conservation. The specific management objectives of MBS are included in Appendix E.

Table 2. Summary of legislation governing MBS.

Legislation	Description	Purpose	Prohibitions and Important Notes
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Migratory Birds Convention Act (1994)	“an Act to implement a Convention for the protection of migratory birds in Canada and the United States (MBCA, 1994)	to protect migratory birds and their nests	<ul style="list-style-type: none"> • possession of migratory birds or their nests, and also prohibits the exchange (by gift or purchase or sale) of migratory birds and nests
Migratory Birds Sanctuary Regulations (1974 and 1979)	These regulations address the harvest and possession of migratory birds		<ul style="list-style-type: none"> • hunting, disruption or destruction of migratory birds or their nests within a MBS is strictly prohibited unless “under authority of a permit therefor”. Section. 3(2) • “No person shall, in a migratory bird sanctuary, carry on any activity that is harmful to migratory birds or the eggs, nests, or habitat of migratory birds, except under the authority of a permit.” Sec. 10(1) • Section 10(2) designates those individuals who have the authority to administer such a permit.

Figure 3: Map of the Kendall Island Bird Sanctuary and the BSBMP Zone 1(a) Areas



The Kendall Island MBS is not likely to be an impediment to the establishment of a MPA since both designations are conservation oriented, and existing overlap between the MBS and the BSBMP Kendall/ Pelly Islands Zone 1(a) has not to date been problematic. It is necessary to note, however, that the administration of permits for activity within a MBS (particularly industrial oil and gas development) could have significant implications on a MPA. At present, EC/CWS is

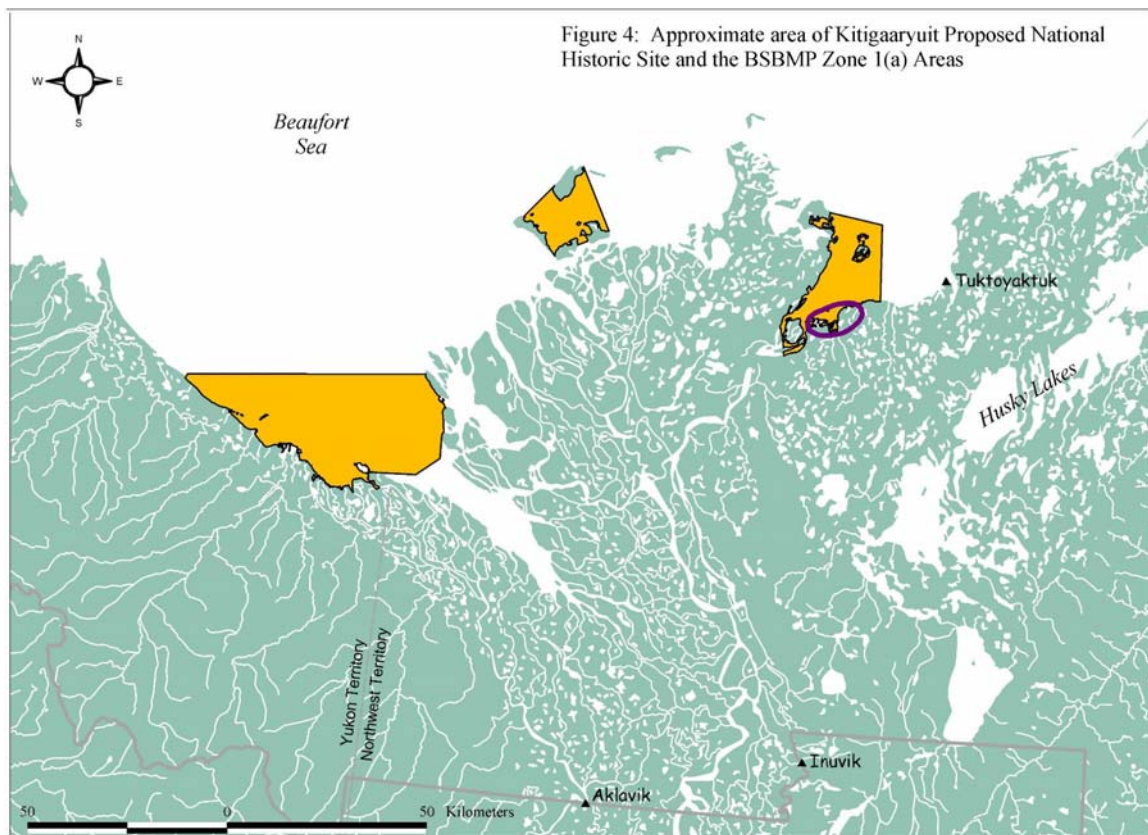
working on an agreement with industry (oil & gas) on the type and level of activity that will be allowed in the Kendall Island Bird Sanctuary.

As the area of overlap between the AOI and the MBS is small, and the proposed agreement would substantially limit oil and gas development in the MBS, the potential impact of oil and gas development within the MBS would have limited impacts on the AOI.

2.2.2 Kitigaaryuit National Historic Site

The Inuvialuit community of Kitigaaryuit was declared of national historic significance in 1978, but as yet has not been commemorated as a National Historic Site. Kitigaaryuit is an important Inuvialuit archaeological site. As a semi-permanent settlement, the village and graveyard were occupied by the Inuvialuit for centuries and continue to be used on a seasonal basis today. The site is located at the east branch of the Mackenzie River, on the east side of Kugmallit Bay (Figure 4.). Under the Tuktoyaktuk Community Conservation Plan the site is classified as Category D, “Lands and waters where there are cultural or renewable resources are of particular significance and sensitivity throughout the year...these areas shall be managed so as to guarantee the conservation of the resources.” (WMAC/JS, 2000:19).

Figure 4. Approximate area of Kitigaaryuit National Historic Site



As the process to commemorate the site as a national historic site (NHS) has been initiated it is pertinent to consider the implications that official designation would have on the development of a MPA. National Historic Sites are designated under the *National Parks Act* and guided by the *National Historic Sites Policy*. Specific objectives of a NHS are included in Appendix F.

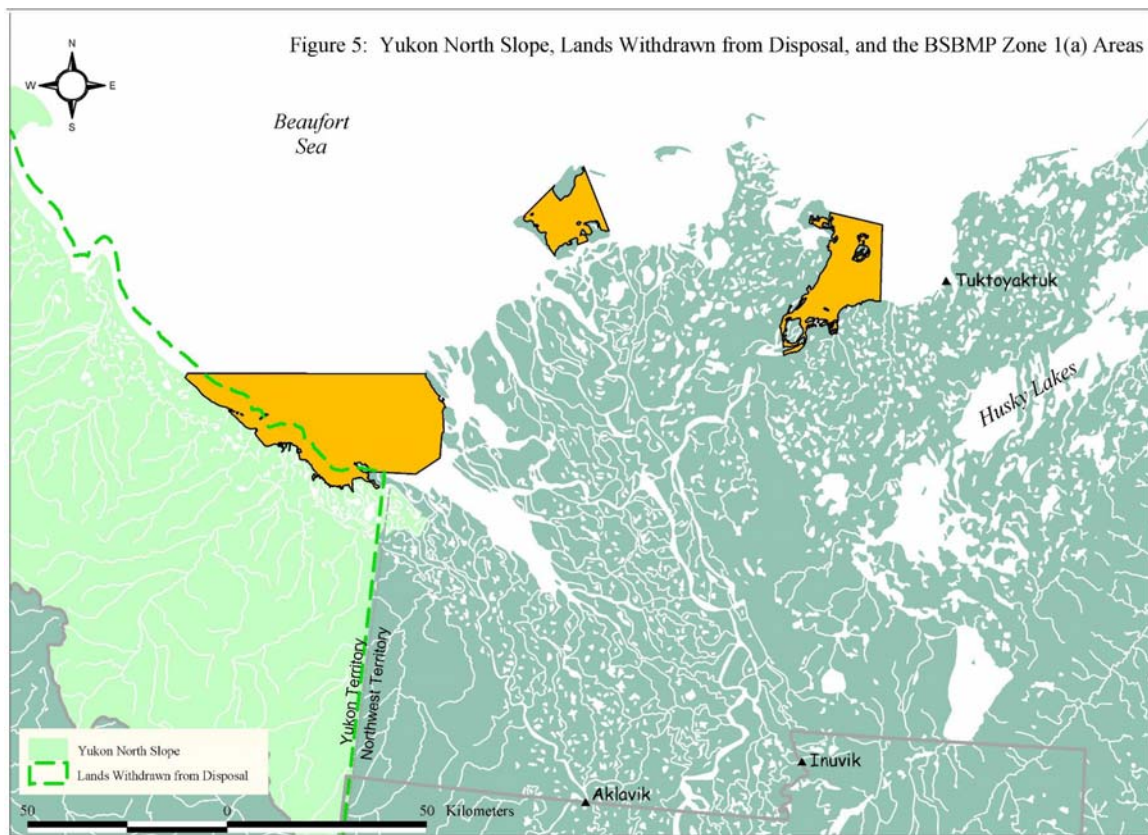
Parks Canada does not anticipate any difficulties associated with Kitigaaryuit NHS if the AOI were to be designated as a MPA (Pers. Comm. A. Fehr, Parks Canada).

2.2.3 Yukon North Slope

The area known as the “Yukon North Slope” was designated under the IFA as a special management area for the purposes of conservation of wildlife, habitat and traditional native use. In the IFA (section 12(1)) the area is described as “all those lands between the jurisdictional boundaries of Alaska and the Yukon Territory and the Northwest Territories, north of the height of land dividing the watersheds of the Porcupine River and the Beaufort Sea, and including adjacent nearshore and offshore waters and islands” (INAC, 1984).

Since the Yukon North Slope (YNS) includes the nearshore and offshore waters and islands there is overlap with the AOI in the vicinity of Shingle Point, Mackenzie Bay/Shallow Bay (Figure 5.).

Figure 5: The Yukon North Slope, Lands Withdrawn from Disposal, and the BSBMP Zone 1(a)



Currently the YNS is withdrawn from disposal under the *Yukon Territorial Lands Act*. The YNS area is withdrawn in order to conserve the areas resources. The western portion of the YNS is a National Park. The *Withdrawal of Certain Lands from Disposal Order, 1985, No.1* explains more precisely the reason for withdrawing the land (see Appendix G). Included in the area withdrawn from disposal are “the islands within three statute miles (4.8km) of the shore of the Beaufort Sea west of the boundary between the Yukon Territory and the Northwest Territories” (*Withdrawal of Certain Lands from Disposal Order, 1985, No.1: Sec. 2*).

Under the *Yukon Oil and Gas Accord* legislative powers for the regulation of onshore oil and gas industrial activities are transferred to the Yukon Territorial Government. One of the purposes of the *Accord* is to “establish a management regime for the onshore that respects Aboriginal land claims and settlement rights; protects the environment; recognizes the importance of social and economic benefits to Yukon peoples and communities; provides stability and fairness; and reflects standards of resource management and conservation practices in Canada.” (INAC 2001-internet).

As the lands that are withdrawn from disposal under the *Territorial Lands Act* were withdrawn for the purposes of conservation it can be anticipated that the establishment of a MPA under the *Oceans Act* is consistent with the existing legislation guiding development in the area.

2.2.4 Reindeer Reserve

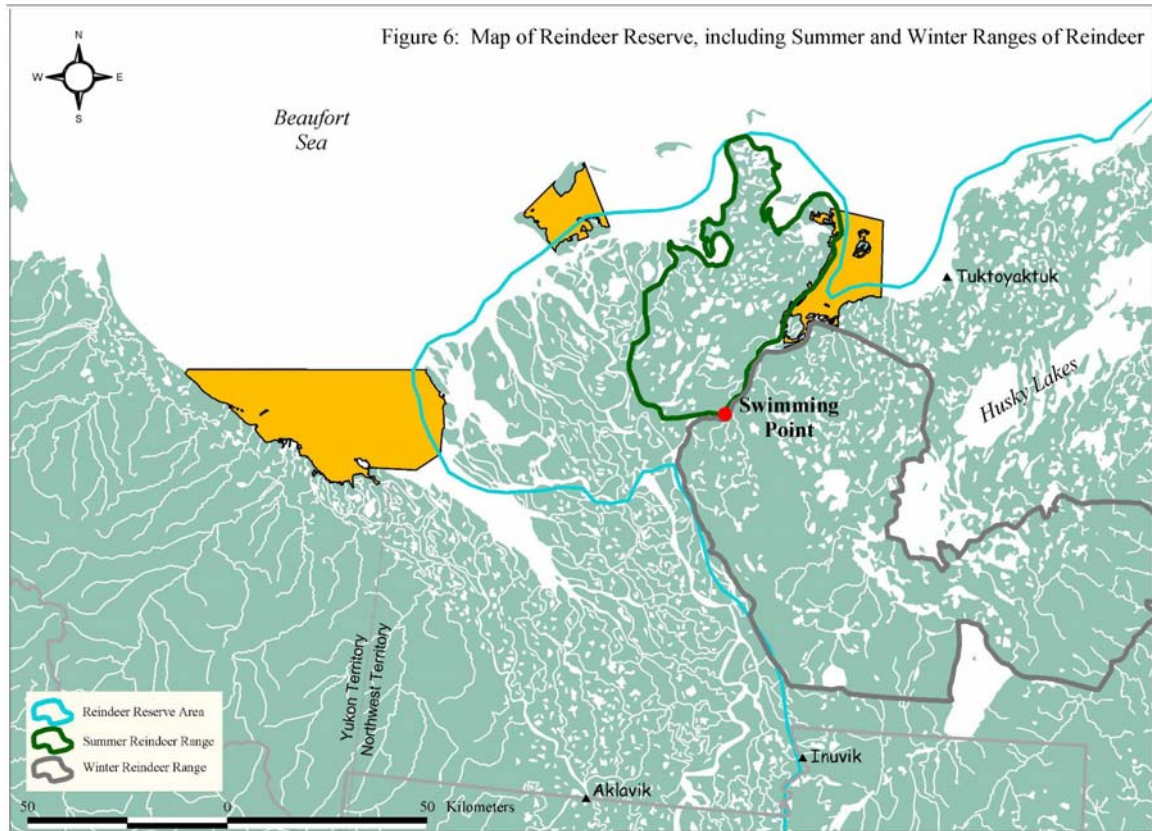
The Reserve came into operation in 1935 and covers roughly 46,500 sq. km (Figure 6.). The purpose of the Reserve was to protect rangeland for summer grazing by reindeer and to regulate hunting in order to preserve this food source for the Inuvialuit. The Reserve is established through regulation (*Northwest Territories Act*, 1970 and *Reindeer Regulations*, 1954 and 1974) however there are no restrictions on development or other types of activities within the Reserve. The Reserve has not been successful in terms of establishing reindeer as a food source for the Inuvialuit.

Kunnek Resource Development Corporation (KRDC) has received approval for their proposal to revitalize the reindeer herd from the Minister of Indian Affairs and Northern Development. One component of their proposal was to move the summer and winter ranges of the reindeer (Figure 6.). The herd is moved between the grazing areas in spring and in fall at Swimming Point (KRDC, 2001).

Part III of the *Northwest Territories Act* (1970) sections 45-48, and the *Northwest Territories Reindeer Regulations* (1954 and 1974) apply to reindeer and the management of reindeer within the Reindeer Reserve. The specifications within these documents do not contradict the establishment of a MPA in any manner.

Even though the Mackenzie Delta Reindeer Grazing Reserve encompasses part of the AOI, there is no reason to believe that the Reserve will have an impact on the establishment of a MPA in the Beaufort Sea. Furthermore, KRDCs’ reindeer management regime limits the winter and summer grazing ranges, and the transport corridor to areas outside the AOI. Tourism development associated with the reindeer herd should also be inconsequential because the herd ranges are sufficiently distant from the AOI.

Figure 6. Map of Reindeer Reserve, including summer and winter ranges of Reindeer.



2.2.5 Garry and Pelly Islands International Biological Program Site

Between 1964 and 1974 120 IBP sites were identified in the NWT, (including the territory of Nunavut). The IBP sites were established to identify representative areas of the major ecosystems of Canada, and recommend these areas for protection through the establishment of the IBP sites as Ecological Reserves.

The IBP site at Garry & Pelly Islands was nominated because of its value to waterfowl (Figure 7.). At present the site is not protected by any federal or territorial legislation. However, IBP sites are recognized by federal and territorial agencies as important natural areas and are considered candidates for future establishment under environmentally protective legislation (Conservation Advisory Committee on the Northern Mineral Policy - Report on IBP Sites, 1989).

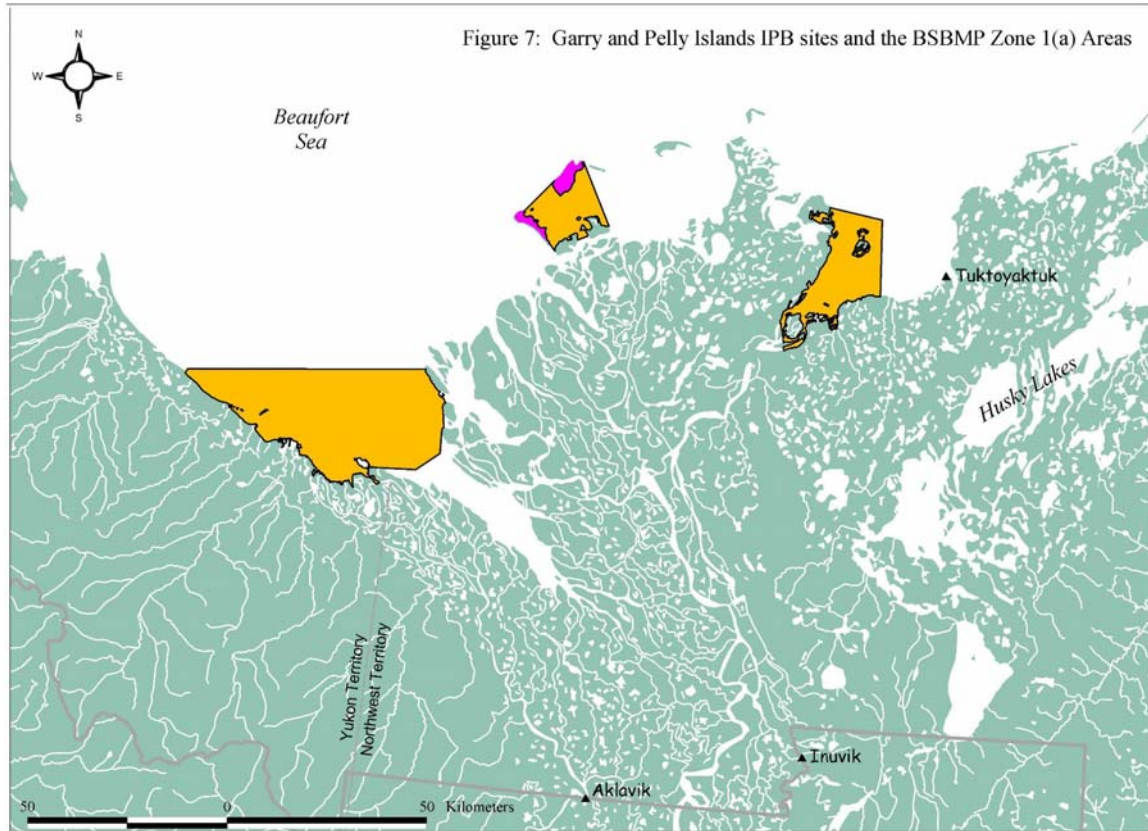
In 1989 a review of existing IBP sites was conducted (Conservation Advisory Committee on the Northern Mineral Policy, 1989). In a follow-up report it was noted that in the NWT there is:

- no process or mechanism to change the status or boundaries of IBP site;
- multiple land uses were appropriate on some sites; and
- the existing level of protection is adequate for IBP sites that overlap with existing national parks, and migratory bird sanctuaries

While the report made several recommendations with respect to future recognition and protection of IBP sites, the recommendations were not adopted.

The objectives of the proposed MPA and the IBP sites are compatible, as they are both conservation-oriented. Given the common objectives of the designations, and the lack of legal status for the IBP sites, the IBP site designation of Garry and Pelly Islands will not have any negative influence on the designation of the BSBMP Zone 1(a) area as a MPA.

Figure 7. Garry and Pelly Islands IPB site and the BSBMP Zone 1(a) area



2.2.6 Summary of Conservation Interests, and Protected Areas In and Around the AOI

There are numerous conservation interests and protected area designations in and around the BSBMP Zone 1(a). Despite a variety of conservation interests, and varying legislative and other management regimes, none of the designations would interfere with the designation of the AOI as a MPA under the *Oceans Act*.

2.3 Site Availability: Challenges and Opportunities from Industry and Development Activities

2.3.1 Oil and Gas Exploration and Development in the ISR

Oil and gas exploration in the ISR started in the late 1950's and early 1960's with a focus on finding oil resources. During this round of exploration significant gas discoveries were made in the Mackenzie-Beaufort Basin. However, the economic feasibility of proceeding from exploration to production hinged on moving the hydrocarbon resources to markets in the south.

In the 1970's a proposal to construct a pipeline to transport gas from the Mackenzie Delta to southern markets was tabled. The federal government responded by holding an inquiry into the impacts surrounding the construction of a pipeline along the Mackenzie River valley. The Mackenzie Valley Pipeline Inquiry, headed by Justice Thomas Berger, became one of the most thorough and longstanding inquiries ever held into a development proposal, and arguably the first environmental and social impact assessment that took into consideration the views and knowledge of affected aboriginal inhabitants.

The Report of the Mackenzie Valley Pipeline Inquiry (Berger, 1977) recommended a 10 year moratorium on the construction of a pipeline in order to allow time for settling land claims. As expected, the result of the moratorium was a considerable slow down in hydrocarbon exploration in the Mackenzie Delta/Beaufort Sea. In the mid-1990's a combination of political and economic factors combined to stimulate a renewed interest in exploration and development in the ISR. Table 3 below provides an overview of exploration activity in the Mackenzie Delta/Beaufort Sea for the period 1999-2002.

Table 3. Exploration Activity in the Mackenzie Delta / Beaufort Sea 1999-2002

Year	No. of Winning Bids	Value of Bids	Area (ha)
1999	4	183,218,760	293,451
2000	9	466,497,505	708,696
2001	-	-	-
2002	2	14,300,000	46,272
Total	15	\$664,016,265	1,048,419

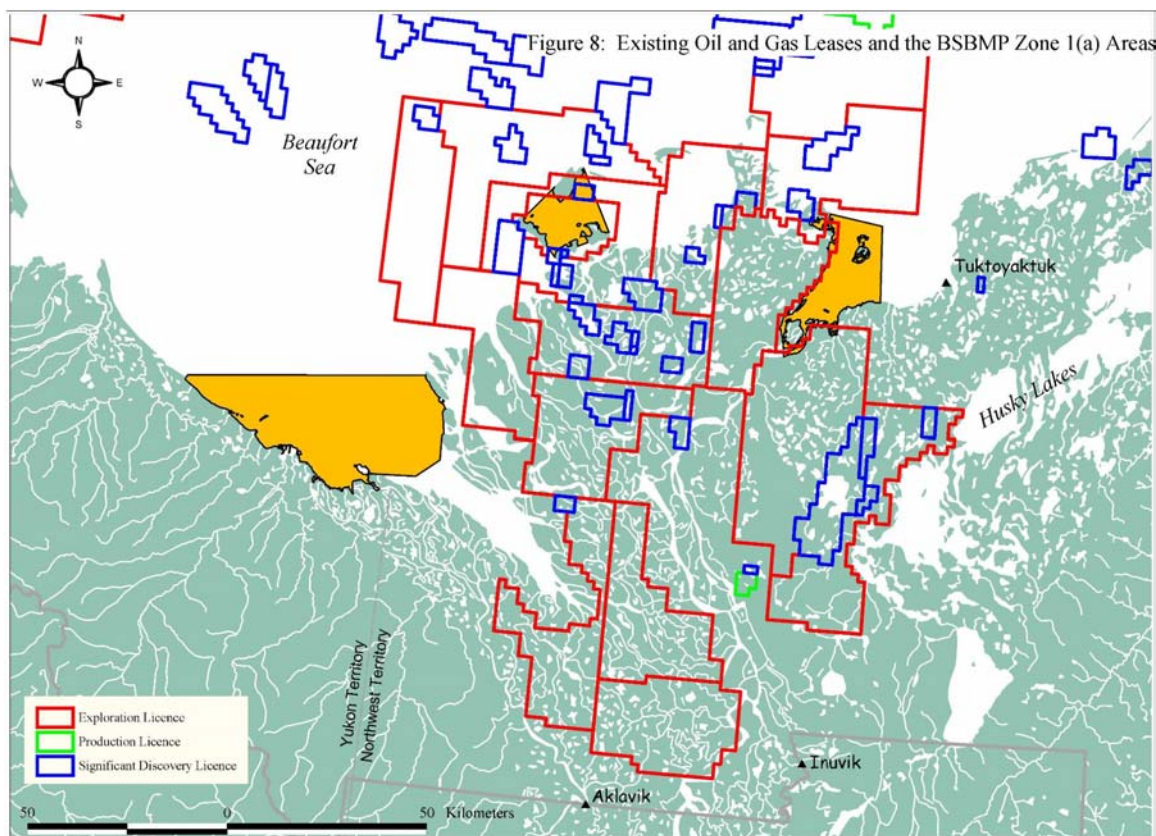
The full extent of area covered by Significant Discovery Licences (discussed below) and Exploration Licences is shown in Figure 8. Also apparent from Figure 8 is the close proximity of oil and gas licences to the Zone 1(a).

The National Energy Board (NEB) estimates that nine trillion cubic feet of discovered gas reserves exist in the Mackenzie Delta and an additional 55 trillion cubic feet in undiscovered reserves may exist. Accordingly, the Mackenzie Delta region has become a major focus for producers in North America. As in the 1970's, the key to development is the construction of a gas pipeline southward from the Mackenzie Delta through the Mackenzie Valley to existing gas pipelines in Alberta. However, now that the Inuvialuit land claim is settled, and the land claims of the other claimants along the proposed corridor are either settled or in advanced stages of negotiation, constructing a pipeline is more feasible. Furthermore, there is broad aboriginal support for a pipeline, as is exemplified by the formation of the Aboriginal Pipeline Group (APG), which consists of representatives from the eight impacted aboriginal groups along the pipeline corridor. The APG is seeking to become one-third owners of the pipeline when and if it is constructed.

There are several government departments and agencies with regulatory responsibilities for offshore oil and gas development. These include NEB, DFO, INAC, Transport Canada, and Environment Canada. Transport Canada indirectly has regulatory abilities through the shipping requirements and Environment Canada is able to issue permits for offshore dumping. Natural Resources Canada (NRcan) and the Geological Survey of Canada (GSC) do not have regulatory abilities in the Beaufort nor do they participate in the Canadian Environmental Assessment Act (CEAA) screening done by the Responsible Authority (generally NEB or DFO), however, they are dedicated to environmentally responsible sustainable development. For a comprehensive overview of the regulatory approval process for oil and gas exploration and production in the

Beaufort Sea, including pertinent acts and legislation, see “Oil and Gas Approvals in the Beaufort Sea” (Erlandson & Sloan, 2002).

Figure 8. Map of Oil and Gas Dispositions



2.3.2 Impacts of Renewed Exploration on Proposed MPA

Renewed interest in oil and gas exploration brings about several concerns that could potentially impact the establishment of an MPA. Each of the following is discussed subsequently.

1. Existing Significant Discovery Licences (SDLs)
2. Nomination of New Areas for Exploration
3. Proximity of Exploration Licences and SDLs to Proposed MPA
4. Filling in the Seismic Data “Gaps”

Existing Significant Discovery Licences

A Significant Discovery Licence (SDL) is defined as an area that “confirms a hydrocarbon discovery which satisfies specific technical criteria and describes the area over which the discovered resources extend.” (INAC, 1999). When a discovery is made, the company must apply for it to be recognized and declared a Significant Discovery Area (SDA) by the NEB. The company can then apply to INAC for a Significant Discovery Licence (SDL). The SDL is issued by INAC and allow the licensee company to hold the area and the rights to its potential production, in perpetuity. There are currently 116 outstanding SDL’s in the NWT.

The following SDLs are of particular interest since they overlay a portion of the proposed MPA:

Table 4: Significant Discovery Licenses that Overlay the BSBMP Zone 1A

SDL #	Year Granted	Area (ha)	Company	Zone 1a Affected
SDL 028	1988	1,809	Suncor Energy Inc	Kendall Island Zone 1(a)
SDL 025	1988	1,216		
SDL 015	1987	304	Chevron Canada	Kendall Island Zone 1(a)

It should be noted that the overlaps that exist between the proposed MPA and existing SDLs are not large. Nevertheless, implications for the establishment of a MPA over the area of the Zone 1(a) covered by the SDLs need to be carefully considered and provisions made for addressing the overlaps since the rights of the SDL licence holder are explicitly recognized. Feasible options that exist for dealing with the overlapping boundaries are summarized in Table 5.

Table 5: Options for dealing with Overlap between SDL's and the Zone 1a

#	Option	Comments
1	Request the licence holder to voluntarily agree to exclude the areas that overlap from any exploration or development activities while the MPA is in place.	This essentially reflects the status quo since companies with areas that overlap the Zone 1a's have not carried out any activities therein to date.
2	Request the licence holder to apply to INAC for a change in the boundary of the SDL such that the overlap area is removed from their SDL	Since the companies have not been active in the overlap areas to date they may not have an interest in retaining these areas. However, voluntarily giving up these overlaps to contribute to an MPA could be very beneficial from a public relations standpoint.
3	Request the licence holder to consider using directional drilling as a means of accessing reserves from outside of the overlap areas.	In some cases this may be preferable if it means that the reserves can be accessed from shore based facilities rather than through the construction of artificial islands.
4	Change the MPA boundary to exclude the SDL.	This is the least preferred option as it sends the message that the conservation values and reasons for establishing the MPA are secondary to the interests of economic development and may be compromised.
5	Incorporate the overlap area of the SDL within the MPA and designate the area through zoning to permit access to the reserves under strict environmental guidelines.	Guidelines could address discharge, timing i.e., to restrict activities to those times of the year when beluga are not present and subsistence whaling activities are not in progress, etc.

Reaching agreement on how protection and conservation of beluga can be met without imposing excessive costs or restrictions on existing tenures such as the Exploration Licences and SDL is necessary prior to establishment of the MPA. These negotiations will involve the licence holders and INAC, the licensor/regulator.

Nomination of Areas for Exploration Licences

An Exploration License gives a company the right to explore an area for oil and gas deposits and is valid for up to nine years. The Exploration License is released to the winning bidder after the call for bids by INAC's Northern Oil and Gas Directorate in Ottawa which has responsibility for the issuance of petroleum rights to crown lands in the NWT. Issuance of Exploration Licences is a two-stage process. First, INAC initiates a Call for Nominations. During this phase, interested companies nominate parcels of NWT land that they believe contain oil and gas potential. Once the Call for Nominations closes, INAC offers the nominated parcels in a Call for Bids. Any company is then free to bid for the exploration rights to the parcels.

Prior to the Call for Nominations in the ISR, as a courtesy, INAC consults with other government agencies such as DFO, and the Inuvialuit organizations – IGC, FJMC – to determine if there are areas that should be excluded from the Call for Nomination. DFO, IGC & FJMC always request that the BSBMP Zone 1(a)'s be excluded. INAC has honored these requests and exploration licences have not been issued for the Zone 1(a)'s. Because INAC is not a signatory to the BSBMP, it is not bound to adhere to the BSBMP guidelines which state that there should be no oil and gas exploration or other potentially harmful activities permitted within the Zone 1(a)'s. In other words, INAC voluntarily recognizes and adheres to the BSBMP but is not bound to do so. If the AOI was designated as an MPA, it would be possible to develop a regulation that would ensure that the areas were not ever considered for a Call for Nominations.

Filling in the Seismic "Gaps"

While seismic surveys (both 2D and more recently 3D) in the Mackenzie Delta and southern Beaufort Sea have been extensive, there are some data gaps underlying the Kendall Island, Zone 1(a). Filling in these gaps would assist exploration companies to delineate the size and extent of their reserves. The possibility of permitting a one-time only exploration of the Zone 1(a) has been proposed so that companies would be able to have access to complete information. Any seismic work that would be permitted for this purpose would have to be completed under strict environmental conditions so as to cause minimal disturbance to the area.

Proximity of Exploration Licences and SDLs to Proposed MPA

Exploration licenses surround and abut the north, south and western boundaries of the Kugmallit Bay Zone 1(a). It is possible that there may be overlap with Exploration Licences (EL407 and EL410) and the Kendall Island Zone 1(a). There are also some exploration licenses north east of the Shallow Bay Zone 1(a). Although, none of these intersect the AOI, if the "over the top" pipeline option is constructed as currently proposed, it would cross through the Shallow Bay Zone 1(a).

The proximity of the EL's and SDL's to the Zone 1(a)'s is of concern, as conflicts could arise if incompatible activities, i.e., harvesting of beluga, and construction and production of hydrocarbon resources take place simultaneously. Concerns also exist surrounding the direct impacts on beluga and beluga habitat that are associated with oil and gas production. Examples include: transportation issues, such as the movement of crews and equipment to the production site by ship or helicopter; construction activities such as dredging for artificial islands; and production activities that create noise or result in discharges into the marine environment, such as drilling.

2.3.2 Tourism Industry and Tourism Development

Tourism is an important economic activity in the NWT. According to Kavik-Axys (2002) tourism is the third leading export and is continuing to grow. Territorial government statistics gathered through surveys show that tourists visiting the Inuvik region spend at least \$452 per person during their stay. With an average of 7,000 visitors per year (1995 to 2001) to the region the benefits are substantial and spread among 25 tour operators (three major inbound tour operators and 22 smaller local tour operators located in Inuvik, Tuktoyaktuk and Aklavik (Dressler, no date, unpublished).

Research conducted by Dressler (no date, unpublished) found that among the Inuvialuit small-scale tourism provides jobs and is a means for supplementing hunting activities. Dressler (ibid) also learned that many Inuvialuit elders saw tourism as one of the few stable and accessible employment alternatives in the area. That tourism is complementary to land-based activities and provides cash necessary for equipment and supplies is seen as an added benefit. With 88 percent of the tourists who visit the region doing so to view wildlife and nature, there is ample opportunity to for small tour operators to subsidize their traditional hunting and fishing activities with cash earned through tourism.

While opportunities exist for expansion of the tourism sector, tourism activities within the Zone 1(a) are restricted through “Tourism Guidelines” developed by the FJMC. Development of these Guidelines was seen as necessary to avoid negative impacts on the traditional harvesting of beluga and to minimize harassment of beluga. Following are the Guidelines applicable to the Zone 1(a) areas (FJMC, 2001:18):

- there shall be no water based tourism or related activity in Zone 1(a);
- subsistence hunting takes priority over tourism activities;
- HTC’s will designate areas to be used for whale watching/tourism within the ISR;
- Tourism operators must have a written Agreement with the appropriate HTC;
- Specific Guidelines are provided covering harassment, timing of activity, tour length, photography, use of aircraft and protection of the environment.

While the Guidelines are intended to protect beluga and the beluga harvest, the FJMC recognizes the potential benefits and economic opportunities associated with tourism development. This is reflected in one of the BSBMP objectives:

“To facilitate tourism opportunities associated with belugas while minimizing the impacts of such activities on belugas and beluga harvesting.” (FJMC, 2001:17).

In addition to the BSBMP Tourism Guidelines, there are federal regulations i.e., Marine Mammal Regulations under the *Fisheries Act*; Government of the Northwest Territories legislation (licencing and operational guidelines for tourism businesses); and sections of the IFA that deal with tourism operations and impacts. As well, Subsection 35(3) of the *Oceans Act* provides for the establishment and enforcement of regulations that are necessary to ensure a MPA is effective in achieving its objectives (see Appendix G).

If the Zone 1(a) were designated as a MPA, the BSBMP Tourism Guidelines could be used as the starting point for development of regulations under this section of the *Oceans Act*. With the Tourism Guidelines captured in regulations, adherence is no longer voluntary and enforcement has the strength of law and penalties behind it. However, it must be noted that to date the Tourism Guidelines are considered to be relatively effective. This may be due to the fact

that most of the operators are Inuvialuit and therefore understand and respect the sensitivities surrounding the cultural traditions associated with the beluga harvest. Should the MPA proceed it is possible that there will be more pressure on operators to provide access to culturally based activities such as visiting whaling camps and observing the beluga hunt.

Designation of the Zone 1(a) as a MPA will draw national and perhaps international attention. This could induce additional tourism pressure on the area with the possibility of attracting non-Inuvialuit tourism operators. Careful monitoring would be necessary to ensure that tourism activities are conducted in a manner that is culturally and environmentally sensitive.

Table 6: Regulations and Guidelines Pertaining to Tourism and Tourism-related Activities

	Important Components	Implications for Tourism Industry/ Activity in AOI
Inuvialuit Final Agreement	<ul style="list-style-type: none"> gives priority to Inuvialuit for guiding, outfitting and commercial activities related to wildlife. Section 14(42) established the Renewable Resources Management Committee to deal with consumptive side of tourism established the FJMC, which looks at the potential impacts of tourism on fisheries resources IGC, HTC's and co-management boards mandated to address the negative impacts of tourism Creation of the Environmental Impact Screening Committee (EISC) and Environmental Impact Review Board (EIRB) 	<ul style="list-style-type: none"> HTCs write by-laws pertaining to tourism in their community IGC advises the Territorial and Federal governments on policy legislation, regulation and the administration of wildlife FJMC develops tourism guidelines in association with the BSBMP EISC screens proposals for tourism activity in AOI EIRB reviews proposals at the request of the EISC
RWED Guidelines	<ul style="list-style-type: none"> responsible for operational guidelines and licensing of tourism businesses and facilities 	
Marine Mammal Regulations (under the <i>Fisheries Act</i>)	<ul style="list-style-type: none"> describe marine mammal fishing regulations including locations, times, equipment, permits and quotas for marine mammal harvest. prohibit disruption and harassment of marine mammals 	<ul style="list-style-type: none"> tourism activities such as boating and low-level flying (for the purposes of improved wildlife viewing) have the potential to disrupt marine mammals, however proving mammal disruption is difficult
CCPs	<ul style="list-style-type: none"> there are site-specific tourism guidelines within each CCP 	

(Sources: Dressler, 1999; FJMC, 2001; FJMC, 1994)

2.3.3 Shipping and Transportation Industry

Currently shipping and marine transportation corridors, as well as winter ice road routes go through the Zone 1(a) areas (Figure 9.). There are eight privately-owned companies that provide either shipping or transport services in the Delta region (Kavik-Axys, 2001). The increase in oil and gas-related activity in the Beaufort Sea has caused an increase in shipping activities. Seafloor bathymetry (shallow water) dictates the location of the corridors.

Shipping activity in the Beaufort Sea and Mackenzie Delta is regulated through the *Arctic Waters Pollution Prevention Act* and the *Canada Shipping Act*. These Acts are administered by Transport Canada and outline ship classification standards, Canadian Coast Guard icebreaker use, reporting requirements, spill response and emergency planning. Shipping routes and dates are guided by ice regimes.

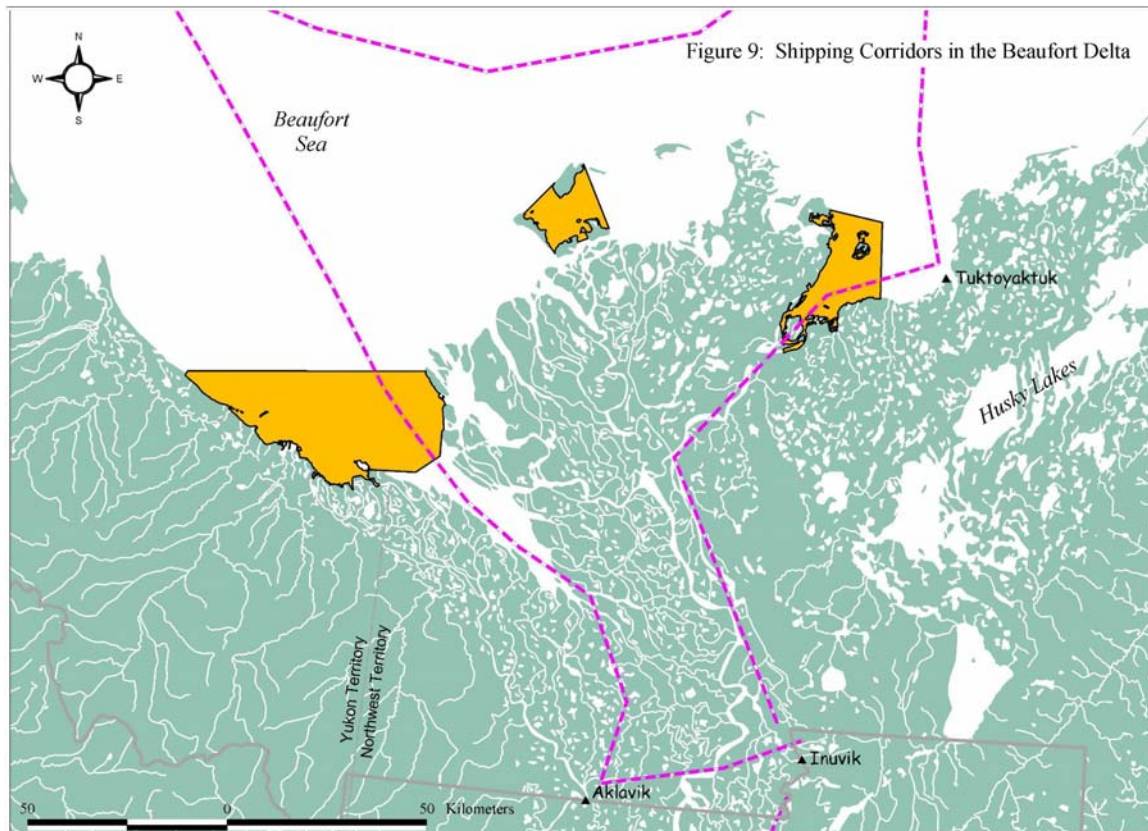


Figure 9. Shipping Corridors in the Beaufort Delta

The health and prosperity of the communities in the Delta region is dependent on the arrival of goods shipped by barge and transported by truck on winter ice roads. Maintaining regular shipping activity and winter ice roads is therefore of utmost importance to these communities. As the bathymetry of the seafloor limits shipping activities to corridors that run through the Zone 1(a) areas, avoidance of these areas is not possible. With regard to shipping activity in the Zone 1(a) areas the BSBMP states, “All shipping activities (including dredging) should be confined to designated shipping routes and areas. Passage through or close to Zone 1a outside of designated routes, even if it’s the shortest route, should be avoided from break-up to 15 August.” (FJMC, 2001:14).

Construction guidelines for winter ice roads (including private access roads to oil and gas camps) require that only clean snow and water be used for construction. Environmental conditions, adherence to construction regulations, and pollution related to the ice roads are monitored by DFO, INAC and NEB (M. Simms, DFO, Pers. Comm.). In locations where the ice roads cross the Zone 1(a) areas, FJMC requests that all roads area used exclusively as transport corridors and not be used for the purpose of recording seismic information or any form of exploration activity (E. McLean, FJMC, Pers. Comm.).

As it is imperative that the shipping corridors remain open, the shipping corridors deserve special consideration if the Zone 1(a) areas are designated a MPA. Options for special consideration that could be accommodated through regulations developed under subsection 35(3) of the *Oceans Act* (see Appendix H) would include:

- a) Specifying “shipping / transportation zones” within the MPA. (Section 35(3) b (i))
- b) Restricting marine transport services during the summer harvest season. (Sections 35(3) b (ii) and (iii))
- c) Prohibiting dredging activity for the purposes of creating new shipping lanes within the Zone 1(a) areas, and allow shipping and transport to continue in the existing corridors. Note, some dredging activity may be required to maintain the existing transport corridors, so any prohibition under the *Oceans Act* would have to recognize the need for this activity to continue. (section 35(3) b (ii)).

2.3.4 Aircraft Transportation

Both fixed-wing aircraft and helicopter companies operate within and in the vicinity of the Zone 1(a) areas. In addition to regular service to the Delta communities, the companies charter to a variety of clientele including government, industry, tourists and local residents (Kavik-Axys, 2001). While winter activity is generally limited to oil and gas charters, business in the summer months can amount to two flights per day (Kavik-Axys, 2001). The BSBMP Tourism Guidelines specify minimum flying heights over the zone 1(a) areas, compliance with these guidelines is voluntary, and incidences of non-compliance have been recorded by hunters under FJMC’s air traffic monitoring program. Regulation of airline routing over the territorial sea falls under section 4.2 f of the *Aeronautics Act*. Noise emanating from aircraft could also be regulated under section 4.9f of the *Aeronautics Act* (Dressler, 1999).

2.4 Boundaries of the Proposed MPA

The existing boundaries of the BSBMP Zone 1(a)’s were established on the basis of areas where beluga are known to concentrate and where they have traditionally been hunted. While these areas were not formally mapped or designated until the first BSBMP was released in 1991, the general “boundaries” of the Zone 1(a)’s were known by Inuvialuit because of their traditional use of the areas. In the absence of the discovery of oil and gas in the Beaufort Sea formal boundaries would have been unnecessary. However, with the discovery of these resources and the issuance of exploration and development rights within and surrounding the traditional beluga concentration and hunting areas the Inuvialuit were required to assert and protect their rights.

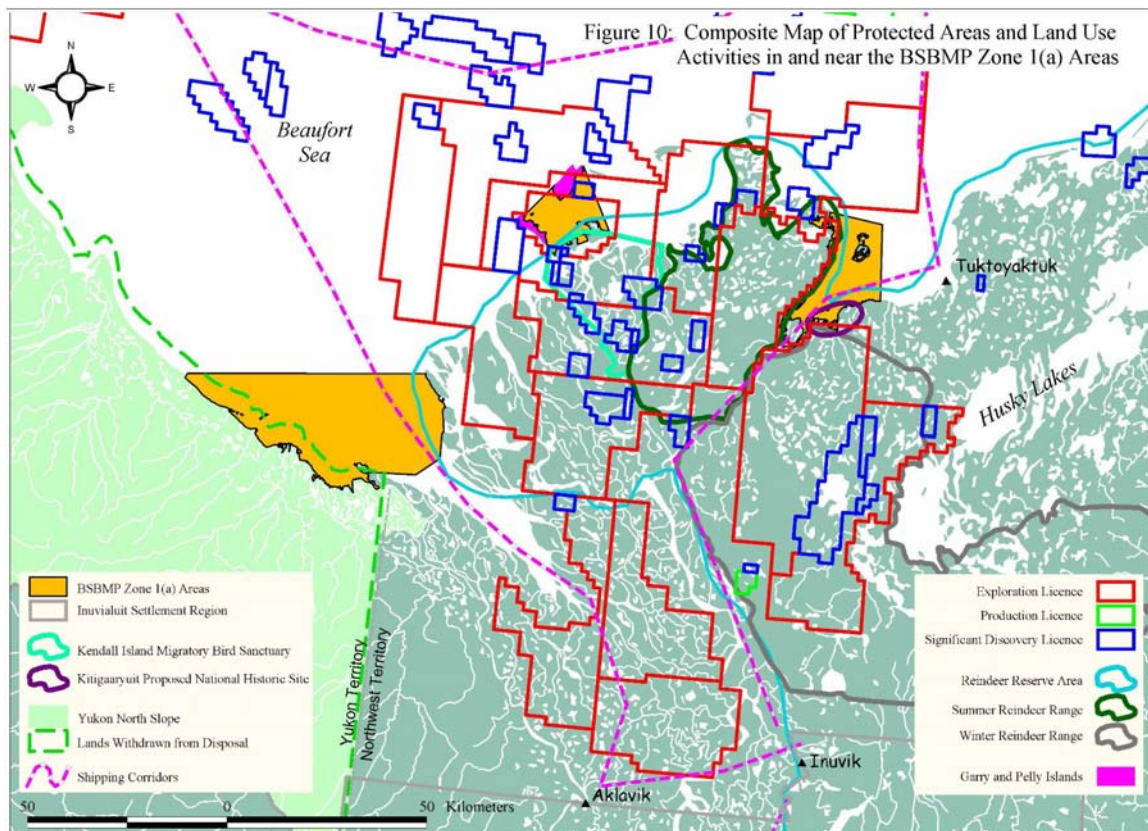
Conservation designations and protected areas adjacent to the AOI were discussed in Section 2.2. While the Kendall Island MBS and the Reindeer Reserve overlap the AOI, these designations should not affect the boundary of the AOI. Similarly, the boundary of the AOI should not be impacted by the existence of the Kitigaaryuit National Historic Site, or the Garry and Pelly

Islands IBP sites. The boundaries of the AOI should also not be affected by the shipping, marine and air transport, and tourism industries.

The greatest influence on the boundary of the AOI will be the presence of the existing oil and gas leases. As is evident from Figure 10 the Zone 1(a) areas are within a region of extensive oil and gas exploration and development interest. The licences and leases granted to oil and gas interests effectively constrain the enlargement of the Zone 1(a) areas, or the addition of other areas including buffer zones that would provide an additional safety net between the beluga and future development activities.

Typically, a MPA consists of a core protected area where restrictions on the types of activities permitted are most stringent surrounded by a buffer zone(s). The *National Framework for Establishing and Managing MPAs* describes buffer zones as “areas defined around the MPA to protect it from unnecessary encroachment of human activities that may damage important species or habitats of the MPAs ecosystem.” (DFO, 1999). Within the buffer zones activities are managed in a manner that conserves and protects the marine resources and habitats within the MPA. Without buffer zones the potential for conflicts between adjacent uses, i.e., MPA and industrial, is enhanced, and the need for mutual awareness and cooperation is increased.

Figure 10: Composite Map of Protected Areas and Land Use Activities



Due to the encroachment of the oil and gas licences on the boundaries of the Zone 1(a)'s it is not feasible to establish a buffer zone around these core areas unless it is a voluntary gesture on the part of the licence holders. Nonetheless, even though the *Oceans Act* can not provide regulatory control beyond the MPA boundary, beluga and beluga habitat will still be under the protection provided under the *Fisheries Act* and the Marine Mammal Regulations. In addition, all

development proposals will still be required to go through the regular EISC screening process, which allows for FJMC and IGC input.

2.5 The capacity of management resources for Planning and Management

The Beaufort Sea Integrated Management Planning Initiative (BSIMPI) is a collaborative process between the Inuvialuit, government and industry to undertake integrated management planning in the Beaufort Sea. Two organizations were established for the management of BSIMPI, the Senior Management Committee (SMC) and the BSIMPI Working Group (WG). The SMC guides the integrated management planning process through the BSIMPI WG. The SMC has 5 members; Chairs of the FJMC, Inuvialuit Game Council (IGC) and Inuvialuit Regional Corporation (IRC), and a senior representative from DFO and the Canadian Association of Petroleum Producers (CAPP).

The Working Group has six members and an independent Chair. Members include one representative from each of the board or committees of the FJMC, IGC and IRC, plus a representative each from Indian and Northern Affairs Canada, DFO and CAPP. Administrative, technical and communication support is provided through the BSIMPI Secretariat, which consists of Regional DFO Oceans staff and the Chair of the BSIMPI WG.

The interests and the mandates of the organizations represented on the BSIMPI SMC and the WG with respect to ocean use can vary significantly. These are summarized below:

Fisheries Joint Management Committee (FJMC):

“to assist Canada and the Inuvialuit in administering the rights and obligations relating to fisheries under this Agreement (IFA) and to assist the Minister of Fisheries and Oceans of Canada in carrying out his responsibilities for the management of fisheries...”

“to advise him (the Minister) on matters relating to Inuvialuit and Inuvialuit Settlement Region fisheries.” (IFA, s.14.(61)).

Inuvialuit Game Council (IGC):

to “represent the collective Inuvialuit interest in wildlife.” (IFA, s.14.(74)).

Inuvialuit Regional Corporation (IRC):

The IRC “shall be responsible for the management of the compensation and benefits received by the Inuvialuit pursuant to this Agreement (the IFA): (a) the Inuvialuit Regional Corporation (“IRC”), a corporation without share capital, to receive initially the Settlement lands and financial compensation for transfer, in respect of lands, to the Inuvialuit Land Corporation and, in respect of financial compensation, to the Inuvialuit Development Corporation and the Inuvialuit Investment Corporation; also, to administer Inuvialuit lands through its division, the Inuvialuit Land Administration, and to take responsibility for matters related to supervision, management and administration of such lands, and to hold 100% of the voting common shares in each of the development, investment and land corporations;” (IFA, s6.(1)).

Fisheries and Oceans Canada (DFO):

“For the purpose of the implementation of integrated management plans, the Minister (a) shall develop and implement policies and programs with respect to matters assigned by law to the Minister; (b) shall coordinate with other ministers, boards and agencies of the Government of Canada the implementation of policies and programs of the Government with respect to all activities or measures in or affecting coastal waters and marine waters;” (Oceans Act s.32(a), (b)).

Canadian Association of Petroleum Producers (CAPP):

“The Canadian Association of Petroleum Producers (CAPP) is the official voice of the upstream oil and natural gas industry in Canada. CAPP represents more than 140 member companies who explore for, develop and produce over 97 per cent of Canada's natural gas, crude oil, oil sands and elemental sulphur.

Working closely with our members, governments, communities and stakeholders, CAPP analyzes key oil and gas issues and represents member interests nationally in 12 of Canada's 13 provinces and territories. We also strive to achieve consensus on industry codes of practice and operating guidelines that meet or exceed government standards.” (CAPP Website)

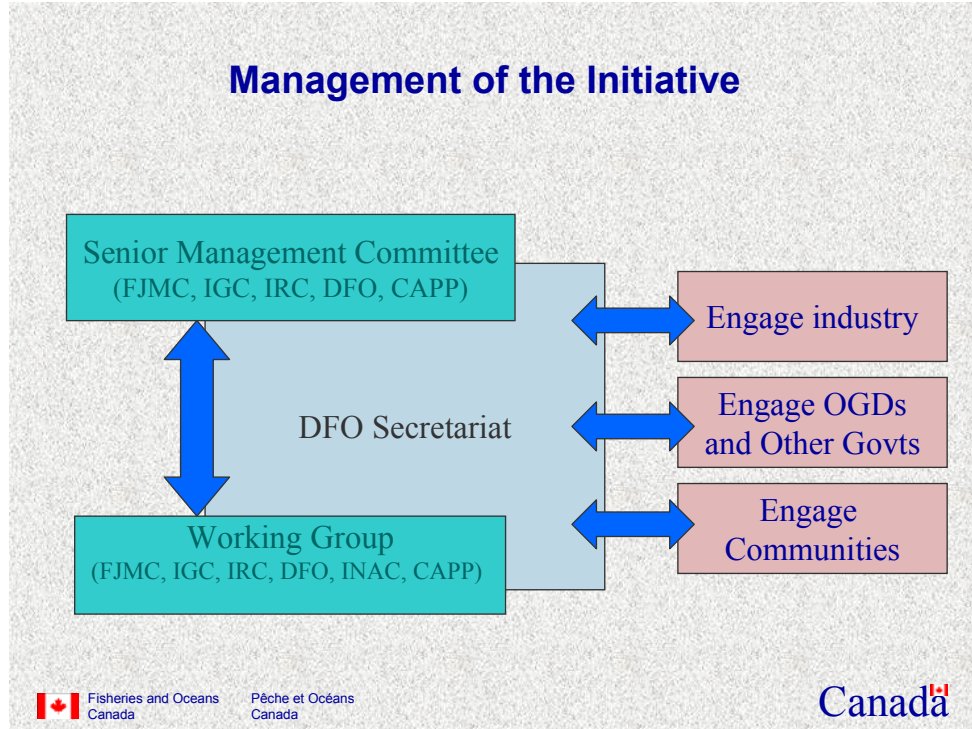
The BSIMPI is guided by the following principles:

- Recognition of rights under the IFA
- Respect for the view of all parties
- Commitment to building consensus
- Use of local, traditional and scientific knowledge
- Adoption of transparent, timely and coordinated procedures

Other organizations, governments and communities also have interests in ocean use and management. The major function of the BSIMPI Secretariat is to engage these other interested parties so that their issues, comments and recommendations can be brought into the process as well as keeping these parties informed of BSIMPI activities and progress.

The management structure of BSIMPI is shown in Figure 11:

Figure 11: Management Structure of BSIMPI



2.6 Cooperative partnering or co-management arrangements: MPA Management Support

Since the signing of the IFA in 1984 a very strong institutional environment that is supportive of co-management and partnership arrangements has developed. Management of the proposed MPA could be facilitated through one of the following collaborative management arrangements:

1. Using an existing organization or board
2. Modifying an existing organization's mandate
3. Creating a new organization or management board.

Each of these options is considered briefly below.

1. Using an existing organization or board

Existing organizations in the ISR could assume management responsibilities for the MPA. The Fisheries Joint Management Committee is an example of such an organization. The FJMC was established by the Minister of the Department of Fisheries and Oceans in 1986. It is a land claim based co-management body with responsibilities to:

- assist Canada and the Inuvialuit in administering the rights and obligations related to fisheries under the IFA;
- assist the Minister in carrying out his responsibilities for the management of fisheries and marine mammals in the ISR, and
- advise the Minister on all matters relating to Inuvialuit and ISR fisheries.

The FJMC currently oversees management of the Zone 1(a) areas through the BSBMP, and might agree to oversee the management of these zones as an MPA. The extra workload of managing the MPA would place additional pressure on the capacity of the FJMC and extra resources would be required. Management of the MPA could be facilitated through a subcommittee under the FJMC. A long-term working relationship with the BSIMPI Secretariat would need to be defined under this scenario.

2. Modifying an existing organization's mandate

The Department of Fisheries and Oceans has an existing mandate to manage MPAs under the *Oceans Act*. Regional Oceans staff and resources may have sufficient management capacity under the BSIMPI Secretariat to oversee the MPA. Depending on the scope of the management plan developed, additional resources might be required. The viability of this option would depend heavily on the support and involvement of the Inuvialuit organizations, particularly the FJMC, in order to ensure proper recognition of the FJMC's constitutionally mandated role.

3. Creating a new organization or management board

The recently-created BSIMPI Working Group could be asked to take the lead role in managing the MPA. Alternatively, a new management body (such as a subcommittee under the FJMC) could be created to assume this responsibility.

2.7 Support for the Proposed MPA

The BSIMPI builds on a twenty-year history of marine conservation planning in the community, and four years of intensive discussion, meetings, research, analysis and consultations. Five groups were party to the agreement to establish a Steering Committee to guide initiatives related to the development of a management planning process for ocean-related activities in the Beaufort Sea. These included the FJMC, the IGC, the IRC, the CAPP and DFO. The FJMC has responsibilities relating to fisheries under the IFA, and advising the Fisheries Minister on the management of fisheries in the region. The IGC represents the collective Inuvialuit interest in wildlife. The IRC is charged with promoting Inuvialuit political and economic interests.

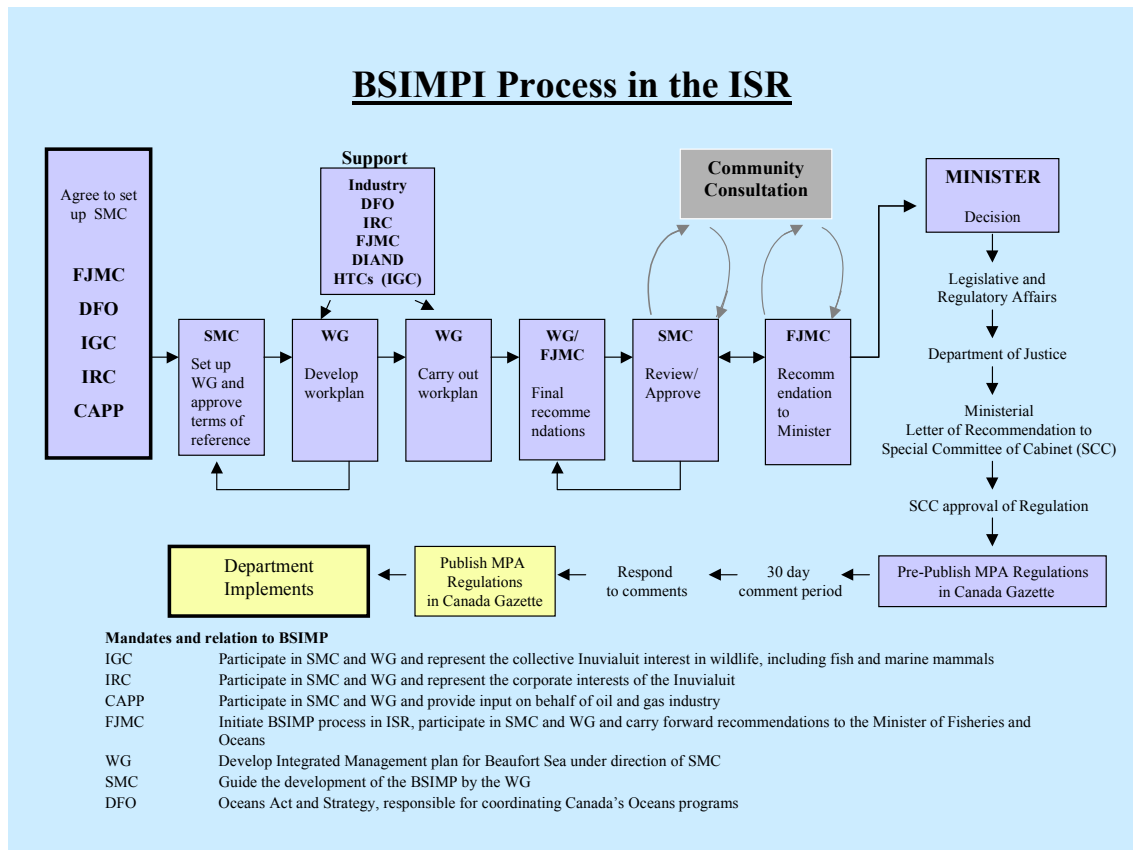
Since 1998 Oceans staff have attended regular meetings of the FJMC and the IGC in order to provide updates on implementation of the Oceans strategy, to discuss the status of the proposed MPA, and to seek advice from community members. A number of community consultation tours have been undertaken to the communities of Tuktoyuktuk and Aklavik together with the FJMC. Staff have been located in Inuvik since August 2000, in order to be able to deal with the communities more effectively. Subsequently additional staff have been hired and located in Inuvik to support this effort.

Figure 12 depicts the process which has been followed to date, as well as further steps to be taken should the recommendation be to proceed to develop the proposed MPA further. The FJMC, DFO, the IGC, IRC and CAPP formed the Senior Management Committee under the BSIMPI. As shown in Figure 12, the SMC created a Working Group and developed terms of reference to guide the WG in its implementation activities in support of SMC priorities. The WG developed a three-year workplan and has been actively implementing that workplan.

A major activity has been following the process for evaluating the proposed MPA. Community and Industry consultation plans have been developed and consultation activities initiated. These consultations are scheduled to be completed by March 2003. Initial consultations have indicated support for the evaluation process, and interest in gaining additional information about the proposed MPA and the MPA establishment process. There is strong community support for the BSBMP. Further consultations will be needed to assess the level of community support for an MPA in the Zone 1 (a) areas. The BSIMPI WG has also arranged for a non-renewable resource assessment to be conducted to achieve a more in-depth understanding of the cost/benefits associated with the proposed MPA. When the WG and FJMC are satisfied that sufficient support has been received, and sufficient benefits documented, the FJMC will make a recommendation to the Minister of Fisheries and Oceans to create a MPA in the Zone 1(a) areas.

The steps that will be taken subsequent to this recommendation are outlined in Figure 12 as well. DFO Oceans staff in Ottawa will guide the process through these stages, in consultation with BSIMPI members. They include developing regulations and moving these regulations through Legislative and Regulatory Affairs, the Department of Justice and the Special Committee of Cabinet (SCC). Once the SCC has approved the regulations, they will be pre-published in the Canada Gazette. A 30-day comment period is allowed. If comments are received, responses and /or changes will be made to the draft regulations. Finally they will be published in the Canada Gazette, and the MPA will become law.

Figure 12. BSBMPI Process in the ISR (adapted from R. Bell, 2001)



2.8 The demonstration value of the site for ecological conservation purposes

This section addresses the ability of the proposed MPA to meet conservation and ecosystem objectives. The Zone 1(a)s have periods of high use by a multitude of species, including the beluga. The reasons for the congregation of beluga in these areas during the summer is not yet well understood. By applying the precautionary principle and planning cautiously when information gaps exist, the establishment of the proposed MPA may help preserve some essential component of the ecosystem that is not yet well understood, but clearly valuable to the beluga.

According to the ecological assessment the Zones 1 (a) areas provide “habitat for a substantial portion of the Beaufort Sea beluga whale population”, and “represent important summer feeding, migratory, and overwinter habitat for a number of anadromous and euryhaline fish species” (North/ South Consultants Inc. 2002:2). Furthermore, the AOI and surrounding area are used by endangered, and threatened and species such as the bowhead whale, the Eskimo curlew, Ross’s gull (North/ South Consultants Inc. 2002). The establishment of a MPA, and the subsequent enactment of regulations under section 35(3) of the *Oceans Act* could contribute to the conservation of these species by protecting this component of their habitat. The ecological assessment also notes that designation of the Zone 1(a) areas as an MPA would enhance the viability of important marine mammal populations, genetic stocks, and aggregations through conservation and protection of important species and communities, critical species life stages, essential habitats and ecosystem components, and environmental support systems (North South Consultants, 2002).

The following items will need to be considered in drafting management objectives for an MPA

- Many of the species that use the area are migratory. The proposed MPA does not cover the entire expanse of their habitat, and thus can not provide full protection for these species. However, establishment of the proposed MPA is one component of broader integrated management planning efforts for the Beaufort Sea (see sections 2.2; 3.5). Other measures such as those outlined in the BSBMP Zones 2 and 3, for example, could be taken as needed to protect beluga and their habitat beyond the MPA boundaries. Additionally, the establishment of a MPA in this area may act as an impetus for neighboring countries to evaluate the sufficiency of their own marine protection mechanisms.
- For the proposed MPA there are marine environmental quality issues of particular concern. These include the potential impacts of pollution resulting from areas of oil and gas leases, and the potential threat of upstream pollution affecting the estuarine environment. While it is not possible to regulate activities outside the MPA under the *Oceans Act*, there are other forms of legislation in place that seek to prevent oil and gas pollution. Nonetheless, the establishment of an MPA would help increase awareness of the sensitivity of the area, which may influence how industry chooses to conduct its activity in the nearby areas. While increasing the size of the area being considered for an MPA to include a greater part of the estuary and river environment may help mitigate upstream pollution, this is not feasible because of existing SDLs and ELs.
- Establishing a MPA may lead to an increase in tourism activity within or nearby the MPA, or an increase in peoples' interest in visiting the area. Management objectives for the MPA would need to take into consideration such an increase in activity and ensure that such activity would be conducted in a way that would harmonize with the conservation objectives of the MPA.

The MPA would make a contribution to the conservation value of the site both directly and indirectly. By providing protection to the area a direct contribution to conservation is made. Indirectly the establishment of the proposed MPA would help highlight the importance of the area, which could result in the derivative effects discussed above.

3.0 REVIEW OF THE ZONE 1A MPA PROPOSAL

This section begins with an overview of how the proposed MPA satisfies the criteria for establishment of an MPA as detailed under the *Oceans Act*. As well, the contribution of an MPA towards fostering integrated management of the Mackenzie River Delta/southern Beaufort Sea is considered together with partnering and co-management options that could assist with achieving a coordinated decision-making process for the region.

3.1 How the Beluga Zone 1(a)s meet the purposes for MPA status as defined under Canada's Oceans Act

For an area to be considered a candidate site for MPA designation under the *Oceans Act*, it must meet one or more of the criteria set out in the *Act*:

- a) *the conservation and protection of commercial and non-commercial fishery resources, including marine mammals and their habitats;*

- b) the conservation and protection of endangered or threatened species and their habitats;*
- c) the conservation and protection of unique habitats;*
- d) the conservation and protection of marine areas of high biodiversity or biological productivity; and*
- e) the conservation and protection of any other marine resource or habitat as is necessary to fulfill the mandate of the Minister of Fisheries and Oceans.*

The BSBMP Zone 1(a)'s would qualify for designation as an MPA as follows:

a) Conservation and protection of non-commercial fishery resources including marine mammals and their habitats

Beluga hunted within the Zone 1(a)s constitute an important non-commercial fishery. With an average annual landed catch of 111 per year (1990-1999) (DFO Science, Stock Status Report E5-38 (2000)) beluga serve as an important source of food particularly the muktuk (skin) which is rich in vitamin C and high in energy content. Beluga also provide meat, fat, oil, leather, tools and material for arts and crafts, and are a source of food for sled dogs.

The Mackenzie River delta and nearshore areas of the southern Beaufort Sea including the Zone 1(a)s support large and important populations of marine and anadromous fish including; fourhorn sculpin, Arctic flounder, coregnoids, cisco and whitefish. (Wright et al, 1985). Several species of fish use the estuary as an access corridor to migrate to feeding grounds.

South Kugmallit Bay and Shallow Bay are among several known major overwintering and rearing areas that have been identified for species of anadromous and marine fish (Wright et al, 1985). Pacific herring are also found in the estuary. However, additional research is required to identify Pacific herring spawning areas thought to occur in the area i.e., Tuktoyaktuk Peninsula. Inuvialuit report that beluga follow migrating herring a food source eastward along the Arctic coast to the Mackenzie River estuary/southern Beaufort Sea in the spring.

c) Conservation and Protection of Unique habitats

The Mackenzie River estuary is unique with respect to its use by beluga, i.e., the Mackenzie River delta (Shallow Bay, east Mackenzie Bay and Kugmallit Bay) is the only known traditional summer concentration areas for the Beaufort Sea beluga stock. While other large rivers and estuaries are found along the Arctic coast they do not have the variety of conditions that attract beluga i.e., large shallow bays, brackish, turbid, warm waters, sand or coarse bottom for moulting, and proximity to calving and feeding areas.

d) Conservation and protection of marine areas of high biodiversity or biological productivity

The southeastern Beaufort Sea and Mackenzie River estuary and delta are critical migratory bird nesting and moulting areas. Over 100 species of birds have been recorded in the region of which 35 are major users of the offshore, coastal and or river delta areas. The Mackenzie River delta and estuary, together with the Anderson River delta are important spring staging areas for snow geese that nest in the western Canadian Arctic. Many waterfowl (ducks, geese, swans) and some seabirds moult in the Mackenzie River estuary and delta and during this time are vulnerable, to disturbance predation and contamination because of their partial immobility (LGL, 1982). As previously noted, the importance of the area bounded by Kendall Island and Gary Island and encompassing Richards Island has been recognized since 1961, at which time the Kendall Island Migratory Bird Sanctuary was established to protect the staging and breeding grounds of many water bird species, especially the Lesser Snow Geese.

Complex interactions among the region's various components has created habitat for approximately fifty-four species of mammals, one hundred and thirty seven species of birds, one amphibian and fifty five species of fish. For example, the flat and featureless islands of the Kendall Island Bird Sanctuary are flooded every year in the spring because of high water levels of the Mackenzie River. This annual event replenishes nutrients to the soils, creating large expanses of rich wetlands. When the water recedes and some of the land dries out the resulting flats, wet meadows, and coastal marshes are attractive to waterfowl and shorebirds while the ponds and lakes inside the levees (high banks) of the islands offer additional nesting and feeding habitat.

The area supports other nesting, moulting, and staging waterfowl species: about 5,000 Greater White-fronted Geese, 1,000 Brant (Pacific subspecies), and 1,200 Tundra Swans. An estimated 60,000 pairs of shorebirds nest in the outer Mackenzie delta, which includes the Sanctuary.

The outer islands of the sanctuary support a number of barren-ground grizzly bears; many have dens on Richards Island.

e) Conservation and protection of any other marine resources or habitat as is necessary to fulfill the mandate of the Minister

The Aboriginal people of the Western Arctic have harvested the beluga in the Mackenzie River estuary for more than 500 years. This dependency on the beluga for survival evolved into a strong cultural linkage that is still in evidence today. Documents such as the Inuvialuit Final Agreement, the Inuvialuit Renewable Resource Conservation and Management Plan, the Community Conservation Plans, and the Beluga Management Plan all recognize and emphasize the importance of protecting and preserving Arctic wildlife, the environment and its biological productivity, recognizing both the ecological benefits of such protection, and its contribution to the maintenance of Inuvialuit culture.

Clearly, conservation and protection of the marine resources found within the proposed MPA meet the purposes for establishing an MPA as described in the *Oceans Act*.

3.2 Contribution of the Proposed MPA to Integrated Management

The *Oceans Act* directs the Minister to lead and facilitate the development of a national Oceans Strategy. Canada's Oceans Strategy was released in 2002 and provides an overall framework to address the question of how management of Canada's estuarine, coastal and marine ecosystems will proceed. The principles underpinning the implementation and development of an oceans strategy include, sustainable development, integrated management of activities and the precautionary approach. Within Canada's Oceans Strategy (COS) the integrated management concept is described as a comprehensive planning and management approach that seeks to minimize conflict, is collaborative, flexible and transparent and does not abrogate or derogate from any existing Aboriginal or treaty rights.

The Zone 1(a) MPA planning process has been instrumental in setting the groundwork that has enabled the Inuvialuit Regional Corporation, the Inuvialuit Game Council, the Fisheries Joint Management Committee, the Department of Fisheries and Oceans and the Canadian Association of Petroleum Producers to come together to oversee the Beaufort Sea Integrated Management Planning Initiative (BSIMPI).

The BSIMPI SMC members agreed during their first meetings that addressing both the conservation and development interests in the BSBMP Zone 1 (a) areas was a high priority. The

question they posed was should the three Zone 1 (a) areas be protected under a single regulation through the establishment of a Marine Protected Area. As part of the process of answering this question, three assessment reports have been prepared, and community consultations initiated. Additional discussions and consultations are planned in the coming months to include the coastal communities, other government departments and other interest groups.

The relationships, trust and experience developed through this planning process will anchor subsequent integrated management planning for the Beaufort Sea. Additionally, the information collected through the assessments (ecological, technical, socio-economic, non-renewable resource), the ecosystem overview and any new research generated as a result of the MPA planning process will benefit future initiatives under BSIMPI. Finally, the MPA planning process in the Mackenzie Delta/Beaufort Sea has raised awareness throughout the north as to the benefits of coordinated planning, and with the lessons learned can serve as a model for MPA/IM initiatives in Nunavut.

4.0 ALTERNATIVE MARINE PROTECTION MECHANISMS

This section provides an overview of existing legislation that addresses the protection of marine areas, and evaluates their suitability for meeting the protection and conservation goals for the BSBMP Zone 1a's.

1.1 Conservation Reserves and Marine Regulations

4.1.1 National Marine Conservation Areas

The Department of Canadian Heritage (DCH) defines National Marine Conservation Areas (NMCAs) as, "marine areas managed for sustainable use and containing smaller zones of high protection. They include the seabed, its subsoil and overlying water column and may encompass wetlands, river estuaries, islands and other coastal land" (DCH 1994:48, DCH 1995:8). NMCAs are to be established in order to "protect and conserve for all time national marine areas of Canadian significance that are representative of the country's ocean environments and the Great Lakes, and to encourage public understanding, appreciation and enjoyment of this marine heritage so as to leave it unimpaired for future generations" (PC, 2001a internet). A zoning system has been developed for NMCAs which provides for multiple uses such as sustainable commercial fisheries and traditional harvesting, however, oil and gas extraction, ocean disposal and seabed mining are banned in NMCAs (DCH, 1994).

4.1.2 National Wildlife Areas, Migratory Bird Sanctuaries and Protected Marine Areas

Under the Canada Wildlife Act and the Migratory Birds Convention Act, Environment Canada/Canadian Wildlife Service has three options for providing protection to marine areas: National Wildlife Areas (NWAs); Protected Marine Areas (PMAs); and Migratory Bird Sanctuaries (MBS). The primary reason for establishing a NWA or a MBS is to conserve essential habitat for migratory birds and to protect bird populations. NWAs can also be established to provide protection for other wildlife species, especially endangered wildlife, if undertaken in the national interest, and with the support of provinces.

Conservation is not the only purpose of the NWAs. Under the *Canada Wildlife Act*, public education and research are also goals. CWS prepares a management plan for each NWA, after public consultation. The plans specify which activities are to be allowed under permit on a case-

by-case basis. For example, oil drilling, livestock grazing, or haying could be allowed with strict limitations under a yearly permit. In most NWAs, visitors are allowed to hike, canoe, take photos, and watch birds. Traditional uses may be allowed to continue: trapping of muskrats and hunting and fishing are part of some management plans. All these activities are regulated to prevent declines in wildlife populations and deterioration of habitats (CWS website).

The Migratory Bird Sanctuary Regulations prohibit all disturbance, hunting, and collection of migratory birds and their eggs within an MBS. The regulations only control activities within sanctuary boundaries when migratory birds are actually present and do not provide protection of habitat. (CWS website).

PMAs are a type of marine protected area that can be established under the *Canada Wildlife Act*. While not directly stated, it is inferred that PMAs are restricted to cases where there is a need to conserve wildlife and its habitat or to protect any species of wildlife in danger of extinction. A PMA is the only one of the three CWS marine protected areas which can be established beyond 12 nautical miles – PMAs can extend as far as 200 nautical miles off shore.

4.1.3 Marine Protected Areas

MPAs can be established in order to conserve and protect: commercial and non-commercial fishery resources; endangered and threatened marine species and their habitats; unique habitats; areas of high biodiversity or biological productivity; and any other marine resource or habitat as is necessary to fulfil the mandate of the Minister (Appendix D). The Minister is able to designate areas as MPAs, and regulate activities within the MPA. The Minister may prescribe zones within the MPA, prohibit classes of activities within the MPA, and prescribe regulations to ensure that all activities within the MPA are consistent with the purpose of the MPA.

Marine resources can be protected through other conservation regulations such as fisheries closures and the establishment of harvest quotas (both under the *Fisheries Act*). However, as the resources within the AOI are not threatened by overharvesting, these measures have limited applicability.

4.2 Most Suitable Conservation Reserve for the BSBMP Zone 1(a)

The most appropriate tool for marine protected area designation of the Zone 1(a)'s of the Beaufort Sea Beluga Management Plan is as a MPA under the *Ocean's Act*. The support for this decision comes from reviewing the purpose and criteria of Parks Canada and Environment Canada legislation pertaining to marine protected areas. Following is a discussion of specific issues that constrain establishment under these other legislative instruments.

4.2.1 National Wildlife Areas, Migratory Bird Sanctuaries and Protected Marine Areas

As noted in Table 7 the main focus of NWA and MBS is the protection of migratory birds and migratory bird habitat. It was for these reasons that the Kendall Island MBS was established which coincidentally abuts and overlaps part of the Kendall Island Zone 1(a). Expansion of the Kendall Island MBS to cover the entire Zone 1(a) is unlikely since the migratory bird habitat does not include the entire area.

Designation of the BSBMP Zone 1(a)s as a National Wildlife Area or Protected Marine Area is also not appropriate. Like a MBS, a NWA focuses mainly on the conservation and protection of migratory bird habitat. While there are provisions for the protection of other species and

habitat, it would be difficult to justify a NWA for protection of beluga whales which fall under the jurisdiction of Fisheries and Oceans Canada. As noted previously, a PMA is a relatively new tool and is primarily concerned with species of wildlife in danger of extinction, which is not an issue of concern in the Zone 1(a)s.

4.2.2 National Marine Conservation Areas

The Beaufort Sea is one of 29 distinct marine regions identified by Parks Canada in the Arctic, Pacific and Atlantic Ocean, and Great Lakes. Parks Canada goal is to establish a network of NMCAs which will protect and conserve for all time a representative example of each of these 29 regions. Criteria used to identify representative areas within each marine region include the geological, oceanographic, biological and ecosystem diversity that is characteristic of the marine region.

The Zone 1(a)s would partially contribute to representation of the Beaufort Sea region if incorporated into a NMCA. However, the Zone 1(a)s on their own are not fully representative of the large and diverse Beaufort Sea region, and would not likely meet NMCA requirements. Thus additional distinct and separate areas within the Beaufort Sea would need to be identified or the boundaries of the Zone 1(a)s enlarged to capture a greater diversity of the characteristics of the region. Efforts to enlarge the Zone 1(a)s would be next to impossible due to the existence of exploration licenses that abut the areas and the SDLs that overlap, as NMCA regulations preclude exploration for, or exploitation of, hydrocarbons, minerals, aggregates or any other inorganic matter ,and prohibit dumping of any substance into the water except as authorized by permit.

Table 7: Comparison of Marine Protection Legislation in Canada (Adapted from Storage, 1999)

	<i>National Parks Act (1985)</i>	<i>Oceans Act (1997) Part II</i>	<i>Bill C-10(proposed MCA Act)</i>
Primary Focus	<ul style="list-style-type: none"> • For the use and enjoyment, benefit and educational use in a manner so as to leave them unimpaired for future generations (s.4) 	<ul style="list-style-type: none"> • “To lead and facilitate the development and implementation of a national strategy for the management of estuarine, coastal and marine ecosystems in waters that form part of Canada or in which Canada has sovereign rights under international law” (s.29) • Strategy based on principles of sustainable development, integrated management, and the precautionary approach • To establish marine environmental quality guidelines, objectives and criteria (s.32) • To establish marine protected areas (s.35) 	<ul style="list-style-type: none"> • “To protect and conserve representative marine areas for the benefit, education and enjoyment of the people of Canada and the world” (s.4.1)
Application	<ul style="list-style-type: none"> • Representativeness of Canada’s marine regions 	<ul style="list-style-type: none"> • Commercial and non-commercial fishery resources; endangered or threatened marine species and their habitats; unique habitats; marine areas of high biodiversity or biological productivity; conservation or protection or any other marine resource or habitat as is necessary to fulfill the Minister’s mandate (s.35.1) 	<ul style="list-style-type: none"> • Representativeness of Canada’s marine regions
Governor in Council may make Regulations Regarding	<ul style="list-style-type: none"> • Preserving, controlling and managing parks (s.7.1a) • Protecting flora, soil, waters, fossils, natural features, air quality and cultural, historical and archaeological resources (s.7.1b) • Protecting fauna (s.7.1c) • Managing and regulation of fishing (s.7.1d) • Granting permits and licenses for activities within parks (s.7.1i) • Controlling of aircraft access to national parks (s.7.1oo) 	<ul style="list-style-type: none"> • Designating MPAs (s.35.3a) • Prescribing measures for zoning, prohibiting classes of activities within MPAs, and any other matter consistent with the purpose of an MPA (s.35.3b) 	<ul style="list-style-type: none"> • “Protection of ecosystems and their elements; • Protection of cultural, historical, and archaeological resources; • Management and control of renewable resource harvesting activities; • Respecting the delimitation of zones within MCAs; • Restricting or prohibiting activities or regulating the use of facilities in MCAs or in any zones; • Respecting the issuance, amendment, suspension and revocation of permits and other authorizing instruments; • For the control of the flight of aircraft to prevent danger or disturbances to wildlife, and respecting the takeoff, landing and taxiing of aircraft (only on the recommendation of the Minister of Transport s.16.4) • For the control of scientific research activities; • Authorizing the dumping of substances.”
Research	<ul style="list-style-type: none"> • n/a 	<ul style="list-style-type: none"> • The Minister may collect data, conduct scientific surveys, conduct basic and applied research, prepare and publish data, conduct studies to obtain traditional ecological knowledge (s.42a-j) 	<ul style="list-style-type: none"> • (s.8.3)

5.0 SUMMARY AND RECOMMENDATIONS

Table 8 relates the findings of this document back to the items to be addressed in the technical assessment as stated on page 12 of the *National Framework for Establishing and Managing Marine Protected Areas* (DFO, 1999).

Table 8: Summary of Technical Assessment Findings

Item Under Assessment:	Summary of Findings	Section
Prior recognition of the conservation value of the site	<ul style="list-style-type: none"> • Local/ regional recognition under CCPs, BSIMPI of importance to Inuvialuit people b/c of subsistence harvest and cultural reasons and ability to support wildlife. • National and International recognition by DFO, IBP 	2.1
Contribution of the site to integrated coastal zone management purposes	<ul style="list-style-type: none"> • Restrictions and regulations within proposed MPA would protect and conserve a variety of species, thereby contributing to the overall wellbeing of Beaufort Sea ecosystem • Mgmt of the MPA would strengthen partnerships and encourage participation and shared responsibility, all of which are essential components of IM planning 	2.6
The availability of the site for designation	<ul style="list-style-type: none"> • Existing protected areas: the Yukon North Slope overlaps with the Shallow Bay Zone 1(a)- while no problems are anticipated, the proposal should be discussed with the GYT and INAC. All other protected areas present no problems. • Industry and Development Activities: SDLs and ELs within and surrounding the AOI may be problematic. All other interests should not affect the availability of the site. 	2.2.3 2.3
The appropriateness of proposed area boundaries and management regulations for meeting the proposed management objectives	<ul style="list-style-type: none"> • Boundary and proposed regulations may not be acceptable to oil and gas industry lease holders. 	2.4
The capacity of management resources for planning and management	<ul style="list-style-type: none"> • BSIMPI Senior Management Committee, Working Group and Secretariat present significant resources for management, and represent the major interests in the area. 	2.5
Public and stakeholder support for the proposal	<ul style="list-style-type: none"> • BSIMPI builds on 20 year history of marine conservation planning and 4 years of extensive discussion, meetings, analysis and consultations. • Have support of FJMC, IGC, IRG, CAPP and DFO • There is strong community support for BSBMP. Initial community consultations on the proposed MPA indicate residents are open to the idea. Further consultations are needed to share information and 	2.7

Beaufort Sea Mackenzie Delta Area of Interest

Technical Assessment

Item Under Assessment:	Summary of Findings	Section
	get advice and feedback.	
The nature of cooperative partnering or co-management arrangements that might support management of an MPA	<p>Three possibilities for management arrangements are:</p> <ol style="list-style-type: none"> 1) Using an existing organization/board: FJMC currently manages the BSBMP. Mgmt of the proposed MPA would require additional resources as well as further development of FJMC's relationship with the BSIMPI Secretariat 2) Modify an existing organizations mandate: DFO has mandate to manage MPAs under the <i>Oceans Act</i>. Viability of this option depends on the support of the FJMC and Inuvialuit organizations. 3) Create new organization/mgmt board: either BSIMPI WG could be asked to take on this responsibility, or a new body could be created. 	2.6
Possible conflicts with adjacent uses	<ul style="list-style-type: none"> • Potential for oil and gas development within and adjacent to the proposed MPA is high. 	2.4
The demonstration value of the site for conservation purposes	<ul style="list-style-type: none"> • The area is “critical habitat for a substantial portion of the Beaufort Sea beluga whale population.” and “represents important summer feeding, migratory, and overwinter habitat for a number of anadromous and euryhaline fish species.” North/ South Consultants Inc. 2002:2 • AOI and surrounding area used by endangered and threatened species. 	2.8

The results of this assessment indicate that it is feasible to designate the BSBMP Zone 1 (a) areas a MPA under the *Oceans Act*. Three recommendations are provided to conclude this report:

- That the issue of the significant discovery licenses which overlap in the Kendall Island Zone 1(a) be addressed early in the process
- That the existing BSBMP be used as a basis for beginning further discussions if the decision is made to proceed to the next level of evaluation of the proposed MPA;
- That Community, partner and stakeholder consultations continue in order to ensure extensive input into the final decision and into selecting the type of management arrangement appropriate for the proposed MPA.

APPENDIX A: FRAMEWORK FOR ESTABLISHING AND MANAGING MPAS

National Framework for Establishing and Managing Marine Protected Areas:
Figure 1: Framework for Establishing and Managing MPAs under the *Oceans Act*

APPENDIX B: SPECIFIC ITEMS DETERMINED BY THE TECHNICAL ASSESSMENT

The technical assessment determines:

1. The prior recognition of the conservation value of the site, such as international recognition of a site's importance
2. The contribution of the site to integrated coastal zone management purposes
3. The availability of the site for designation
4. The appropriateness of proposed area boundaries and management regulations for meeting the proposed management objectives
5. The capacity of management resources for planning and management
6. The public and stakeholder support for the proposal
7. The nature of cooperative partnering or co-management arrangements that might support management of an MPA
8. Possible conflicts with adjacent uses, and measures to lessen these
9. The demonstration value of the site for conservation purposes

The technical assessment also refines the proposal to improve its acceptability, to minimize technical problems, and to ensure the design for the proposed MPA is appropriate. It will also develop partnering, co-management, or co-designation with other agencies to meet site objectives.

Finally, the evaluation considers whether other measures or regulations might be more appropriate for conserving and protecting resources (e.g. fisheries closures or harvest regulations).

Source: *National Framework for Establishing and Managing Marine Protected Areas*. DFO 1999: 12

APPENDIX C: BSBMP GUIDELINES FOR ZONES 1A AND 1B

In the review of any development proposal, Zone 1 is to be considered a Protected Area according to the guidelines described in the Inuvialuit Renewable Resource Conservation and Management Plan. The oil and gas industry should not be permitted to explore for resources within or on the shores of any Zone 1 waters nor to produce hydrocarbons or construct/operate any type of facility.

No mining activities (e.g. gravel removal) should be permitted within or on the shores of any Zone 1a waters.

Development activities such as hydro-electric or mining projects, even if located outside Zone 1, should be evaluated for their potential deleterious effects on water quality and quantity, or on the salinity and integrity of ice in Zone 1 waters.

All shipping activities (including dredging) should be confined to designated routes and areas. Passage through or close to Zone 1a outside of designated routes, even if it's the shortest route, should be avoided from break-up to 15 August.

No port development should be allowed within or on the shores of any Zone 1a waters.

Commercial fishing proposals for Zone 1 should be evaluated and regulated with regard to beluga food species.

Recognizing the prohibitions identified above, it is recommended that parties proposing any development, government agencies evaluating such proposals, and other parties interested in development within or adjacent to Zone 1, seek the advice of the HTC's and FJMC. To ensure the protection of the beluga resources and harvest, HTC's and the FJMC should be consulted regarding any licenses, permits or operating procedures approved for activities within or adjacent to Zone 1 waters.

Source: FJMC, 2001:13

APPENDIX D: REASONS FOR ESTABLISHING MPAS UNDER THE OCEANS ACT

Section 35(1) of the *Oceans Act* states five reasons for establishing a MPA:

- a) the conservation and protection of commercial and non-commercial fishery resources, including marine mammals, and their habitats;
- b) the conservation and protection of endangered or threatened marine species, and their habitats;
- c) the conservation and protection of unique habitats;
- d) the conservation and protection of marine areas of high biodiversity or biological productivity; and
- e) the conservation and protection of any other marine resource or habitat as is necessary to fulfill the mandate of the Minister (of Fisheries and Oceans).

Source: *Oceans Act* Section 35(1). DFO

APPENDIX E: MANAGEMENT OBJECTIVES OF A MIGRATORY BIRD SANCTUARY

The management objectives of a Migratory Bird Sanctuary are (EC/CWS 1992:3):

To manage and conserve migratory bird populations and their natural habitats in a manner consistent with the *Migratory Birds Convention Act* and the *Migratory Bird Sanctuary Regulations*;

To manage the Sanctuary according to sound ecological principles; and;

To encourage public awareness of and appreciation for the natural environment of the Sanctuary.

APPENDIX F: OBJECTIVES OF A NATIONAL HISTORIC SITE

According to the *National Historic Sites Policy* (PCH, 2001- internet), the objectives of a NHS are:

- To foster knowledge and appreciation of Canada's past through a national program of historical commemoration
- To ensure the commemorative integrity of national historic sites administered by Parks Canada by protecting and representing them or the benefit, education and enjoyment of

- this and future generations, in a manner that respects the significant and irreplaceable legacy represented by these place and their associated resources
- To encourage and support the protection and presentation by others of places of national historic significance that are not administered by Parks Canada.

APPENDIX G: WITHDRAWAL OF LANDS FROM DISPOSAL ORDER

The *Withdrawal of Certain Lands from Disposal Order, 1985, No.1*, section (2) states, “Pursuant to paragraph 19(a) of the *Territorial Lands Act*, for the reason that the tracts of territorial land described in the schedule annexed hereto are required for a national park and other conservation purposes, the tracts are hereby withdrawn from disposal under that Act.”

APPENDIX H: SECTION 35(3) OF THE *OCEANS ACT*

Section 35(3) of the *Oceans Act* states:

- (3) The Governor in Council, on the recommendation of the Minister, may make regulations
- (a) designating marine protected areas; and
 - (b) prescribing measures that may include but not be limited to
 - (i) the zoning of marine protected areas,
 - (ii) the prohibition of classes of activities within marine protected areas, and
 - (iii) any other matter consistent with the purpose of the designation.

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