

SUBMISSION TO THE
NUNAVUT WILDLIFE MANAGEMENT BOARD
FOR

Information:

Decision: X

Issue: Review and approval of the Integrated Fisheries Management Plan for Narwhal in the Nunavut Settlement Area (effective January 2013) and establishment of measures to give effect to the narwhal management regime outlined in the plan

Background:

Governance of the narwhal fishery

The narwhal fishery in the Nunavut Settlement Area is co-managed by the Department of Fisheries and Oceans (DFO), the Nunavut Wildlife Management Board (NWMB), Regional Wildlife Organizations (RWOs), and Hunter and Trapper Organizations (HTOs), in accordance with the Nunavut Land Claims Agreement (NLCA), the *Fisheries Act* and its regulations, and in some communities, by local community hunt plans. The NWMB is the main instrument of wildlife (including fish and marine mammals) management in the Nunavut Settlement Area, but the Minister of Fisheries and Oceans retains ultimate authority and responsibility for wildlife management and conservation of fish, including marine mammals.

Within Canada, the narwhal fishery is regulated by the *Fisheries Act* (R.S., 1985, c. F-14) and regulations made pursuant to it, including the *Fishery (General) Regulations* and the *Marine Mammal Regulations*. Where an inconsistency exists between these statutes and the NLCA, the Agreement prevails to the extent of the inconsistency.

Consistent with the *Fisheries Act* and the NLCA, the best available information guides narwhal management decisions.

DFO Science activities in support of narwhal management

DFO maintains an active scientific research program, aimed at an increased understanding of narwhal population processes (e.g. seasonal distribution, movements and diving behavior, habitat use, diet analysis), environmental factors that influence narwhal distribution and numbers, and the role of narwhal in marine ecosystems.

The objective for narwhal stock assessment research is to maintain narwhal population health and diversity, and support sustainable narwhal hunts. Objectives are achieved by developing methods to minimize the uncertainty associated with population abundance estimates, understanding effects of harvest and changing environmental conditions, and predicting future trends in abundance under various scenarios.

A precautionary approach to fisheries management links harvest recommendations with stock assessment data. Lower harvest levels are recommended when stock assessments are uncertain, to avoid serious harm to fish or marine mammal stocks or their ecosystem. A lack of stock assessment data should not be used as a reason to postpone (or fail to take) management actions. This approach is widely accepted as an essential part of sustainable fisheries management.

There are two narwhal populations in the eastern Canadian Arctic: the Northern Hudson Bay narwhal population and the Baffin Bay narwhal population. This separation is based on evidence from satellite telemetry, genetic, and contaminant data (TAB 1; TAB 2).

The Northern Hudson Bay population is not thought to be shared internationally. Its summer range includes the area surrounding Southampton Island, with the largest aggregations in Repulse Bay, Frozen Strait, Lyon Inlet, and Foxe Channel. Northern Hudson Bay narwhal typically arrive on their summer range in late July and then leave by mid to late August. Most Northern Hudson Bay narwhal appear to winter in southeast Davis Strait and/or eastern Hudson Strait, with some occupying open leads and polynyas of Northern Hudson Bay and western Hudson Strait (TAB 3).

The Baffin Bay narwhal population is considered to be shared with Greenland since its distribution includes the Canadian Arctic Archipelago and northwest Greenland (TAB 3). Narwhal from Canada and Greenland over-winter together in Baffin Bay. A portion of the Baffin Bay narwhal population migrates seasonally from its wintering grounds in Baffin Bay to recurring summer aggregations in the Canadian High Arctic.

Narwhal abundance estimates are derived from aerial surveys flown over known summering aggregations, before narwhal begin their fall migration. Historic abundance estimates derived from aerial surveys of summering aggregations of Baffin Bay and Northern Hudson Bay narwhal are summarized in DFO (2012) (TAB 4) and Richard (2010) (TAB 2) respectively.

In 2008, DFO Science recommended that the narwhal fishery be managed based on known summering stock aggregations. Six Management Units have been identified based on these summering aggregations.

- The Baffin Bay population has been separated into four Management Units (Somerset Island, Admiralty Inlet, Eclipse Sound, East Baffin Island) based on observed summering aggregations and satellite telemetry (TAB 5, TAB 6). This understanding, that there are smaller stocks of narwhal within the Baffin Bay population, is supported by information from Inuit in some communities who

report that there are physical and behavioral differences among narwhal in their area.

- A fifth group of narwhal that summer in Parry Channel, Jones Sound and Smith Sound, has tentatively been identified as a separate Management Unit. The relationship of narwhal that summer in these areas to other Baffin Bay narwhal is not known.
- The Northern Hudson Bay narwhal population will continue to be managed separately, and forms the sixth Management Unit. (TAB 2; TAB 5; TAB 6).

The most recent abundance estimates for Baffin Bay narwhal stocks (Somerset Island, Admiralty Inlet, Eclipse Sound, and East Baffin Island) and the Northern Hudson Bay population have been used to recommend sustainable harvest levels.

DFO's sustainable harvest advice for each narwhal stock or population has been applied to the Management Unit that defines its summer range, and is presented as a Total Allowable Landed Catch (TALC) recommendation below:

Narwhal abundance estimates, Potential Biological Removals (PBR) and Total Allowable Landed Catch (TALC) for each stock or population (ie: Management Units), based on stock and population delineation (TAB 5, TAB 6)

Population	Stock	Survey Year	Abundance Estimate	CV	PBR	TALC
Baffin Bay	Somerset Island	1996	45,358	35%	681	532
	Admiralty Inlet	2010	18,049	23 %	299	233
	Eclipse Sound	2004	20,225	36%	301	236
	East Baffin Island	2003	10,073	31%	156	122
Northern Hudson Bay		2000	5,053	40%	73	57

Communities within the Admiralty Inlet, Eclipse Sound and East Baffin Island Management Units harvest narwhal from their respective stocks during the summer aggregation period, and from mixtures comprised of narwhal from the Somerset Island, Admiralty Inlet, Eclipse Sound and East Baffin stocks when narwhal migrate past Arctic Bay, Pond Inlet, Clyde River and Qikiqtarjuaq to their overwintering areas each spring and again when the narwhal return to the summering areas each fall. Because of the mixed stock harvesting that occurs during the spring and fall migratory periods, DFO has developed a Harvest Allocation Model (TAB 7), to ensure that the total catch from each Baffin Bay stock does not exceed the stock's sustainable harvest limit.

Using the Harvest Allocation Model, RWOs can explore the impact of different annual allocations of the Basic Needs Level (BNL) to the HTOs that harvest narwhal from mixed stocks during spring and fall migration before finalizing their allocation decisions for the year. The model informs co-management decisions about the sustainability of specific allocations of the BNL for each of the four known summering stocks within Baffin Bay (Somerset Island, Admiralty Inlet, Eclipse Sound and East Baffin Island). The model cannot be used to allocate narwhal catches to Grise Fiord, because the relationship of narwhal in Smith Sound, Jones Sound and Parry Channel to those elsewhere in Baffin Bay is not known. Similarly, the allocation model cannot be used for decisions for the Northern Hudson Bay narwhal population, because it is managed separately at the population level.

The Harvest Allocation Model uses HTO decisions on seasonal catch proportions to provide a catch limit for each of Arctic Bay, Pond Inlet, Clyde River and Qikiqtarjuaq. It allows the maximum possible catch for each community, without exceeding the sustainable harvest limit for any of the four Baffin Bay summering stocks. As BNL levels are established, the RWO will allocate the BNL amongst communities in each of the four Management Units.

At NWMB Regular Meeting 004-2011 conducted December 7, 2011 in Iqaluit, DFO made a presentation to the Board describing how the *Allocation Model for Baffin Bay Narwhal* operates as a tool to assist RWOs in making their annual narwhal BNL allocation decisions pursuant to their authority under NLCA s.5.7.6 (b) (TAB 8).

CITES and assessment of sustainability of Canadian narwhal harvests

Internationally, narwhal are a listed species under the Convention on International Trade in Endangered Species of Flora and Fauna (CITES). CITES is a legally-binding multilateral environmental agreement that aims to ensure that international trade of species does not threaten their survival in the wild. In Canada, CITES is implemented through the *Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act*. Environment Canada is the lead for CITES in Canada; however, DFO is the lead for CITES-related aquatic issues. Narwhal is listed on Appendix II of CITES. As is required under Article IV, paragraph 2 of CITES, an export permit shall only be granted when the Scientific Authority of the State of export has advised that such export will not be detrimental to the survival of the species in the wild. This determination is referred to as a non-detriment finding (NDF) and is not subject to socio-economic considerations.

Export is not considered detrimental to the survival of a species in the wild when the products intended for export have originated from a sustainable harvest. DFO's Canadian Science Advisory Secretariat Advisory Process provides science advice regarding the sustainability of Canadian narwhal harvests with respect to making a CITES NDF.

In December 2010, the DFO CITES Scientific Authority used science advice provided by DFO's Canadian Science Advisory Secretariat (CSAS) regarding the sustainability of Canadian narwhal harvest in 2010 with respect to making a CITES NDF (TAB 9). The CSAS advice was that when managing narwhal harvest, summering stocks should be considered as separate Management Units to reduce the potential for local depletions and promote the conservation of genetic diversity that may result from adaptation to local conditions.

Each narwhal Management Unit was considered individually with respect to making a CITES NDF using information available regarding population estimates, the recommended TALC, and the recorded harvest levels for the past five years. As a result of this analysis, the CSAS advice identified the following conservation concerns for 2010 in four of the six narwhal Management Units:

- Harvests in Admiralty Inlet were nearly five times greater than the recommended TALC;
- Northern Hudson Bay and East Baffin Island had harvests that were greater than the recommended TALC; and
- Owing to the lack of data available for the Parry Channel, Jones Sound, and Smith Sound Management Unit, the sustainability of current harvest levels cannot be verified.

The CSAS analysis conclude that there were no apparent conservation concerns with the 2010 narwhal harvest conducted in the Somerset Island and Eclipse Sound Management Units. The report made the following recommendations:

1. Align the quotas/harvest limits for each Management Unit with the science advice (i.e. recommended TALC) as soon as possible to reduce the likelihood of local depletions.
2. Develop and implement an appropriate, comprehensive management plan to ensure sustainability of narwhal harvests in Canada. In particular, it is highly recommended that quotas/harvest limits be distributed and managed according to the Management Units defined above rather than by community.
3. Obtain baseline information for the Parry Channel, Jones Sound, and Smith Sound Management Unit to aid in determining the sustainability of harvests in this Management Unit. In addition, increase the frequency of scientific surveys and continue data collection, including Inuit Qaujimagatuqangit (IQ), for all Management Units to improve confidence in the recommended TALC.

In response to this CSAS report and analysis, the DFO CITES Scientific Authority issued NDF in December 2010 for the Somerset Island and Eclipse Sound

Management Units. It did not issue NDFs for the Northern Hudson Bay, Admiralty Inlet, East Baffin Island and Parry Channel/Jones Sound/Smith Sound Management Units. International trade of narwhal products from the 2010 harvest from these Management Units was banned.

In October 2011, CSAS reviewed a retrospective (2006-2010) sustainability analysis of Canadian narwhal harvests, using the narwhal Harvest Allocation Model. This analysis included the updated 2010 abundance estimate for the Admiralty Inlet Management Unit. CSAS then provided science advice regarding the sustainability of the 2011 Canadian narwhal harvest with respect to making a CITES NDF (TAB 10). Results demonstrate that narwhal catches in all years were sustainable. CSAS repeated its earlier advice that when managing narwhal harvest, summering stocks should be considered as separate Management Units to reduce the potential for local depletions and promote the conservation of genetic diversity that may result from adaptation to local conditions. This CSAS advice was considered by the DFO Scientific Authority in issuing an NDF for Canadian narwhal harvests conducted in 2011.

The 2011 CSAS retrospective analysis of Canadian narwhal harvest concluded:

- Based on the information available for the period 2006 - 2010, there are no conservation concerns with respect to the sustainability of the narwhal hunt from the following summering aggregations: Somerset Island, Admiralty Inlet, Eclipse Sound, and East Baffin Island.
- Conservation concerns have been identified for the Northern Hudson Bay population as the hunt is considered unsustainable owing to more narwhal landed than the recommended TALC.
- Owing to the lack of data available for the narwhal in Parry Channel, Jones Sound, and Smith Sound, the sustainability of the hunt in these areas has not been evaluated.
- A comprehensive management plan should be developed and implemented to ensure the Canadian narwhal hunt is sustainable.
- In particular, an appropriate tracking and tracing mechanism for narwhal tusks should be implemented so that tusks can be confidently associated with specific summering aggregations.
- If narwhal quotas/harvest levels are distributed and managed based on the summering aggregations (rather than by individual communities) as well as the recommended TALC, local depletions are unlikely.

- Baseline information, including abundance and distribution, should be obtained for narwhals in Jones Sound as they are currently harvested by the community of Grise Fiord.
- Scientific surveys and the collection of additional types of information (e.g. Traditional Ecological Knowledge) should be conducted more frequently to improve the confidence in the recommended TALC and the delineation of summering aggregations.

Community consultations on CITES and Science advice for narwhal management

From May 25 to 31 2011, DFO conducted community consultations in Nunavut to discuss the collective understanding of narwhal populations (using both Inuit and scientific information) and the process related to DFO's responsibilities under CITES with respect to issuing export permits for narwhal tusks and products. All narwhal hunting communities and RWOs were invited to attend. Officials from DFO, along with observers from the Government of Nunavut – Department of Environment (GN-DoE), the NWMB, and NTI visited six Nunavut communities (Clyde River, Pond Inlet, Arctic Bay, Resolute, Igloolik, and Qikiqtarjuaq). In addition, members from the Hall Beach and Pangnirtung HTOs attended meetings in Igloolik and Qikiqtarjuaq, respectively. Although the delegation intended to visit Grise Fiord, this was not possible owing to inclement weather conditions. (Appendix 1)

The primary objectives of the consultations were to:

1. Promote a better understanding of the available scientific advice related to narwhal abundance and the importance of managing narwhal harvest by separate summering stocks;
2. Explain the process related to Canada's responsibilities under CITES with respect to NDFs and issuing export permits;
3. Seek comments, perspectives, and traditional knowledge/expert opinions from Inuit harvesters and community members on the information presented; and
4. Promote relationship-building and continued engagement between DFO and Inuit communities.

Participants were encouraged to comment, ask questions, and to share their knowledge and expertise related to the topics discussed. Community members shared Inuit knowledge and expertise during the various discussions in response to the information presented. A synthesis of this information, including the current DFO scientific advice on narwhal, is documented in CSAS Research Document 2012/001 (TAB 4).

Court challenge and alternate resolution

In January 2011, NTI filed an application in Federal Court (TAB 11) for judicial review of the DFO CITES Scientific Authority's decision not to issue NDFs for all narwhal stocks and populations in the Nunavut Settlement Area.

In July 2011, DFO agreed to an alternative resolution to the judicial review (TAB 12) with NTI whereby DFO and NTI, in collaboration with Nunavut co-management organizations, would address outstanding narwhal fishery management issues. For example, development of an Integrated Fisheries Management Plan (IFMP) for narwhal; the establishment of BNL for narwhal, walrus and beluga as per NLCA s.5.6.25 prior to the establishment of Total Allowable Harvest (TAH) by the NWMB; participation in a management workshop for narwhal with co-management partners in August 2011. As a result of this alternative resolution, NTI discontinued the judicial review (TAB 11).

Basic Needs Level – narwhal, walrus and beluga

At the December 7, 2011 NWMB Regular Meeting, NTI presented a request for decision on implementation of NLCA s.5.6.25 to establish BNL for narwhal, beluga and walrus within the NSA (TAB 13). NWMB subsequently issued a notice on December 22, 2011 calling for a public hearing to be conducted March 27 and 28, 2012 in Iqaluit to establish BNL for beluga, narwhal and walrus (TAB 14).

On January 19, 2012, NTI wrote to the NWMB requesting adjournment of the public hearing to establish BNL for narwhal, beluga and walrus so that a resolution of the issue by amending the NLCA could be developed with DFO (TAB 15). NWMB subsequently gave notice of adjournment for the public hearing on February 3, 2012 (TAB 16).

On March 26, 2012, the Minister of Fisheries and Oceans wrote the NTI President to reiterate DFO's support of the proposal that NWMB established TAH for narwhal stocks and populations serve as their BNL, and since the parties had reached this consensus, the issue could be addressed at the proposed NWMB public hearing related to narwhal management. Citing the significant challenges remaining to complete the narwhal IFMP by January 2013 and the need for further dialogue amongst the co-management partners on implementing s.5.6.25 for beluga and walrus, DFO recommended the BNL for these species be addressed after the narwhal IFMP is completed and approved (TAB 17). The Minister also advised NTI that the department does not support addressing the implementation of NLCA s.5.6.25 by way of amendment of the Agreement and emphasized that DFO has consistently supported the existing provisions of the NLCA regarding the establishment of BNL. Subsequently, NTI wrote to the NWMB on April 18, 2012 requesting re-scheduling of the adjourned public hearing on implementation of s.5.6.25 as soon as possible. As of this date, the hearing has not been rescheduled.

Proposed changes to the current narwhal management regime

Changes to the current narwhal management regime are being proposed for the conservation of narwhal stocks and populations, and to facilitate the implementation of a management regime to provide for sustainable harvesting activities.

In addition, and consistent with the Alternate Resolution to *NTI's Request for Judicial Review of DFO's Decisions in 2010 respecting Narwhal*, it was agreed that an IFMP would be drafted by co-management organizations. The purpose of the narwhal IFMP, as with any other fishery management plan, is to outline how the fishery is being managed - to identify the objectives for managing the fishery, the issues that exist for this particular fishery and to identify what measures are in place, or what actions are being taken, to address these issues.

The end goal is to have a good system in place to be able to sustainably manage the narwhal fishery and to be able to demonstrate that narwhal tusks come from legally harvested whales.

In August 2011, DFO conducted a workshop on narwhal management in Iqaluit. Representatives from NTI, NWMB, Qikiqtaaluk Wildlife Board (QWB), Kivalliq Wildlife Board (KWB), Kitikmeot Regional Wildlife Board (KRWB), Nunavut Inuit Wildlife Secretariat (NIWS) and GN-DoE participated in the workshop. The status of the current management regime for narwhal in Nunavut was reviewed and issues within the fishery explored. Options to address management issues in the fishery were discussed. The parties agreed to move forward with the drafting of an IFMP based on the six summering stock Management Unit approach recommended by DFO. DFO wrote the first draft of the IFMP for review and revision by co-management partners at a subsequent workshop.

A second workshop was conducted by DFO in Iqaluit in December 2011 with representatives from the same co-management organizations. The first draft of the IFMP was distributed to participants before the meeting. NTI provided comments in the form of a revised second draft of the IFMP. The first and second drafts of the IFMP were reviewed and discussed by the parties. DFO was tasked with incorporating the comments into a third draft of the IFMP for future review. A tutorial was also conducted to demonstrate application of a narwhal Harvest Allocation Model that was developed to assist the RWO's in making their annual narwhal BNL allocations to HTOs within their regions, pursuant to their powers and function under s.5.7.6 (b) of the NLCA.

A third workshop was conducted by DFO in Ottawa with representatives of NTI and NWMB to review the third draft of the IFMP and to seek resolution of outstanding issues. For the most part, agreement was achieved in the short term on substantial issues within the proposed management regime understanding that the IFMP is an initial step in the continued harmonizing of narwhal management with the provisions of the NLCA. DFO and NTI have agreed in principle to continue working collaboratively with the co-management partners past 2013 to continue collaborative development of

alternative management measures to address the management issues in the narwhal fishery that are consistent with the wildlife provisions of the NLCA.

Proposed changes in narwhal management:

The proposed changes to the existing narwhal management regime fall into three areas;

1. Managing narwhal harvest by known summering areas, taking into account harvests from mixed stocks during annual migration,
2. Further harmonizing narwhal management with the NLCA,
3. Implementing additional management measures to address management issues and strengthen co-management of the fishery,

Managing narwhal harvest by known summering areas:

Narwhal have historically been managed as two distinct populations, the Baffin Bay population and the Northern Hudson Bay population.

In 2008, DFO Science recommended that the narwhal fishery be managed based on known summering stock aggregations. Six Management Units have been identified based on these summering aggregations.

- The Baffin Bay population has been separated into four Management Units (Somerset Island, Admiralty Inlet, Eclipse Sound, East Baffin Island) based on observed summering aggregations and satellite telemetry (TAB 5). This understanding, that there are smaller stocks of narwhal within the Baffin Bay population, is supported by information from Inuit in some communities who report that there are physical and behavioral differences among narwhal in their area.
- A fifth group of narwhal that summer in Parry Channel, Jones Sound and Smith Sound, has tentatively been identified as a separate Management Unit.
- The Northern Hudson Bay narwhal population will continue to be managed separately and forms the sixth Management Unit. (TAB 2; TAB 5; TAB 6).

By managing at the smaller “stock” level, instead of the much larger Baffin Bay population, it will help to conserve narwhal, reduce the potential for local depletions of stocks, and promote the conservation of genetic diversity that may result from adaptation to local conditions. This will help communities ensure that there are local narwhal stocks for their community to harvest in the future.

The geographic boundaries for the five Management Units are identified in Appendix 2. These boundaries are based on the known summer stock areas and encompass communities that historically harvested from these areas. Geographic boundaries for a Management Unit encompassing narwhal summer range in Smith and Jones Sounds and Parry Channel have not been developed, since information about their distribution and movements is not available.

Total Allowable Landed Catch recommendations for each of the Baffin Bay narwhal stocks, associated with each Management Unit, are outlined on page 3. However, because Baffin Bay narwhal may be hunted locally in their summer range and during the spring and fall migrations, resulting in the sharing of stocks among communities in different Management Units, seasonal harvest limits and conditions are required to manage narwhal harvesting by these communities (Arctic Bay, Pond Inlet, Clyde River and Qikiqtarjuaq) to ensure that the sustainable harvest limit for each narwhal stock is not exceeded.

By using the Harvest Allocation Model, RWOs can take into account the mixed stock harvesting that occurs during the spring and fall migratory periods, and optimize harvests amongst these communities. Communities which harvest from mixed stocks (Arctic Bay, Pond Inlet, Clyde River and Qikiqtarjuaq) would receive a seasonal harvest allocation from the RWO, in the form of a Summer-Season Community Harvest Limit and a Migratory-Season Community Harvest Limit. All other communities would receive an All-Season Community Harvest Limit from the RWO. Each HTO would then allocate its Community Harvest Limit (Summer-Season and Migratory Season, or All-Season) amongst its members in the form of Summer-season Marine Mammal Tags, Migratory-season Marine Mammal Tags or All-season Marine Mammal Tags.

Harmonization of narwhal management with the NLCA:

One of the major reasons for proposing changes to the existing narwhal management regime is to further harmonize narwhal management with the provisions of the NLCA.

Proposed changes to the current management regime include the establishment of TAH and BNL by the NWMB for stocks and populations where there is sufficient information to do so, thus replacing existing regulatory communities quotas on narwhal, pursuant to the Board's authority under NLCA s.5.2.33(d).

The IFMP reflects RWO and HTO authority to allocate and enforce regional and community basic needs levels and adjusted basic needs levels pursuant to NLCA s.5.7.6(b) and s.5.7.3(b) respectively. Under the proposed management regime, once NWMB establishes TAH and BNL for a stock/population, the RWO rather than the Board makes BNL allocation decisions (in the form of Community Harvest Limits) within their region.

Additional Management Measures:

Additional management measures, in addition to those measures currently in place, are necessary to address current narwhal management issues and strengthen co-management of the fishery. Measures in italics are outlined in Section 3.7 of the IFMP.

- 1) **Measures to implement the harvest allocation including Total Allowable Harvest Levels, Basic Needs Levels and Community Harvest Limits** (ie: sub-allocation of the BNL), taking into account harvesting from mixed stocks during annual migration.

When a TAH is established, narwhal can only be hunted from that Management Unit with the appropriate Marine Mammal Tag (e.g. Summer season only Marine Mammal Tag, migratory season only Marine Mammal Tag, All-season Marine Mammal Tag).

- 2) **Measures to close fisheries when harvest allocations are reached.**

- 1) *Where a TAH has been established for a stock/population, harvests shall not exceed the TAH.*
- 2) *Once the Community Harvest Limit (Summer, Migratory, All-Season) has been reached in a Management Unit, no further hunting is allowed, unless approved by the RWO, under the Marine Mammal Tag Transfer Policy. (Appendix 4, IFMP)*
- 3) *For communities that harvest without seasonal restrictions:*
 - i) *Once the sum of the Community Harvest Limits in Management Unit is reached, the all season fishery is closed.*
- 4) *For communities that harvest with seasonal restrictions:*
 - i) *The summer fishery will be closed as either of the following conditions is reached:*
 - a. *Once the summer Community Harvest Limits are reached in each Management Unit*
 - b. *Once the summer season end date as set by the HTO for a community is reached.*
 - ii) *The migratory fishery will be closed as either of the following conditions is reached:*

- a. *Once the migratory Community Harvest Limits are reached in each Management Unit.*
- b. *Once the migratory season end dates as set out by the HTO for a community are reached.*

- 3) **Measures to provide for Marine Mammal Tag transfers within a Management Unit.** RWOs require the ability to transfer Marine Mammal Tags within a Management Unit to cover off over-harvest of a Community Harvest Limit, to maximize harvests in response to year to year changes in narwhal availability, and to reconcile over-harvests within the Management Unit by reducing the following year's allocations.

Phase One of the Marine Mammal Tag Transfer Policy is provided in Appendix 4 of the IFMP.

- 4) **Measures to effectively monitor narwhal landings.** Timely and accurate information on landings is required to ensure that harvest limits within each Management Unit are not exceeded.

- 1) *The HTO will notify the RWO and DFO when the Community Harvest Limit(s) has been reached.*
- 2) *The RWO will notify DFO when the Summer, Migratory and All-season hunts are over in each Management Unit.*

- 5) **Measures to improve tusk traceability.**

A certification process for narwhal tusks has been developed to mitigate the current problems impacting legitimate narwhal tusk trade resulting from Marine Mammal Tag irregularities. Once a narwhal is landed, the narwhal tusk would be inspected and measured by a Conservation Officer or Fishery Officer. Upon successful inspection, the Officer would certify that the tusk came from a legally harvested narwhal and would securely affix the Marine Mammal Tag to the tusk using a permanent attachment device.

All tusks need to be inspected and certified by a Conservation Officer or Fishery Officer, at which time, a permanent attachment device will affix the Marine Mammal Tag to the tusk.

6) Measures to reduce struck and lost narwhal

Community hunt plans are an important tool that could be used to promote and implement sustainable harvesting practices in all narwhal hunting communities. Written HTO hunting by-laws already exist in some communities that harvest narwhal.

All narwhal hunting communities should develop written plans that include practical measures for hunters to reduce the number of struck and lost narwhal.

Community consultations on proposed changes to narwhal management

From March 19 to 31, 2012 (TAB 18), DFO conducted community consultations in Nunavut on the proposed changes to the current narwhal management regime and the draft IFMP (TAB 19). HTO representatives from each of the 23 communities that harvest narwhal and RWO representatives from each region were invited to nine centrally located two day meetings, one in each of the primary hunting communities (Appendix 1). Three separate consultation meetings were scheduled for each community visited. On the first day, consultations were conducted with the HTO. On the second day public meetings were conducted in the afternoon and again in the evening. Two simultaneous consultation tours were conducted; one for Hudson Bay and Grise Fiord and the second for Baffin Island communities. Copies of the presentations made to the communities are enclosed at TAB 20. A synopsis of the information and comments received during each consultation tour is enclosed at TAB 21.

Decisions requested from NWMB to implement proposed changes to the narwhal management system in the Nunavut Settlement Area.

A. Quota Limitations – pursuant to NLCA s.5.2.33(d)

1. **Establish Basic Needs Level (BNL) for four narwhal stocks (Somerset Island; Admiralty Inlet; Eclipse Sound; East Baffin Island) and one narwhal population (Northern Hudson Bay) within the Nunavut Settlement Area (NSA).** Pursuant to the provisions of NLCA s.5.6.25, and as jointly agreed to by Nunavut Tunngavik Incorporated (NTI) and Fisheries and Oceans Canada (DFO), establish that the BNL for these stocks and population of narwhal within the NSA will be equal to the Total Allowable Harvest (TAH) established by the Nunavut Wildlife Management Board (NWMB)
2. **Establish Total Allowable Harvests (TAH) for four narwhal stocks (Somerset Island; Admiralty Inlet; Eclipse Sound; East Baffin Island) and one narwhal population (Northern Hudson Bay) within the NSA.** Set TAH for these narwhal stocks and population taking into consideration the current Fisheries and Oceans (DFO) advice provided on recommended sustainable harvest limits in the form of Total Allowable Landed Catch (TALC) summarized in the following table:

Narwhal abundance estimates, Potential Biological Removals (PBR) and Total Allowable Landed Catch (TALC) for each stock or population (ie: Management Units), based on stock and population delineation (TAB 5, TAB 6)

Population	Stock	Survey Year	Abundance Estimate	CV*	PBR*	TALC*
Baffin Bay	Somerset Island	1996	45,358	35%	681	532
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	Eclipse Sound	2004	20,225	36%	301	236
	East Baffin Island	2003	10,073	31%	156	122
Northern Hudson Bay		2000	5,053	40%	73	57

• CV = Coefficient of Variation PBR = Potential Biological Removal TALC = Total Allowable Landed Catch

3. **Where a Total Allowable Harvest (TAH) has been established for a narwhal stock or population, the annual harvest shall not exceed the TAH.**

B. Non-Quota Limitations – pursuant to NLCA s.5.2.33(k)

4. **Establishment of boundaries for five Management Units based on narwhal summer aggregations within the NSA. This includes;**
 - 1) **Somerset Island Management Unit**
 - 2) **Admiralty Inlet Management Unit**
 - 3) **Eclipse Sound Management Unit**
 - 4) **East Baffin Island Management Unit**
 - 5) **Northern Hudson Bay Management Unit**

Co-ordinates for boundaries for each Management Unit are included in the table in Appendix 2.

5. **Once a Community Harvest Limit (All-Season Community Harvest Limit, Summer-Season Community Harvest Limit, Migratory-Season Community Harvest Limit), as established annually by the Regional Wildlife Organization (RWO), has been reached for a particular community, no further narwhal hunting is allowed, unless approved by the RWO under the Marine Mammal Tag Transfer Policy.**
6. **Marine Mammal Tags (Fishing Licences) can only be used to harvest narwhal within the Management Unit they are issued for.**
7. **Partition the annual narwhal harvest according to narwhal migration for the East Baffin Island, Eclipse Sound and Admiralty Inlet Management Units. This would divide the annual harvest between two distinct seasons: Summer-Season and Migratory-Season, according to the dates recommended annually by each Hunters and Trappers Organization (HTO) that harvest from the Management Unit.**
8. **Establish mechanisms to close specific narwhal fisheries in each Management Unit when specific harvest limits have been reached:**
 - a. **For communities that harvest without seasonal restrictions** (ie: using All-Season Marine Mammal Tags), once the sum of the All-Season Community Harvest Limits within the Management Unit are reached, the narwhal fishery in that Management Unit is closed.
 - b. **For communities that harvest with seasonal restrictions** (ie: using Summer-Season Marine Mammal Tags and Migratory-Season Marine Mammal Tags):

- i. The summer fishery in a Management Unit is closed when either of the following conditions is met:
 1. Once the Summer-Season Community Harvest Limit(s) within a Management Unit are reached; or
 2. Once the Summer-Season end date specified on the Summer Season Marine Mammal Tag is reached.
- ii. The migratory fishery in a Management Unit is closed when either of the following conditions is met:
 1. Once the Migratory-Season Community Harvest Limit(s) within a Management Unit are reached; or
 2. Once the Migratory-Season end dates specified on the Marine Mammal Tag are reached.

9. Measures to reduce struck and lost narwhal

All narwhal hunting communities should develop written plans that include practical measures for hunters to reduce the number of struck and lost narwhal.

C. Provision of Information

10. Harvest reporting is required by the Regional Wildlife Organizations (RWO) and Hunter and Trappers Organizations (HTO) annually:
 - a. HTO to notify RWO and DFO when their Community Harvest Limits (All-Season, or Summer and Migratory) are reached.
 - b. RWO to notify DFO when the sum of the Community Harvest Limits (All-Season, or Summer and Migratory) are reached in each Management Unit within their Region.

D. Certification of narwhal tusks

11. **Tusks from landed narwhal need to be inspected and certified by a Conservation Officer or Fishery Officer. The permanent attachment device would be used to affix the tusk to the Marine Mammal Tag, as part of the certification process.**

E. Approval of the IFMP – pursuant to NLCA s.5.2.34(d)

12. Approve the Integrated Fisheries Management Plan for Narwhal in the Nunavut Settlement Area (effective date 2013) and Phase One of the Marine Mammal Tag Transfer Policy described in it.

Consultations:

Communities and organizations that were invited and/or participated in the May 2011 and March 2012 consultation sessions are summarized in Appendix 1.

Submitted by:

Resource Management
Central & Arctic Region
Fisheries & Oceans Canada

Date: April 31, 2012

Appendix 1: Details of narwhal consultation participation by organization

Narwhal Science and CITES Consultation Summary of Meeting Participants & Locations May 25-31, 2011

Community	Invited	Accepted	Host Community *	HTO Meeting Held	Public Meeting Held	Sent Delegate(s)	Comments
Qikiqtaaluk Communities							
Arctic Bay*	Yes	Yes	Yes	Yes	Yes	NA	
Cape Dorset	Yes	No Response Received	No	NA	NA	NA	
Clyde River*	Yes	Yes	Yes	Yes	Yes	NA	
Grise Fiord*	Yes	Yes	Yes	No	No	NA	Due to inclement weather the tour was not able to meet with HTO or community
Hall Beach	Yes	Yes	No	NA	NA	Yes	Delegate was sent to Igloodik to participate in meeting
Igloodik*	Yes	Yes	Yes	Yes	Yes	NA	
Iqaluit	Yes	No	No	NA	NA	NA	
Kimmirut	Yes	No	No	NA	NA	NA	
Pangnirtung	Yes	Yes	No	NA	NA	Yes	Delegate was sent to Qikiqtarjuaq to participate in meeting
Pond Inlet*	Yes	Yes	Yes	Yes	Yes	NA	
Qikiqtarjuaq*	Yes	Yes	Yes	Yes	Yes	NA	
Resolute Bay*	Yes	Yes	Yes	Yes	Yes	NA	
Kivalliq Communities							
Arviat	Yes	No					
Baker Lake	Yes	No					
Chesterfield Inlet	Yes	No					
Coral Harbour	Yes	No					

Rankin Inlet	Yes	No
Repulse Bay	Yes	No
Whale Cove	Yes	No
Kitikmeot Communities		
Cambridge Bay	No	No
Gjoa Haven	Yes	No
Kugaaruk	Yes	No
Taloyoak	Yes	No
Other Organizations		
Qikiqtaaluk Wildlife Board (RWO of Baffin Region NU)	Yes	Yes
Kivalliq Wildlife Board (RWO of Keewatin Region NU)	Yes	No
Kitikmeot Regional Wildlife Board (RWO of Kitikmeot Region NU)	Yes	No
Fisheries and Oceans Canada - AARD, RMAA, EFM	Yes	Yes
Nunavut Tunngavik Inc - Div. of Wildlife & Environmental Policy	Yes	Yes
Nunavut Wildlife Management Board - Wildlife Section	Yes	Yes
Government of Nunavut- Dept of Environment - Fisheries & Sealing Division	Yes	Yes

Narwhal Management and IFMP Consultation Summary of Meeting Participants & Locations March 19-31, 2012

Community	Invited	Accepted	Host Community*	HTO Meeting Held	Public Meeting Held	Hunter Meeting Held	Sent Delegate(s)	Comments
Qikiqtaaluk Communities								
Arctic Bay*	Yes	Yes	Yes	Yes	Yes	Yes	NA	
Cape Dorset	Yes	Yes	No	NA	NA	NA	Yes	Delegate attended meetings in Repulse Bay
Clyde River*	Yes	Yes	Yes	Yes	Yes	Yes	NA	
Grise Fiord*	Yes	Yes	Yes	Yes	Yes	Yes	NA	
Hall Beach	Yes	Yes	No	NA	NA	NA	Yes	Delegate attended meetings in Kugaaruk & Repulse Bay
Igloolik	Yes	Yes	No	NA	NA	NA	Yes	Delegate attended meetings in Kugaaruk & Repulse Bay
Iqaluit*	Yes	Yes	No	NA	NA	NA	NA	Delegate attended Regional Meeting held in Iqaluit on March 31, 2012
Kimmirut	Yes	Yes	No	NA	NA	NA	Yes	Delegate attended meetings in Repulse Bay
Pangnirtung*	Yes	Yes	Yes	Yes	Yes	Yes	NA	
Pond Inlet*	Yes	Yes	Yes	Yes	Yes	Yes	NA	
Qikiqtarjuaq*	Yes	Yes	Yes	Yes	Yes	Yes	NA	
Resolute Bay	Yes	Yes	No	NA	NA	NA	Yes	inclement weather prevented participation in Kugaaruk meeting
Sanikiluaq	Yes	No	No	NA	NA	NA	NA	
Kivalliq Communities								
Arviat	Yes	Yes	No	NA	NA	NA	Yes	inclement weather prevented participation of this delegate in Repulse Bay meeting
Baker Lake	Yes	Yes	No	NA	NA	NA	Yes	inclement weather prevented participation of this delegate in Repulse Bay meeting
Chesterfield Inlet	Yes	Yes	No	NA	NA	NA	Yes	inclement weather prevented participation of this delegate in Repulse Bay meeting
Coral Harbour	Yes	Yes	No	NA	NA	NA	Yes	inclement weather prevented participation of this delegate in Repulse Bay meeting

Rankin Inlet	Yes	Yes	No	NA	NA	NA	Yes	inclement weather prevented participation of this delegate in Repulse Bay meeting
Repulse Bay*	Yes	Yes	Yes	Yes	Yes	Yes	NA	
Whale Cove	Yes	Yes	No	NA	NA	NA	Yes	inclement weather prevented participation of this delegate in Repulse Bay meeting
Kitikmeot Communities								
Cambridge Bay	Yes	Yes	No	NA	NA	NA	Yes	
Gjoa Haven	Yes	Yes	No	NA	NA	NA	Yes	
Kugaaruk*	Yes	Yes	Yes	Yes	Yes	Yes	NA	
Taloyoak	Yes	Yes	No	NA	NA	NA	Yes	
Other Organizations								
Qikiqtaaluk Wildlife Board (RWO of Baffin Region NU)	Yes	Yes						
Kivalliq Wildlife Board (RWO of Keewatin Region NU)	Yes	Yes						
Kitikmeot Regional Wildlife Board (RWO of Kitikmeot Region NU)	Yes	Yes						
Fisheries and Oceans Canada - RMAA, EFM	Yes	Yes						
Nunavut Tunngavik Inc - Div of Wildlife & Environmental Policy	Yes	Yes						
Nunavut Wildlife Management Board - Wildlife Section	Yes	Yes						
Government of Nunavut- Dept of Environment - Fisheries & Sealing Division	Yes	Yes						

Nunavut Inuit Wildlife Secretariat -
Administrative Services

Yes

Yes

Appendix 2. Geographic co-ordinates of proposed boundaries for narwhal Management Units within the Nunavut Settlement Area.

Population	Management Unit	Description	Point	North Latitude		West Longitude	
				D	M	D	M
Baffin Bay	Somerset Island	Marine waters enclosed by the following coordinates:					
		The boundary begins at the intersection of 75° 00' N and 100° 20' W;	1	75	00	°	100 20
		then it proceeds generally east in a straight line to the intersection of 75° 00' N and 90° 00' W;	2	75	00	°	90 00
		then generally south and east in a straight line to the intersection of 73° 30' N and 88° 24' W;	3	73	30	°	88 24
		then generally south and east in a straight line to the intersection of 71° 00' N and 86° 55' W;	4	71	00	°	86 55
		then generally north and east in a straight line to the intersection of 70° 06' N and 85° 50' W;	5	70	06	°	85 50
		then generally south and east in a straight line to the intersection of 70° 40' N and 79° 00' W;	6	70	40	°	79 00
		then generally south and west in a straight line to the intersection of 68° 44' N and 74° 02' W;	7	68	44	°	74 02
		then generally south and west in a straight line to the intersection of 67° 28' N and 81° 18' W;	8	67	28	°	81 18
		then generally north and west in a straight line to the intersection of 67° 05' N and 87° 16' W;	9	67	05	°	87 16
		then generally north in a straight line to the intersection of 67° 03' N and 97° 10' W;	10	67	03	°	97 10
		then generally north and east in a straight line to the intersection of 67° 28' N and 102° 11' W;	11	67	28	°	102 11
		then generally east in a straight line to the intersection of 68° 40' N and 105° 40' W;	12	68	40	°	105 40
		then generally north and west in a straight line to the intersection of 68° 55' N and 106° 14' W;	13	68	55	°	106 14
		then generally north in a straight line to the intersection of 69° 10' N and 106° 24' W.	14	69	10	°	106 24
		then generally north and east in a straight line to the intersection of 70° 00' N and 105° 16' W.	15	70	00	°	105 16
		then generally east in a straight line to the intersection of 70° 00' N and 98° 08' W.	16	70	00	°	98 08
		then generally north and west in a straight line to the intersection of 73° 56' N and 100° 00' W.	17	73	56	°	100 00
		then generally north in a straight line to the intersection of 75° 00' N and 100° 20' W.	1	75	00	°	100 20

Admiralty Inlet	Marine waters enclosed by the following coordinates: The boundary begins at the intersection of 75°00' N and 90°00' W;	1	75	00	°	90	00
	then it proceeds generally south and east in a straight line to the intersection of 75°00' N and 81°48' W;	2	75	00	°	81	48
	then generally south in a straight line to the intersection of 73°44' N and 82°08' W;	3	73	44	°	82	08
	then generally south and west in a straight line to the intersection of 71°52' N and 83°28' W;	4	70	52	°	83	28
	then south and west in a straight line to the intersection of 70°55' N and 86°45' W;	5	70	55	°	86	45
	then generally north and west in a straight line to the intersection of 73°30' N and 88°24' W;	6	73	30	°	88	24
	then generally north and west in a straight line to the intersection of 75°00' N and 90°00' W.	1	75	00	°	90	00
Eclipse Sound	Marine waters enclosed by the following coordinates: The boundary begins at the intersection of 74°50' N and 81°48' W;	1	74	50	°	81	48
	then it proceeds generally south and east in a straight line to the limit of the NSA (74°50' N, 78°38' W);	2	74	50	°	78	38
	then generally south and east, along the NSA boundary, to the intersection of 72°18' N and 74°05' W;	3	72	18	°	74	05
	then generally south and west in a straight line to the intersection of 71°44' N and 77°20' W;	4	71	44	°	77	20
	then generally east in a straight line to the intersection of 71°55' N and 82°16' W;	5	71	55	°	82	16
	then generally north and west in a straight line to the intersection of 73°43' N and 82°08' W;	6	73	44	°	82	08
	then generally north and west in a straight line to the intersection of 74°50' N and 81°48' W.	1	74	50	°	81	48
East Baffin Island	Marine waters enclosed by the following coordinates: The boundary begins at the intersection of 71°44' N and 77°20' W;	1	71	44	°	77	20
	then it proceeds generally north and east in a straight line to the limit of the NSA (72°17' N, 74°05' W);	2	72	17	°	74	05
	then generally south and east, along the NSA boundary, to the intersection of 61°50' N and 64°16' W;	3	61	50	°	64	16
	then generally north and west in a straight line to the intersection of 62°08' N and 66°45' W;	4	62	08	°	66	45
	then generally north and west in a straight line to the intersection of 63°45' N and 69°25' W;	5	63	45	°	69	25
	then generally north and east in a straight line to the intersection of 65°25' N and 68°18' W;	6	65	25	°	68	18
	then generally north and west in a straight line to the intersection of 66°18' N and 69°18' W;	7	66	18	°	69	18
	then generally north and west in a straight line to the intersection of 66°60' N and 66°10' W;	8	66	60	°	66	10

then generally north and east in a straight line to the intersection of 71°44' N and 77°20' W.

1 71 44 ° 77 20

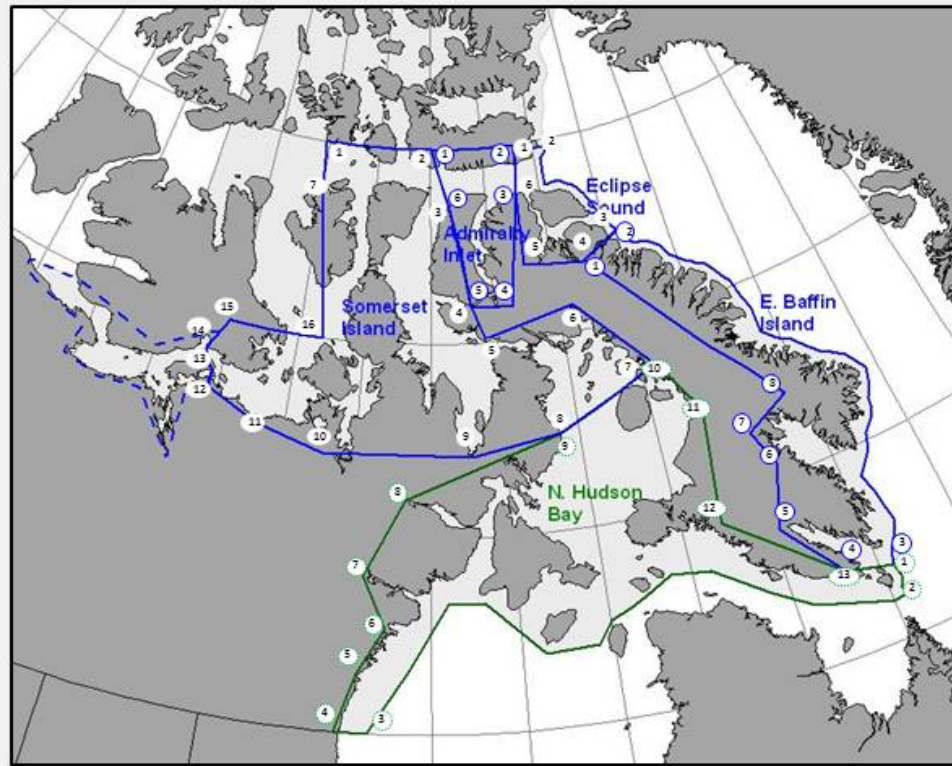
**Northern
Hudson Bay**

Northern
Hudson Bay

Marine waters enclosed by the following coordinates:

The boundary begins at the intersection of 61°50' N and 64°16' W;	1	61	50	°	64	16
then it proceeds generally east and north in a straight line to the intersection of 62°08' N and 66°45' W;	2	62	08	°	66	45
then generally south and west, along the NSA boundary, to the intersection of 60°00' N and 93°20' W;	3	60	00	°	93	20
then generally north and east in a straight line to the intersection of 60°00' N and 95°06' W;	4	60	00	°	95	06
then generally north and east in a straight line to the intersection of 61° 31' N and 94° 07' W;	5	61	31	°	94	07
then generally south and east in a straight line to the intersection of 62° 41' N and 92° 04' W;	6	62	41	°	92	04
then generally south and east in a straight line to the intersection of 64° 00' N and 94° 00' W;	7	64	00	°	94	00
then generally south and west in a straight line to the intersection of 66° 00' N and 91° 36' W;	8	66	00	°	91	36
then generally south and west in a straight line to the intersection of 67° 28' N and 81° 18' W;	9	67	28	°	81	18
then generally south and west in a straight line to the intersection of 68° 44' N and 74° 02' W;	10	68	44	°	74	02
then generally south and west in a straight line to the intersection of 67° 16' N and 71° 42' W;	11	67	16	°	71	42
then generally south and west in a straight line to the intersection of 64° 18' N and 72° 32' W;	12	64	18	°	72	32
then generally south and west in a straight line to the intersection of 62° 08' N and 66° 45' W;	13	62	08	°	66	45
then generally south and west in a straight line to the intersection of 61° 50' N and 91° 36' W;	1	61	50	°	64	16

Appendix 2. Geographic co-ordinates of proposed boundaries for narwhal Management Units within the Nunavut Settlement Area.



The Baffin Bay narwhal population is separated into four Management Units: Somerset Island, Admiralty Inlet, Eclipse Sound, E Baffin Island. The N Hudson Bay narwhal population remains a distinct fifth Management Unit.

Each Management Unit includes the marine waters enclosed by its respective boundary.

	North Latitude		West Longitude	
	D	M	D	M

BB1. Somerset Island				
1	75	00	100	20
2	75	00	90	00
3	73	30	88	24
4	71	00	86	55
5	70	06	85	50
6	70	40	79	00
7	68	44	74	02
8	67	28	81	18
9	67	05	87	16
10	67	03	97	10
11	67	28	102	11
12	68	40	105	40
13	68	55	106	14
14	69	10	106	24
15	70	00	105	16
16	70	00	98	08
17	73	56	100	00
1	75	00	100	20

	North Latitude		West Longitude	
	D	M	D	M

NHB1. N. Hudson Bay				
1	61	50	64	16
2	62	08	66	45
3	60	00	93	20
4	60	00	95	06
5	61	31	94	07
6	62	41	92	04
7	64	00	94	00
8	66	00	91	36
9	67	28	81	18
10	68	44	74	02
11	67	16	71	42
12	64	18	72	32
13	62	08	66	45
1	61	50	64	16

	North Latitude		West Longitude	
	D	M	D	M

BB2. Admiralty Inlet				
1	75	00	90	00
2	75	00	81	48
3	73	44	82	08
4	70	52	83	28
5	70	55	86	45
6	73	30	88	24
1	75	00	90	00

	North Latitude		West Longitude	
	D	M	D	M

BB3. Eclipse Sound				
1	74	50	81	48
2	74	50	78	38
3	72	18	74	05
4	71	44	77	20
5	71	55	82	16
6	73	44	82	08
1	74	50	81	48

	North Latitude		West Longitude	
	D	M	D	M

BB4. E. Baffin Island				
1	71	44	77	20
2	72	17	74	05
3	61	50	64	16
4	62	08	66	45
5	63	45	69	25
6	65	25	68	18
7	66	18	69	18
8	66	60	66	10
1	71	44	77	20