MARINE CONSERVATION AND BELUGA MANAGEMENT IN THE INUVIALUIT SETTLEMENT REGION

CAN MARINE PROTECTED AREAS PLAY A ROLE?

REPORT PREPARED FOR THE
FISHERIES JOINT MANAGEMENT COMMITTEE,
INUVIALUIT SETTLEMENT REGION

By

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There are probably as many different definitions of planning as there are planners. To me it means thinking ahead rather than simply waiting to react when some event overtakes you. You find out what you have of land, water and resources and then think out what they might be used for—that is, what economic use or development you might wish to undertake. You decide what condition those lands and resources should be in when passed on to your children. You find out what uses other people might wish to make of your land resources and what economic return that might make to you. You consider what conflicts might arise and thus which options for use might suit you best—and you make trade-offs. All use of land and resources creates some change and thus some sort of trade-off. Most importantly you decide what is your bottom line—what you wish to preserve and pass on to your children. Given this kind of forward thinking you are prepared to deal with any opportunities or challenges that might arise.—*Member, Mackenzie Delta Beaufort Sea Regional Land Use Planning Commission, Interim Report, Aug 12, 1988.*

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LIST OF ACRONYMS

AEPS	Arctic Environmental Protection Strategy
BSBMP	Beaufort Sea Beluga Management Plan
CAFF	Circumpolar on Arctic Flora and Fauna
CLOS	Convention on the Law of the Sea
CPAN	Circumpolar Protected Area Network
DFO	Department of Fisheries and Oceans
DIAND	Department of Indian Affairs and Northern Development
EEZ	Exclusive Economic Zone
EIRB	Environmental Impact Review Board
EISC	Environmental Impact Screening Committee
FJMC	Fisheries Joint Management Committee
GNWT	Government of the Northwest Territories
HTC	Hunters and Trappers Committee
ICC	Inuit Circumpolar Conference
IDC	Inuvialuit Development Corporation
IFA	*Inuvialuit Final Agreement*
IGC	Inuvialuit Game Council
IRRCMP	Inuvialuit Renewable Resource Conservation and Management Plan
ISR	Inuvialuit Settlement Region
MPA	Marine Protected Area
MWA	Marine Wildlife Area
NMCA	National Marine Conservation Area
NTCL	Northern Transportation Company Limited
NWA	National Wildlife Area
TAC	Total Allowable Catch
VTS	Vessel Traffic Services
WMAC	Wildlife Management Advisory Committee

EXECUTIVE SUMMARY

The purpose of this report is to consider whether a Marine Protected Area could be used effectively for marine conservation in the Inuvialuit Settlement Region (ISR), and to consider in particular, its relevance for the management of beluga whales.

MARINE CONSERVATION

Conservation planning in the ISR began as a recommendation of the Berger Report in 1977. Seven years later, at the same time the *Inuvialuit Final Agreement* was signed, the Task Force on Northern Conservation recommended a framework for a comprehensive conservation policy, including both terrestrial and marine elements. The Task Force report was important because it addressed the root problems of the existing planning and conservation process. This framework has remained as a guide up until the present time, and is reflected in a number of key land use and renewable resource conservation plans which have been produced since then. Several initiatives recommended by the Task Force on Northern Conservation and carried forward in subsequent planning documents are:

- A mechanism for integrated resource management which would be proactive and decision-oriented rather than one which was reactive and regulation-oriented, and which would be imbedded within a framework for comprehensive planning with extensive public input.
- A comprehensive network of land and water 'protected areas' based on local knowledge and resource use, in which activities could be controlled.
- Endorsement of management principles specific to the marine environment.
- Establishment of a conservation advisory board to bring unity to the efforts of numerous government agencies.
- "Acceptance and implementation by the Department of Fisheries and Oceans of its legitimate responsibility as the lead agency for Arctic marine conservation".

All of these initiatives, in one form or another, are empowered by the *Canada Oceans Act* and by the new policies which are being developed under it, such as the "Oceans Strategy" (DFO 1998) and the "Approach to the establishment and management of marine protected areas" (DFO 1997).

The Beaufort Sea Beluga Management Plan recognizes the complexity of the environmental and development issues to be managed in achieving the goals of conserving beluga whales and beluga habitat. This report reviews federal legislation which could be used to protect belugas and their habitat. The legislation is scattered throughout a large number of agencies, and for the most part tends to be regulatory and reactive rather than foster a proactive, planning approach. It is probably possible to implement enforcement measures for the Beaufort Sea Beluga Management Plan with regulatory changes to certain federal legislation. However, this approach will not open the door to the comprehensive planning which is possible under the *Canada Oceans Act.* This analysis led to the following recommendation:

RECOMMENDATION 1: The Beaufort Sea Beluga Management Plan should be formalized within the context of the Canada Oceans Act *rather than through changes in specific pieces of legislation such as the Fisheries Act* or the *Canada Shipping Act.*

MARINE PROTECTED AREAS

The views of over 40 residents of the Inuvialuit Settlement Region are summarized in this report. It is clear that there is a desire to accommodate economic development activities in the coastal area, while at the same time there is widespread consensus that conservation of living resources for future generations is of paramount importance. It is this commitment to 'sustainable development' that gave rise to the Beaufort Sea Beluga Management Plan (BSBMP). The BSBMP as well as all six community land use plans in the Inuvialuit Settlement Region, describe parts of the coastal region where special protection of the marine environment is required in order to conserve living resources.

At the same time, the *Canada Oceans Act* speaks of a national system of marine protected areas which the Minister will lead and coordinate on behalf of the Government of Canada. Within this system there are several "protected area" tools, administered separately by three federal agencies. Among them, a Marine Protected Area administered by DFO would probably be most suitable as a framework for achieving the goals of the Beaufort Sea Beluga Management Plan.

RECOMMENDATION 2: The FJMC should pursue the question of the applicability of a Marine Protected Area further by identifying the zones of the Beaufort Sea Beluga Management Plan as an "area of interest", and requesting that the area be designated as a "pilot" Marine Protected Area under the terms of the Canada Oceans Act.

AN INSTITUTIONAL FRAMEWORK

The guidelines being developed by DFO for the establishment and management of Marine Protected Areas permit wide regional flexibility in defining procedures. This will allow the nomination, planning and management phases of MPA establishment to be carried out within the co-management framework which is characteristic of wildlife and fisheries management in the Arctic. The institutional structures, which would guide the MPA establishment process in the ISR, should reflect existing co-management bodies established by the *Inuvialuit Final Agreement.*

RECOMMENDATION 3: An institutional framework is suggested as a potential option for proceeding with a "Pilot" Marine Protected Area.

The rationale for the proposed organizational linkages, and the roles and responsibilities of the various bodies is discussed in the report.

A REVIEW OF CONSERVATION PLANNING IN THE ISR

The purpose of this section is to review the conservation planning history of the Inuvialuit Settlement Region (ISR), and to put it in the context of marine conservation.

Conservation Planning

Conservation planning has a long history in the Inuvialuit Settlement Region. Oil industries began exploration in the Arctic in the 1950s, and by the 1960s a network of exploration permits criss-crossed much of the region. Leaders of Native communities in the Mackenzie Delta-Beaufort Sea Region recognized that the level of development likely to be imposed by this industry would have major impacts on their subsistence lifestyle. Ultimately, their efforts led to Mr. Justice Thomas Berger's appointment to inquire into and report on the terms and conditions that should be imposed in respect of any right-of-way for the proposed Mackenzie Valley pipeline. The Berger Report in 1977 recommended that comprehensive land use planning be undertaken to address the resource-use conflicts identified during the Commission's hearings.

MAJOR PLANNING DOCUMENTS

The Task Force on Northern Conservation (1984)

The Task Force on Northern Conservation (referred to as the Task Force), created in the fall of 1983, was directed to report to the Ministers of three departments: Indian Affairs and Northern Development, Ottawa; Renewable Resources, Northwest Territories; and Renewable Resources, Yukon Territory. Its terms of reference were to provide advice to the Minister of Indian Affairs and Northern Development on the following matters:

Terms of Reference

- A framework for a comprehensive conservation policy for northern Canada, *including both terrestrial and marine components* (added subsequently);
- A strategy, and ongoing mechanism, for implementing the policy; and
- Specific conservation actions which can be taken over the next two years.

> Conservation is the management of human use of the biosphere so that it may yield the greatest sustainable benefit to present generations, while maintaining its potential to meet the needs and aspirations of future generations; it emphasizes the maintenance of cultural resources and representative or unique ecosystems, their ecological processes and genetic diversity.–*Task Force on Northern Conservation, 1984.*

Conservation Strategy

The strategy was premised on three principles:

1) integrated resource management practices—"integrated resource management requires an active, decision-oriented approach rather than one that is reactive and largely dependent upon regulation. Such management must be based upon research, inventory and evaluation and result in the making of decisions within the framework of a comprehensive planning system that provides for extensive public input and political accountability".

2) a comprehensive network of land and/or water areas subject to special protection—"these protected areas would be designated in order to preserve their primary use for cultural, scientific, educational, aesthetic, recreational or biological purposes….Within each protected area, primary and secondary uses would be identified, and the secondary uses permitted when compatible with the primary value of the area". Guidelines included recommendations that protected area proposals take into account local knowledge and sensitivities respecting resource use of the area".

3) Marine Conservation—The Commissioners observed that the *Fisheries Act* was limited in effecting integrated planning, and argued that resource management principles specific to the marine environment were required to accommodate the "differences of status, scale and knowledge with respect to the area of ocean planning and management". The lack of management and planning initiatives for marine conservation was exacerbated by the lack of information about the marine environment.

The Task Force made a number of specific recommendations describing how the goals of northern conservation could be achieved. They included settling land claims, establishing a Conservation Advisory Board, bringing unity to the efforts of numerous governments involved in the North, and "acceptance and implementation by the Department of Fisheries and Oceans of its legitimate responsibility as the lead agency for Arctic marine conservation".

***Inuvialuit Final Agreement* (1984)**

Under the *Inuvialuit Final Agreement* (IFA) a number of Inuvialuit-government joint management boards were established. Wildlife harvesting, and processes establishing co-management of wildlife, were identified as key processes under the agreement. A basic goal of the IFA was 'to protect and preserve the Arctic wildlife, environment and biological productivity through the application of conservation principles and practices".

Integrated Management

In support of the principle of conservation, the agreement recognized the importance of integrated wildlife and land management regimes, as well as a need for "the effective integration of the Inuvialuit into all bodies, functions and decisions pertaining to wildlife management and land management in the Inuvialuit Settlement Region" (Sections 14.2 and 14.4)[1]. To that end, Inuvialuit harvesting rights were described in the Act (14.35), and a series of management bodies were established. These included Inuvialuit bodies, joint management bodies and government bodies. Key to the management of wildlife are the Inuvialuit Game Council (IGC), which represents "the collective Inuvialuit interest in wildlife" (14.74), the community Hunters and Trappers Committees (HTCs), which represent the community interests at the IGC, and the Fisheries Joint Management Committee (FJMC), established in 1986, which is an advisory and joint management body" (Muir 1997)[2]. Its responsibilities include administering rights and obligations relating to fisheries under the IFA, and advising the Fisheries Minister on the management of fisheries in the Region.

The *Inuvialuit Final Agreement* also recognized that "it may be desirable to apply special protective measures under laws, from time to time in force, to lands determined to be important from the standpoint of wildlife, research or harvesting" (Sec 14.3).

Arctic Marine Conservation Strategy (1987)

The Arctic Marine Conservation Strategy paper produced by DFO in 1987 was a response to recommendations in the Northern Task Force on Conservation. It proposed six strategies for the implementation of marine conservation. These included: an active management role for DFO based on shared decision-making; an emphasis on integrated management; an informed public; protection of marine environmental quality; and international cooperation. The strategy paper was never implemented, hampered in large part by funding constraints.

[1] "Wildlife is defined as all faunas in a wild state other than reindeer. Therefore, wildlife includes fish and game by necessary implication and by virtue of the definition of 'game'. Game is defined as wildlife other than fish and certain birds. Fish is defined to include marine animals and the juvenile stages of marine animals" (Muir 1997).

[2] "The [FJMC] is formed of a chair, and equal membership from the Inuvialuit Game Council and the Government of Canada. Under the IFA, the Inuvialuit Game Council and the Government of Canada each appoint two members to the Committee. Though the agreement does not describe who in government appoints members to the Fisheries Joint Management Committee. In practice, the Department of Fisheries and Oceans appoints the government members, with subsequent ratification by a Cabinet decision. The members then appoint the chair" [Muir 1997, IFA s 14(62)].

Mackenzie Delta Beaufort Sea Regional Land Use Planning Commission (1987–1991)

The Mackenzie Delta-Beaufort Sea Regional Land Use Planning Commission was set up by the Northwest Territories Land Use Planning Program.[3] The Policy Advisory Committee of this body suggested the original terms of reference for the Regional Commission. They were:

- "to institute a community-based land use planning process in the Mackenzie Delta-Beaufort Sea region; and
- to produce plans for the use of land [meaning land, inland waters and offshore] and resources in the region" (Interim Report 1988).

> The proposed system [of protected areas] is unique because it includes protected areas identified by government agencies and non-government groups together with protected areas identified by the communities according to their own criteria. Community criteria are economic, cultural and related to subsistence whereas other proponents often use scientific criteria such as ecological or genetic diversity, uniqueness of biological or physical features, or representativeness of Canada's natural regions. Many of the sites identified by the communities and other proponents actually overlap. Together, the sites are a comprehensive system of protected areas that show land users where careful management and trade-offs are required to protect their sensitive values--*-Mackenzie Delta-Beaufort Sea Regional Land Use Planning Commission, May 1990.*

In its interim report in 1988, the Commission indicated that protected areas would be integral to the development of a Regional Land Use Plan. Such protected areas would facilitate the management of non-renewable resource development in the Beaufort Sea-Mackenzie Delta, including the transportation of oil and gas, while ensuring that traditional community harvesting areas were protected in an environment of increasing tourism activities.

Premised on these findings, the Commissioners proceeded to develop a comprehensive system of protected areas, using a consultative community process.

[3] The Commission had eight members: two nominated by the Northwest Territories Land Use Planning Commission, two nominated by the Inuvialuit Game Council, two by the Inuvialuit Regional Corporation (IRC), and two by the Mackenzie Delta Tribal Council on behalf of the Gwich'in.

Beaufort Sea Beluga Management Plan (1990)

In 1990 the FJMC, the HTCs, DFO and industry representatives developed a Beaufort Sea Beluga Management Plan. It was drafted to ensure the sustainable management of beluga and beluga habitat, as well as to protect and preserve traditions central to the Inuvialuit culture. This plan is discussed in detail in the Section titled "Beluga Management".

Inuvialuit Renewable Resource Conservation and Management Plan (1988)

Prepared cooperatively by the FJMC and the WMAC (NWT) (Wildlife Management Advisory Council, Northwest Territories), a land use plan for the Inuvialuit Settlement Region was completed in 1988. The principles which defined the Inuvialuit Renewable Resource Conservation and Management Plan (IRRCMP) were adapted from the IFA and the Report of the Task Force on Northern Conservation. As such, they reflected continued commitment to the principles of sustainable use of resources, and integrated, community-based, management processes.

Wildlife Conservation Plans

The objectives of the plan included having the six ISR communities develop and implement conservation plans, consistent with the principles in the Regional Conservation and Management Plan. Wildlife management is given special attention, and the authors recognized that "in the future it may be desirable to apply special protective measures under laws, from time to time in force, to lands determined to be important from the standpoint of wildlife, research or harvesting. The appropriate ministers shall consult with the Inuvialuit Game Council from time to time on the application of such legislation".

Protected Areas

The Inuvialuit Renewable Resource Conservation and Management Plan then provides selection criteria and guidelines for protected areas. These criteria and guidelines are excerpted from the Report of the Task Force on Northern Conservation. These guidelines state that protected areas can be appropriately used to protect values and traditional lifestyles, including the protection of specific traditional resource use areas that might otherwise be at risk; that areas should be sufficiently large to be effective; that protected areas should be comprised of zones affording different levels of protection, and allow for seasonal variability; that local knowledge be used to identify areas needing protection; and that protected area status be reviewed and protection measures modified from time to time to ascertain continuing relevance (IRRCMP 1988).

> Management is deliberate action to maintain wildlife populations at desired levels, to maintain habitat and environmental quality and to help provide information necessary for user decisions and other management decisions primarily through research and education—*Inuvialuit Renewable Resource Conservation and Management Plan 1988.*

Community Land-Use Conservation Plans (1990-1994)

The six communities of the ISR went on to produce detailed land use plans over the next four years: Paulatuk in 1990; Sachs Harbour in 1992; Aklavik, Inuvik, and Tuktoyaktuk in 1993; and Holman in 1994. These plans describe general conservation processes, areas recommended to be treated as special protected areas, and wildlife management and research concerns specific to each community. All plans are premised on the selection criteria and guidelines for protected areas contained in the Report of the Task Force on Northern Conservation.

Inuvialuit Community Conservation Plan Implementation Workshop on Protected Areas in the Inuvialuit Settlement Region (1994)

In December 1994 the Wildlife Management Advisory Council (NWT) held a workshop in Inuvik to begin implementation of the six Inuvialuit Community Conservation Plans, and the Mackenzie Delta Beaufort Sea Regional Land Use Plan. The community plans identified three broad areas of interest: general conservation processes, wildlife management research, and special protected areas. Recognizing that not all three areas could be covered at the workshop, participants agreed to limit their work to that pertaining to the establishment and management of protected areas, and to a number of recommendations related to the enforcement issues under the Beaufort Sea Beluga Management Plan (Hanbidge 1994).

SUMMARY

1997

Recognition of the importance of comprehensive planning to ensure the long term sustainability of the environment and culture in the ISR dates back over twenty years to the Berger Report in 1977. This commitment to using conservation and a comprehensive planning policy was re-affirmed seven years later in the work of the Task Force on Northern Conservation. That report acknowledged the critical importance of "two major facts of life" that needed to be considered in the development of a conservation strategy:

1984

- the importance of the non-renewable resource sector in creating economic and employment opportunities, and
- the importance of the land, water and renewable resources to the long-term cultural, economic and social well-being of the people.

Authors observed also, that the "regulator system" in place was unnecessarily constraining and obstructed "an active, forward looking approach to resource management". As an alternative, they proposed the establishment of a network of protected areas "to maintain in perpetuity cultural resources and representative or unique ecosystems, their ecological processes and genetic diversity".

1984

The basic goal of the *Inuvialuit Final Agreement*, as stated in section 14(1), is to "protect and preserve the Arctic wildlife, environment and biological productivity through the application of conservation principles and practices". Section 14(2) goes on to state that "in order to achieve effective protection of the ecosystems in the Inuvialuit Settlement Region, there should be an integrated wildlife and land management regime, to be obtained through various means including the coordination

of legislative authorities". The next section states that “it may be desirable to apply special protective measures under laws”, and advises the appropriate ministers to consult with the Inuvialuit Game Council on such matters.

1987

The Arctic Marine Strategy Paper produced by DFO in 1987 stressed once again the importance of integrated resource management strategies for achieving marine conservation. Then, after four years of work, the Mackenzie Delta Beaufort Sea Regional Land Use Planning Commission in 1991 produced a comprehensive system of proposed protected areas, for the land, inland waters and offshore areas of the ISR.

1988

In 1988 the Inuvialuit Renewable Resource Conservation and Management Plan was produced, premised on the principles and goals of the Task Force on Northern Conservation which included a commitment to sustainable use of the region’s resources, recognized the importance of consultative integrated management strategies, and acknowledged the possible need for protected areas to achieve desired levels of conservation. This document served as the basis for the development of the community conservation plans, which were completed over a period of five years from 1990 to 1994. These plans were also guided by the principles, goals and objectives of the Task Force Report, and represent the outcomes of consultation at the local level. Organized around three major themes, these plans describe general conservation processes, wildlife management and research concerns, and finally identify areas for consideration as special protected areas.

1990-1994

1994

Progress made toward the establishment of protected areas as described in the community plans, as well as those proposed under the Mackenzie Delta Beaufort Sea Regional Land Use Plans, was reviewed at a workshop in Inuvik in 1994. Each proposed area was evaluated, prioritized, and specific actions to be taken noted.

1997

Throughout twenty years of planning there has been a repeated and consistent emphasis from the community to the regional level on ensuring that policies and practices are developed and implemented to protect and conserve the rich diversity of natural resources in the ISR. Principles, goals and objectives which shaped these processes are based on the sustainable use of resources, on protecting areas that are vulnerable to over-exploitation, and on developing integrated management processes that rely heavily on input from the community level.

These principles are reflected once again in new policy which is being developed under the *Canada Oceans Act 1997*. For example, “The national oceans strategy will be based on the principles of sustainable development….integrated management….the precautionary approach, that is, erring on the side of caution” (Fisheries & Oceans 1998).

BELUGA MANAGEMENT

The purpose of this section is to provide an overview of the planning which has taken place to guide the management of beluga in the ISR, to present some of the management issues which are currently important, and to present the views of local people on these issues.

BEAUFORT SEA BELUGA MANAGEMENT PLAN

In 1990 the FJMC, the HTCs, DFO and industry representatives developed a Beaufort Sea Beluga Management Plan. It was ratified by the Inuvialuit Game Council in 1991. As of early 1998 the FJMC and the HTCs are completing their third revision to the plan, in order to ensure that all components are still relevant. The goals of this plan are "to maintain a thriving population of beluga in the Beaufort Sea and to provide for the optimum sustainable harvest of beluga by Inuvialuit".

Habitat Protection

Those who drafted the plan knew first hand the complexity of issues to be managed in achieving their goals of conserving the beluga and beluga habitat—in this case an area in which beluga concentrate for calving, nursing and feeding. Among the issues which would need their attention were oil and mining exploration, production or related development; tourism; shipping routes; port development; protecting water quality; possible future commercial fisheries development; a myriad of regulators; transboundary issues; and cumulative and/or synergistic impacts of a host of activities in a largely unknown and poorly understood environment.

Zoning and Prohibited Activities

In order to accommodate the realities of both the industrial economy and the subsistence economy, while taking care of the shared environment, authors of the plan developed guidelines for the management of four marine zones: the first is a protected area zone which places strict limits on the types of activities allowed, beyond traditional harvesting; the second and third allow for development that will not adversely affect the beluga or their habitat; and the fourth deals with the need to work with other nations concerning industrial activities that could affect the well-being of beluga (Table 1).

Table 1. Beaufort Sea Beluga Management Plan: Beluga Management Zones.
Source: Muir, M., 1997, Analysis of the *Inuvialuit Final Agreement* and Marine Protected Areas under the *Oceans Act*.

Zone	Description of Zone	Guidelines for Zone
Zone 1a Traditional Harvesting Concentration Areas	1800 square kilometres of shallow waters at the mouth of the Mackenzie R., including summer concentration area of Shallow Bay, east Mackenzie Bay and Kugmallit Bay. Beluga harvested by Inuvialuit from Inuvik, Tuktoyaktuk and Aklavik.	Zone 1 is a Protected Area according to guidelines in the Inuvialuit Renewable Resource Conservation and Management Plan. No oil and gas exploration, production or related construction in this area. No mining activities (e.g., gravel removal) from break-up until August 15. All shipping activities (including dredging) should be confined to designated routes. Passage outside these routes should be avoided from break-up to August 15. No port development within or on the shores of Zone 1. Development activities outside Zone 1 should be evaluated for potential deleterious effects on water quality, quantity or on stability and integrity of Zone 1 ice. Commercial fishing proposals in Zone 1 evaluated for impact on beluga food species. Developers, regulators and other interested parties should consult with Hunters and Trappers Committees.
Zone 1b Occasional or Potential Harvesting Areas	Areas where Beluga harvested by Inuvialuit of Paulatuk and occasionally by Holman, and where Sachs Harbour residents may harvest.	
Zone 2	Mackenzie shelf waters shallower than 20 metres that were not included in Zone 1. Extends from Cape Bathhurst in east to Kay Point on the Yukon coast to the west. Major travel corridor used by beluga to move into, out and among various bays of Mackenzie estuary.	Development permitted if does not adversely affect the conservation of the beluga, protection of beluga habitat and hunting, and conducted in controlled and responsible manner. Assessment of development must consider direct effects on beluga (contamination, Inuvialuit Settlement Region disruption and displacement) as indirect effects (stability and integrity of ice, timing of breakup and food availability). Assessments must consider potential for cumulative impact and long-term effects. Commercial fishing proposals are evaluated with respect to beluga food species. Developers, regulators and other interested parties should consult with Hunters and Trappers Committees.
Zone 3	Remaining range of beluga in Beaufort Sea and Amundson Gulf (waters greater than 20 metres deep). Bounded by Victoria Island on east, permanent pack ice on north, and Alaska-Yukon border on west.	
Zone 4 International Waters	Winter range of beluga population, and outside Canadian waters. Includes Alaskan Beaufort Sea, Chukchi Sea and Bering Sea.	An international agreement should be developed so beluga are managed and protected throughout the range. Exchange of information between Canada and Alaska on industrial activities that could affect well being of beluga.

Beluga Management Plan Implementation

Implementation of the plan was hindered by a lack of information concerning the stock. In 1992 the FJMC, DFO and Environmental Studies Research Funds sponsored a workshop "to determine the present state of knowledge regarding the Beaufort Sea stock, to identify suitable methods for monitoring the stock in relation to human activities and environmental changes, and to define research priorities". The 31 participants reached consensus on research priorities in three areas: the need to develop a data base of what is known about the Beaufort Sea stock using both scientific and traditional knowledge; to acquire new scientific knowledge on the movements of this stock; to complete a survey of the stock's inshore and offshore summering range (FJMC 1992/1995).

The FJMC has since undertaken research initiatives aimed at achieving these priorities. These initiatives have included biological sampling, satellite tagging and a survey of the number of beluga observed in the summering range of the Beaufort Sea stock. Results of these projects are providing new and important information.

Regulations

The *Fisheries Act*, which is the responsibility of DFO, contains Beluga Protection Regulations, which prohibit intentional harassment of beluga. The Hunters and Trappers Committees have developed beluga hunting by-laws for the hunters in their communities. These by-laws describe what equipment is permitted for hunting, and appropriate hunting behavior. They also specify the number of whales which may be taken, what information needs to be reported, and prohibit interference in the hunt by tourists. These by-laws have served their purposes well for the most part. Thought has also been given to having local "beluga guardians" deal with infringements which do occur, under the direction of the HTCs, with the support of DFO or the Government of the Northwest Territories (GNWT).

MANAGEMENT ISSUES

The beluga population in the Beaufort Sea is thriving, and there is not concern that it requires protection in the sense that an endangered or threatened species requires protection. The Beluga Management Plan, together with the associated Community Beluga Hunting By-laws, has been effective in managing harvest-related aspects of the management of this population.

Enforcement

Concern has been expressed by members of the FJMC and various Inuvialuit beneficiaries, however, pertaining to the lack of enforcement mechanisms available under the plan. Signatories to the plan are the Fisheries Joint Management Committee, the Department of Fisheries and Oceans, and the Inuvialuit Game Council. As there is no legislation, regulation or policy to require other government agencies, or industrial interests to comply with the plan, it binds the signatories and has effect only until one or more of them no longer support it (Muir 1997).

Shipping (Pers. Commun. Brian Ferguson)

The importance of shipping through areas proposed for protection must be recognized in any conservation plans. Northern Transportation Co. Ltd. (NTCL) runs a coastal vessel through the east channel of the Mackenzie Delta, and through Kugmallit Bay every other day between July 1 and October 1, to supply various communities. Local traffic for purposes of whaling takes place from late June through July. Most of this is in 18' boats with 40 hp motors. Coast Guard vessels move through the area 3 times per season, setting, checking and retrieving navigation buoys. Though the oil industry is inactive at present, during periods of intense activity in previous decades it was not uncommon to see an average of 100 vessels of all types in Kugmallit Bay at any given time—including barges, platforms, and supply vessels.

Dredging

The need for dredging is largely a function of shipping activity related to oil exploration and gas development. In the past, Public Works Canada would dredge the east Mackenzie River channel at the mouth, dumping dredge spoils nearby. Public Works would no longer be involved in the event of future oil development, but the dredging function would have to continue.

Tourism

Another concern is the growing potential for conflict between a burgeoning tourism industry and beluga harvesting activities. Though Tourism Guidelines are in place to control these activities, enforcement has proven difficult. The use of hovercraft small aircraft, helicopters and zodiacs by outfitters and tourists is a concern. A hovercraft was first used in 1997, near Inuvik. It is expected that tourists will probably want to see the whaling, possibly disturbing the whales in their calving habitat. The only way this type of activity can be controlled at present is by having the Tuktoyaktuk and Inuvik HTC's put informal pressure on the operators to stay away from whaling sites. Alternatively, intentional harassment of belugas can be controlled by enforcement under the *Beluga Protection Regulations* of the *Fisheries Act*.

All of these activities, except the whaling and the tourism, take place within the marked channels of Kugmallit Bay. Russian tour boats must stay 40 miles offshore, and bring tourists in by helicopter and zodiac (Brian Ferguson *pers. comm .,* Jan. 1998*.).*

Oil and Gas

During the last thirty years, approximately 140 oil and gas wells have been drilled in the Mackenzie Delta-Beaufort Sea region, and over 100 wells have been drilled on the Arctic Islands. It has been estimated that more than 250 m^3 of oil and associated material has been discharged into sumps adjacent to these sites (Thomas *et al.* 1984). Two production facilities currently exist in the Arctic. The Bent Horn well on Cameron Island had limited production of 80 000 m^3 of oil per year, which was shipped out by tanker. The other facility is located at Norman Wells on the Mackenzie River, approximately 600 kilometres upstream of the Beaufort Sea.

The operation of shorebases to support both onshore and offshore drilling has been shown to produce localized impacts on the marine environment. Tuktoyaktuk Harbour and McKinley Bay acted as staging areas for offshore drilling that was carried out in the Beaufort Sea during the 70s and 80s. Resupply of drilling consumables and fuel, dry-dock repairs and overwintering were carried out at these locations. Studies have shown that some of the highest hydrocarbon concentrations in the Arctic occur in Tuktoyaktuk Harbour and McKinley Bay, These hydrocarbons appear to originate primarily from chronic fuel spills and runoff from workyards (NPA 1998). While the oil and gas industry is relatively dormant in the Beaufort Sea at the present time, its status could change rapidly in response to world prices for oil.

COMMUNITY VIEWS

Community views concerning issues related to beluga management were gathered by interviewing over 40 people in the Inuvialuit Settlement Region between June 20 and July 23, 1997. The communities of Aklavik, Inuvik and Tuktoyaktuk were visited, as were hunting camps at East Whitefish Station, Hendrickson Island, Running River and Shingle Point. The names of individuals who provided discussion on this subject are listed under Personal Communications at the end of this report. These discussions are organized by subject and summarized below.

Contaminants

One of the common concerns raised was that of contaminants. The abandoned DEW line sites were mentioned on several occasions as a likely source of contamination. A specific example giving rise to this concern is that lumber used for camp construction at Shingle Point is taken from the nearby DEW line site. Steps are being taken to assess whether the wood is in fact contaminated with PCBs or other hazardous chemicals.

Reports published in recent years regarding elevated contaminant levels in beluga blubber have also drawn attention. Country foods comprise an important staple in the local diet, and possible contamination of an important food source has serious implications for these families. People noted that cancer rates are increasing in the ISR, and many are questioning whether or not there is a link between these increasing rates and the traditional diet. It has been observed that some local people are eating less country food because of this uncertainty.

Total Allowable Catch

When the original Beaufort Sea Beluga Management Plan was drafted in 1990, its authors suggested that a total allowable catch (TAC) might have to be implemented for the beluga harvest. Recent studies though, have shown that the Beaufort Sea beluga population is greater than was originally estimated. Consequently, there has been no need to impose limits on the harvest. Further evidence that no catch limits need to be imposed has been provided by the results of annual harvest monitoring studies. The number of beluga being harvested today is considerably less

than in the past. One reason for the decline is the replacement of dogs with motorized equipment, thereby reducing the amount of dog food required. When asked, people observed that if a quota were ever to be implemented the program would likely fail, because the Inuvialuit only harvest the number of beluga they need for food.

Harassment

Despite the fact that hunters have not been bothered to any extent in recent years by environmental activists, the people remain wary of them. Of greater immediate concern has been an increase in harassment of beluga whales caused by low-level flights operated by tourism companies. Such flights are reported to disturb not only areas frequented by beluga but also traditional hunting camps. Other forms of harassment may occur when tourist boats follow the whales too closely and scare them from their nursery habitats.

When individuals can be approached face-to-face issues of harassment can generally be dealt with by citing the relevant sections of the *Marine Mammal Protection Regulations*. In order to report low-level flights, however, people are required to report the date and time of day the flight occurred, as well as the plane number, and must also be willing to testify in court. Often people do not have the time to become involved in these proceedings. Finally, whereas some people are tolerant of tourists who visit the whaling camps and want to take pictures, others view it as a form of harassment. It appears that finding a happy medium for this particular situation will be very difficult. A partial solution might be to ensure that tourism licenses include a clause limiting the use of photographs.

Importance of the Hunt to the Local People

A common thread throughout the discussions was the importance of the beluga hunt to the local people. It was suggested that further rules were needed in order to ensure the beluga's continued existence, and in order to ensure that future generations could participate in the hunting There was some thought that a greater respect for beluga needed to be instilled in some members of the younger generation. An example of how lack of respect is evident is that in earlier times children were not allowed to throw stones into the water when whales were in the area. Nowadays, children don't practice this kind of restraint. Respect for beluga, however, is not something that can be imposed by outsiders. Only the Inuvialuit will be able to re-instill these values.

Preparing for the hunt involves everyone at the camp, and is a time of great excitement, especially for the children who run around playing in the middle of the night waiting for hours until the men return. Capturing his first whale continues to be a rite of passage into manhood for a young boy. Although traditionally the whale was hunted by men and processed by women, this has changed, and today men are becoming more involved in processing the meat.

Losing Local Traditions

The importance of passing on traditional knowledge associated with whaling to future generations was noted on several occasions. In an effort to prevent the loss of this important information, many local people are working to create a written history, before the elders who have accumulated an oral history pass on. Such a task is considered to be particularly important in the Western Arctic where the native language is rapidly being lost.

There are also concerns that younger generations are no longer eating country foods such as beluga. Many people spoke of the younger generation's desire to eat junk food, rather than the traditional diets that their parents and grandparents consume. Others, however, noted that their children and grandchildren continue to eat mainly traditional foods.

Tourism

When speaking with the Inuvialuit, it was evident that they wanted to find a balance between development activities and the pursuit of their traditional lifestyle. One individual commented that people are primarily concerned about tourism, as this business appears to be booming. Many believe that tourists should be permitted to visit camps as long as a local person leads the tour. It is anticipated that if the tour guide is a local person, he/she will be better able to ascertain whether or not the group is interrupting a hunt, and can thus stay out of the way.

The Inuvialuit Development Corporation (IDC) is currently trying to develop the tourism industry in the ISR, but in order to do so must ensure that the industry will be profitable. It is estimated that the total capital invested will have to be $10 million, and there must be at least a 20% return before taxes, to be viable.

Oil and Gas

The potential for oil and gas development has greatly declined in recent years, due to low prices in the world markets. It is perceived that any potential for oil development in the ISR depends on an oil crisis in the Middle East. Any increase in development activities would result in an increased use of the waterways, which in turn would result in a greater flow of traffic through beluga habitat, and possibly affecting the beluga and the subsistence. There appeared to be no current concerns about past development activities, and oil and gas companies in the region were quite willing to communicate with the Inuvialuit and address their concerns regarding any small developments currently underway or planned.

An issue that dominated many conversations concerning the protection and management of beluga was the lack of enforcement capabilities associated with current protection mechanisms, including the Beaufort Sea Beluga Management Plan. On one occasion, at least, DFO officers visited hunting camps to ensure that the whales were not being wasted, and to ensure hunters were not being bothered by tourists or environmental activists. Some people thought that more enforcement activities by DFO would better control low-flights and tourists who try to visit Hendrickson Island—a "no-tourist" zone. It was also noted, however, that enforcement efforts are expensive, and DFO funds have

declined in recent years. Although many of the people commented that further enforcement is needed, there is fear that additional regulations will somehow translate into the elimination of their right to harvest beluga.

Rules and Regulations

Discussions were positive concerning the possibility of strengthening the existing beluga management plan by using the new legislation (the *Oceans Act*) to create marine protected areas, particularly because it was understood that the structure of marine protected areas could be adapted to local circumstances. However, since the beluga management zones were created over a decade ago, new information pertaining to beluga will have to be taken into consideration, likely resulting in altered management zones. The sense is that development activities will occur again at some time in the future, and that steps should be taken now to protect the beluga, the areas they need to thrive, and the subsistence harvest. It was pointed out that culturally relevant educational programs would be needed for a marine protected area to be effective.

Quite a number of individuals commented that there were already enough rules to protect the whales and the harvest. Others felt there were too many rules restricting local tourism initiatives. It was suggested that local tour operators should be able to take tourists whale watching. To accommodate both interests, it was suggested that tourists be allowed in the region after mid-July, when most hunters have already captured their whales. Related to the issue of enforcement it was also pointed out that it is the activities that would be difficult to control in any event—such as mischief caused by environmental activists or low-level flights—that were the main sources of concern.

Although the Beaufort Sea Beluga Management Plan has been in effect since 1991, it has not been challenged, in large part because there has been a decline in development in the region. Even though the plan is not a legal document, it has nevertheless been effective in achieving its intended purpose. It was also observed by several who crafted the plan, however, that they anticipated the passage of legislation which would provide for strengthening of the Plan into a stronger, legislatively supported, document.

LEGISLATIVE FRAMEWORK FOR THE MARINE ENVIRONMENT

The beluga found each summer within the Inuvialuit Settlement Region form part of a larger population that winters in the Bering Sea. Each spring that population separates into several stocks that migrate to summering areas ranging from Bristol Bay on Alaska's west coast to the eastern Beaufort Sea. During summer a portion of the Beaufort Sea stock concentrates in the Mackenzie River estuary, most notably at the sites designated as Zone 1(a) in the Beaufort Sea Beluga Management Plan. Beluga also move widely throughout the Beaufort Sea, ranging into Amundsen Gulf and into Count Melville Sound. Thus, their movements take them through maritime zones which fall into different legal classifications according to the 1982 Convention on the Law of the Sea (CLOS), including Canada's Internal Waters, the Territorial Sea, the Contiguous Zone and the Exclusive Economic Zone (EEZ). Zone 1(a) of the Beaufort Sea Beluga Management Plan falls into Canadian Internal Waters.

BELUGA ENVIRONMENTAL ISSUES

Beluga summering in Canadian waters migrate through areas where oil and gas exploration activities have been underway for almost two decades, and where oil and gas production and transportation activities are proposed for the future. They concentrate in areas where hydroelectric developments and other ventures such as mining (gravel removal), deep water port development and shipping could affect water regimes, water quality and food availability. Such activities could affect beluga either directly (e.g. underwater noise, oil spills) or indirectly (e.g. changes in stability or integrity of ice, timing of break-up). Similarly, removal of significant quantities of fish, as in a commercial fishery, could reduce the amount of food available to beluga whales.

Canadian Legislation

How does the present framework of Canadian legislation apply to the protection of beluga whales and their habitat in the Beaufort Sea? First of all, the *Canada Oceans Act* has enhanced considerably the legislative architecture supporting marine environmental protection in Canada. It not only declares the maritime zones under CLOS, it also subscribes to the fundamental principles of sustainable development, integrated management and precaution (Meltzer 1998).

Secondly, the *Canada Oceans Act* extends federal laws out to the limit of the EEZ. The *Canada Oceans Act* will repeal the *Canadian Laws Offshore Application Act*[4],[5] which states that federal laws apply to the internal waters and territorial sea to the extent that such application is

4 Canada Oceans Act, S.C., 1996

5 Canadian Laws Offshore Application Act. R.S.C., 1985

consistent with the intent and object of those laws. The *Oceans Act* states that Canada's internal waters and territorial sea form part of Canada, and authorizes the Governor in Council to adopt regulations making federal laws or any provision of Canadian laws applicable in any Exclusive Economic Zone (EEZ) created by Canada[6] (Meltzer 1998).

Finally, Canadian laws allow for the conservation of the marine environment through the establishment of several types of marine protected areas. The *National Parks Act*, the *Canada Wildlife Act* and the *Canada Oceans Act* regulate national marine conservation areas, national and marine wildlife areas, and marine protected areas respectively. These tools will be discussed in the section titled Marine Conservation in Canada with Respect to Beluga.

LEGISLATIVE CONTROLS[7]

In addition to the protection offered to marine protected areas, a number of federal statutes and regulations can be used to control activities associated with shipping and navigation, fisheries management, pollution prevention, environmental assessment, and oil and gas development. Such legislation includes: *Canada Shipping Act,*[8] *Pilotage Act,*[9] *Arctic Waters Pollution Prevention Act,*[10] *Navigable Waters Protection Act,*[11] *Fisheries Act,*[12] *Coastal Fisheries Protection Act,*[13] *Canadian Environmental Protection Act,*[14] *Canadian Environmental Assessment Act,*[15] *Canada Water Act,*[16] *Criminal Code,*[17] and the *Canada Oil and Gas Operations Act*[18] together with other legislation

6 Oceans Act, s7 and 26(1)(k) respectively.

7 This section is excerpted from work prepared by Evelyne Meltzer of Meltzer Research and Consulting, 1997, for Canadian Wildlife Service: The International and Domestic Juridical Framework for Establishing MPAs under the Canada Wildlife Act.

8 Canada Shipping Act,, R.S.C., 1985, c.S-9

9 Pilotage Act, R.S.C., 1985, c.P-14.

10 Arctic Waters Pollution Prevention Act, R.S.C., 1985, c.A-12.

11 Navigable Waters Protection Act, R.S.C., 1985, c.N-22.

12 Fisheries Act, R.S.C., 1985, c.F-14.

13 Coastal Fisheries Protection Act, R.S.C., 1985

14 Canadian Environmental Protection Act, R.S.C., 1985, c.16 (4th Supp.).

15 Canadian Environmental Assessment Act, S.C., 1992, c.37

16 Canada Water Act, R.S.C., 1985, c.C-11.

17 Criminal Code, R.S.C., 1985, c. C-46

18 Canada Oil and Gas Operations Act, R.S.C., c.O-7.

concerning offshore hydrocarbon development.[19] These statutes are described briefly below.

Canada Shipping Act

Under the *Canada Shipping Act*[20]compulsory routing systems and other shipping traffic control measures can be adopted by Governor in Council to re-route ship traffic beyond MPAs.[21] The Governor in Council can enact regulations authorizing compulsory routing and navigational limitations such as areas to be avoided for environmental purposes out to 200 nautical miles,[22] and also establish Vessel Traffic Services Zones (VTS) within internal waters, the territorial sea and Arctic shipping safety control zones.[23] The Canadian Coast Guard can order a ship to leave, not enter, or remain in a VTS zone because of "... the proximity of animals whose well-being could be endangered" by the movements of ships,[24] or because of "... reasonable apprehension of pollution" in the zone.[25]

Navigation, operation, anchoring, mooring or berthing of ships can be limited or prohibited on the basis of "environmental or hydrographic conditions".[26] The Act also authorizes regulations regarding hazardous cargo, construction standards for ships carrying them and for inspection of related safety equipment.[27] Special provision for marine wildlife areas could be made pursuant to both of these provisions (Graham et al. 1992). Other regulations include: *Pleasure Craft and Non-pleasure Craft Sewage Pollution Prevention Regulations,*[28] *Oil Pollution Prevention Regulations*, and *Pollutant Discharge Reporting Regulations*, *Pollutant Substances Regulations*, *Air Pollution Regulations,*[29] and *Dangerous Chemicals and Noxious Liquid*

19 Canada Petroleum Resources Act, RS.C. 1985, c. 36 (2nd Supp.); National Energy Board Act, R.S.C. 1985, c. N-7.

20 Canada Shipping Act, RS.C. 1985, c. S-9.

21 Graham et al, 1992, p. 357.

22 Canada Shipping Act, s 562.1, added, R.S.C. 1985, c. 6 (3rd Supp.), s. 78. (VanderZwaag 1995). One weakness of this provision is that there is no process to involve the public in the designation of navigational routes and restrictions. Currently, there is only a requirement to publish proposed regulations in the Canada Gazette and to give interested parties an opportunity to make representations to the Minister (s. 562.12).

23 Canada Shipping Act, s 562.16.

24 Canada Shipping Act, s 562.18(1)(d)(vi).

25 Canada Shipping Act, s 562.18(1)(d)(v).

26 Canada Shipping Act, s 562.1(1)(e).

27 Canada Shipping Act, s 338(2)

28 Pleasure Craft Sewage Pollution Prevention Regulations, SOR/91-661; Non-Pleasure Craft Sewage Pollution Prevention Regulations, SOR/91-659 These regulations only apply to bodies of water listed such as freshwater lakes.

29 Air Pollution Regulations, C.R.C., c. 1404. These regulations control smoke emissions from ships in Canadian waters when they are within one mile of land.

Substances Regulations.[30] The pollution prevention provisions of this *Act* do not apply to discharges from ships involved in the drilling or production of oil or gas.[31] Although the receiver of wrecks has responsibility for any shipwreck found within Canadian waters,[32] there is no legislation to protect wrecks in the marine environment.[33] Penalties for contravening the Act or regulations include fines up to $1 million and up to three years imprisonment as well as orders to direct an offender to pay for research into the ecological use and disposal of the pollutant involved in the offence.[34]

Aeronautics Act

The *Aeronautics Act*[35]is the principle legislative tool available in Canada to control civil aviation activities including airline routing, aircraft noise and possibly aircraft emissions. Under the *Act*, the territory of Canada is defined as including the air space over the territorial sea.[36] The Minister responsible is empowered to regulate all matters connected with aeronautics including the establishment of aerial routes.[37] Provision is also made for making regulations governing noise emanating from aircraft,[38] the classification and use of airspace and use of aerial routes[39]and the prohibition of the doing of any other act or thing in respect of which regulations under the Act might be made.[40] Presumably the latter might be used to control such things as aircraft emissions. The ability to control aircraft activities (e.g., noise, emissions, etc.) that might negatively impact on MPAs is therefore well within the control of the federal government at least as far out as the seaward limit of the territorial sea.

Arctic Waters Pollution Prevention Act

The Arctic Waters Pollution Prevention Act[41] declared a 100 nautical mile pollution prevention zone around the Canadian Arctic Archipelago. *Arctic Shipping Pollution Prevention Regulations* [42]prohibit the deposit

30 Section 658 of the Act authorizes regulations to implement MARPOL 73/78

31 Canada Shipping Act, s 655(2).

32 The seaward extent of the jurisdiction of the receiver of wrecks is uncertain in this Act, and the 1982 Law of the Sea Convention arguably only allows coastal states to control shipwrecks of archaeological and historical importance out to 24 nautical miles (Article 303.2).

33 Graham et al,, 1992, p. 360.

34 Canada Shipping Act, section 664.1.

35 Aeronautics Act, R.S.C. 1993, c. A-3.

36 Aeronautics Act, R.S.C. 1993, c. A-3, s. 3(1).

37 Aeronautics Act, R.S.C. 1993, c A-3, s.4.2 (f).

38 Aeronautics Act, R.S.C. 1993, c A-3, s.5(f).

39 Aeronautics Act, R.S.C. 1993, c A-3, s. 5(k).

40 Aeronautics Act, R.S.C. 1993, c. A-3, s. 5(m).

41 Arctic Waters Pollution Prevention Act, RS.C. 1985, c. A-12.

42 Arctic Shipping Pollution Prevention Regulations, C.R.C.., c. 353.

of waste of any type in Arctic waters except in vary narrow circumstances.[43] A Shipping Safety Control Zones Order,[44] issued pursuant to the Act authorized the establishment of 16 "shipping safety control zones" in the 100 mile Arctic offshore area. In these zones, ships must conform to special hull construction, equipment, manning, pilotage and cargo standards, and voluntary vessel traffic control systems such as the 1977 NORDREG system.[45] This flexible regulatory scheme could be used to create appropriate safety standards for ship traffic in marine wildlife areas in the Arctic (Graham et al. 1992). Pursuant to amendments to the *Canada Shipping Act* and the *Arctic Waters Pollution Prevention Act*, Canada can pass regulations limiting or prohibiting ship navigation, operation and anchoring because of environmental conditions.[46]

Pilotage Act

Under the *Pilotage Act*,[47] marine wildlife areas could be made "compulsory pilotage areas" which mean only a licensed pilot (with satisfactory "degree of skill and local knowledge of the waters") would be permitted to conduct a ship through it.[48] The requirement for "local knowledge of the waters" could include knowledge of sensitive ecological areas, which should be avoided either at all times or at specific critical times during the year.[49] The use of licensed pilots in these areas could potentially reduce the risks of maritime accidents.

Navigable Waters Protection Act

The *Navigable Waters Protection Act*[50] prohibits unauthorized barriers or obstructions interfering with navigable waters and sets terms and conditions for the construction of works in navigable waters. It also regulates the disposal of wastes that could impede navigation. Section 21 prohibits the deposit of any sawdust, edgings, slabs, bark or like rubbish that is liable to interfere with navigation in any navigable water. Section 22 prohibits the throwing or deposit of stone, gravel, earth, cinders, ash or other material or rubbish "that is liable to sink to the bottom in any water, any part of which is navigable or that flows into any navigable water unless the water is deeper than 20 fathoms". It

43 Narrow exceptions to this prohibition include: sewage deposits from ships, oil if necessary to save life or prevent the loss of a ship, and oily deposits from engine exhaust and underwater machinery (ASPP Regulations, s28, s. 29(a) and (c)).

44 Shipping Safety Control Zones Order, C.R.C.., c. 356.

45 Graham et al, 1992, p. 357; Mills, 1994, p. 43. The NORDREG system requires mariners to report to traffic regulators in Iqaluit 30 hours before entering the Arctic Circle, and then on a daily basis to obtain traffic clearance and advice on weather conditions. These precautions were designed to prevent maritime accidents in the Canadian Arctic.

46 RS.C. 1985, c. 6 (3rd Supp.), s. 562.1(e). (VanderZwaag 1995).

47 Pilotage Act, RS.C. 1985, c. P-14.

48 Pilotage Act, s 25(1).

49 Graham et al, 1992, pp. 357-358

50 Navigable Waters Protection Act, RS.C. 1985, c. N-22.

could be used to control or prohibit ocean dumping within marine areas in navigable waters and where it would interfere with navigation in any water.[51]

Fisheries Act

Section 35 of the *Fisheries Act*[52] prohibiting the "harmful alteration, disruption or destruction of fish habitat" could be used to control activities such as ocean mining around marine wildlife areas.[53] The Minister under s. 37(1) and 37(2)(a) also is authorized to request submission of plans for offshore operations and request modifications of those operations where necessary to protect fish habitat.[54] Subsection 36(3)[55] prohibits the deposit of "deleterious substances" in water frequented by fish.[56] This provision could be used to control possible downstream impacts from the discharges of offshore operations or land-based operations on marine wildlife areas (Graham et al. 1992). However, these prohibitions on alteration of fish habitat and deleterious substances are subject to authorizations and regulatory exceptions. That is, alterations of fish habitat are permitted by ministerial authorizations or regulations,[57] and deleterious substances can be deposited if authorized by regulations under this or another *Act*.[58] Fines up to $1 million and 3 years imprisonment on indictment can be imposed under 1991 amendments[59] to the *Fisheries Act*, but enforcement has been inconsistent and sporadic (VanderZwaag 1995).

There are also many regulatory tools available under this Act. For example, the Governor in Council can make regulations "respecting the conservation and protection of fish" and "the conservation and

51 Navigable Waters Protection Act, ss 21-23 and s. 25.

52 Fisheries Act, RS.C. 1985, c. F-14. This Act is currently in the process of being re-vamped by Bill C-62 which underwent first reading in October of 1996. Section 35 will become section 49(1).

53 Graham et al, 1992. PAANL, 1996 suggests that DFO initiatives delegating responsibility for s.35(2) to provincial and territorial governments may limit the use of this provision.

54 These provisions will be replaced by subsections 48(1) and (2) of Bill C-62

55 This will become s 50(1) of Bill C-62. This provision also prohibits the "deposit of a deleterious substance in any place under any conditions where the deleterious substance or any other deleterious substance that results from the deposit of the deleterious substance may enter any such waters".

56 Paragraph 40(5)(b) of the Act places the burden on the accused to prove that water is not frequented by fish Note that in Bill C-62, "waters frequented by fish" means all Canadian waters and all waters in the EEZ of Canada (s. 42).

57 Fisheries Act, s 35(2); Bill C-62, s. 49(1)(b) and (3).

58 Fisheries Act, s 36(4); Bill C-62, s. 50(2)(a) and (b).

59 Fisheries Act, SC. 1991, c.1; Bill C-62, s. 61.

protection of spawning grounds".[60] Regulations with these objectives could be useful for ecosystem protection in marine wildlife areas (Graham et al. 1992). Fishery closed areas (Willison 1995) or MPA Harvest refugia[61] are also available options to protect fish and fish habitat. Pursuant to the *Marine Mammal Regulations*,[62] Marine Mammal Critical Areas have been established to protect marine mammals.[63] While these regulations prohibit disturbing marine mammals except when fishing for them, [64] they do not address habitat protection. Area closures regulating the harvesting of fish, shellfish and marine mammals in the past have not been used to protect ecologically representative marine areas.[65] Ministerial approval is not required to revoke closed areas.

Coastal Fisheries Protection Act

The *Coastal Fisheries Protection Act*[66] is used to regulate fishing activities of foreign vessels in Canadian waters. Special terms and conditions could be imposed in foreign fishing vessel licenses prohibiting or restricting their operation in marine wildlife areas (Graham et al. 1992). However, an effective means of enforcement might be necessary to ensure compliance with these conditions.

Canadian Environmental Protection Act (CEPA)

The Canadian Environmental Protection Act[67]prohibits ocean dumping in the territorial sea, internal waters, Arctic waters, fishing zones and EEZ without a permit.[68] It also regulates toxic substances from "cradle

60 Fisheries Act, s 43(b). Section 57 of Bill C-62 authorizes regulations "for the conservation and protection of fish habitat and the prevention of the obstruction or pollution of any waters frequented by fish".

61 Paisley e-mail, p 5.

62 Marine Mammal Regulations, SOR/93-56

63 Canadian Coast Guard, 1994

64 Marine Mammal Regulations, s 7. Licenses for harvesting cetaceans are limited to aboriginal hunts.

65 PAANL, 1996, p 45.

66 Coastal Fisheries Protection Act, R.S.C., 1985

67 Canadian Environmental Protection Act , RS.C. 1985, c. 16 (4th Supp.).

68 Part VI of the Canadian Environmental Protection Act entitled "Ocean Dumping" replaced the previous Ocean Dumping Control Act It implements the 1972 London Convention and its amendments. Some of the factors considered in granting a permit include: toxicity, persistence, biotransformation, potential effects on marine life and other marine users, and the availability of alternative land-based methods of treatment or disposal (Schedule III, Part III). These ocean dumping provisions do not apply to discharges from the exploration, exploitation of or offshore processing of sea bed mineral resources (s. 66).

to grave".[69] Under this Act, guidelines and codes of practice for seismic procedures[70] and drilling near marine wildlife areas could be developed.[71] For example, "buffer zones" could be created around MPAs where drilling for oil and gas was prohibited unless done directionally from outside the zone. Other guidelines could discourage the use of toxic mud additives and oil-based muds around marine wildlife areas or recommend that drilling discharges be either shunted directly to the sea floor or transported by barge or pipeline away from the drill site to either onshore or deep ocean disposal sites.[72] This would prevent the formation of a surface plume near sensitive marine wildlife areas. Although enforcement provisions of this Act are potentially strong and broad in scope, there have been few prosecutions.[73]

Canadian Environmental Assessment Act (CEPA)

The *Canadian Environmental Assessment Act*[74] could be used to minimize the impacts of offshore petroleum exploration on marine wildlife areas.[75] The Act stipulates that the environmental assessment review process applies to the granting of interests or leasing of federal lands defined to include marine waters and areas.[76] Currently, section 4 of the *National Wildlife Area Regulations* [77] is included in the *Law List*

69 CEPA, s 34. Regulations can be passed governing the manufacture, import, export, packaging, labeling, transportation, storage and disposal of toxic substances. However, only a limited number of substances have been regulated. These include: ozone-depleting substances, asbestos, PCBs, mirex, phosphorous in detergents, lead in gasoline, vinyl chlorite, dioxins and furans from pulp and paper mills and lead from secondary smelters (VanderZwaag 1995).

70 That is, guidelines could recommend the selection of specific sound sources around marine wildlife areas

71 CEPA, s 8.

72 Graham et al, 1992, p. 359.

73 Fines up to $1 million plus 3 years imprisonment can be imposed (s 113). Courts are also granted broad remedial powers including community service, compensation for the cost of preventative actions and ordering an offender to conduct research on the ecological use and disposal of a substance (CEPA, s. 130)(VanderZwaag 1995).

74 Canadian Environmental Assessment Act, SC. 1992, c. 37. See also Rodney Northey, The 1995 Annotated Canadian Environmental Assessment Act and EARP Guidelines Order (Toronto: Carswell Thomson Canada Ltd, 1994); Canadian Institute, Canadian Environmental Assessment Act: Interpretation, Application, Impact (Toronto: The Canadian Institute, 1994); M. Doelle, "The Canadian Environmental Assessment Act: New uncertainties, but a step in the right direction" (1994), 4 Journal of Environmental Law and Policy, 59.

75 Taylor, 1996, pp 13-17.

76 CEAA, s 5(1)(c). The definition of federal lands includes internal waters, the territorial sea, any fishing zone, any EEZ created, and the continental shelf (s. 2).

77 National Wildlife Area Regulations, C.R.C., Vol. XVIII, c. 1609.

Regulations,[78] which means that an environmental assessment is required before the Minister can grant a permit authorizing any of the activities listed in Article 3 of the regulations. A number of projects in national wildlife areas are also listed in the *Comprehensive Study List Regulations*[79] requiring comprehensive study before proceeding with them.[80] A comprehensive study is more onerous than general screening as it requires consideration of additional factors[81] and a mandatory public consultation process. More importantly, the Minister of the Environment decides the course of action to take on the project after the study has been completed, rather than the responsible authority (Northey 1994). Some of the weaknesses of this Act include a narrow focus on projects rather than programs and policies, limited public participation, broad ministerial discretion to approve assessed projects even if they may cause significant environmental effects, and limited requirements for monitoring (VanderZwaag 1995).

Oil and Gas Legislation

The *Canada Oil and Gas Operations Act*[82] provides for the carrying out of environmental programs and studies related to offshore oil and gas such as critical environmental problems resulting from oil spills from a drilling rig or production platform.[83] The Governor in Council is authorized to pass regulations for safety and environmental protection purposes for all phases of oil and gas development, and to prohibit the introduction of substances into the environment.[84]

78 Law List Regulations,, SOR/94-636 These regulations list the statutory and regulatory project approvals that trigger an environmental assessment before a project can proceed.

79 Comprehensive Study List Regulations , SOR/94-638 Projects listed in these regulations are considered likely to have significant adverse environmental impacts and thus require a comprehensive study.

80 These projects include: The proposed construction, decommissioning or abandonment, in a wildlife area of (a) an electrical generating station or transmission line; (b) a dam, dyke, reservoir or other structure for the diversion of water; (c) an oil or gas facility or oil and gas pipeline; (d) a mine or mill;(e) a nuclear facility or uranium mining facility; (f) an industrial facility; (g) a canal or lock; (h) a marine terminal; (i) a railway line or public highway; (j) am aerodome or runway; or (k) a waste management facility. The only developments relevant to a marine wildlife area would be oil and gas facilities or pipelines, and mines (if applied to seabed mining) unless the area was coastal.

81 These additional factors listed in s 16(2) of the Act include: the purpose of the project, alternative means of carrying out the project that are technically and economically feasible and the environmental effects of any such alternative means; the need for, and the requirements of, any follow-up program in respect of the project; and the capacity of renewable resources that are likely to be significantly affected by the project to meet the needs of the present and those of the future.

82 Canada Oil and Gas Operations Act, RS.C. 1985, c. O-7.

83 Mills, 1994, p 43; PAANL, 1996, p. 46.

84 Canada Oil and Gas Operations Act, s 14(1).

Canada Oil and Gas Drilling Regulations authorize the chief conservation officer to control discharges from offshore installations and to prescribe requirements for other activities related to offshore oil and gas operations.[85] Operators must ensure that all waste material, drilling fluid and drill cuttings are disposed of without creating a hazard to safety or to the environment. During the production phase, operators are required to submit environmental protection plans relating to pollutant and waste material discharges from production operations, pursuant to *Canada Oil and Gas Production and Conservation Regulations*.[86] Some standards are only set in non-enforceable guidelines such as *Guidelines for the Use of Oil-Based Drilling Muds*[87] and an *Environmental Code of Practice for Treatment and Disposal of Waste Discharges from Offshore Oil and Gas Operations*.[88]

The *Canada Petroleum Resources Act*[89] authorizes the Governor in Council to prohibit by order any offshore petroleum operator from commencing or continuing any work or activity in case of "an environmental or social problem of a serious nature".[90] However, this provision contemplates an emergency situation rather than a continuous program to protect an environmentally sensitive area (Graham et al. 1992). There is also no mechanism to withdraw rights under this Act or the *Oil and Gas Production and Conservation Act* if they are sold outside a marine wildlife area. Only a violation of some requirement such as engaging in poor production practices could warrant the cancellation of a licence (Graham et al. 1992). The *National Energy Board Act*[91] authorizes the board to consider the environmental effects of proposed oil and gas pipelines and of petroleum or natural gas exports. Environmental protection terms and conditions may also be imposed by the board on licenses for oil or gas export or import (VanderZwaag 1995).

The marine areas off Newfoundland and Nova Scotia have their own environmental standards and regulatory regime for offshore oil and gas

85 WWF, 1993, p 7; Stalport, 1992, p. 212.

86 Canada Oil and Gas Production and Conservation Regulations, SOR/90-791, s. 60(1)(b).

87 Canada Oil and Gas Lands Administration, Guidelines for the Use of Oil-Based Drilling Muds (November 1985).

88 Environment Canada, Environmental Code of Practice for the Treatment and Disposal of Waste Discharges from Offshore Oil and Gas Operations, Report EPS 1/PN/2 (January 1990).

89 Canada Petroleum Resources Act, RS.C. 1985, c. 36 (2nd Supp.).

90 Canada Petroleum Resources Act, s 12. A similar provision is found in Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act, S.C. 1988, c. 28 which applies to the area offshore Nova Scotia.

91 National Energy Board Act, RS.C. 1985, c. N-7, s. 52.

activities based on agreements between the federal government and the provinces and mirror legislation. The *Canada-Newfoundland Atlantic Accord Implementation Act*[92] and the *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act*[93] vest discretionary decision-making in the area of marine environmental protection in their respective boards.[94]

Canada Water Act

Pursuant to the *Canada Water Act*,[95] the Minister of the Environment can enter into agreements with provinces to establish water quality management schemes in areas that have become matters of "urgent national concern".[96] However, as "urgent national concern" is not defined in the Act, it is unclear whether such an agreement could be negotiated to protect the water quality of a marine wildlife area. While this Act has had little impact on marine environmental protection, it has contributed to marine environmental monitoring and management (VanderZwaag 1995).

Criminal Code

In general, offences under the *Criminal Code*[97] do not apply beyond the seaward limit of the territorial sea. However, with the establishment of the EEZ, the following applications of the *Criminal Code* are applicable beyond the 12 nmile boundary to the seaward extent of the EEZ (200 nmiles).

- In respect of any offence under the *Canadian Laws Offshore Application Act*, section 5 (repealed and replaced by the *Oceans Act)* (*Criminal Code*, section 477.1(1)(a))
  - in any fishery zone of Canada (section 477.1(1)(b))
  - on board any vessel registered in Canada (section 477.1(1)(c))
  - in hot pursuit of a vessel registered outside Canada (section 477.1(1)(d))
  - in respect of any act or omission committed by a person who is in a fishing zone of Canada in connection with the exploration, exploitation, management or conservation of the living resources thereof (section 477.1(2)(a)).

92 Canada-Newfoundland Atlantic Accord Implementation Act, SC. 1987, c. 3.

93 Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act, SC. 1988, c.28.

94 That is, environmental impact statements, environmental program requirements for offshore activities, and public reviews are in their discretion (VanderZwaag 1995).

95 Canada Water Act, RS.C. 1985, c. C-11.

96 Graham et al, 1992, p. 364; Mills, 1994, p. 42.

97 Criminal Code, R.S.C., 1985, c.C-46.

- Powers of arrest, entry, search or seizure apply in respect of section 477.1(1) on board a ship or marine installation or structure where the act or omission occurred (section 477.3(1)(a)) or where hot pursuit has been commenced, at any place on the seas, other than a place that is part of the territorial sea of any other state (section 477.3(1)(b)).

Where the vessel that allegedly commits an offence under section 477.1(1), is registered outside Canada, the vessel can only be pursued with the consent of the Attorney General of Canada.

The Canadian Criminal Code also regulates pollution and dumping.[98]

- The Criminal Code can also be used to support prohibitions in particular federal Statutes such as the *Canada Shipping Act* and the *CWA*. The law is not clear whether Canada has jurisdiction out to 200 nmiles with respect to enforcing the protected areas provisions of the CWA, according to lawyers in justice, private practice and academia. However, it is my opinion that with the enactment of the *Oceans Act* (repealing the *Canadian Laws Offshore Application Act)* and the subsequent amendment of section 4.1 (1) of the CWA, deleting reference to the *Territorial Sea and Fishing Zones Act* and replacing it with the *Oceans Act (s.20),* the provisions pertaining to the Criminal Code in the CWA extend to the outer limit of the EEZ.

98 Taylor, 1996, p 17.

MARINE CONSERVATION IN CANADA WITH RESPECT TO BELUGA

Marine conservation, briefly described, is managing relationships between people and the oceans. In the Arctic, as elsewhere, these relationships are complex and many-faceted. The quality of life for northerners, which includes providing food for their families, sustaining their cultural values and traditions, and dependence on a wage economy to provide for the other necessities of life, depends heavily on resources provided by the ocean.

Conservation, then, does not preclude the development and use of resources in the oceans. Rather, "it [conservation] accepts the use of natural resources as essential to the prosperity and well-being of people in the region, but insists that the use must not destroy or subtract from the continued viability of these resources" (Mackenzie Delta-Beaufort Sea Regional Land Use Planning Commission 1988).

Sustainable Use

The relationship between the Inuvialuit and the beluga represents more than a source of food. It represents a way of life—a way of life that depends on the continued well-being of the beluga. The beluga in turn, depend on a vast marine environment in order to flourish. If the beluga are threatened by the pollution of their waters, for example, the Inuvialuit are threatened. In order to protect their way of life, the Inuvialuit are bound to protect the beluga, and so the oceans in which they live. The Beaufort Sea Beluga Management Plan was drafted to ensure the sustainable use of these living resources, using the tools available. It was one part of the larger regional conservation planning strategy.

Planning for the future cannot occur without reflecting on the history of planning which has already occurred in the ISR. That history has emphasized marine conservation, integrated planning, and community-based co-management processes. Any review of beluga management must therefore be viewed in the context of marine conservation. This section provides that context, and discusses briefly the initiatives taken to date to protect whales elsewhere in Canada.

A GLOBAL FRAMEWORK

Marine conservation has become the focus of world-wide concern. The 1982 Convention on the Law of the Sea focused international attention on matters related to protection of the marine conservation environment. The Convention on Biological Diversity, entered into force in 1994, places a moral responsibility on all nations to protect their biological resources. Another international initiative, the Global Program of Action and Agenda 21 of the United Nations Environment Program, is developing management frameworks for protecting the marine environment from land-based sources of pollution.

The United Nations Educational Scientific & Cultural Organization (UNESCO), has established guidelines for nominating sites to create a worldwide network of Biosphere Reserves that include examples of all of the globe's main ecosystems, with their patterns of human interactions. These reserves consist of relatively undisturbed core areas, and a surrounding buffer zone in which controlled resource development can occur. Local community representatives, government, industry and research organizations typically determine what controls should be put in place using joint management processes. The site identified to become the Igalirtuuq National Wildlife Area has been nominated for this designation (Parks & Tourism 1997).

Arctic Initiatives

Other international groups are focusing specifically on marine protection of far northern regions of the world. The Inuit Circumpolar Conference (ICC) represents the concerns of about 125,000 Arctic native people in four countries. It has adopted a charter that is premised on "protection of the Arctic environment and recognition of subsistence issues" (ICC 1993). Eight circumpolar nations have membership in the Arctic Environmental Protection Strategy (AEPS), created in 1991 to initiate cooperative international activities that would address threats to fragile Arctic ecosystems caused by global pollution. The Circumpolar Arctic Flora and Fauna (CAFF) Program was created as a sub-group under AEPS, as a forum in which scientists, indigenous peoples and conservation managers could collaborate and develop research strategies leading to conservation of Arctic flora, fauna and habitat. A priority of this program is the establishment of a Circumpolar Protected Area Network (CPAN) (CAFF Program 1997).

MARINE PROTECTED AREAS

Value of Marine Protected Areas

The health of the world's oceans is known to be declining, and there is growing consensus that marine protected areas may be an important tool in seeking to regain balance in these ecosystems. The term marine protected areas is used "to describe a wide spectrum of designated marine habitats and regions, having different design features, varying conservation goals, and offering varying levels of protection…. Extremes involve strict protection on one hand and multiple use management on the other, with clusters or zones of differing degrees of protection" (Meltzer 1997).

Size of marine protected areas

There are today over 1000 so-called marine protected areas in over 80 countries. These areas range greatly in size, from 344,000 square kilometers as in the Great Barrier Reef Marine Park in Australia, to less than 1 square kilometer in the Shiprock Aquatic Reserve, also in Australia.

Functions of marine protected areas

In addition to being vastly different in size, marine protected areas are serving a variety of functions which include: enhancing fisheries; protecting endangered or threatened species and habitats; improving local economies; providing opportunities for research and education; preserving cultural and historic heritage; and maintaining biodiversity. The management strategies applied range widely from limited or even no use, to seasonal and multiple use.

Canada

In Canada three federal departments have developed policies and programs for protecting and conserving the marine environment, and a number of marine conservation options are either available or are being developed. These include national marine conservation areas (NMCAs) under Parks Canada, Department of Canadian Heritage (in conjunction with the Government of the Northwest Territories in the Arctic); national wildlife areas (NWAs) and marine wildlife areas (MWAs), both under the Canadian Wildlife Service, Department of the Environment; and finally marine protected areas (MPAs) under the Department of Fisheries and Oceans (Table 2).

National Marine Conservation Areas

National Marine Conservation Areas (NMCAs) are the responsibility of Parks, Department of Canadian Heritage. The purpose of NMCAs is "to protect and conserve for all time national marine areas of Canadian significance. Traditional harvesting activities are allowed in these areas, but commercial activities, other than commercial hunting and fishing permitted as part of a negotiated fisheries management plan, are prohibited. As yet, no legislation has been drafted and no such areas have been established. NMCAs "will include the sea bed, its subsoil, and the overlying water column. In coastal areas, they may include wetlands, river estuaries, islands and other coastal lands. However, they may also be established wholly offshore to protect marine areas some distance from Canada's coastline" (Parks Canada 1998).

Parks Canada has focused to date primarily on completing networks of protected areas representative of Canada's terrestrial regions. "The science, policy and planning frameworks for marine conservation are relatively underdeveloped….Another important factor, public awareness of and support for the issues surrounding marine conservation is only now emerging…." (Parks & Tourism 1996).

Saguenay-St Lawrence Marine Park

Parks Canada also has a Canada/Quebec Marine Park, the Saguenay-St. Lawrence. The purpose of the Saguenay-St. Lawrence Marine Park is to protect representative ecosystems. Both beluga and harbour seals tend to congregate in this Park's estuaries seasonally (Canada/Quebec no date).

National Wildlife Areas

National Wildlife Areas are the responsibility of CWS, Environment Canada. They are intended to conserve nationally significant wildlife including migratory birds and their habitats, including coastal marshlands. "They may also protect areas supporting rare plants and unusually diverse or genetically important habitats" (Parks & Tourism 1997). Hunting of any species, trapping, fishing, economic and

industrial activities, as well as tourism may be allowed in these areas, provided wildlife and their habitat are not threatened.

This is the conservation option being used on the east central coast of Baffin Island, where the Igalirtuuq National Wildlife Area is close to being established (Magdalena Muir *pers. comm.,* Jan. 1998). This NWA will have both terrestrial and marine boundaries encompassing 5,515 km^2, of which 3,033 km^2 is marine. The primary goal of this community-led initiative is to protect bowhead whales and their habitat.

Management objectives at this site are to base decisions on sound ecological principles; to protect bowhead whale populations and their habitat; to encourage research; to ensure the long-term sustainability of the traditional harvest of bowhead; to involve the community in managing the area; and to increase public awareness and appreciation of the area, and particularly the bowhead.

"At present, the land [for a NWA] either has to be owned by the government (and transferred to DOE by an order-in-council), or the land has to be leased by DOE. DOE is currently negotiating a lease for the Inuit-owned lands that are within the Igaliqtuuq boundary. There is a desire within both CWS and Nunavut Tunngavik to change the *Canada Wildlife Act* in order to allow private lands to be used for NWAs through only an agreement instead of a lease. For now, though, either DOE ownership or lease of the land is required" (Vicky Johnston *pers. comm.,* Jan. 1998).

Marine Wildlife Areas

Marine Wildlife Areas (MWAs) are the responsibility of CWS, Environment Canada. They are primarily intended to protect migratory birds, associated wildlife and their habitat. Regulatory authority exists to establish MWAs out to the 200 nmile limit. Mechanisms for co-management are under development, but no marine wildlife areas have been created to date.

Marine Protected Areas

Passage of the *Oceans Act* in 1997 authorized the Government of Canada "to establish a national system of Marine Protected Areas and to make regulations that allow MPAs to be designated, zoned, and closed to certain activities" (DFO 1997).

A Marine Protected Area is 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 [35] for special protection for one or more of the following purposes: (a) conservation and protection of commercial and non-commercial fisheries resources, including marine mammals and their habitats; (b) conservation and protection of endangered or threatened marine species, and their habitats; (c) conservation and protection of unique habitats; (d) conservation and protection of marine areas of high biodiversity or biological productivity; (e) conservation and protection of any other marine resource or habitat as is necessary to fulfill the mandate of the Minister of Fisheries and Oceans—*Canada Oceans Act 1997.*

A process for establishing marine conservation options is now being developed, and the Department of Fisheries and Oceans is ready to implement pilot marine protected areas. These will provide an opportunity to "learn by doing" the most effective ways of implementing marine protected areas in various regions of the country. The policy for establishing MPAs permits wide regional flexibility (so that in the Arctic, for example, wildlife harvesting may continue within MPAs), and is consistent with the principles of the *Inuvialuit Final Agreement* (Muir 1997).

"It is not just the intensely used coastal areas which have deteriorated. Species and habitats in the offshore environment once too remote to be affected by man are now subjected to many threats. Options for protecting these marine ecosystems are quickly disappearing. Marine protected areas are now regarded as essential for conservation efforts and an important tool to address global marine and marine biodiversity conservation….Apart from their conservation value, marine reserves can provide important educational, recreational, and economic opportunities e.g. tourism. Thus marine protected areas have a broad range of potential uses and can be established to realize many different conservation objectives" (Meltzer 1997).

Table 2: Comparison of Marine Protected Areas Established under *Canada Wildlife Act, Canada Oceans Act* and *National Parks Act*.
Source: Meltzer Research and Consulting, 1997. The International and Domestic Juridical Framework for Establishing MPAs under the *Canada Wildlife Act*).

Legislation	*Canada Wildlife Act*	*Canada Oceans Act*	*National Parks Act*
Designation	National Wildlife Areas and Marine Wildlife Areas	Marine Protected Areas	National Marine Conservation Areas; formerly known as national marine parks
Jurisdiction	Internal waters, territorial sea, EEZ. Coastal or offshore.	Internal waters, territorial sea, EEZ. Coastal or offshore.	Internal waters, territorial sea and EEZ. Coastal or offshore. Includes sea bed, subsoil and the overlying water column. (*Sea to Sea to Sea)*
Lead Agency	DOE (CWS)	DFO	Parks Canada
Objectives	To protect nationally significant habitats, especially for migratory birds, but also for other wildlife; for the purpose of wildlife research, conservation and interpretation. Protect wildlife and habitats by prohibiting human activities that are harmful to species and the environment.	To conserve and protect fishery resources (including marine mammals), endangered or threatened marine species, unique habitats, marine areas of high biodiversity or biological productivity, or any other marine resource or habitat necessary to fulfill Minister's mandate (e.g. scientific research). Develop a network of MPAs complementary to those of PC and Env. Can, and reflects the diversity of the oceans.	To conserve representative examples of Canada's marine environments, coastal zone and Great Lakes from 29 marine natural regions. To provide opportunities for public understanding, appreciation and enjoyment of Canada's natural and cultural marine heritage.
Area Evaluation Method	Surveys and other information sources are used to identify areas of importance to birds. Candidate sites are put on a priority sites list. Feasibility determined through consultations.	Nominations by interested groups, regional overviews (for systematic approach), identification of candidate sites, MPA proposals, area identification list, area evaluation and selection, pilot MPAs.	System planning with 29 marine natural regions, identification of representative marine areas, feasibility studies.

Legislation	*Canada Wildlife Act*	*Canada Oceans Act*	*National Parks Act*
Site Selection Criteria	Importance to birds; rare and endangered species and unique associations of species; and unique habitat types. Opportunity, urgency and feasibility also considered.	Developing national guidelines. Objectives listed above from s. 35. Plus, social and economic values, immediacy of need, practicality, partnership opportunities, community support, adequacy of existing regulatory regimes, potential human activity threats, ecological fragility, feasibility of enforcement, scientific importance, educational value, fiscal constraints, and regional, national, or international significance.	Naturalness, representativeness (geological, oceanographic, biological and ecosystem diversity), and factors listed in NMCA Policy (1.2.2).
Information-Gathering and Management	Ongoing marine bird surveys, research and monitoring, including internationally shared species. Seabird registries maintained for regions.	Present information, ongoing research and traditional ecological information. Developing broad information base on MPAs, existing and planned uses, environmental data, and ecological information. Common database using GIS for storing and interpreting information. Team of information specialists.	Biophysical resource inventories, research and monitoring programs.
Stakeholder Consultations	Consultations carried out with provincial and municipal governments, First Nations, local groups and individuals. Consultation at proposal/establishment stage, management plan development and review.	Minister may consult with other federal or provincial ministers, boards and agencies, aboriginal groups, and coastal communities (s.33(2)).	Public consultation at establishment stage, management plan review, regulation development.
Area Establishment	Regulation	Regulation	NMCA Agreements with federal and provincial governments, and aboriginal organizations, Schedule or amendment to Act

Legislation	*Canada Wildlife Act*	*Canada Oceans Act*	*National Parks Act*
Multi-sector Partnerships	Agreements with provincial/territorial governments, First Nations, or other organizations or individuals (s.5, 7). Partnership agreements may be developed for area establishment phase; cooperative management of the area; and for programs for wildlife research, conservation and interpretation.	Minister shall cooperate with other federal or provincial ministers, boards and agencies, aboriginal groups, and coastal communities (s.33(1)). Partnerships with wide variety of stakeholders including: coastal communities, fishing industry, aquaculturalists, aboriginal organizations, conservationists, ocean industries, and federal, provincial and municipal governments.	Partnerships with DFO managing fisheries; and Transport Canada and DFO/Coast Guard managing marine transportation and navigation issues. Management advisory committees established for each site (mandatory under section 2.7 of Policy).
Management Measures	Conservation measures set out in management plans; most human activities prohibited in the regulations but can be permitted through a flexible permitting system, if compatible with conservation.	Zoning, prohibition of classes of activities, temporal and spatial closures, management plans, buffer areas, integrated management, ecosystem approach.	Zoning, management plans (required within 5 years by s. 5(1.1) of Act).
Level of Protection	Broad prohibitions in regulations against most human activities. Some activities may be permitted if compatible with conservation. Several types of permits require CEAA assessments.	Interim protection and protection in emergency situations available (s. 36). Level of protection can vary from strict "no take" zone where access limited to areas where controlled use or resource harvesting is allowed.	Interim protection available for proposed sites. Highly protected zones buffered by cooperatively managed multiple use areas (commercial shipping, commercial and recreational fishing and hunting permitted). Seabed mining, oil and gas exploration and extraction, ocean dumping, and sport hunting prohibited (NMCA Policy). Pollution prevention provision (s. 8(1.4)).
Co-management	Co-management possible through agreements e.g. with provincial and territorial governments; other federal government departments; aboriginal groups according to terms of land claim agreement (e.g., Nirjutiqavvik NWA).	Minister shall cooperate with affected aboriginal organizations (s. 33(1)). [Note: The national policy for MPAs allows for regional flexibility. Development of MPAs will conform to existing co-management arrangements in the Central and Arctic Region.]	Co-management with aboriginal organizations according to terms of land claim agreement.
Community Involvement	Consultations with communities for new sites proposals, management planning and review.	Minister shall cooperate with coastal communities (s. 33(1)). Nomination of areas by interested groups.	Consultations with communities during park establishment, management planning and review (management advisory committees).

Legislation	*Canada Wildlife Act*	*Canada Oceans Act*	*National Parks Act*
Research Requirements	Research is one purpose for which areas may be established. Aimed at wildlife ecology and monitoring, habitat restoration and management, wildlife-habitat relationships.	Limited understanding of marine ecosystems dynamics. Require data for understanding oceans, their living resources and hydrographic, oceanographic, fisheries, and other marine systems.	
Legal Mechanisms	Regulations prescribing measures for the conservation of wildlife (s. 12); prohibitions; permits.	Regulations prescribing zoning, prohibition of activities.	Interim protection under *National Parks Act* and Regulations. More specific NMCA legislation being drafted.
Monitoring	Ongoing marine bird surveys and monitoring programs, management plan review every 5-10 years	Monitoring programs, monitoring environmental parameters, refining management plans.	Management plan review every 5 years (s. 5(1.3) of Act). Report to Parliament on state of the parks due every 2 years (s. 5(1.5) of Act)
Enforcement (Penalties)	Fines up to $100,000 for an individual plus 6 months jail, and up to $250,000 for a corporation, plus 5 years jail (s. 13(1)). Fines cumulatively imposed for each animal, plant or organism involved in offence (s. 13(4)). Other flexible remedies available such as community service, remedying harm, or paying cost of remedial action (s. 16).	Fines up to $100,000 (summary conviction) or $500,000 (indictable offence). Fines cumulatively imposed for each animal, plant or organism involved in offence (s. 39.6(4)). Other flexible remedies available such as community service, remedying harm, or paying cost of remedial action (s. 39(9)).	Fines for contravening Act or regulations up to $2,000, except for poaching of listed threatened species including Piping Plover, Whooping Crane, Peregrine Falcon and Polar Bear (up to $10,000, plus 6 months imprisonment) or listed protected species including Atlantic Salmon (up to $150,000, plus 6 months imprisonment).
Public Education or Constituency Building	Interpretation and public awareness programs.	Establishing a public information and education program using wide range of environmental tools.	Interpretation and public education programs.
Socio-economic Benefits	Conservation, marine research, interpretation, protection of economically important species, biodiversity conservation, ecotourism.	Conservation, marine research, protection of economically important species.	Tourism, conservation, interpretation, education, marine research and ecological monitoring, protection of economically important species.

CONCLUSIONS AND RECOMMENDATIONS

The purpose of this report is to consider whether a Marine Protected Area could be used effectively for marine conservation in the Inuvialuit Settlement Region, considering in particular its relevance for the management of beluga. We have arrived at the following conclusions:

CONCLUSION 1:

The Beaufort Sea Beluga Management Plan should be imbedded within a legislative framework, which allows for comprehensive planning and coordinated implementation. The framework should provide:

- a pro-active, planning process rather than a reactive, regulatory one.
- coordination of diverse pieces of legislation which now govern environmental management.
- incorporation of conservation principles in resource planning.
- a more holistic or ecosystem-based approach to resource management.
- inclusion of northern people in the planning process at all levels.

Broader Planning Issues

An examination of people's concerns about beluga management in the ISR showed that a wide range of human activities, both on land and in the sea must be controlled. To a large extent these concerns have been addressed by formulation of the Beaufort Sea Beluga Management Plan (BSBMP) and guidelines such as the Tourism Guidelines of the BSBMP. The difficulty is that the management plans are not entrenched in legislation, and enforcement is problematic. While enforcement could be provided by changes to regulations in several federal Acts, this approach would not address broader planning and management issues.

Planning vs Regulations

A common theme which runs through most of the northern work on conservation and land use planning (see "A Review of Conservation Planning in the ISR, Major Planning Documents) is a plea for integrated planning of natural resource use and conservation. The northern planning approach contrasts dramatically with Canada's present legislative framework for environmental protection (outlined in "Legislative Controls"), which is regulatory in nature, and tends to be more reactive than proactive. For example, a major deficiency noted by the Task Force on Northern Conservation was "reliance upon a regulator system that tends to be restrictive, narrow and reactive rather than on an active, forward looking approach to resource management" (Task Force 1984). A mechanism for resource and conservation planning is needed.

Complexity vs Integration

The legislative tools available for controlling activities which impact upon beluga are scattered over a large number of government agencies, making it difficult to integrate their application to a complex issue like beluga management. The complexity of federal legislation affecting the

marine environment was noted in the section titled "Legislative Framework for the Marine Environment". In fact, within Canada, there are at least 36 federal acts and 20 provincial and territorial acts, together with numerous international conventions and accords that relate to the protection and use of the marine environment and marine resources (Parks Canada 1997). A mechanism for integration of legislation is needed.

Fragmentation vs. Cooperation

One of the problem areas noted in the Task Force on Northern Conservation was "institutional competition between governments and among government agencies". The federal and territorial legislation is highly sectoralized, serving the regulatory needs of the various government agencies. This leads to a highly fragmented approach to marine conservation, and requires an extreme degree of inter-departmental coordination in order to develop a holistic or ecosystem approach to environmental protection. In view of the openness of marine ecosystems and the high degree of connectivity between marine environments and upstream terrestrial activities, a mechanism for close collaboration and cooperation across many jurisdictional boundaries and among government agencies is needed.

Exclusion vs. Co-management

A final problem area noted by the Task Force on Northern Conservation was "insufficient opportunity for northerners to participate effectively in the decision-making process involving northern resource utilization". The existing legislative framework for marine environmental protection tends to be exclusionary in the sense that northerners have no way to participate in its formulation. A mechanism more consistent with co-management processes is required.

RECOMMENDATION 1: A CONSERVATION FRAMEWORK

The Beaufort Sea Beluga Management Plan should be formalized within the context of the *Canada Oceans Act,* rather than through changes in specific pieces of existing legislation such as the *Fisheries Act* or the *Canada Shipping Act.*

The Canada *Oceans Act* lays out a framework for marine conservation, which allows for comprehensive planning:

- by declaring Canada's maritime zones;
- by defining Fisheries and Oceans as the lead agency for developing a national strategy on oceans management;
- by leading the implementation of plans for the integrated management of oceans activities;
- by embracing the principles of sustainable development, integrated management, and precautionary approaches;
- by establishing marine environmental quality guidelines, and implementing a national system of marine protected areas using protection tools defined under the *Canada Wildlife Act* and the

National Parks Act as well as the *Canada Oceans Act* itself (see Table 2);

- by providing regional flexibility so that procedures can conform to the co-management framework established by northern land claims.

CONCLUSION 2.

Further discussions should be initiated with DFO to examine whether a Marine Protected Area provides an adequate framework for implementing elements of the Beaufort Sea Beluga Management Plan.

A common theme emerging from;

- the Task Force on Northern Conservation (1984),
- the Mackenzie Delta-Beaufort Sea Regional Land Use Planning Commission (1990),
- the Inuvialuit Renewable Resource Conservation and Management Plan (1988),
- the six Community Land Use Plans, and
- the Inuvialuit Community Conservation Plan Implementation Workshop on Protected Areas in the ISR (1994),

was the consistent reference to a "comprehensive network of protected areas" which included the marine environment.

There are several tools for protecting marine habitat which are critical to beluga whales, such as National Marine Conservation Areas, Marine Wildlife Areas, and Marine Protected Areas. These various options could be examined as part of the process to define a National System of Marine Protected Areas under the *Canada Oceans Act, Sec. 35(2).* National Marine Conservation Areas (Parks Canada) are designed to conserve representative examples of Canada's marine environments, and may be too broad to provide a conservation framework for the BSBMP. Both Marine Wildlife Areas (Canadian Wildlife Service, CWS) and Marine Protected Areas (Fisheries and Oceans) are more focused on protection of wildlife and their habitat and may be more suitable frameworks for the BSBMP. However, Marine Wildlife Areas require that lands be transferred or leased to CWS while Marine Protected Areas do not. The Inuvialuit may also wish to consider the degree of participation in planning which is possible in working through CWS and DFO. The Fisheries Joint Management Committee is a legislated co-management body with both Inuvialuit and DFO membership, and has been operating more or less successfully for over a decade.

RECOMMENDATION 2: A MPA PLANNING FRAMEWORK

The FJMC should pursue the question of the applicability of a Marine Protected Area further by identifying the zones of the Beaufort Sea Beluga Management Plan as an "Area of Interest",

and requesting that the area be designated as a pilot "Marine Protected Area" under the terms of the *Canada Oceans Act*.

This would not constitute a commitment on either side to establish the BSBMP zones as a marine protected area. Instead, it would allow both sides to proceed through the process of planning for a MPA, at the same time adapting the planning process to best meet the needs of DFO and the needs of the Inuvialuit under the *Inuvialuit Final Agreement*. A "Pilot MPA" is specifically designed to "learn by doing". At a later planning stage, the Inuvialuit and DFO could decide whether to proceed to the stage of recommending the area be a Marine Protected Area. A sample letter identifying an "Area of Interest" may be found in Appendix A.

CONCLUSION 3.

If the decision is made to examine the Beaufort Sea Beluga Management Plan in the context of a MPA under the *Canada Oceans Act,* any proposed institutional structures should reflect the existing co-management framework which characterizes wildlife management in the ISR and in the Central & Arctic Region (DFO).

RECOMMENDATION 3: AN INSTITUTIONAL FRAMEWORK

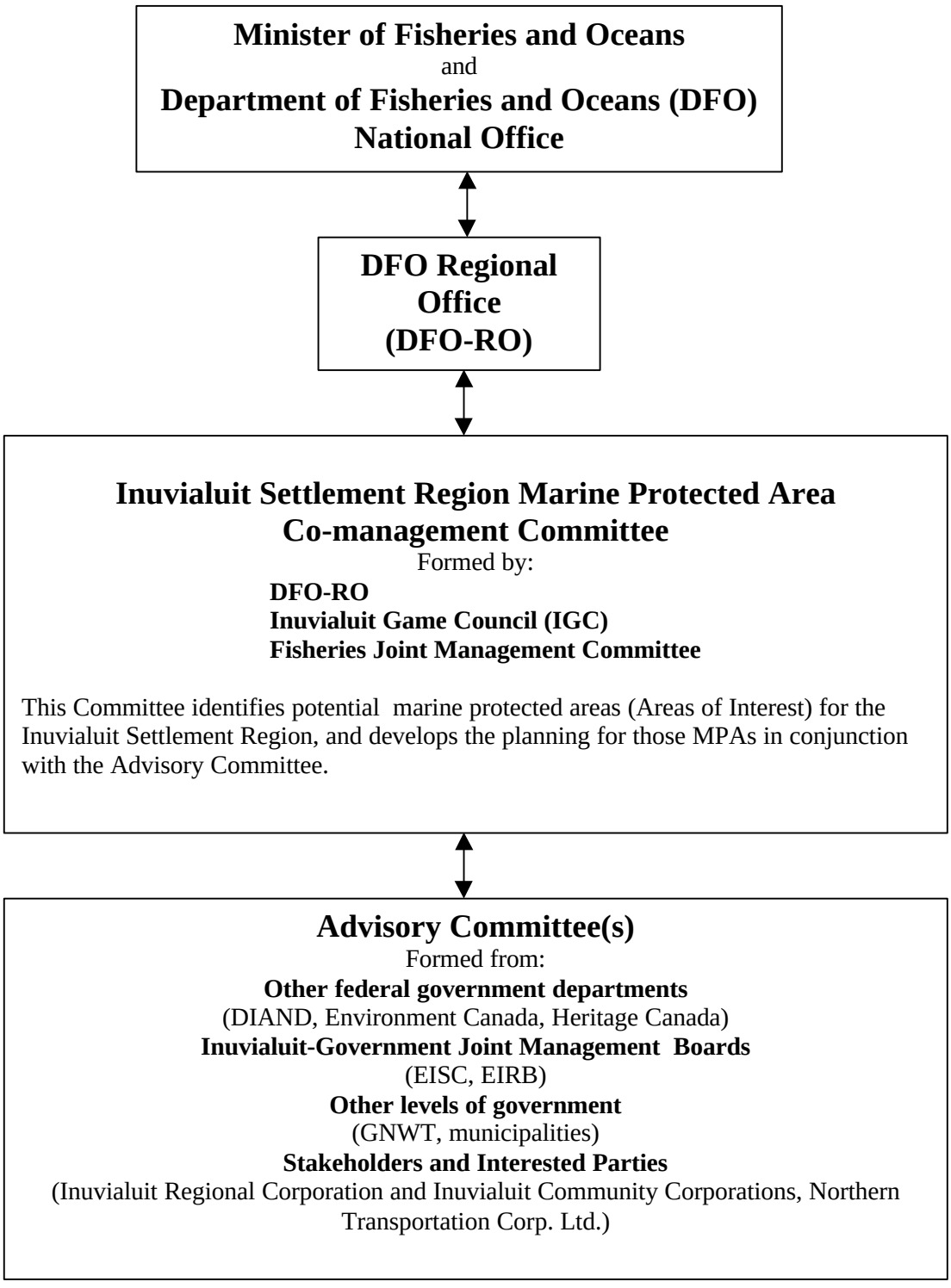
An institutional framework is suggested as a potential option for proceeding with a "Pilot Marine Protected Area". The framework is based partly on DFO's Process paper for Establishing MPAs (Draft).

FRAMEWORK [99]

Recommended organizational linkages associated with the identification and establishment of a pilot marine protected area in the Inuvialuit Settlement Region is shown in Figure 1. This text describes the proposed organizational linkages in Figure 1, and the rational behind the proposed linkages and participants.

99. Figure 1 and related text were prepared by Magdalena A. K. Muir of International Energy, Environmental and Legal Services [M.A.K.Muir], after discussing and reviewing earlier drafts of this report with Jack Mathias and Helen Fast. Figure 1 and related text were derived in part from an earlier report entitled Analysis of the *Inuvialuit Final Agreement* and Marine Protected Areas under the Oceans Act.

Figure 1: Organizational Linkages Associated with the Identification and Establishment of Marine Protected Area in the Inuvialuit Settlement Region.



DFO-National

The Minister of Fisheries and Oceans and the national office of the Department of Fisheries and Oceans (DFO or the Department) will have a supervisory and overseeing role for any marine protected area in Canada. This supervisory and overseeing role is required as the Minister and the national office are ultimately responsible for the activities of local and regional offices. A strong federal role is also required to present a management plan for a marine protected area to the federal cabinet, or to draft federal legislation or regulations, if required to implement the protected area. Figure 1 reflects these responsibilities by having DFO regional offices report to the Minister and the national office.

DFO – Regional

Given the local nature and concerns associated with a marine protected area, the DFO regional office should have the primary responsibility within the Department for the identification and establishment of marine protected areas. The regional office will be the most appropriate party to direct the establishment of a marine protected area within a national framework and policy for marine protected areas. The regional office will have access to and knowledge of local concerns and conditions. It will be able to take a lead role on behalf of the federal government in the establishment of a marine protected area. Lastly, it will be able most efficiently to direct resources and staff to meet any responsibilities or duties arising from the establishment of a marine protected area.

The DFO Regional office in Winnipeg is particularly suited to the role of collaborating with co-management partners to identify and establish a marine protected area for beluga whales in the Inuvialuit Settlement Region. The regional office nominates members to the Fisheries Joint Management Committee established under the *Inuvialuit Final Agreement*, has a primary role in the implementation of the Department's responsibilities under that Agreement, and has actively participated in the development of the existing Beaufort Sea Beluga Management Plan.

Co-Management Committee

Figure 1 then refers to the Inuvialuit Settlement Region Protected Area Co-Management Committee (the Committee). This Committee will be formed by representatives of the Winnipeg regional office of the DFO, the Inuvialuit Game Council (IGC), and the Fisheries Joint Management Committee (FJMC). Given its structure, the IGC will also reflect the concerns and issues of the Hunters and Trappers Committees.

It is envisioned that the Committee will be a joint management committee which will of its own accord identify potential marine protected areas such as the proposed Zone 1a lands in the current Beaufort Sea Beluga Management Plan. The Committee will also work with the Advisory Committee or Committees to develop management plans for that area and any subsequent areas, and to establish any required regulations. The exact number of representatives on the Committee may be determined later but it is proposed that, in keeping with the spirit of co-management under the *Inuvialuit Final Agreement* and the structure of the FJMC, that there be an equal number of

Inuvialuit and DFO representatives. Parties may also wish to consider having the FJMC assume the Committee's role for marine protected areas, given the structure and makeup of the FJMC and the historic and successful relationship between the Inuvialuit and the DFO with regard to the FJMC.

Advisory Committee

After the Inuvialuit Settlement Region Protected Area Co-Management Committee has identified a proposed marine protected area, that Committee will work with one or more Advisory Committees to develop the management plan and establish any regulations required. The Advisory Committee will be formed of other federal government departments, Inuvialuit-government joint boards established under the *Inuvialuit Final Agreement*, regional governments, and other key stakeholders and interested parties. It is important to involve these key stakeholders and interested parties in the development and establishment of a plan for a marine protected area at the earliest stage in order to achieve some level of "buy-in" by parties who will either implement, enforce or be affected by the marine protected area.

Other Federal Agencies

The federal government departments on the Advisory Committee are the Department of Indian Affairs and Northern Development (DIAND), Environment Canada and Heritage Canada. DIAND's participation is essential as they manage federal lands and issue leases for the Northwest Territories and the adjacent offshore. DIAND manages the majority of the surface land and subsurface rights in the Northwest Territories, and issues related to oil and gas and mineral leases. DIAND also manages Canada's rights in offshore lands under the Beaufort Sea, issuing oil and gas and mineral leases. Therefore, DIAND represents the property interests of the federal government and the business interests of the oil and gas, and mining industries. Environment Canada and Heritage Canada are included as they have the legislative authority to establish marine protected areas under their statutes, and as they regulate land activities that may affect marine protected areas in the offshore. Though the Coast Guard manages and regulates transportation in the offshore, they are part of DFO and the Department can represent their interests.

Other Government Agencies and Boards

The Government of the Northwest Territories, and the local governments of Aklavik, Holman, Inuvik, Paulatuk, Sachs Harbour and Tuktoyaktuk are regional governments that should be included on the Advisory Committee. They have jurisdiction over land activities in the Northwest Territories that could affect a marine protected area. They also represent economic and social interests that may be impacted by the formation of a marine protected area in the Beaufort Sea. The Environmental Impact Screening Committee and the Environmental Impact Review Board need to be included in the Advisory Committee as they are Inuvialuit-government joint management committees that review offshore developments, and land developments that may impact the offshore.

Industry

Lastly, the Advisory Committee should include parties such as the Inuvialuit Regional Corporation who will represent their subsidiaries including the Inuvialuit Petroleum Corporation, the Inuvialuit Community Corporations, and Inuvialuit-owned or influenced corporations such as Northern Transportation. In contrast to the IGC, which represents the Inuvialuit interests in wildlife, the Inuvialuit Regional Corporation represents the Inuvialuit corporate and economic interests. The Inuvialuit Regional Corporation is the largest private owner of both surface lands and subsurface rights in the Inuvialuit Settlement Region. They are likely directly or indirectly to be a significant participant in any development proposed for the offshore.

Separate Advisory Committees

Given the diverse nature of the members of the Advisory Committee, it may be useful to establish separate Advisory Committees and to allow different representatives of the Beaufort Sea Protected Area Co-Management Committee to coordinate and represent the concerns of these Advisory Committees before the Committee. For instance, the DFO could take a lead role with federal government departments such as the DIAND, Environment Canada and Heritage Canada, and other levels of government such as the Government of the Northwest Territories and municipal governments. Similarly, the FJMC could take a lead role with other joint management boards such as the Environmental Impact Screening Committee and the Environmental Impact Review Board and possibly with the local governments of Aklavik, Holman, Inuvik, Paulatuk, Sachs Harbour and Tuktoyaktuk. Lastly, the IGC may wish to take a lead role with Inuvialuit participation and act as a liaison with the Inuvialuit Regional Corporation, the Inuvialuit Community Corporations, and Northern Transportation.

The Inuvialuit Final Agreement

The rational for the proposed organizational linkages and the role and responsibilities of the Committee and Advisory Committee(s) is discussed below. Arguably, any marine protected area for beluga whales in the Inuvialuit Settlement Region must conform to the *Inuvialuit Final Agreement.* The *Inuvialuit Final Agreement* recognizes Inuvialuit harvesting rights for beluga whales and states the IGC, assisted by the Hunters and Trappers Committees, is the Inuvialuit voice on wildlife issues. The Agreement establishes the FJMC as the Inuvialuit-government joint management board with responsibilities for administering Inuvialuit rights to fish, including marine mammals, under the Agreement, and more generally for managing fisheries in the Inuvialuit Settlement Region. As such, the FJMC, the IGC and the Hunters and Trappers Committees will be involved in any marine protected area established for beluga whales in the Inuvialuit Settlement Region.

The committees and the council have distinct roles under the *Inuvialuit Final Agreement* which include the right to advise and participate in any beluga management regime for the Inuvialuit Settlement Region. Similarly, any marine protected area established

under legislation, regulation or policy initiatives will be valid to the extent it conforms with Inuvialuit harvesting rights, and the responsibilities of the IGC and FJMC under the Agreement. The DFO has a history of working collaboratively with the parties. In addition, the marine protected areas regime under the *Oceans Act* envisions the Department working collaboratively with the local communities and developing effective partnering relationships.

Beaufort Sea Beluga Management Plan

In practice, any protected area established for beluga whales in the Inuvialuit Settlement Region is likely to reflect and include significant elements of the Beaufort Sea Beluga Management Plan (the Plan). The Beaufort Sea Beluga Management Plan, in conjunction with the Hunters and Trappers Committees Beluga By-laws and Tourism Guidelines, is the central management tool for regulating the beluga whale harvest and protecting beluga whales in the Beaufort Sea. The Plan evolved as a result of the IFA, and institutions and rights under the Agreement. The Agreement protects certain aspects of the Plan, and the Inuvialuit rights contained in the Plan. The Plan also incorporates extensive community consultation and includes the views of stakeholders. As such, it would provide the appropriate framework for identifying Zone 1a as proposed marine protected area, and developing a specific management plan for that area.

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APPENDIX A: SAMPLE LETTER OF INTEREST

Identification of Area of Interest for a Marine Protected Area

This letter identifies a marine area within the Inuvialuit Settlement Region (ISR) which may be a candidate for protection under the *Canada Oceans Act.* The area consists of shallow estuarine and coastal sites in the Mackenzie River Delta where beluga whales congregate and where the Inuvialuit people come to harvest them for subsistence and traditional purposes.

Location of Area of Interest

The Area of Interest for marine protection is Zone 1(a), described in the Beaufort Sea Beluga Management Plan as Traditional Harvesting/Concentration Areas. Zone 1(a) includes a few hundred square kilometers of shallow waters at the mouth of the Mackenzie River and encompasses the only known traditional summer concentration areas (Shallow Bay, east Mackenzie Bay and Kugmallit Bay) for the Beaufort Sea beluga stock. These areas are shallow (less than 2m), warm, brackish and highly turbid. Belugas are harvested in these areas by Inuvialuit from Inuvik, Tuktoyaktuk and Aklavik.

During the summer, the Canadian Beaufort Sea beluga stock concentrates in these areas. It has been suggested that beluga move among concentration areas, and between the estuary and the offshore during this period. Why beluga concentrate in estuaries is not well understood, but it could be for purposes of calving, calf rearing, moulting and/or socializing.

Beluga Management Zone 1(a) is part of a larger series of sites, together known as Beluga Management Zone 1.

Biophysical and Socioeconomic Background

Beluga that are found each summer within the Inuvialuit Settlement Region form part of a larger population that winters in the Bering Sea. Each spring that population separates into several stocks that migrate to summering areas ranging from Bristol Bay on Alaska's west coast to the eastern Beaufort Sea. During summer a portion of the Beaufort Sea stock concentrates in the Mackenzie River estuary, and is hunted there by Inuvialuit from Aklavik, Inuvik and Tuktoyaktuk. Residents of Paulatuk occasionally hunt beluga in the Darnley Bay area. To date, the Inuvialuit harvest of beluga has been self-limited to the number of whales required to cover the basic subsistence needs of residents from these communities.

Beluga summering in Canadian waters migrate through areas where oil and gas exploration activities have been underway for almost two decades, and where oil and gas production and transportation activities are proposed for the future. They concentrate in areas where hydroelectric developments and other ventures such as mining (gravel removal), deep water port development and shipping could affect water regimes, water quality and food availability. Such activities could affect beluga either directly (e.g. underwater noise, oil spills) or indirectly (e.g. changes in stability or integrity of ice, timing of break-up). However,

the severity, likelihood and biological implications of these effects are, for the most part, unknown.

There are no commercial fisheries in the Canadian Beaufort Sea at this time. It is possible that commercial fishing opportunities within the Inuvialuit Settlement Region will be identified and pursued in the coming years. Removal of significant quantities of fish may reduce the amount of food available to beluga. Development of any commercial fishery, either marine or estuarine, should take into account the food requirements of beluga. It must be emphasized that the present base of scientific knowledge related to species interaction and beluga feeding ecology in the Beaufort Sea is not sufficient for proper assessment of the effect of medium or large scale commercial fisheries.

Beluga whales are extremely important to the people of the ISR, First, beluga muktuk and meat are important dietary components. Even though the whales are taken over a relatively short period each summer, the food products are traditionally processed so that they will be available for most of the year. Thus the 130 or so whales that are landed each season provide a significant quantity of food for the table.

Perhaps more importantly, the process of harvesting the whales at the family whaling camps scattered along the coast serves to maintain a tradition that is central to Inuvialuit culture. Indeed, the harvests were so important historically that the hunters of the area were often identified as "people of the beluga".

It is therefore not surprising that shortly after the FJMC (Fisheries Joint Management Committee, the organization specified under the *Inuvialuit Final Agreement* for co-management of fisheries) was established, one of its main goals was to put in place a community-based Beaufort Sea Beluga Management Plan that would help to ensure that the Beaufort Sea beluga stock would continue to be harvested in a sustainable fashion. The task has required the cooperation and participation of both the Inuvialuit and the Department of Fisheries and Oceans (DFO). The plan will continue to depend upon the cooperation and participation of the Hunters and Trappers Committees (HTC's), the Inuvialuit Game Council (IGC), the FJMC and the Department of Fisheries and Oceans.

Purpose of Establishing the Area of Interest

The Beaufort Sea Beluga Management Plan has been largely successful in dealing with the harvest-related aspects of beluga management. However, it has been less successful in dealing with other activities that might affect the stock. For example, while the Plan contains management zones that identify areas deemed biologically significant or important from a harvest perspective, it contains no mechanism for enforcing those zones in the face of industrial activity. Similarly, while the Plan has stimulated the development of tourism guidelines to deal with potential conflicts between the growing tourism industry and beluga hunting, those guidelines are difficult to enforce. Section 35 of the Canada *Oceans Act* provides for the designation of Marine Protected

Areas "for the conservation and protection of commercial and non-commercial fishery resources, including marine mammals, and their habitats." It is anticipated that by designating Zone 1(a) of the Beluga Management Plan as a Marine Protected Area under Section 35 of the *Canada Oceans Act,* that certain parts of Zone 1(a) could be zoned to restrict or control some classes of activity so as to protect beluga whales from disturbance and to protect critical elements of their habitat from degradation.

Guidelines for Zone 1(a)

The Beaufort Sea Beluga Management Plan recommends the following guidelines for Zone 1(a):

The oil and gas industry should not be permitted to explore for resources within Zone 1(a) waters nor to produce hydrocarbons or construct/operate any type of facility.

No mining activities (e.g. gravel removal) should be permitted from break-up until August 15th.

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

All shipping activities (including dredging) should be confined to designated routes and areas. Passage through or close to Zone 1(a) outside of designated routes[100], 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 1(a) waters.

There are several acts and regulations that apply to industrial activities in the Canadian Beaufort Sea. These are administered by various governmental agencies. In addition, the Environmental Screening and Review Process was established under the *Inuvialuit Final Agreement* to ensure that the interests of the Inuvialuit are considered in the review of development proposals for Crown Lands within the Inuvialuit Settlement Region. Similarly, the Inuvialuit Lands Administration reviews all proposals for development on Inuvialuit private [7(1)(a & b)] lands.

Current regulations which apply to beluga are the Beluga Protection Regulations of the *Fisheries Act,* and the Hunters and Trappers Committee By-Laws. The Beluga Protection Regulations prohibit the intentional disturbance of belugas. However these regulations are

100 Designated Route: those marine transportation corridors established, following consultation with the Department of Fisheries and Oceans, by Transport Canada.

general and apply to beluga hunting throughout the Northwest Territories. At present, they do not incorporate the beluga management zones identified in the Beaufort Sea Beluga Management Plan, and thus do not afford adequate protection to beluga. Furthermore, they do not address the issues of industrial development, zoning, and the interactions between commercial fishing and beluga feeding.

Proponents' Involvement in Management

A fundamental theme of the *Inuvialuit Final Agreement* is its emphasis on the protection and preservation of Arctic wildlife, the environment, and its biological productivity. An equally important theme is that sound wildlife management is to be used to ensure optimal sustainable harvests for Inuvialuit. Both are to be achieved through the principles and practices of conservation.

To provide the base for all renewable resource management activities within the ISR, the Inuvialuit Renewable Resource Conservation and Management Plan was prepared by the Wildlife Management Advisory Council (NWT) and the FJMC in 1988. It lays out a long-term strategy for the conservation and management of fish and wildlife within the Inuvialuit Settlement Region, and provides both community resource users and resource managers with reason and direction for their actions.

The Beaufort Sea Beluga Management Plan has been developed in a fashion that is consistent with the themes and goals of the above document. The Plan's purpose is to ensure the responsible and effective, long-term co-management of the beluga resource by the Inuvialuit and the Department of Fisheries and Oceans.

The proponents of this Area of Interest will continue to manage beluga through the co-management framework described above. Inuvialuit propose to be directly involved in all aspects of the management of a Marine Protected Area, including planning, monitoring, enforcement, research and education.