SUBMISSION TO THE

NUNAVUT WILDLIFE MANAGEMENT BOARD

FOR

Information: **Decision: X**

Issue: Approval of the Integrated Fisheries Management Plan for Atlantic Walrus in the Nunavut Settlement Area and establishment of measures to give effect to the walrus management regime outlined in the Management Plan

Background:

In response to growing national and international attention on how the walrus fishery in Canada is being managed and to further harmonize walrus management with the provisions of the Nunavut Land Claims Agreement (NLCA), in 2007 Fisheries and Oceans Canada (DFO) started the collaborative process of developing an Integrated Fisheries Management Plan (IFMP or Management Plan) for Atlantic walrus for the Nunavut Settlement Area (NSA).

An IFMP for any stock or group of stocks provides information that is important for the management of a fishery. It describes the scientific and local knowledge available for the fishery as well as gaps in knowledge. It summarizes the most important management objectives and management measures that are needed or that have been agreed to. The intention of putting the information about a fishery in this one document is to have a common understanding of the "basic rules" for the sustainable management of a particular fishery. However, this document is meant to be a living document, able to be adapted as understanding of management issues changes.

Development of the Management Plan and Consultations:

Two Walrus Working Groups (High Arctic and Foxe Basin) were established to initiate the development of a Management Plan for Atlantic walrus. Each Working Group was made up of members of local Hunters and Trappers Organizations (HTOs) (Arctic Bay, Grise Fiord, Hall Beach, Igloolik, Pond Inlet, and Resolute Bay), Qikiqtaaluk Wildlife Board (QWB), Nunavut Tunngavik Incorporated (NTI), Nunavut Wildlife Management Board (NWMB) and DFO.

Between 2007 and 2015, nine walrus working group meetings were held to develop the Management Plan (see TAB 1 for a history of the Walrus Working Groups), and community consultations with Arctic Bay, Grise Fiord, Hall Beach, Igloolik, Pond Inlet and Resolute Bay in 2011. The purpose of the meetings and consultations was to share research results, determine community support for the development of a walrus Management Plan, and determine the most important walrus management issues. These meetings determined the development of the Management Plan, the format, the

important management measures and objectives to be included, and the important research goals. As a result of the Walrus Working Group meetings and community consultations, a draft Management Plan was developed in November 2013. A consultation process was designed by the working group and undertaken to obtain the views of Inuit, co-management organizations, interested stakeholders and the general public on the draft Management Plan:

- An in-person consultation process was used for communities in Nunavut that harvest from walrus stocks where there will be information to recommend additional changes to the management regime for walrus (e.g. Total Allowable Harvests (TAHs)). These consultations were held May 28-June 4, 2014 in Igloolik, Hall Beach and Pond Inlet, and October 21-23, 2014 in Arctic Bay, Grise Fiord and Resolute Bay.
- A written consultation process was used for communities in Nunavut that harvest from the South and East Hudson Bay, and the Hudson Bay-Davis Strait stocks where there is currently not enough information to recommend any further changes to the management regime for walrus (e.g. TAH).
- Copies of the draft IFMP and consultation workbooks were sent to the three Regional Wildlife Organizations (RWOs) and all Nunavut HTOs in June 2014; a consultation web site was established to solicit comments and feedback.
- Presentations were made at the QWB, Kivalliq Wildlife Board (KWB), and Kitikmeot Regional Wildlife Board (KRWB) Annual General Meetings in the fall of 2014 and 2015 on the walrus management plan.

Consultations focused on the following main areas:

- The need to improve walrus management;
- The draft Integrated Fisheries Management Plan;
- The proposed walrus Management Units;
- The proposed changes to walrus management where there is science advice, in particular, the establishment of Total Allowable Harvest (TAH) levels and operational procedures to implement the proposed changes such as harvest allocation, reporting and post-harvest walrus tags;
- Seek the views and comments from Inuit harvesters and community members on walrus management;
- Relationship-building and continued engagement between DFO and Inuit communities.

The IFMP enables co-management organizations to demonstrate, in one document, the sustainable management regime for Atlantic walrus in the NSA.

Consultation Results:

Overall, support for having a walrus management plan in place was expressed. However, Inuit co-management organizations recommended that the walrus management plan be in place prior to the inclusion of TAHs. Therefore, the IFMP that is being submitted to the NWMB outlines the walrus management framework that is currently in place through provisions of the *NLCA*, the *Fisheries Act* and regulations made pursuant to it, including the *Fishery (General) Regulations* and the *Marine Mammal Regulations (*MMR), as well as defines the structure for a walrus management system under a TAH regime.

In addition, concerns were raised with the IFMP applying to the entire NSA without in-person consultations occurring in all communities (written consultations took place). DFO is committed to conducting in-person consultations with communities that harvest from the South and East Hudson Bay or the Hudson Bay-Davis Strait stock prior to a request for TAH being submitted to the NWMB for either of those stocks/management units.

After incorporating revisions based on consultations and final review by the Walrus Working Group in May 2015, the final draft was presented at the three RWO Annual General Meetings in the fall of 2015. A full report on the consultation results can be found in TAB 2.

Recommendations:

DFO is requesting approval from the NWMB on the following:

- Approve the Integrated Fisheries Management Plan for walrus in the NSA, including the proposed management structure under a TAH system that includes supplementary management measures to address current walrus management issues and strengthen co-management of the fishery (TAB 3).
- Approve the new Management Unit boundaries identified in the Management Plan that are based on stock units and local traditional knowledge (Tab 4).

A more detailed summary of the proposed changes in walrus management identified in the IFMP can be found in Appendix 1. The end goal is to have a good system documented and approved to sustainably manage the walrus fishery commencing April 1, 2017.

TAB 1 - History of the Walrus Working Groups
TAB 2 - Consultation Results
TAB 3 – IFMP
TAB 4 - Management Boundaries

Submitted by:

Resource Management , Central & Arctic Region
Fisheries & Oceans Canada

Date: February 12, 2016

Appendix 1: Decisions requested from NWMB to implement proposed changes to the walrus management system in the Nunavut Settlement Area.

A. New Management Measures that will apply to all walrus stocks:

1. **Establishment of boundaries for six Management Units based on walrus stock delineations and local traditional knowledge within the Nunavut Settlement Area (NSA). This includes:**

    1) AW-01 (Baffin Bay stock)
    2) AW-02 (West Jones Sound stock)
    3) AW-03 (Penny Strait- Lancaster Sound stock)
    4) AW-04 (Foxe Basin stock unit)
    5) AW-05 (Hudson Bay-Davis Strait stock)
    6) AW-06 (South and East Hudson Bay stock)

B. New management measures that would apply to walrus stocks/management units when a Total Allowable Harvest (TAH) is established:

1. Establish TAHs, thus replacing the existing regulatory individual and community quotas on walrus (*Marine Mammal Regulations* sections 6 and 26), pursuant to section 5.6.16.

2. In 2013, as per s.5.6.25, the Minister of Fisheries and Oceans accepted the NWMB's decision to establish the BNL for beluga, narwhal and walrus in the NSA to be equal to the levels of TAH for those species.

   The IFMP reflects RWO and HTO authority to allocate and enforce regional and community BNL and Adjusted BNL pursuant to NLCA s. 5.7.6(b) and s. 5.7.3(b), respectively. Under the proposed management regime, once the NWMB establishes TAH and BNL for a stock/population, the RWO would allocate the BNL among the respective HTOs in the Management Unit, resulting in Community Harvest Limits. The HTOs would then allocate the Community Harvest Limits among members (including the assignment to non-members).

3. Where a TAH has been established for a walrus management unit, the annual harvest for that management unit shall not exceed the TAH.

4. Establish mechanisms to close specific walrus fisheries in each Management Unit when specific harvest limits have been reached:

a. Once the sum of the Community Harvest Limits within a Management Unit are reached, the walrus fishery for all communities in that Management Unit is closed.

4. Approve the implementation of a Post-Harvest Walrus Tag system.

The Post-Harvest Walrus Tag is not a licence to hunt and would be issued by DFO without fee or administrative charge. Implementing a Post-Harvest Walrus Tag system will assist in:

- Evidencing a person's authority to harvest/possess wildlife appropriate to the particular Management Unit;
- Regulating the allocation of a share of TAH (Community Harvest Limit), including the BNL, as allocated by the RWO and/or HTO;
- Collecting information in relation to harvesting activities;
- Regulating harvesting activities in relation to sport hunt assignment.

The Post-Harvest Walrus Tag will be an important management tool for RWOs and HTOs to allocate and account for harvesting among their members. The Post-Harvest Walrus Tags will be allocated by the RWO/HTO and will be proof of allocation to a share of one walrus from the walrus TAH for a particular management unit. This forms part of the walrus management system in which RWOs and HTOs decide on community allocations.

5. Approve the Walrus Sport Hunt Policies:

a. Where a TAH *has* been established: as per the NLCA, HTOs and RWOs are responsible for allocating their community's and regional TAH to their members and the assignment to non-members (e.g. walrus sport hunt) (s. 5.7.3 and 5.7.6). The Sport Hunt Policy identifies the process that will be used under this situation; and
b. Where a TAH *has not* been established: the Sport Hunt Policy identifies the existing process being used by co-management organizations to provide for sport hunting opportunities.

C. Provision of Information

1. Harvest information is provided by Inuit hunters to the HTOs, which is then relayed to DFO (MMR s. 17; Fisheries Act s. 61; NLCA s. 5.7.43).

2. When a TAH is established, harvest reporting is required by the Regional Wildlife Organizations (RWO) and Hunter and Trappers Organizations (HTO) in a timely fashion:

a. HTO to notify RWO and DFO when their Community Harvest Limits are reached.

b. RWO to notify DFO when the sum of the Community Harvest Limits are reached in each Management Unit within their Region.

D. Approve the Integrated Fisheries Management Plan for Walrus in the Nunavut Settlement Area (effective date April 1, 2017).

TAB 1: History of the Walrus Working Group

Type of Meeting	Year	Outcomes
Working Group (Foxe Basin)	2007	• Established the Foxe Basin Walrus Working Group • Agreement to develop an Integrated Fisheries Management Plan; • Sharing of hunter perspectives; • Mapping walrus areas based on traditional knowledge; • Review of current science information
Working Group (Foxe Basin)	2009	• Developed Terms of Reference; • Discussed important management goals, and objectives; • Science update
Working Group (Foxe Basin)	2010	• Presentation by industry group on shipping; • Science update; survey design
Working Group (Baffin Bay)	2010	• Established the Baffin Bay Walrus Working Group; • Agreement to develop an Integrated Fisheries Management Plan; • Developed Terms of Reference • Mapping walrus areas based on traditional knowledge • Science review and update on surveys;
Working Group (Foxe Basin and Baffin Bay)	2010 (2 meetings)	• Prioritized the Management Goals and Objectives; • Reviewed and amended the walrus maps; • Science review and update on surveys; • Discussed the establishment of harvest levels (TAH and BNL) • Discussed the NWMB process to approve the Management Plan

Community Consultations (Arctic Bay, Grise Fiord, Hall Beach, Igloolik, Pond Inlet, Resolute Bay)	2011	• Agreement to move forward with the Management Plan as outlined; • Reviewed maps; • Update from DFO Science on surveys; • Reviewed prioritized tables of walrus management objectives and goals; • Main concerns identified.
(Foxe Basin and Baffin Bay)	2013	• Draft Management Plan presented and discussed; • Discussed proposed changes to the management regime for walrus; • Discussed recently published DFO Science; • HTO representatives believe the numbers in the science advice are too low; • Discussed struck and lost rates; • Combined the Foxe Basin and Baffin Bay Working Groups into one Working Group • Next steps: community consultations: developed consultation plan (in-person and written)
Community Consultations (Hall Beach, Igloolik, Pond Inlet, Arctic Bay, Grise Fiord, Resolute)	2014	Reviewed and discussed: • The need to improve walrus management; • The draft Integrated Fisheries Management Plan; • The proposed walrus Management Units; • The proposed changes to walrus management where there is science advice, in particular, the establishment of Total Allowable Harvest (TAH) levels and operational procedures to implement the proposed changes such as harvest reporting and walrus harvest tags; • Obtained views and comments from Inuit harvesters and community members on walrus management; • Relationship-building and continued engagement between DFO and Inuit communities.

Written consultation (all HTOs/ RWOs); web site established	2014	• Distributed draft IFMP and a consultation workbook seeking comments, concerns and feedback on the draft IFMP.
Walrus Working Group Meeting	2015	• Revised IFMP to outline the management structure under two management scenarios: where a TAH is established; and where there has not been a TAH established. • It was recommended to remove TAH decisions from the IFMP until it is approved • Reviewed and discussed final draft IFMP • Revisions made based on discussions.

2014 Atlantic Walrus Integrated Fisheries Management Plan
Consultation Summary

May 28-June 4, 2014; October 20-24, 2014;
2014 and 2015 Regional Wildlife Organizations Annual General Meetings

The walrus fishery in the Nunavut Settlement Area (NSA) is co-managed by Fisheries and Oceans Canada (DFO), the Nunavut Wildlife Management Board (NWMB), Regional Wildlife Organizations (RWO's), and Hunter and Trapper Organizations (HTO's), in accordance with the Nunavut Land Claims Agreement (NCLA), the *Fisheries Act* and its regulations, and in some communities, by local HTO hunting rules.

Walrus Working Groups, made up of members of local HTOs, RWO, Nunavut Tunngavik Incorporated (NTI), NWMB and DFO, were established for the High Arctic and Foxe Basin to initiate the development of an Integrated Fisheries Management Plan (IFMP or Management Plan) for Atlantic walrus in the Nunavut Settlement Area. Between 2007 and 2013, eight walrus working group meetings were held to develop the Management Plan. In February and March 2011, community consultations were held in Hall Beach, Igloolik, Pond Inlet, Arctic Bay, Resolute and Grise Fiord to share research results, determine community support for the development of a walrus Management Plan and determine the most important walrus management issues. Through these meetings, agreement was reached to develop a walrus Management Plan, the format of the Management Plan, the important management issues and objectives to be included, and important research goals. As a result of the Walrus Working Group meetings and community consultations, a draft Management Plan was developed in November 2013.

A consultation process was undertaken to obtain the views of Inuit, co-management organizations, interested stakeholders and the general public on the draft Management Plan. Public consultations had both an in-person and a written component:

- Changes to the current walrus management regime are proposed for four walrus stocks where there is new science advice. In-person consultations were held May 28-June 4, 2014 with Igloolik, Hall Beach and Pond Inlet, and October 20th-24th, 2014 with Arctic Bay, Grise Fiord and Resolute;
- There are no changes currently being proposed to the walrus management regime for the South and East Hudson Bay or the Hudson Bay-Davis Strait stocks, as there is no recent science advice. The Management Plan simply consolidates the existing measures used to manage the Atlantic walrus fishery in the Nunavut Settlement Area. Therefore, a written consultation process was used for the communities that harvest walrus from the

Hudson Bay-Davis Strait and South and East Hudson Bay stocks, along with other interested stakeholders and the general public.

Consultations focused on the following main areas:

- The need to improve walrus management;
- The draft Integrated Fisheries Management Plan (IFMP);
- Recent DFO Science Advice on walrus abundance estimates;
- Proposed walrus Management Units;
- Proposed changes to walrus management where there is science advice, in particular, the establishment of Total Allowable Harvest (TAH) levels and operational procedures to implement the proposed changes such as harvest reporting and walrus harvest tags;
- Seek the views and comments from Inuit harvesters and community members on walrus management;
- Relationship-building and continued engagement between DFO and Inuit communities.

During the in-person consultations, presentations were provided to each community. In some cases, two presentations were provided; one specifically designed for HTO board members, and the second for community members. Participants in all meetings were encouraged to share their views, provide comments, express concerns, and share expertise. Community members and the HTOs were encouraged to review and provide comments on the draft Management Plan. Copies of the draft Management Plan and the presentations were provided to the HTOs in advance of the meetings.

Written consultations packages were provided to Nunavut walrus harvesting communities where no changes are currently being proposed to the management of walrus. A package that included a summary of the draft Management Plan and a questionnaire to obtain their views on specific issues was provided via mail and email. A web site that included the consultation material was established and information on how to access that website was provided to communities involved in both the written and in-person consultation process. Presentations on the draft walrus IFMP were provided to the Qikiqtaaluk Wildlife Board, Kivalliq Wildlife Board, and the Kitikmeot Regional Wildlife Board at their respective Annual General Meetings in 2014 and 2015. Table 1 identifies the consultation process that was undertaken in relation to the IFMP for walrus in the NSA.

Overall, communities have expressed support for a Management Plan for walrus, but consensus was not reached on some of the proposed changes (e.g. recommended sustainable harvest levels). Recommendations were made to have the IFMP in place prior to TAHs being established.

Table 1. Consultation process for the Integrated Fisheries Management Plan for Atlantic Walrus in the Nunavut Settlement Area.

Population	Stock	Management Unit	Nunavut Walrus Harvesting Communities	Type of Consultation Process
High Arctic	Baffin Bay	AW-01	Grise Fiord	In-person (October 2014)
	West Jones Sound	AW-02	Grise Fiord	In-person (October 2014)
	Penny Strait- Lancaster Sound	AW-03	Resolute Bay	In-person (October 2014)
			Arctic Bay	In-person (October 2014)
			Pond Inlet	In-person (May 2014)
Central Arctic	Northern Foxe Basin	AW-04	Igloolik	In-person (May 2014)
	Central Foxe Basin		Hall Beach	In-person (May 2014)
	Hudson Bay-Davis Strait	AW-05	Clyde River Qikiqtarjuaq Iqaluit Pangnirtung Arviat Cape Dorset Chesterfield Inlet Coral Harbour Kimmirut Rankin Inlet Respulse Bay Whale Cove	Written (June 2014)
Unknown	South and East Hudson Bay	AW-06	Sanikiluaq	Written
			Qikiqtaaluk Wildlife Board; Kivalliq Wildlife Board; Kitikmeot Regional Wildlife Board	Formal letter with draft IFMP to executive; Presentations at the fall 2014 and 2015 AGMs

Atlantic Walrus Draft Integrated Fisheries Management Plan
DRAFT Consultation Summary- Foxe Basin stocks (Proposed Management Unit AW-04)

Consultations in Foxe Basin on the draft Management Plan took place on May 29-30, 2014 in the communities Igloolik and Hall Beach. Two meetings were held in each community; one with the HTO Board, and the other open to the public. The purpose of the consultations was to determine support for the draft management plan in general terms, to obtain specific local knowledge to help in the refining of the draft management plan to include HTO and community input and concerns. These specifics included potential management unit boundaries, sustainable harvest levels for the establishment of a TAH, harvest reporting and monitoring procedures, and the use of walrus harvest tags.

All meetings lasted over two hours and were well attended. In general terms, there appears to be support for a management plan for walrus, but there was no support for establishing a TAH based on Total Allowable Landed Catch (TALC) recommendations from recent DFO science advice. The participants expressed a great deal of interest in further involvement and will work with their local HTO Walrus Working Group member, their Regional Wildlife Organization and Nunavut Tunngavik Incorporated during this process.

Igloolik, May 29, 2014

HTO Meeting- afternoon; Public meeting- evening

Walrus Working Group representatives: Joshua Kango (QWB; co-chair); Allison McPhee (DFO; co-chair); Paul Irngaut (NTI); Danica Crystal (NWMB); Richard Moore (DFO, Iqaluit); Lianne Postma (DFO, Science).

At both meetings, PowerPoint presentations were given (attached) that introduces the management plan, the history of the initiative, the purpose of the plan and an overview of the content. This was followed by discussion and feedback.

Specific discussions took place around the following issues:

1. Support for a Walrus Management Plan?
    - Discussed the growing national and international attention being given to how Canada manages the walrus fishery and some pressures (e.g. CITES and possible request to up-list walrus, COSEWIC). Communities not supportive of international organizations' involvement in local walrus management.
    - Need to further harmonize walrus management with the NLCA (section 5.6.25 and increased role for HTOs/RWOs in walrus management).

- General agreement that a management plan is a good idea.

2. DFO Science advice:
    - Concerns that the survey coverage was not complete and that not all animals were counted. Do not agree with the population abundance estimates.
    - The Total Allowable Removal estimates are too low.
    - There should be more local involvement in the surveys.
    - Surveys need to be completed in all seasons before a TAH is established.
    - Walrus population size is stable and healthy.

3. Sustainable Harvest Level Recommendations/ TAH:
    - The community does not support the Total Allowable Landed Catch (TALC) recommended by DFO. The numbers presented are too low. This will cause hunters to harvest quicker every year (with more wastage), it will cause fighting between communities that harvest from the same Management Unit, hunters won't accurately report their harvests and they won't report struck and lost.
    - The numbers presented will not provide for the current local demand.
    - The current quota of 4 walrus/ Inuk/ year should remain.
    - If a TAH is established, it should be based on how many walrus are needed by the community and set by the community.
    - The TALC is too low to support the growing inter-settlement trade in walrus meat.
    - Concerned that if a low TAH is established, it will stay at that level even if there is new information to support a higher TAH.
    - Some concerns were raised about the amount of walrus meat that is currently wasted. It was suggested that some hunters are harvesting more for the ivory than the meat.

4. Are the proposed Management Unit boundaries correct?
    - The boundary for AW-04 should be further south.
    - There was no consensus on where exactly the boundary line should be. Need to ensure TEK is included.

5. What is an appropriate Struck and Lost Rate to use?
    - Community has the most experienced walrus hunters and therefore the struck and lost rates are very low.
    - More struck and lost by ship traffic.
    - Need to improve training to reduce s/l and teach the younger generation.

6. Harvest Reporting and the proposed Walrus Harvest Tag
    - Agreement that having accurate reporting is important.
    - Concerns with requiring animal sex data, as this will lead to more restrictions on harvesting.
    - No agreement or disagreement with using a Walrus Harvest Tag (not a licence) to assist with the allocation, monitoring and reporting of harvests if a TAH is established. No other options/ideas were suggested.

7. Harvest Allocation and monitoring
    - There were no concerns raised with the allocation of the TAH/BNL within a Management Unit (following the NLCA);
    - There were no concerns raised with the walrus fishery being closed once the TAH/harvest level is reached;
    - No concerns were raised with developing Information Booklets for hunters.

8. Other issues
    - Community monitoring would be problematic as reporting on other hunters is not encouraged.
    - Should use community hunt rules.
    - Rules for tourism, ship traffic and exploration need to be put in place.
    - It is important to include IQ and traditional knowledge in all aspects of management and decision-making.
    - Further consideration needs to be given to how the TAH could be carried over between years if the harvest level is not reached in one year.

Hall Beach, May 30, 2014

HTO Meeting- afternoon; Public meeting- evening

Walrus Working Group representatives: Joshua Kango (QWB; co-chair); Allison McPhee (DFO; co-chair); Paul Irngaut (NTI); Danica Crystal (NWMB); Richard Moore (DFO, Iqaluit); Lianne Postma (DFO, Science).

At both meetings, PowerPoint presentations were given (attached) that introduces the management plan, the history of the initiative, the purpose of the plan and an overview of the content. This was followed by discussion and feedback.

Specific discussions took place around the following issues:

1. Support for a Walrus Management Plan?

- Discussed the growing national and international attention being given to how Canada manages the walrus fishery and some pressures (e.g. CITES and possible request to up-list walrus, COSEWIC).
- Need to further harmonize walrus management with the NLCA (section 5.6.25 and increased role for HTOs/RWOs in walrus management).
- Agreement that a management plan is a good idea.
- The Management Plan needs to include the most current and up-to-date information.

2. DFO Science advice:
    - The survey coverage was not complete and not all animals were counted. Do not agree with the population abundance estimates.
    - The Total Allowable Removal estimates are too low.
    - There should be more local involvement in the surveys.
    - Surveys need to be completed in all seasons and over a number of years before a TAH is established. Surveys are not recent enough.
    - Walrus population size is stable and healthy.
    - Studies on other habitat interactions and migrations between stocks should be completed.

3. Sustainable Harvest Level Recommendations/ TAH:
    - The community does not support the Total Allowable Landed Catch (TALC) recommended by DFO. The numbers presented are too low. This will encourage hunters to not report, or falsely report. It will also cause fighting between communities that harvest from the same Management Unit.
    - The numbers presented will not provide for the current local demand.
    - The current quota of 4 walrus/Inuk/year should remain.
    - If a TAH is established, it should be based on how many walrus are needed by the community and set by the community.
    - The sport hunt allocation should be a separate allocation.
    - The TALC is too low to support the growing inter-settlement trade in walrus meat.
    - Concerned that if a TAH is established too low, it will stay at that level even if there is new information to support a higher TAH.
    - Suggested that a TAH allocation for Hall Beach of 75-100 could be a reasonable number.
    - The enforcement of the TAH will be important.

4. Are the proposed Management Unit boundaries correct?
    - The boundary for AW-04 should be further south.
    - There was no consensus on where exactly the boundary line should be. Need to ensure TEK is included.

5. What is an appropriate Struck and Lost Rate to use?
    - Experienced walrus hunters in Hall Beach and therefore the struck and lost rates are very low.
    - The struck and lost rate should be set after a TAH is established.
    - Need to improve training to reduce s/l and teach the younger generation.

6. Harvest Reporting and the proposed Walrus Harvest Tag
    - Agreement that having accurate reporting is important.
    - No agreement or disagreement with using a Walrus Harvest Tag (not a licence) to assist with the allocation, monitoring and reporting of harvests if a TAH is established. No other options were suggested. A tagging system works for other species and it could work for walrus.

7. Harvest Allocation and monitoring
    - There were no concerns raised with the allocation of the TAH/BNL within a Management Unit and/or between HTOs (following the NLCA);
    - There were no concerns raised with the walrus fishery being closed once the TAH/harvest level is reached;
    - No concerns were raised with developing Information Booklets for hunters.

8. Other issues
    - It is important to include IQ and traditional knowledge in all aspects of management and decision-making.
    - There should be management measures in place to reduce/eliminate wastage, particularly in sport hunts;
    - Communities should try to organize community hunts to reduce wastage, improve sharing, and improve reporting.
    - Inuit and local communities need more involvement in the surveys: the design, conducting the survey, reviewing results, analyzing the results, and making decisions based on those results.

Consultation Summary- High Arctic stocks
Baffin Bay (BB), West Jones Sound (WJS) Penny Strait – Lancaster Sound (PS-LS)
(Proposed Management Units AW-01, AW-02, AW-03)

Pond Inlet; June 4, 2014

HTO Meeting- afternoon; Public meeting- evening

Walrus Working Group representatives: Joshua Kango (QWB; co-chair); Allison McPhee (DFO; co-chair); Paul Irngaut (NTI); Danica Crystal (NWMB); Richard Moore (DFO, Iqaluit); Lianne Postma (DFO, Science).

At both meetings, a PowerPoint presentation was given that introduced the management plan, the history of the initiative, the purpose of the plan and an overview of the content. This was followed by discussion and feedback.

1. Support for a Walrus Management Plan?
    - Discussed the growing national and international attention being given to how Canada manages the walrus fishery and some pressures (e.g. CITES and possible request to up-list walrus, COSEWIC).
    - Not too involved in the harvest – more opportunistic hunting because they do not depend on the harvest anymore.
    - Understand the need to manage numbers, but need to balance hunts with diet, so the plan has to address this concern with more IQ input at the beginning and end decisions.
    - Need to further harmonize walrus management with the NLCA (section 5.6.25 and increased role for HTOs/RWOs in walrus management).
    - General agreement that a management plan is a good idea.

2. DFO Science advice:
    - Aerial surveys do not capture the whole picture – other ways to count walrus - perhaps small boats would be a better method.
    - There should be more local involvement in the surveys.
    - Surveys would provide a better picture if done over all the seasons- or pick a season and do multi-year counts with local involvement.

3. Sustainable Harvest Level Recommendations/ TAH:
    - TAH is a good number if it is to be set somewhere from 12 to 24 for them because they share with Arctic Bay and Resolute Bay. Satisfied with number because not getting the walrus we used to.
    - How will TAH be divided between the three communities – what percentage will they get?
    - Wish sport hunts to be separate with own TAH and tracking method. Greenland hunts should be regulated closer – they come into our waters to hunt.
    - Subsistence hunting should be left open to hunt for food using the existing management methods.
    - Need a review process in place so numbers can be adapted if needed – 5 year plan.

4. Are the proposed Management Unit boundaries correct?
    - Penny Strait – Lancaster Sound (AW-03) extends further south towards Clyde River.
    - Need to identify where walrus can be harvested; how many from each management unit. Which TAH would the harvest go against – the hunter's home or the walrus location? Should be the walrus location.

5. What is an appropriate Struck and Lost Rate to use?
    - Struck/loss are very low compared to narwhal, so don't report it. Need training for the young to keep struck/loss low

6. Harvest Reporting and the proposed Walrus Harvest Tag
    - Agreement that having accurate reporting is important.
    - Ok with a tag system to monitor the catch data, but should not be a license. HTO should manage the tag system and the cut-off should be in the spring, not by calendar date.

7. Harvest Allocation and monitoring
    - There were no concerns raised with the allocation of the TAH/BNL within a Management Unit (following the NLCA);
    - There were no concerns raised with the walrus fishery being closed once the TAH/harvest level is reached;
    - No concerns were raised with developing Information Booklets for hunters.
    - Community wishes for HTO's and RWO's to allocate the quota (TAH) numbers

Arctic Bay, October 21, 2014

HTO /Public meeting- evening

Walrus Working Group representatives: Allison McPhee (DFO; co-chair); Paul Irngaut (NTI; also representing QWB); Richard Moore (DFO, Iqaluit); and Lazurus Arreak as interpreter.

A PowerPoint presentation was given that introduced the management plan, recent science advice and possible sustainable harvest level recommendations, the history of the initiative, the purpose of the plan and an overview of the content. This was followed by discussion and feedback.

Specific discussions took place around the following issues:

1. Support for a Walrus Management Plan?
    - Discussed the growing national and international attention being given to how Canada manages the walrus fishery and some pressures (e.g. CITES and possible request to up-list walrus, COSEWIC).
    - Need to further harmonize walrus management with the NLCA (section 5.6.25 and increased role for HTOs/RWOs in walrus management).
    - General agreement that a management plan is a good idea.
    - Concerned it will restrict hunting.

2. DFO Science advice:
    - Concerns that the survey coverage numbers and TAH will restrict hunters from hunting.
    - The Total Allowable Removal estimates are more than harvest numbers, so ok with them.
    - There should be more local involvement in the surveys.
    - Surveys would provide a better picture if done over all the seasons.
    - Walrus population size is stable and healthy.

3. Sustainable Harvest Level Recommendations/ TAH:
    - The community seems to support the Total Allowable Landed Catch (TALC) recommended by DFO. The numbers presented are higher than they harvest.
    - The numbers presented will provide for the current local demand.
    - If a TAH is established, it should be allocated by the HTO/RWO.

4. Are the proposed Management Unit boundaries correct?
    - The boundary for AW-02 seemed to be accepted, except sometimes walrus are further down into Admiralty Inlet.

5. What is an appropriate Struck and Lost Rate to use?
    - Hunters do not record struck / lost numbers
    - More struck and lost by ship traffic.
    - Need to improve training to reduce struck /lost and teach the younger generation.

6. Harvest Reporting and the proposed Walrus Harvest Tag
    - Agreement that having accurate reporting is important.
    - Community feels they only need a tag system for sport hunting.
    - Concerned with how the quota would be allocated. Needs to have HTO/RWO involvement.
    - No agreement or disagreement with using a Walrus Harvest Tag (not a license) to assist with the allocation, monitoring and reporting of harvests if a TAH is established. No other options/ideas were suggested.

7. Harvest Allocation and monitoring
    - There were no concerns raised with the allocation of the TAH/BNL within a Management Unit (following the NLCA);
    - There were no concerns raised with the walrus fishery being closed once the TAH/harvest level is reached;
    - No concerns were raised with developing Information Booklets for hunters.
    - Community wishes for HTO's and RWO's to allocate the quota (TAH) numbers

8. Other issues
    - Community monitoring would be problematic as reporting on other hunters is not encouraged.
    - It is important to include IQ and traditional knowledge in all aspects of management and decision-making.
    - Some concerns were raised about the walrus meat that is currently used for dogs and disease it may cause to the dogs and humans, if they eat it.

Grise Fiord, October 23, 2014

HTO / Public Meeting- Noon

Walrus Working Group representatives: Allison McPhee (DFO; co-chair); Paul Irngaut (NTI); Richard Moore (DFO, Iqaluit); and Lazurus Arreak as interpreter.

At the meeting, A PowerPoint presentation was given (attached) that introduces the management plan, the history of the initiative, the purpose of the plan and an overview of the content. This was followed by discussion and feedback.

Specific discussions took place around the following issues:

1. Support for a Walrus Management Plan?
    - Discussed the growing national and international attention being given to how Canada manages the walrus fishery and some pressures (e.g. CITES and possible request to up-list walrus, COSEWIC).
    - Agreement that a management plan is a good idea.
    - The Management Plan needs to include the most current and up-to-date information.

2. DFO Science advice:
    - Wished to know why AW-01 and AW-02 was not all one management unit. They feel it is all one stock that migrates up and down the area.
    - The Total Allowable Removal estimates are fine, but wish to use the higher number.
    - There should be more local involvement in the surveys.
    - Walrus population size is stable and healthy.
    - Studies on other habitat interactions and migrations between stocks should be completed.

3. Sustainable Harvest Level Recommendations/ TAH:
    - The community does support the Total Allowable Landed Catch (TALC) recommended by DFO. The numbers presented are fine.
    - With all the added work of the new system, need to consider that extra resources to the HTOs will be required.
    - Need to consider that once a TAH is established, if it's too low, it may cause hunters to go out quickly and harvest that amount.
    - Who will enforce the TAH ? The HTO does not want the enforcement role. There is no Conservation Officer or RCMP in the community. DFO Fishery Officers do not visit on a regular cycle.

- Will there be credits if you do not reach your TAH? Can you transfer credits to other communities?

4. Are the proposed Management Unit boundaries correct?
    - The boundary for AW-02 should be further northeast to Greenland.
    - AW-01 and AW-02 should be all one unit.
    - There was no consensus on where exactly the boundary line should be. Need to ensure TEK is included.

5. What is an appropriate Struck and Lost Rate to use?
    - Experienced walrus hunters in Grise Fiord and therefore the struck and lost rates are very low and not tallied.

6. Harvest Reporting and the proposed Walrus Harvest Tag
    - Agreement that having accurate reporting is important.
    - No agreement or disagreement with using a Walrus Harvest Tag (not a license) to assist with the allocation, monitoring and reporting of harvests if a TAH is established. No other options were suggested. A tagging system works for other species and it could work for walrus.

7. Harvest Allocation and monitoring
    - There were no concerns raised with the allocation of the TAH/BNL within a Management Unit and/or between HTOs (following the NLCA);
    - There were no concerns raised with the walrus fishery being closed once the TAH/harvest level is reached;
    - The HTO has concerns on resources for the monitoring and enforcement of the system.

8. Other issues
    - It is important to include IQ and traditional knowledge in all aspects of management and decision-making.
    - Additional funding is required. However, the community will work in good faith and continue to work together on co-management..

Resolute Bay, October 23, 2014

HTO / Public Meeting- evening

Walrus Working Group representatives: Allison McPhee (DFO; co-chair); Paul Irngaut (NTI); Richard Moore (DFO, Iqaluit); and Lazurus Arreak as interpreter.

At the meeting, A PowerPoint presentation was given (attached) that introduces the management plan, the history of the initiative, the purpose of the plan and an overview of the content. This was followed by discussion and feedback.

Specific discussions took place around the following issues:

1. Support for a Walrus Management Plan?
    - Discussed the growing national and international attention being given to how Canada manages the walrus fishery and some pressures (e.g. CITES and possible request to up-list walrus, COSEWIC).
    - Need to further harmonize walrus management with the NLCA (section 5.6.25 and increased role for HTOs/RWOs in walrus management).
    - General agreement that a management plan is a good idea.

2. DFO Science advice:
    - Concerns that the survey coverage was not complete and that not all animals were counted. Do not agree with the population abundance estimates.
    - Surveys are outdated; would like to see new surveys; there have been changes in the walrus populations due to ship traffic.
    - The Total Allowable Removal estimates are too low. The real population is much higher than 727.
    - There should be local involvement in the surveys.
    - Surveys need to be completed in all seasons before a TAH is established.
    - Walrus population size is stable and healthy.

3. Sustainable Harvest Level Recommendations/ TAH:
    - The community does not support the Total Allowable Landed Catch (TALC) recommended by DFO. The numbers presented are too low. Hunters won't accurately report their harvests and they won't report struck and lost.
    - If a TAH is established, it should be based on how many walrus are needed by the community and set by the community.
    - How will the TAH be divided amongst the communities? Wish for equal numbers (4 for Arctic Bay, 4 for Pond Inlet, 4 for Resolute Bay).

4. Are the proposed Management Unit boundaries correct?
    - The boundaries are a little conservative. Go further in all directions due to migration.
    - There was no consensus on where exactly the boundary line should be. Need to ensure TEK is included.
    - Need more comprehensive surveys to determine management units because the walrus migrate long distances

5. What is an appropriate Struck and Lost Rate to use?
    - Community has the most experienced walrus hunters and therefore the struck and lost rates are very low.
    - More struck / lost by ship traffic than hunters.
    - Struck / lost from other should not affect the hunter numbers (TAH)
    - Hunters/HTO do not record struck/lost

6. Harvest Reporting and the proposed Walrus Harvest Tag
    - Agreement that having accurate reporting is important; but should be done at the local level which is circulated once a year to authorities.
    - There is no need to send tag with tusks, so no need of a tag system to track the harvest.
    - No other options/ideas were suggested.

7. Harvest Allocation and monitoring
    - There were no concerns raised with the allocation of the TAH/BNL within a Management Unit (following the NLCA);
    - There were no concerns raised with the walrus fishery being closed once the TAH/harvest level is reached;
    - No concerns were raised with developing Information Booklets for hunters.
    - No concerns with authorities taking the lead, but should utilize Inuit resources more often.
    - Community based monitoring is possible, but should be done discreetly because hunters do not wish to involve other hunters because it will divide the community.

8. Other issues
    - Rules for tourism, ship traffic and exploration need to be put in place.
    - It is important to include IQ and traditional knowledge in all aspects of management and decision-making.

- Further consideration needs to be given to how the TAH could be carried over between years if the harvest level is not reached in one year.
- Greenland rules and numbers should not affect our Canadian numbers.
- Need local walrus meat testing facilities.
- Need marine protected areas for feeding and calving grounds, and haul-out areas. Inuit access only, unless HTO agrees to allow access.

Written Consultation Summary

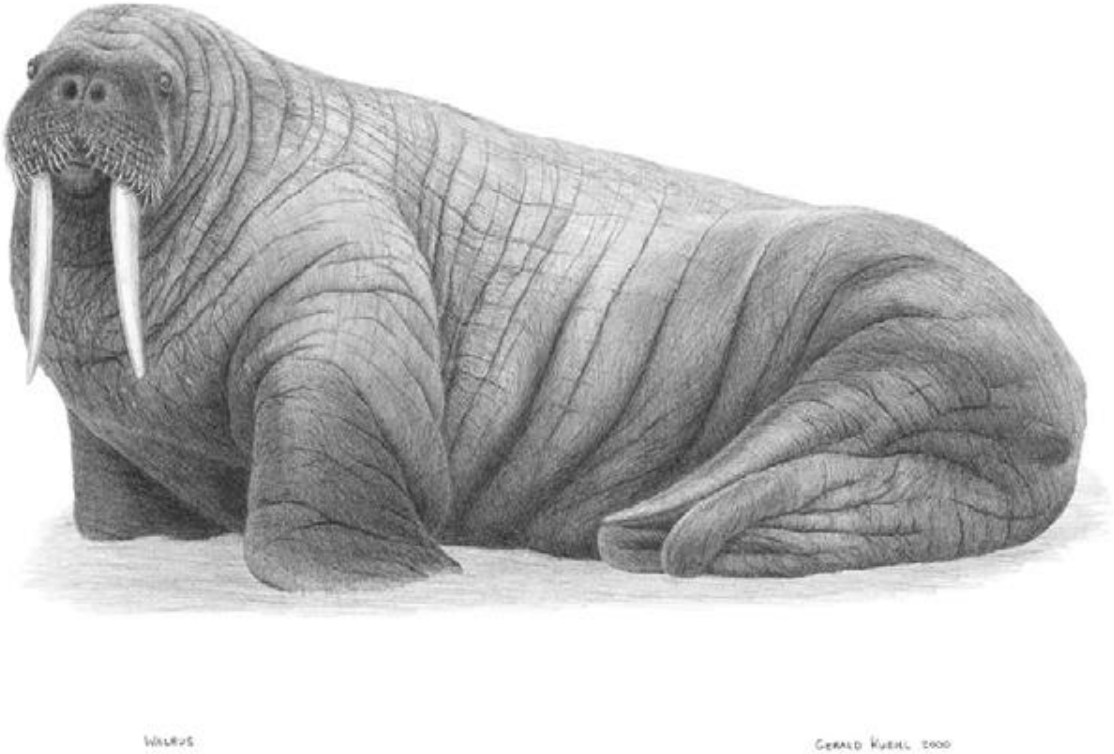
The IFMP is formatted in such a way that it enables co-management organizations to demonstrate, in one document, how the walrus fishery in the NSA is managed. This is very important given the increased national and international interest in how walrus is managed in Canada, for example, the *Convention on International Trade in Endangered Species of Wild Fauna and Flora* (CITES). The IFMP identifies the management regime under two scenarios: (1) where a TAH has been established; and (2) where a TAH has not been established. In-person consultation occurred with communities that harvest walrus from stocks or management units where there is existing information to propose TAHs be established and are summarized in the preceding section.

For stocks or populations where a Total Allowable Harvest (TAH) *has not* been established and there is currently not enough information to recommend establishing a TAH, the IFMP identifies the existing management measures that apply to the walrus fishery through the *Fisheries Act*, the *Marine Mammal Regulations*, and the *Nunavut Land Claims Agreement*.

For communities that harvest walrus from stocks where no changes are currently being proposed, written consultations on the draft IFMP occurred in the summer of 2014, and presentations were given to the three Regional Wildlife Organizations at their Annual General Meetings in 2014 and 2015. To date DFO has not received any formal response on whether the HTOs or RWOs support the Walrus IFMP.

It is important to note that DFO would conduct in-person consultations if changes to walrus management, such as TAH, were proposed in the future.

Integrated Fisheries Management Plan for Atlantic Walrus (*Odobenus rosmarus rosmarus*) in the Nunavut Settlement Area



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Foreword

The purpose of this Integrated Fisheries Management Plan (IFMP) is to identify the objectives and requirements for the Atlantic walrus (*Odobenus rosmarus rosmarus*) fishery in the Nunavut Settlement Area, and the management measures that will be used to achieve these objectives. This document also serves to communicate the basic information on the fishery and its management to Fisheries and Oceans Canada (DFO) staff, legislated co-management boards, Hunters and Trappers Associations (HTOs), Regional Wildlife Boards (RWOs), Inuit, communities and other stakeholders. This IFMP provides a common understanding of the basic "rules" for the sustainable management of the fisheries resource.

This IFMP is not a legally binding instrument which can form the basis of a legal challenge. The IFMP can be modified at any time and does not fetter the Minister of Fisheries and Oceans' discretionary powers set out in the *Fisheries Act*. The Minister can, for reasons of conservation or for any other valid reasons, modify any provision of the IFMP in accordance with the powers granted pursuant to the *Fisheries Act*.

Where DFO is responsible for implementing obligations for any land claims agreements, the IFMP will be implemented in a manner consistent with these obligations. In the event that an IFMP is inconsistent with obligations under land claims agreements, the provisions of the land claims agreements will prevail to the extent of the inconsistency.

_____

Signature and title of DFO approval authority

_____

Signature and title of other approval authority
(i.e. authority established under land claims agreement)

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Acronym List

BB- Baffin Bay
BNL- Basic Need Level
CITES- Convention on International Trade in Endangered Species
COSEWIC- Committee on the Status of Endangered Wildlife in Canada
DFO- Department of Fisheries and Oceans
FB- Foxe Basin
HBDS- Hudson Bay- Davis Strait
HTO- Hunters and Trappers Organization
IFMP- Integrated Fisheries Management Plan
IQ- Inuit Qaujimajatuqangit
MMFL- Marine Mammal Fishing Licence
MMR- Marine Mammal Regulations
NQL- Non-Quota Limitation
NAMMCO- North Atlantic Marine Mammal Commission
NILCA- Nunavik Inuit Land Claim Agreement
NMRWB- Nunavik Marine Regional Wildlife Board
NLCA- Nunavut Land Claims Agreement
NQL- Non-Quota Limitation
NSA- Nunavut Settlement Area
NTI- Nunavut Tunngavik Incorporated
NWMB- Nunavut Wildlife Management Board
PSLS- Penny Strait- Lancaster Sound
PBR- Potential Biological Removal
RWO- Regional Wildlife Organization
SARA- Species at Risk Act
SEHB- South and East Hudson Bay
TAH- Total Allowable Harvest
TALC- Total Allowable Landed Catch
TEK- Traditional Ecological Knowledge
WJS- West Jones Sound

1. Overview

The following is an Integrated Fisheries Management Plan (IFMP) that will be used to provide direction in the management of Atlantic walrus (*Odobenus rosmarus rosmarus*) stocks in the Nunavut Settlement Area (NSA).

This IFMP was developed and will be implemented by the Government of Canada and co-management organizations through an adaptive co-management process. Working Groups comprised of Hunters and Trappers Organizations (HTO) from Arctic Bay, Grise Fiord, Hall Beach, Igloolik, Pond Inlet and Resolute, Qikiqtaaluk Wildlife Board (QWB), Nunavut Tunngavik Incorporated (NTI), the Nunavut Wildlife Management Board (NWMB) and the Department of Fisheries & Oceans (DFO) were formed to lead the development of the IFMP. The Working Groups have been instrumental in the development of the IFMP.

1.1 History

The walrus is one of the largest members of the seal family with two subspecies recognised. Pacific walrus inhabit the Bering, Chukchi, and Laptev seas. Atlantic walrus inhabit coastal areas of north-eastern Canada, Greenland and Svalbard (NAMMCO 2004).

Walrus have been harvested by Arctic indigenous peoples for thousands of years, providing valuable products such as blubber, bones, tusks and meat. The commercial harvesting of walrus in the 19th and 20th centuries resulted in a rapid decrease of walrus across their Arctic ranges, including the extirpation of the Northwest Atlantic population. By 1928, commercial harvesting of walrus was banned in Canada by the Walrus Protection Regulations. Currently walrus in the NSA are managed under the *Marine Mammal Regulations*, the *Fisheries Act* and the Nunavut Land Claims Agreement (NLCA).

Walrus are a key species in the Arctic marine food web, are of high economic, social and cultural importance for Inuit, and are iconic to Canadians since they are so easily identified with the Arctic environment.

1.2 Type of Fishery and Participants

Atlantic walrus are primarily harvested by Inuit, and are highly valued as a traditional source of food and other products. The Inuit hunt provides an opportunity to maintain cultural traditions and for experienced hunters to pass on their skills and knowledge to younger generations. Walrus products also provide a secondary source of income for hunters. Walrus ivory is either sold raw, or carved into fine art pieces such as jewelry or sculptures. Some communities engage in a small-scale sport hunt conducted by non-Inuit hunters.

1.3 Location of the Fishery

Atlantic walrus are found across most of Nunavut, with the majority of harvests occurring in eastern Nunavut (Figure 1).

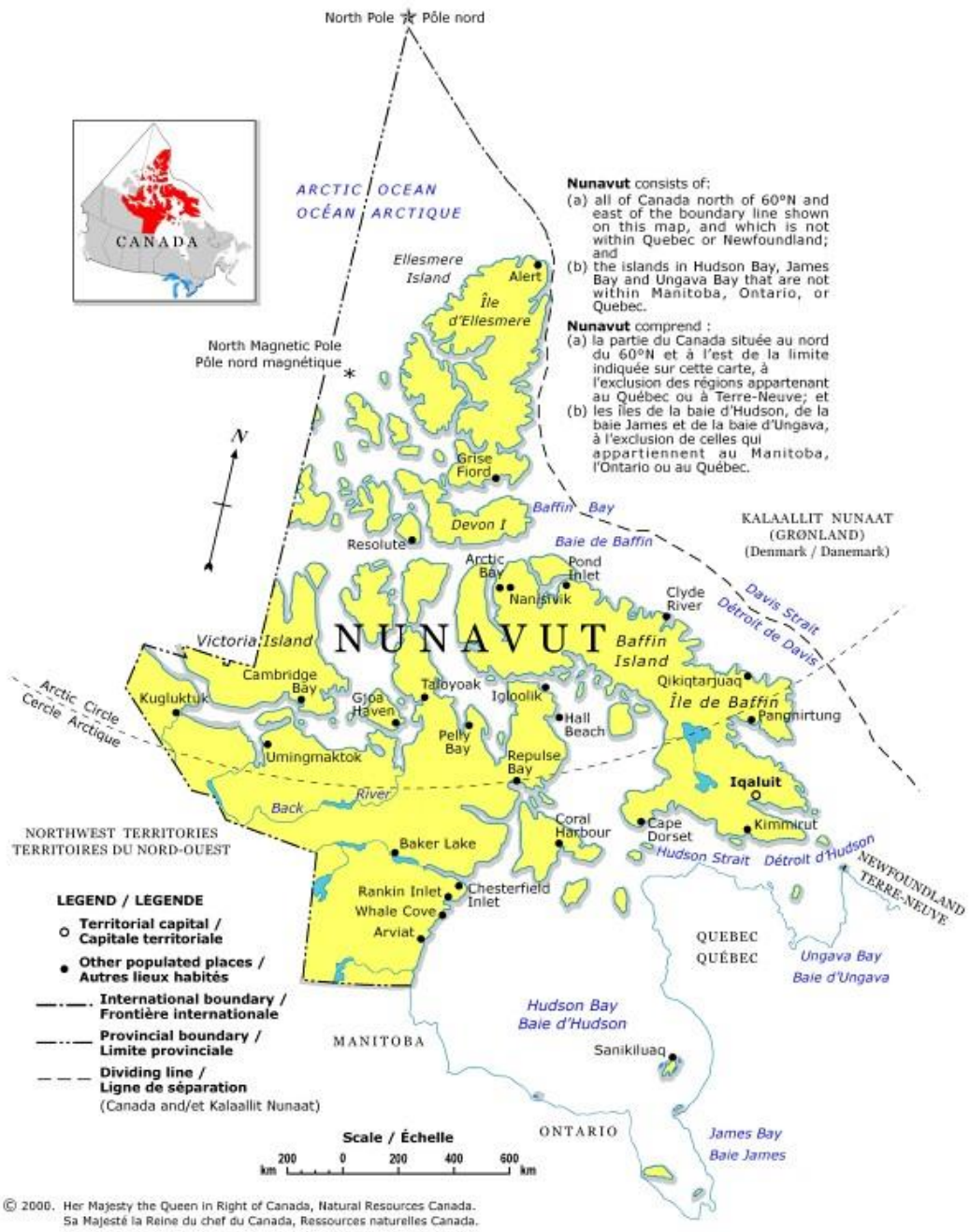

Figure 1. Map of the eastern Canadian Arctic, showing locations mentioned in the text.

1.4 Governance

The walrus fishery in the NSA is co-managed by DFO, the NWMB, RWOs and HTOs, in accordance with the Nunavut Land Claims Agreement (NLCA or Agreement), and the *Fisheries Act* and its regulations. Under this co-management regime, the NWMB is the main instrument of

wildlife management in the NSA, but the Minister retains authority and ultimate responsibility for wildlife management and conservation of fish, including marine mammals.

Fisheries Act, regulations, and policies

The walrus 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 there is an inconsistency between the regulations and the Agreement, the Agreement shall prevail to the extent of the inconsistency.

DFO has adopted a Sustainable Fisheries Framework for all Canadian fisheries to ensure that objectives for long-term sustainability, economic prosperity, and improved governance for Canadian fisheries are met. The Sustainable Fisheries Framework contains policies for adopting an ecosystem based approach to fisheries management, including *A Fishery Decision-Making Framework Incorporating the Precautionary Approach*, and *Managing Impacts of Fishing on Benthic Habitat, Communities and Species.* This policy framework applies to the walrus fishery in the Nunavut Settlement Area.

These documents are available on the Internet at:
www.dfo-mpo.gc.ca/fm-gp/peches-fisheries/fish-ren-peche/sff-cpd/overview-cadre-eng.htm

Nunavut Land Claims Agreement

In 1993, Canada settled a comprehensive land claim agreement with the Inuit of the NSA. The NLCA created priority access and wildlife harvesting rights for Inuit and other Aboriginal groups who traditionally harvested within the NSA.

The NLCA also created an Institution of Public Government, the NWMB, to share decision making authority with the Federal Government. The NWMB and DFO Minister consider matters relating to the proper management and control of fisheries and the conservation of fish within the NSA. Under this co-management regime, the NWMB is the main instrument of wildlife management, but the Minister retains ultimate responsibility for wildlife management and may accept, reject or vary decisions made by the NWMB with respect to harvesting and other decisions related to the management and protection of wildlife and wildlife habitat.

The NLCA establishes wildlife management authority for the NWMB including the establishment, modification, and removal of levels of Total Allowable Harvest (TAH) or harvesting in the NSA, as well as Non-Quota Limitations (NQLs) on harvesting such as management units and harvesting seasons. Once a total allowable harvest has been established, the NWMB is also required to strike a Basic Needs Level (BNL), which is the portion of the TAH allocated to Inuit that constitutes the first demand on the TAH. Once established for a stock or population, the TAH replaces the existing regulatory quota.

The NLCA establishes wildlife management authority for RWOs and HTOs. The powers and functions of the RWOs (NLCA 5.7.6) include:

- Regulation of harvesting practices and techniques among the members of HTOs in the region, including the use of non-quota limitations.

- Allocation and enforcement of regional basic needs levels and adjusted basic needs levels among HTOs in the region.
- Assignment to any person or body other than an HTO, with or without valuable consideration and conditions, of any portion of regional basic needs levels and adjusted basic needs levels.
- Generally, the management of harvesting among the members of HTOs in the region.

The powers and functions of the HTOs (NLCA 5.7.3) include:

- Regulation of harvesting practices and techniques among the members, including the use of non-quota limitations.
- Allocation and enforcement of community basic needs levels and adjusted basic needs levels among members.
- Assignment to non-members, with or without valuable consideration and conditions, of any portion of community basic needs levels and adjusted basic needs levels.
- Generally, the management of harvesting among the members.

The NLCA establishes authority to Nunavut Tunngavik Incorporated (NTI) as the primary Designated Inuit Organizations (DIO) under the Agreement. It is responsible for ensuring that Inuit rights and obligations under the land claim are implemented, including the wildlife management provisions (Article 5) of the NLCA.

Under the NLCA, wildlife management and Inuit harvesting are guided by the principles of conservation (NLCA s.5.1.5).

The Nunavut Land Claims Agreement is available on the internet at:
https://www.aadnc-aandc.gc.ca/eng/1100100030601/1100100030602

1.5 Fishery Characteristics

In Nunavut, Atlantic walrus are harvested year round. Inuit hunters use a combination of modern equipment, such as snowmobiles, boats with outboard motors, and rifles, as well as traditional sleds, harpoons and floats. Typically, walrus are hunted from boats when they are on ice floes or while they are swimming in open water. In most cases walrus are shot first and then harpooned. Hunters prefer to kill walrus on ice where they are easier to retrieve and process. Animals on the ice are shot from close range with the intention of killing them immediately before they can fall into the water. Loss rates can be high when walrus are killed in deep water because they sink quickly (NAMMCO 2004, COSEWIC 2006). To reduce losses, animals in the water may be harpooned before they are shot, wounded so they can be harpooned before being killed, or killed in shallow water where they can be retrieved with grappling hooks or at low tide (NAMMCO 2004, COSEWIC 2006). Harpooning a walrus is dangerous, since animals must be approached to within 10m and wounded walrus become very aggressive and can capsize canoes or small boats (COSEWIC 2006). Floats made from seal skin are still heavily used, although hunters are finding that modern floats are more durable.

Some communities conduct walrus sport hunts. Individuals hunting under the authority of a marine mammal fishing licence issued by DFO must travel with local guides approved by the

HTO. The licence stipulates when and where the hunt is authorized to take place, by whom, their country of origin, quotas, gear type to be used, as well as any specific conditions related to the hunt, such as the reporting of all hunts to the local DFO office, firearm muzzle velocity requirements, and the total number of strikes allowed. Individual HTOs may also have local by-laws. Licenced sport hunters report harvest information directly to DFO. See section 6 and Appendix 3 for more information on walrus sport hunts.

Table 1. Primary Harvesting Communities of Atlantic Walrus in the Eastern Canadian Arctic

Population	**Stock**	**Nunavut Harvesting Communities**	**Nunavik Harvesting Communities**	**Greenland Harvesting Communities**
High Arctic	Baffin Bay	Grise Fiord		Qaanaaq Avanersuaq
	West Jones Sound	Grise Fiord		
	Penny Strait-Lancaster Sound	Resolute Bay Arctic Bay Pond Inlet		
Central Arctic	Foxe Basin (northern and central Foxe Basin stocks)	Igloolik Hall Beach		
	Hudson Bay-Davis Strait	Clyde River Qikiqtarjuaq Iqaluit Pangnirtung Arviat Cape Dorset Chesterfield Inlet Coral Harbour Kimmirut Rankin Inlet Repulse Bay Whale Cove	Puvirnituq Akulivik Ivujivik Salluit Kangiqsualujjuaq Kuujjuaq Tasiujaq Aupaluk Kangirsuk Quaqtaq Kangiqsujuaq	Sisimiut
Unknown	South and East Hudson Bay	Sanikiluaq	Inukjuak Kuujjuarapik Umiujaq	

(COSEWIC 2006, Stewart 2008a)

1.6 Approval Process

This IFMP has been approved by the Minister of DFO and the NWMB pursuant to section 5.2.34 of the NLCA. It will be reviewed and amended as necessary in collaboration with co-management organizations to ensure it remains relevant and current with new science, Traditional Ecological Knowledge and Inuit Qaujimajatuqangit.

This IFMP will be translated to Inuktitut and made available from DFO.

2. Stock Assessment, Science and Traditional Knowledge

2.1 Biological Synopsis

The walrus is Canada's largest member of the seal family. It is a large animal with limbs that have developed into flippers, upper canine teeth that develop into long tusks (ivory) at about 2 years of age, and a moustache made of quill-like whiskers. Males and females are about 125 cm long at birth. As adults, males are significantly larger than females (Garlich-Miller & Stewart 1998). Adult males reach up to 1,100 kg in weight and 3.1 m in length and females can reach 800 kg and 2.8 m in length. Walrus can live to 40 years of age, and are considered to be long-lived animals. As walrus have a delayed sexual maturation, fairly low reproductive rates and specialized habitat requirements, they are vulnerable to over-harvesting and sensitive to environmental changes (COSEWIC 2006).

Mating occurs from February to April. Little is known about their reproduction because they mate in the water and in remote areas. Males mature between 7 and 13 years of age and compete intensely for females, defending access to them for up to five days. Females mature between 5 and 10 years of age and give birth on average every three years. Gestation lasts about 11 months and the young nurse for up to 27 months. Expectant mothers move onto land or ice to give birth. Protective care by mothers and the herd assures high calf survival (DFO 2007).

2.2 Ecosystem Interactions

The habitat requirements of the Atlantic walrus are very specific. They need large areas of shallow (100 m or less), open water that support an abundant clam community. In addition, there must be ice or land nearby to 'haul out'. Moving pack ice is ideal for this purpose; however, in the summer and fall if ice is scarce, large herds congregate and haul out on low, rocky shores with steep subtidal zones. In areas of deeper water without plentiful clams, some walrus will consume seals. These walrus tend to be more aggressive, and are usually solitary or found in smaller groups. Although some hauled out groups of walrus may contain animals of all ages and both sexes, walrus tend to segregate by age and sex during most of the year. It is thought that females and their young return to certain sites more faithfully than do adult males (DFO 2007). Following harvesting by humans, polar bears are thought to be the main predators of walrus, though it is believed they take few animals.

The full effects of climate change on Atlantic walrus are unknown. However, potential effects of a warming climate may include, but are not limited to:

- A reduction in winter and summer ice cover
- A rise in sea level
- An increase in sediment transport
- An increase in the frequency and severity of storms
- An increase in the presence of killer whales in the Arctic.

These may all be important factors for walrus, potentially impacting food supply and/or quality, ecosystem interactions, affecting their ability to access food and appropriate haulout sites,

thereby influencing their health, distribution and abundance. These affects could also impact hunters' ability to access walrus.

2.3 Traditional Ecological Knowledge

Traditional Ecological Knowledge (TEK) of walrus throughout Canada's Arctic is extensive. Each community has hunters and elders that have knowledge in areas of distribution, seasonality, migration, birthing areas and haulout sites. Inuit have observed changes with respect to impacts from climate change, past and present disturbances and development/exploration. When shared, this information is considered with scientific knowledge to provide a more robust understanding of walrus distribution, movements and environmental interactions. TEK has also been used in assisting with the delineation of stocks and is used in the design of surveys by DFO Science to estimate population abundance. TEK is used with scientific data and observations to contribute to management decisions, as well as to identify information gaps, areas of uncertainty, and to set research priorities.

TEK has been recorded on unpublished maps, in meetings minutes, documented in a number of different published papers (DFO 2002a, DFO 2012a, NCRI 2014), and through consultations with experienced hunters and community elders.

Inuit Qaujimajatuqangit (IQ) consists of TEK, as well as Inuit beliefs about how the world works, and the values necessary to behave in an ethical manner in human interactions with the animals and the environment. The collaborative approach to developing this IFMP for walrus that includes representatives from HTOs and other co-management organizations has assisted in the inclusion of IQ, such as decision-making through consensus, working together for a common cause, and respect and care for the land, environment and animals (NWMB). This IFMP will allow for the continued inclusion of IQ, TEK and science as it becomes available.

2.4 Stock Delineation

Two populations of walrus have been identified in Canada based on analysis of microsatellite DNA (Shafer et al. 2013): the high Arctic population (comprised of the West Jones Sound, Baffin Bay and Penny Strait-Lancaster Sound stocks) and the central Arctic population (including the north and central Foxe Basin stocks and the Hudson Bay-Davis Strait stocks).

There are a number of factors used in delineating stocks, including ecological factors that determine distribution of walrus (ice cover, polynyas, shallow banks with suitable habitat, migration routes and availability of haulout sites), historical and current distribution, seasonal movements, age and sex composition, catch levels, composition of catches and hunting loss, hunter observations, harvest sites, survey observations, genetic information, satellite tagging data, heavy metal/ organochlorine data, lead isotope ratios and trace elements (Stewart 2008b).

Based on consultations with local communities, stock reassessment by the North Atlantic Marine Mammal Commission (NAMMCO) (2011), and Stewart (2008a), six stocks or management units of Atlantic walrus have been identified for management purposes in the NSA (Figure 2).

These include:

- Baffin Bay- Management Unit AW-01 (shared with Greenland);
- West Jones Sound- Management Unit AW-02;
- Penny Strait-Lancaster Sound- Management Unit AW-03;
- Foxe Basin- Management Unit AW-04;
- Hudson Bay- Davis Strait- Management Unit AW-05 (shared with Nunavik and Greenland);
- South and East Hudson Bay- Management Unit AW-06 (shared with Nunavik).

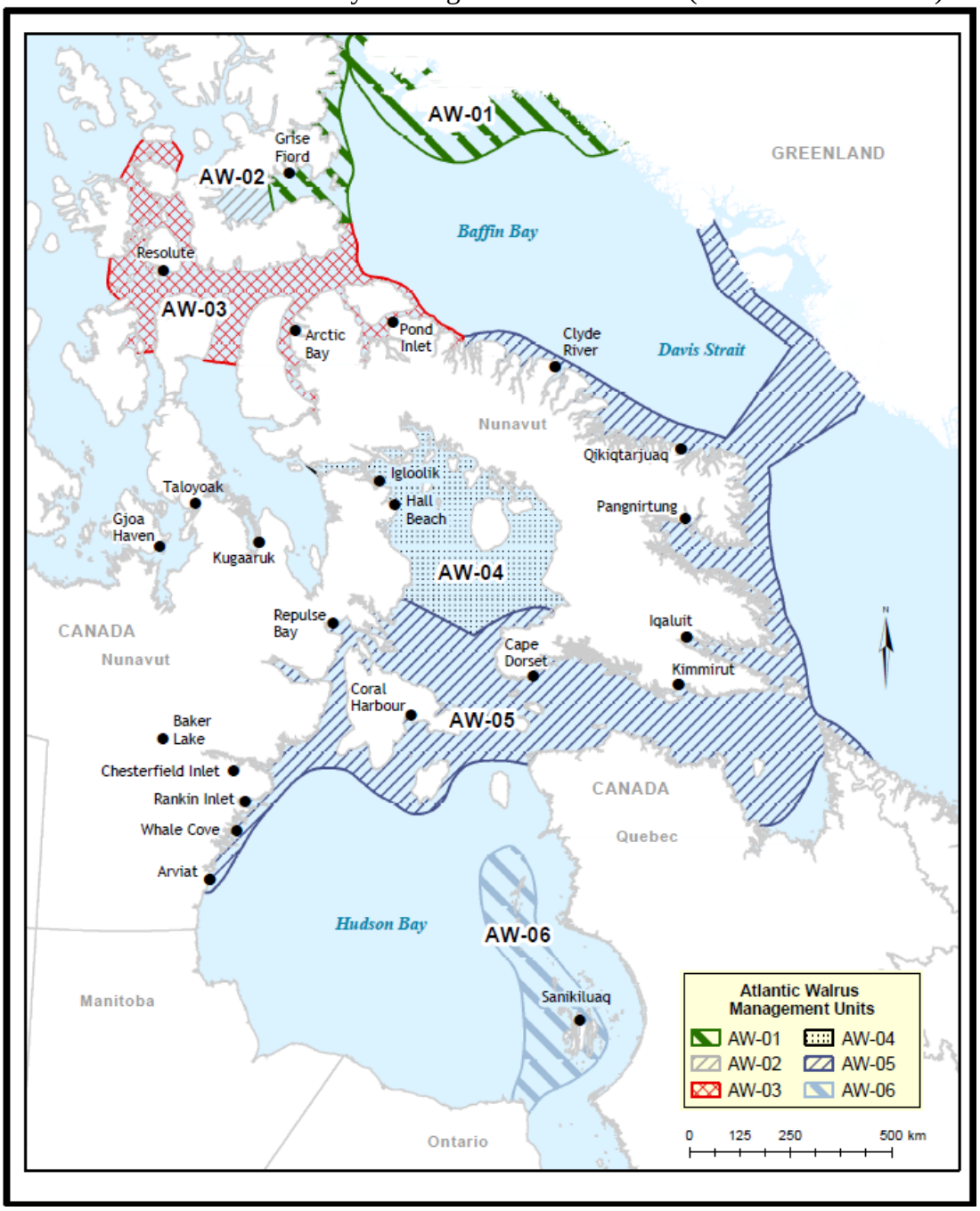

Figure 2. Location of Atlantic walrus management units in the eastern Canadian Arctic.

2.5 Precautionary Approach

A precautionary approach to fisheries management links harvest level 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.

In accordance with the *Fisheries Act* and the NLCA, the best available information guides walrus management decisions made on behalf of the NWMB and the Minister. A management decision to restrict Inuit harvesting shall do so only to the extent necessary to affect a valid conservation purpose; to give effect to the allocation system outlined in the NLCA; or to provide for public health or public safety (NLCA s. 5.3.3).

The amount of information available for resource management varies among species and populations. For those species where information on abundance, mortality and reproductive rates may be limited, DFO uses the Potential Biological Removal (PBR) method to estimate the maximum number of animals that may be removed by all human activities without depleting the stock or population (DFO 2012b). This total amount of removals accounted for using PBR would include removals of harvested animals, animals shot at, but not harvested (called struck and lost), as well as losses to ship strikes, net entanglements and any other human activities. The PBR is calculated using a number of biological parameters (Stewart 2008b, Stewart and Hamilton 2013).

In calculating sustainable harvest levels, PBR results are multiplied by a Loss Rate (LR) to obtain Total Allowable Landed Catch (TALC) values. Loss rates represent all indirect human caused mortalities (struck and lost, ship strikes, net entanglements). At this time, only struck and lost rates are considered in the estimate of TALC; however, this may change if more information becomes available.

$$TALC = PBR\ (1- LR)$$

Struck and lost rates are incomplete for walrus and can vary with season, weather, location, hunter experience, hunting technique/equipment, and animal behavior. In Canada, struck and lost rates have been documented to range between 30% and 32% (Orr et. al 1986), although some hunters believe the rates to be as low as 5% (DFO 2002a). Inuit harvesters have noted that loss rates will vary depending on when and how the walrus is harvested. NAMMCO applies a struck and lost rate of 30% for those stocks lacking specific loss rate information (2006).

2.6 Stock Assessment and Trends

Most indicators of trends in stock size are based on distributional changes, differences in physical conditions of the animal, and harvest data. Whenever there is a local decrease in numbers, it may be that the animals have moved to another area, but until increases in other parts

of the range have been clearly documented, the possibility of a reduction in numbers should be considered.

Walrus are widely distributed in the eastern Canadian Arctic, and are most often found in aggregations, or groups, numbering from the tens, to thousands. In order to estimate walrus numbers, aerial surveys are conducted of walrus haulouts. Walrus haulouts are identified based on a number of factors including information from past surveys, existing scientific information, and local traditional knowledge. Data from satellite tags active during surveys are used to adjust the haulout counts to account for animals at sea, and therefore missed by the survey. If no active tags are in the survey area at the time of the survey, data from other walrus studies are used to estimate the numbers of walrus at sea, and determine an abundance estimate. Although aerial surveys combined with satellite telemetry are the standard methods used to estimate abundance of walrus populations across their range, new approaches, such as genetic capture-mark-recapture methods, should be investigated.

The most recent science advisory report on walrus abundance estimates can be found at:
ENGLISH: http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2013/2013_034-eng.pdf
INUKTITUT: http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2013/2013_034-inu.pdf

Baffin Bay (BB) - Management Unit AW-01

In Canada, the Baffin Bay stock extends from eastern Jones Sound to eastern Ellesmere Island and NW Greenland (Stewart 2008a). Analysis of aerial surveys conducted by DFO and Greenland Institute of Natural Resources in 1999, 2005, and 2009 resulted in population abundance estimates ranging from 1,249 to 1,251 and PBR estimates to range from 10 to 11 walrus (DFO 2013, Stewart et al. 2013a, Stewart and Hamilton 2013). See Figure 2.

West Jones Sound (WJS) - Management Unit AW-02

This stock is separated from the Baffin Bay stock by seasonal distribution and tag movements (Stewart 2008a). Aerial surveys by DFO were conducted between 1998 and 2009, resulting in an abundance estimate ranging from 470 to 503, and PBR estimates ranging from 7 to 17 animals (DFO 2013, Stewart et al. 2013b, Stewart and Hamilton 2013). There was no statistically significant evidence of population change between these surveys and the late 1970s, but there were differences in coverage and walrus distribution may have changed. See Figure 2.

Penny Strait- Lancaster Sound (PS/LS) - Management Unit AW-03

This stock is separated from the Baffin Bay stock by isotope data, and from the West Jones Sound stock by distribution and tag movements (Stewart 2008a). Aerial surveys were conducted between 1998 and 2008 and resulted in an abundance estimate of 727 walrus in 2009 and PBR estimates ranging from 10 to 24 animals (DFO 2013, Stewart et al. 2013b, Stewart and Hamilton 2013). There was no statistically significant evidence of a trend in population numbers when the recent surveys were compared to similar surveys in the late 1970s, although differences in coverage and possible changes in walrus distribution may influence comparisons. See Figure 2.

Foxe Basin (FB) - Management Unit AW-04

Stewart (2008b) delineated the Foxe Basin stock into 2 units: northern Foxe Basin stock and central Foxe Basin stock. In Foxe Basin, the two stocks share an overwintering area and breed as a single unit, but they may occupy different areas in the summer and be may susceptible to different hunting pressures. Lead isotope ratios and trace element profiles from teeth suggest two different stocks, and since isotope ratios are a reflection of the migratory patterns of the animals, they are useful in discriminating management units. Although there is evidence to delineate two stocks in the Foxe Basin area, currently there is not enough information (science or TEK) to visually or geographically separate the stocks within the larger Foxe Basin area. Therefore, until additional information is available to further partition this stock, the management of walrus will continue to occur at the larger Foxe Basin management unit. See Figure 2.

Analysis of surveys conducted in 2010 and 2011 resulted in a range of abundance estimates of 8,153-13,452 and PBR estimates ranging from 135 to 166 walrus (DFO 2013, Stewart et al. 2013c, Stewart and Hamilton 2013).

Changes in the distribution of walrus within Foxe Basin have been documented by local hunters and researchers, with many haulouts being abandoned on the west coast (Mansfield 1966, Brody 1976, Anderson and Garlich-Miller 1994, DFO 2002a). This may suggest declines in numbers of walrus, habitat availability, or both. Local Inuit have noted that ice conditions have changed in Foxe Basin resulting in a reduction of multiyear ice that walrus use for hauling out on.

Hudson Bay-Davis Strait (HBDS)- Management Unit AW-05

Walrus from the *Hudson Bay-Davis Strait* (HBDS) stock have been distinguished from the other five stocks based on distances, movements, differences in growth patterns, as well as differences in genetics, contaminants, and lead isotope ratios (DFO 2002b, COSEWIC 2006, Stewart 2008a). A comprehensive, systematic survey over the entire geographic area has not occurred for this stock. Currently, due to the limited amount of data over the stock's full range, it is not possible to determine the size or trend of this stock. See Figure 2.

South and East Hudson Bay (SEHB- Management Unit AW-06

The *South and East Hudson Bay* walrus stock was originally delineated by Born et al. (1995) on the basis of distribution, but since then, lead isotope data has provided stronger evidence that supports the differentiation between this stock and the *Hudson Bay-Davis Strait* stock (Stewart 2008a). A complete or comprehensive survey of this stock has not been conducted. Based on a few walrus sightings in a large geographical area over a long period of time, Richard and Campbell (1988) and Born *et al*. (1995) estimated the population size to be a minimum of 410 and 500 animals, respectively (COSEWIC 2006). Currently, due to the limited amount of data, it is not possible to determine the size or trend of this stock. See Figure 2.

Table 2. Abundance Estimates and Potential Biological Removal Levels (PBR) for Atlantic Walrus in the Eastern Canadian Arctic

Population	Stock/Management Unit	Abundance Estimates	PBR
High Arctic	Baffin Bay (BB)/ AW-01	1249-1251	10-11
	West Jones Sound (WJS)/ AW-02	470-503	7-14
	Penny Strait- Lancaster Sound (PS-LS)/ AW-03	623-831	12-24
Central Arctic	Foxe Basin/ AW-04	8,153-13,452	*Under review*
	Hudson Bay-Davis Strait/ AW-05	No recent estimate.	---
Unknown	South and East Hudson Bay/ AW-06	No recent estimate.	---

(Stewart and Hamilton 2013, DFO 2013)

PBR represents the total number of animals that can be removed from all human activities while allowing the stock or population to maintain or achieve its optimal sustainable level.

2.7 Research

The following research is required:

- Determine abundance estimates for Hudson Bay-Davis Strait and South and East Hudson Bay stocks;
- Apply new methods to determine walrus abundance, such as genetic capture-mark-recapture;
- Continue to research genetic diversity and stock discrimination;
- Continue to investigate and assess potential threats resulting from human activities (e.g., shipping routes, noise disturbance, tourism);
- Determine the extent of exchange between shared Canada/Greenland stocks;
- Determine changes in habitat availability (pack ice and food); and
- Continue to investigate distribution and abundance of stocks.

3. Social, Cultural and Economic Importance of the Fishery

For centuries, walrus have been used by Inuit as a traditional food source and for supplying important materials for day to day living. Walrus meat is eaten in raw, cooked or fermented (*igunak)* forms by Inuit. Molluscs found in walrus stomachs are considered a delicacy in some Inuit communities (Whitford 2008). Some communities now obtain their walrus meat and tusks from hunters in other communities rather than conduct their own hunts (DFO 2012a).

Historically, walrus products provided materials for numerous necessities required for arctic living such as bones used for carvings, tent poles, and walking sticks, tusks/ ivory used to construct harpoons, toggles, handles, and handicrafts, sinews used for sewing thread, and skin for tents and ropes. The tusk and baculum (penis bone) are valuable economic commodities and

provide important sources of cash income, particularly, for the hunting communities. Ivory from walrus is commonly used for carvings and crafts and is sold both inside and outside the NSA. Although not as much trade occurs with walrus products as some other arctic species, international and domestic trade does still occur, mostly via exporters in southern Canada. International export of walrus products includes carved and un-carved tusks, bones, teeth, skeletons and skulls. International markets for Canadian walrus products include France, India, China, Japan, Korea, Singapore, United States and Australia (Shadbolt et. al 2014).

The walrus sport hunt in some communities can provide a major source of cash income through the hiring of local guides, and sport hunters purchasing various goods and services (food, crafts, and accommodations). Sport hunters are permitted to keep the tusks, baculum and head of the walrus, but the meat remains within the community for community use.

Hunting walrus, especially at traditional summer hunting camps, helps foster interdependence both within and between communities, provides opportunities to share knowledge between generations and community members and strengthens kinship ties and community cohesion. These cultural values are difficult to measure in economic terms but are very important to help maintain the Inuit way of life. The walrus hunt itself, as well as the sharing of the products of the hunt, continues to be of great social, cultural and economic significance to Inuit and the economic value of the meat and the ivory is substantial (COSEWIC 2006).

4. Management Issues

IFMPs are required to cover all aspects of a fishery, in particular, those areas that are related to the sustainability of the target species, ecosystem considerations and monitoring. The following represent the main management issues for the Atlantic walrus in the NSA.

4.1 Fisheries Issues

Abundance Estimates
While recent estimates are available for four of the six walrus stocks or management units, abundance estimates are still required for the Hudson Bay-Davis Strait stock and the South and East Hudson Bay stock. Funding for surveys will be needed to obtain abundance estimates and recommend sustainable harvest levels.

Sustainable Harvest Levels
It is important to ensure the conservation of walrus and that the harvesting of walrus is sustainable. There is growing national and international pressure to demonstrate that walrus are being harvested at sustainable levels. This will require the establishment of sustainable harvest levels for all stocks.

Struck and Lost Rates
Accurate struck and lost rates are important for understanding the impacts of hunting and to maximize sustainable harvest levels. Struck and lost rates vary or are incomplete in the NSA.

Determining appropriate struck and lost rates are required in order to estimate sustainable harvest levels.

Hunter Training/ Reducing Loss Rates

Training for harvesters and youth has been identified as an important component for the sustainable management of the walrus fishery. This would include training on the best harvesting techniques, when and where to harvest, hunter safety, preparation and preservation of meat, and how to minimize struck and lost rates. HTOs may develop plans or best management practices that set out practical measures for community hunters to reduce the number of struck and lost walrus while harvesting.

Monitoring and Reporting

Once a TAH/BNL is established for walrus, a method to control removals will be required to ensure walrus harvesting remains within regulated harvest levels.

Timely, accurate reporting of walrus harvesting is essential. Without complete and accurate estimates of local harvesting activity, co-managers must exercise caution when recommending harvest limits so that vital, healthy walrus populations/stocks that are capable of sustaining harvesting needs of Inuit can be maintained. The timeliness of the reporting allows managers to assess the harvest as limits are approached.

Sport Hunt

There is a need for all HTOs that pursue sport hunt opportunities to develop by-laws or guidelines that would identify the community rules or best management practices for the sport hunt.

Ship Traffic/Development/Tourism

There are a number of potential impacts and threats to walrus and walrus habitat resulting from increased development and shipping activities. These could include increased oil spills, ship strikes, disruption of migration, avoidance of ecologically or biologically important areas (e.g. birthing, mating or feeding areas), noise disturbance and the introduction of alien or invasive species through activities such as ballast water exchange. Tourism is increasing in the Arctic and concern with increased disturbance to important walrus areas (e.g. haulouts) has been expressed.

4.2 Oceans and Habitat Considerations

Under the Health of the Oceans Initiative, Ecologically and Biologically Significant Areas (EBSAs) in the Eastern Arctic were identified (DFO 2011). Experts from Canadian federal departments, academics, Inuit organizations and various environmental non-government organizations having expertise in a number of different areas were involved. EBSAs are intended to identify areas that have high ecological or biological significance and are useful in assisting with management decisions.

The EBSAs were evaluated based on set criteria for marine biogeographic regions. Of the 41 EBSAs identified in the Eastern Arctic, 14 included walrus as a component contributing to the EBSA criteria. The ecological functions identified as being important for walrus included known

distribution, presence of haulouts, migration corridors, presence of polynyas, calving areas and feeding grounds.

4.3 National and International Issues

Food Safety

Outbreaks of trichinosis have been reported in Nunavut over the years, most commonly from consuming meat that has been infected with a parasitic worm called *Trichinella nativa*, which lives inside the bodies of walrus and some other birds and mammals. The Government of Nunavut's department of health has responsibilities around food safety within the Nunavut Settlement Area and have established programs to test walrus meat for the parasite that causes the disease. Harvesters are asked to contact their HTO or a Government of Nunavut Environmental Health Officer for additional information on the Nunavut Trichinosis Prevention Program.

COSEWIC and SARA

COSEWIC (Committee on the Status of Endangered Wildlife in Canada) is an independent committee of government and non-government experts that assesses and designates the status of wildlife species that may be in some danger of disappearing from Canada. COSEWIC uses a process based on science, Aboriginal Traditional Knowledge and community knowledge to assess the risk of extinction for wildlife species. Wildlife species that have been designated at risk by COSEWIC may then qualify for legal protection and recovery or management under the Species at Risk Act (SARA).

The Species at Risk Act is a federal Act that was created to prevent Canadian species and their distinct populations from becoming extirpated or extinct, to provide for the recovery of Extirpated, Endangered or Threatened species, and to encourage the management of Special Concern species to prevent them from becoming further at risk. In the case of species listed as Special Concern, a management plan must be created which outlines the actions required to help prevent the species from becoming further at risk. For Extirpated, Endangered and Threatened species, a Recovery Strategy and Action Plan are developed which outline exactly what will be done to help recover the species to a larger, "pre-harm" population size. For Extirpated, Endangered and Threatened species, SARA also provides legal protection of their critical habitats and prevents any harm to the species, except under certain circumstances.

In 2006, COSEWIC designated Atlantic walrus as a species of Special Concern. However, the species is scheduled to be reassessed by COSEWIC and while the 'special concern' designation for a single population of Atlantic walrus could remain, it could be replaced with a higher designation of risk or multiple populations with multiple at risk designations. Once assessed by COSEWIC the Government of Canada will follow an established process to determine whether or not to recommend listing the species under the *Species at Risk Act*. This process includes biological, social and economic assessments of possible listing scenarios, as well as consultation with co-management organizations, stakeholders and interested individuals.

This IFMP could help inform any SARA-compliant documents that would be required if walrus was added to the List of Wildlife Species at Risk on SARA.

CITES

The Atlantic walrus is listed on Appendix III of the Convention on International Trade in Endangered Species (CITES). As such, anyone wishing to export walrus parts or derivatives from Canada must obtain an export permit from the Canadian CITES administration. A non-detriment finding (indicating that levels of export are not detrimental to the survival of the species in the wild) is not required for species on Appendix III of CITES.

In 2009 and 2012 the United States considered submitting a proposal to up-list walrus to Appendix II of CITES based on the lack of information around the management of the species (e.g. sustainable harvest levels) and population species information (e.g. population abundance estimates). If listed on Appendix II of CITES, a non-detrimental finding (NDF) decision from the DFO Scientific Authority would be required to obtain a CITES Export/Re-export permit to export walrus products internationally.

Shared Stocks: Nunavut

Harvesting of the Hudson Bay-Davis Strait and South and East Hudson Bay stocks occurs in both the Nunavut Settlement Area and Nunavik Marine Region As there are no population abundance estimates for these two stocks, the existing regulatory regime and quotas identified in the *Fisheries Act* and the *Marine Mammal Regulations*, and provisions in the Nunavut Land Claims Agreement and the Nunavik Inuit Land Claims Agreement would continue to apply.

Shared Stocks: Greenland

Some stocks of Atlantic walrus inhabit and are harvested in both Canadian and Greenland waters. As such, it is important that discussions on management and sustainable harvesting occur between the two countries.

5. Objectives

A number of objectives were established for the walrus fishery. Long term objectives guide the management of the fishery and may be categorized as stock conservation, ecosystem, shared stewardship and social, cultural and economic objectives. Each long term objective is supported by one or more short term objectives. Various co-management organizations may take the lead in developing specific actions to address certain objectives.

Table 3. Long and Short-Term Objectives for the Walrus Fishery in the Nunavut Settlement Area

Objectives	
Long-term:	**Short-term:**
Stock Conservation	
Maintain vital, healthy walrus stocks and populations through sustainable use and effective fishery management consistent with the wildlife harvesting and management provisions under the Nunavut Land Claims Agreement.	• Improve knowledge of Atlantic walrus biology, abundance and distribution. • Conduct surveys of remaining walrus stocks to obtain abundance estimates. • Use local knowledge/TEK/IQ in aerial survey designs and use local community members in conducting the surveys • Develop training materials for Inuit harvesters to maximize harvest and minimize losses. • Develop communication materials to inform elders, harvesters and community members on research methods, activities and results. • Develop/enhance monitoring program to reduce struck and lost, including an assessment of harvesting methods and equipment, and collection of data on rates of struck and loss.
Take a precautionary approach to fishery decisions for walrus stocks or populations.	• Given uncertainties related to walrus stocks, take a precautionary approach to establishing TAHs and BNLs for each walrus stock or population.
Ecosystem	
Protection of walrus habitat.	• Continue to identify and document traditional ecological knowledge of important walrus habitats. • Investigate and assess threats resulting from human activities (e.g. shipping routes, sonar, noise disturbance, and

	tourism). • Support research into the effects of invasive species on walrus and walrus habitat.
Shared Stewardship	
Promote collaboration, participatory decision-making and shared responsibilities with resource users, co-management organizations and other stakeholders.	• Conduct IFMP evaluations with walrus working groups. • Develop sport hunt guidelines. • Develop appropriate guidelines for activities that could negatively affect walrus Once TAH/BNLs are established for walrus stocks, co-management organizations to implement the shared responsibilities in accordance with land claims agreements, the *Fisheries Act*¸ and its regulations. • Develop and/or participate in more formalized discussions with Greenland on the management of shared stocks.
Social, Cultural and Economic	
Promote traditional Inuit harvesting techniques and practices within communities.	• Develop and/or enhance training programs for inexperienced hunters.
Promote and maintain vital, healthy, walrus populations capable of sustaining harvesting needs.	• Increase awareness of the importance of walrus to public, communities, and stakeholders. • Include IQ in all policies and program development. • Promote territorial health programs aimed at food safety.
Maintain access to international markets for the export of walrus products.	• Demonstrate harvest levels and practices are sustainable. • IFMP in place.
Compliance	
Support effective fisheries management through a defined compliance program.	• Conduct a risk assessment of compliance issues. • Develop a variety of compliance activities and tools to address the identified risks. • Support Communities in the development of by-laws related to walrus or activities that may affect walrus.

6. Access and Allocation

Upon ratification of the NLCA in 1993, all existing restrictions or quotas on the amount of wildlife that could be harvested within the NSA were retained and deemed to have been established by the NWMB.

6.1 Where a Total Allowable Harvest ***has not*** been established

Unless a TAH has been established, an individual Inuk may harvest up to four (4) walrus in a year without a licence (MMR s. 6(1) (c)), except where community quotas exist (MMR s.26). Annual quotas have been set for the communities of Coral Harbour (60), Sanikiluaq (10), Arctic Bay (10) and Clyde River (20).

6.1.1 Sport Hunt

Marine Mammal Fishing Licences may be issued for non-beneficiaries to participate in walrus sport hunts (MMR s.4) provided there is support from the local HTO and annual approval from the NWMB based on its *Interim NWMB Sport Hunt Policy*. Sport hunters must provide detailed harvest reporting directly to DFO. The full Walrus Sport Hunt Policy can be found in Appendix 3.

6.1.2 Harvest Reporting

Harvest information is provided by Inuit hunters to the HTOs, which is then relayed to DFO (MMR s. 17; *Fisheries Act* s. 61; NLCA s. 5.7.43). Appendix 1 provides information on annual quotas and landed catch for communities that have harvested walrus. These numbers are not corrected for hunting losses. A Fishery Officer will notify the community and HTO when the quota has been reached and will close the fishery (MMR s. 12, 26).

6.2 Where a Total Allowable Harvest ***has*** been established:

The NWMB is in the process of establishing Total Allowable Harvest (TAH) levels and Basic Needs Levels (BNL) for walrus. In 2013, the Minister of Fisheries and Oceans accepted the NWMB's decision to establish the BNL for beluga, narwhal and walrus in the NSA to be equal to the levels of TAH for those species. Therefore, since the BNL is the first demand on the TAH, Inuit will always have the right to the entire TAH. RWOs and HTOs are responsible for allocating this BNL/TAH, as well as regulating harvesting practices and techniques among their members, including the use of NQLs.

Article 40 of the NLCA will be considered for other Inuit or aboriginal groups that may demonstrate traditional use of walrus in the NSA.

6.2.1 Total Allowable Harvests

Total Allowable Harvest levels have been established for the following stocks:

Table 4. Total Allowable Harvests established for walrus stocks/management units in the eastern Canadian Arctic

Population	Stock/ Management Unit	Harvesting Community	TAH	Community Harvest Level
High Arctic	Baffin Bay /AW-01	Grise Fiord	To be established	
	West Jones Sound / AW-02	Grise Fiord	To be established	
	Penny Strait- Lancaster Sound /AW-03	Arctic Bay Pond Inlet Resolute	To be established	
Central Arctic	Foxe Basin / AW-04	Hall Beach Igloolik	To be established	

*see Figure 2 for a map of Atlantic walrus by stocks and management units.

6.2.2 Allocation of the TAH:

As identified in the NLCA, the RWOs will be responsible for allocating annual regional BNL, which in the case of walrus will be the TAH, to their respective community HTOs, regulating their members and fulfilling other wildlife co-management obligations in accordance with the NLCA. The community HTOs will be responsible for allocating and enforcing the community BNL (community harvest limit) among members, and generally the management of harvesting among members (see Figure 3).

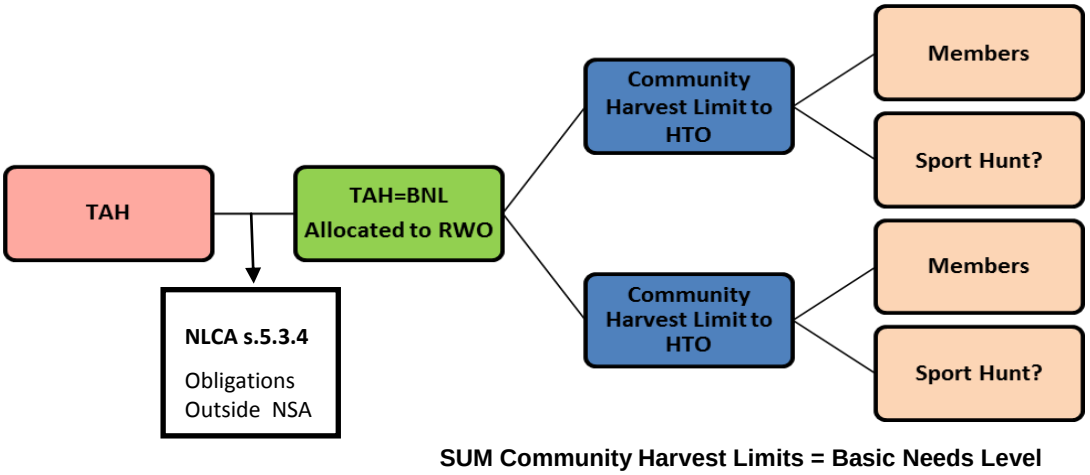

Figure 3. Allocation of the Total Allowable Harvest (TAH) and Basic Needs Level (BNL)

Where a TAH has been established for a walrus management unit, the combined annual community harvest limits for that management unit shall not exceed the TAH.

6.2.3 Sport Hunt

An assignment under section 5.7.34 (b) of the NLCA is used to authorize walrus sport hunts to a person qualified to harvest walrus under the laws of general application. Under this section, a person authorized to harvest walrus under a licence may be assigned part or all of a share of the total allowable harvest by an Inuk, RWO or HTO. Through the assignment provisions, an Inuk, an HTO or a RWO may assign its share of the TAH to a walrus sport hunt, if so desired, so long as the established annual total allowable harvest for that particular management unit is not exceeded.

An assignment under Article 5 of the NLCA must be evidenced by documentation containing information on both the assignor, and the assignee. Once the required documentation is received by DFO, the Minister may issue a Walrus Marine Mammal Fishing Licence (MMR s.4). The full Walrus Sport Hunt Policy can be found in Appendix 3.

6.2.4 Post-Harvest Walrus Tag

For management units where a TAH has been established.

The Post-Harvest Walrus Tag is an important management tool for RWOs and HTOs to be able to allocate and account for harvesting among their members. Where a TAH has been established, DFO will issue Post-Harvest Walrus Tag to the RWO and/or HTOs in the amount equal to the annual harvest level for the corresponding management unit. Post-Harvest Walrus Tags will be allocated by the RWO/HTO and will be proof of allocation to a share of one walrus from the walrus TAH for a particular management unit. This forms part of the walrus management system in which RWOs and HTOs decide on community allocations, in the form of community harvest limits.

The Post-Harvest Walrus Tag is not a licence to hunt and will be issued without fee or administrative charge. A Walrus Harvest Tag system will assist in:

- Evidencing a person's authority to harvest/possess wildlife appropriate to the particular Management Unit;
- Regulating the allocation of a share of TAH, including the BNL, as allocated by the RWO and/or HTO;
- Collecting information in relation to harvesting activities;
- Regulating harvesting activities in relation to sport hunt assignment.

6.2.5 Harvest Reporting and Monitoring

Hunters provide information on their hunts to their HTO. HTOs will provide the information to the RWO and DFO in a timely manner. A Fishery Officer will notify the community and HTOs when the harvest level has been reached for a management unit and will close the fishery (MMR s. 12, 26).

- Harvest information must be reported (MMR s. 17; Fisheries Act s. 61; NLCA s. 5.7.43):

7. Management Measures for the Duration of the Plan

The management measures identified in the IFMP outline the controls or rules adopted for the walrus fishery for the purposes of stock conservation and sustainable management. These measures are based on the *Fisheries Act, the Marine Mammal Regulations* and the NLCA.

The *Marine Mammal Regulations* (MMR) include provisions related to the hunting, movement, and sale of walrus products. These provisions include requirements for hunters to hunt a walrus in a manner that is designed to kill it quickly, to make reasonable efforts to retrieve a killed or wounded walrus without delay and to have all necessary equipment on hand to retrieve it. Abandoning, discarding or wasting edible parts of walrus is prohibited.

Domestic movement of walrus products requires a DFO Marine Mammal Transportation Licence. Indians or Inuit who land walrus in one jurisdiction and are returning to their home in another jurisdiction are exempted from this requirement. International trade of walrus products requires a CITES) Export/Re-export Permit.

A full list of the management measures can be found in Appendix 2.

8. Shared Stewardship Arrangements

The Atlantic walrus IFMP was initiated and developed by the Foxe Basin Walrus Working Group in 2007 and the High Arctic-Baffin Bay Walrus Working Group in 2009. Participation on the Working Groups includes representatives from each of the HTOs, the Qikiqtaaluk Wildlife Board (co-chair), NTI and DFO. Staff from the NWMB have attended Working Group meetings when possible. The Working Groups invite subject-matter experts to provide additional information in the development of the IFMP as required. This has included representatives from the mining industry and community elders.

The Walrus Working Groups produced Terms of References to help guide the development of the IFMP. Meetings have been held in the communities of Resolute, Grise Fiord, Arctic Bay, Pond Inlet, Hall Beach and Igloolik to obtain the views of elders and community members on issues related to walrus management, including the identification of fishery issues and long and short term objectives for the fishery.

There are a number of different ways that the objectives for the fishery may be achieved, such as the effective implementation of the management measures identified in Appendix 2. Other measures may be initiated by co-management organizations through the development of by-laws or guidelines. Once developed, these would be included as an Appendix of the IFMP.

9. Compliance Plan

The Conservation and Protection program promotes and maintains compliance with legislation and regulations implemented to achieve the conservation and sustainable use of Canada's aquatic resources, and the protection of species at risk, fish habitat and oceans. Conservation and Protection works closely with internal partners to evaluate risks to fish and fish habitat to ensure program delivery meets Departmental objectives.

Fishery Officers monitor fishing and related activities to ensure compliance with the *Fisheries Act* and its regulations as well as several other federal statutes. Fishery Officers investigate violations of these acts and regulations and resolve them by applying various compliance options.

Regional Compliance Program Delivery

Fishery Officers in the Eastern Arctic Area monitor the Atlantic walrus fishery and the trade of Atlantic walrus products for compliance with the MMR which are made pursuant to the *Fisheries Act*. Conservation and Protection works closely with internal and external partners to consult on and or resolve compliance issues.

Fishery Officers promote compliance with regulations by working with user groups (e.g. hunters and buyers) and other stakeholders to better understand the laws. Fishery Officers engage hunters and people involved in the marine mammal trade industry to provide information that increases awareness and helps address compliance and conservation concerns in the Atlantic walrus fishery. Increased education and awareness will help protect the legal market and trade of Atlantic walrus ivory and parts.

Current Compliance Issues

Specific concerns may arise from: failing to follow conditions of licence for the sport hunt, non-reporting or misreporting of harvest, wastage, illegal harvest or illegal trade and exporting of Atlantic walrus ivory and or parts. Patrols have been conducted in Atlantic walrus hunting areas and communities to monitor these concerns.

Compliance Strategy

Conservation and Protection collaborates with internal and external partners to identify and prioritize compliance issues and works with resource managers to address them.

Fishery Officers focus efforts on:

- compliance with legislation, including sport hunt licence conditions;
- tusk traceability / illegal trade of ivory tusks;
- licence inspections.

Operational Activities include:

- Monitoring of Atlantic walrus sport hunts;
- Education of user groups and stakeholders;
- Inspections of Atlantic walrus products from harvest to export;

- Cross reference of harvest data with trade data;
- Liaise with Nunavut Conservation Officers and other territorial or provincial law enforcement agencies.

Table 5. Compliance Focus and Strategies for Atlantic Walrus in the Nunavut Settlement Area

COMPLIANCE FOCUS		
Issue	Regulation	Strategy
Monitor harvest and enforce regulations	MMR: Sections 6, 7, 8, 9, 10, 11, 13, 15, 17, 25 and 26	• Hunt monitoring • Inspections • Licences
Harvest reporting and quota compliance	MMR: Sections 6, 12, 17 and 26 . Fishery (General) Regulations: Sections 6, 7, 9, 11, 15 and 22	• Inspections • Licence cross referencing and issuance • Variation Orders
Tusk traceability	MMR: Sections 15 and 16	• Inspections

10. Performance Review

This Atlantic walrus IFMP was developed through an extensive consultative process including the NWMB, NTI, RWOs, HTOs, walrus hunters and community members. DFO will continue to consult with these groups throughout the life of this IFMP as circumstances require.

Annual post season review sessions will be conducted with co-management organizations and as circumstances require. Progress on achieving the short term objectives and effective implementation of management measures identified in the Plan will be reviewed. Recommendations to improve management of the walrus fishery will be developed to meet the long term objectives of maintaining a sustainable walrus fishery.

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Glossary of Terms

Abundance: Number of individuals in a stock or a population.

Basic Needs Level (BNL): Means the level of harvesting by Inuit identified in Sections 5.6.19 to 5.6.25 of the Nunavut Land Claims Agreement.

Committee on the Status of Endangered Wildlife in Canada (COSEWIC): Committee of experts that assess and designate the conservation status of species that may be at risk in Canada.

Convention on International Trade in Endangered Species (CITES): An international agreement to ensure that international trade in specimens of wild animals and plants does not threaten their survival.

Harvest Limit: A maximum number of walrus permitted to be landed by a community or from a stock/ management unit in a given time period.

Inuit Qaujimajatuqangit: Is a body of knowledge and unique cultural insights of Inuit into the workings of nature, humans and animals.

Marine Mammal Regulations (SOR/93-56): Federal regulations under the *Fisheries Act* that govern the management and control of fishing for marine mammals and related activities in Canada or in Canadian fisheries waters.

Marine Mammal Fishing Licence: Licence required to fish for marine mammals under the Marine Mammal Regulations (s. 5).

Marine Mammal Transport Licence (MMTL): Licence required for transport of marine mammal parts and products from one province (or territory) to another.

Non-quota Limitation (NQL): Means a limitation of any kind, except a total allowable harvest, and may include a limitation on season of harvest, sex of wildlife, size of wildlife, age of wildlife or method of harvest.

Population: A reproductively isolated group of animals, sharing a habitat.

Potential Biological Removal (PBR): A statistical method currently used by DFO Science to provide recommendations on sustainable harvest levels.

Precautionary Approach (PA): Applying caution to management actions when scientific knowledge is uncertain and not relying on the absence of adequate scientific information as a reason to postpone action to avoid serious harm to wildlife stocks or their ecosystems.

Quota: The number of walrus that can be harvested by a community, as set out in Column 1, Section 26, or by an individual, as per Section 6. (1)(c) of the *Marine Mammal Regulations*.

Species at Risk Act (SARA): The Canadian Act to prevent wildlife species from becoming extinct and secure the necessary actions for their protection and recovery in Canada.

Stock: Refers to a resource management unit. For walrus, it refers to a geographically segregated group of animals that are subject to hunting.

Total Allowable Harvest (TAH): For a stock or population this means an amount of wildlife able to be lawfully harvested as established by the NWMB pursuant to Sections 5.6.16 to 5.6.18 of the NLCA.

Total Allowable Landed Catch (TALC): A sustainable harvest level recommendation for a stock or population developed by applying an estimate of harvest loss rates as a correction factor in the PBR calculation.

Traditional Ecological Knowledge (TEK): A cumulative body of knowledge handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment. Inuit hold traditional knowledge on walrus.

Appendix 1. Landed Catch of Walrus in Nunavut: 1997-2014

Landed Catch of Walrus *(Odobenus rosmarus)* from subsistence harvests and licensed sport hunts conducted in Nunavut between 1997/98 and 2014/15 (season extends from April 1 - March 31). Subsistence catch values do not include estimated hunting

	Annual Quota ¥		1997/98		1998/99		1999/00		2000/01		2001/02		2002/03		2003/04		2004/05		2005/06		2006/07		2007/08		2008/09		2009/10		2010/11		2011/12		2012/13		2013/14		2014/15	
NUNAVUT SETTLEMENT AREA (NSA)	**Settle-ment**	**Individual**	**Sp**	**Sb**	**Sp**	**Sb**	**Sp**	**Sb**	**Sp**	**Sb**	**Sp**	**Sb**	**Sp**	**Sb**	**Sp**	**Sb**	**Sp**	**Sb**	**Sp**	**Sb**	**Sp**	**Sb**	**Sp**	**Sb**	**Sp**	**Sb**	**Sp**	**Sb**	**Sp**	**Sb**	**Sp**	**Sb**	**Sp**	**Sb**	**Sp**	**Sb**	**Sp**	**Sb**
A. Baffin Region																																						
Arctic Bay	10		--	0	--	3	--	1	--	2	--	2	--	0	--	0	--	1	--	NR	--	0	--	1	--	NR	--	0	--	1	--	0	--	0	--	0	--	0
Cape Dorset		4	--	8	--	4	0	10[a]	0	46	1	10	0	5	--	1	0	NR	0	6	0	25	--	NR	--	NR	--	NR	--	1	--	2	0	0	--	0	--	0
Clyde River	20		--	0	--	1	--	0	--	0	--	1	--	0	--	0	--	2	--	NR	--	1	--	0	--	NR	--	NR	--	NR	--	0	--	0	--	0	--	0
Grise Fiord		4	--	12	--	11	--	5	--	4	--	2	--	3	--	7	--	5	--	2	--	5	--	4	0	NR	--	7	--	2	--	4	--	NR	--	0	--	16
Hall Beach		4	0	109	--	80	0	NR	1	87	0	40	4	1	1	87	0	66	3	75	4	100	--	35	--	33	0	70	0	75[f]	2	33[h]	1	107	10	NR	2	92
Igloolik		4	4	80	8	125	10	NR	6	168	12	40	10	NR	14	97	10	NR	12	100	2	184	NR	54	*M*	74	*M*	89	--	141	6	95	4	107	--	NR	0	9
Iqaluit		4	--	0	--	27	--	15[b]	--	19	--	7	--	1	--	1	--	NR	--	10	--	9	--	11	--	NR	--	14	--	14	--	14	--	19	--	6	--	1
Kimmirut		4	--	NR	--	NR	--	NR	--	0	--	0	--	4	--	7	0	4	0	6	0	2	--	NR	--	NR	--	NR	--	7	--	0	--	1	--	0	--	2
Pangnirtung		4	--	16	--	4	--	3	--	15	--	19[c]	--	9	--	15	--	NR	--	NR	--	15	--	NR	--	10	0	NR	--	NR	--	NR	--	7	--	0	0	4
Pond Inlet		4	--	0	--	0	--	1	--	5	--	3	--	0	--	1	--	0	--	1	--	0	--	0	--	NR	--	NR	--	3	--	0	--	NR	--	0	--	0
Qikiqtarjuaq		4	--	3	--	0	--	0	--	0	--	1	--	33	--	1	--	0	0	NR	0	9	--	6	--	NR	--	NR	--	6[g]	--	5[i]	--	10	--	0	--	0
Resolute Bay / Creswell		4	--	0	--	NR	--	1	--	0	--	NR	--	1	--	6	--	4	--	1	--	0	--	1	--	NR	--	2	--	3	0	2	--	2	--	0	--	1
Sanikiluaq	10		--	4	--	NR	--	1	--	1	--	0	--	15	--	3	--	NR	--	NR	--	2	--	NR	--	0	--	2	--	2	--	2	--	3	--	0	--	0
B. Kivalliq Region																																						
Arviat		4	--	NR	--	0	--	2	--	1	--	NR	--	3	--	5	--	NR	--	1	--	0	--	0	--	NR	--	NR	0	0	--	0	--	0	--	0	--	0
Chesterfeild In.		4	--	NR	--	0	--	NR	--	4	--	NR	--	NR	--	4	--	3	--	3	--	0	--	2	--	0	--	NR	--	NR	--	7	--	4	--	0	--	15
Coral Harbour	60		5	NR	--	9	0	8	0	1	2	NR	2	28[d]	--	10	--	NR	2	15	3	15	NR	4	4	NR	9	6[e]	8	NR	4	7	3	12	7	15	7	15
Kugaaruk		4	--	0	--	0	--	0	--	0	--	NR	--	0	--	NR	--	3	--	NR	--	0	--	6	--	NR	--	NR	--	NR	--	0	--	0	--	0	--	0
Rankin Inlet		4	--	NR	--	12	--	NR	--	7	--	NR	--	12	--	2	--	2	--	3	--	13	--	6	NR	3	--	6	--	2	--	4	--	6	--	0	--	0
Repulse Bay		4	--	0	--	0	--	2	--	1	--	NR	--	20	--	NR	--	3	--	6	--	6	--	12	--	NR	--	4	--	NR	--	0	--	5	--	0	--	0
Whale Cove		4	--	NR	--	0	--	0	--	0	--	NR	--	1	--	NR	--	NR	--	NR	--	0	--	0	--	NR	--	NR	--	0	--	0	--	0	--	0	--	0
Sub-Total (NSA)			**9**	**232**	**8**	**276**	**10**	**49**	**7**	**361**	**15**	**125**	**16**	**136**	**15**	**247**	**10**	**93**	**17**	**229**	**9**	**386**	**0**	**142**	**4**	**120**	**9**	**200**	**8**	**257**	**12**	**175**	**8**	**283**	**17**	**21**	**9**	**155**
AREA OF EQUAL USE AND OCCUPANCY §																																						
Salluit																			0	NR	0	14	--	24	0	17	--	7	0	14	0	11	0	NR	0	NR	0	NR
Total Landed Catch			**9**																**17**	**229**	**9**	**400**	**0**	**166**	**4**	**137**	**9**	**207**	**8**	**271**	**12**	**186**	**8**	**283**	**17**	**21**	**9**	**155**

Legend:

*	DFO compiles information on subsistence walrus harvests by telephone calls to community Hunters and Trappers Organizations, or the local Government of Nunavut Wildlife Officers.
¥	see Marine Mammal Regulations (SOR/93-56) S. 6 (1)(c), S. 6 (2)(c), and S. 26.
Sp	Licensed Sport Hunt - a regulated sport hunt is conducted in some Nunavut communities. The Nunavut Wildlife Management Board (NWMB) reviews walrus sport hunt applications annually, and transmits its approval decisions to DFO.
--	This community did not, or does not, conduct sport hunts
	Sport hunts were conducted and/or approved in this community
M	For two years (2008/09 and 2009/10) the Igloolik HTA implemented a moratorium on walrus sport hunting and tourism.
Sb	Subsistence Harvest - 'NR' indicates the community has not reported its subsistence walrus harvest.' pending' indicates that the community has not reported their subsistence walrus harvest to DFO yet.
	Value was originally reported with an associated error, and has been replaced with an average value to provide a more precise annual estimate of landings. For example:
	a Cape Dorset Subsistence harvest in 1999 was reported as 10 +/- 2; this value was replaced with the average (10).
	b Iqaluit Subsistence harvest 1999 was originally reported as 15 +/- 2; this value was replaced with the average (15)
	c Pangnirtung Subsistence harvest 2001 was originally reported as 19 +/- 1; this value was replaced with the average (19)
	d Coral Harbour Subsistence harvest 2002 was originally reported as 25-30; this value was replaced with the average (28).
	e Coral Harbour Subsistence harvest 2009 was originally reported as 5-6; this value was replaced with the average (6).
	f Hall Beach Subsistence harvest 2010 was orginally reported as 70-80; the value was replaced with average (75).
	g Qikiqtarjuaq Subsistence harvest 2010 was orginally reported as 5-6; the value was replaced with the average (6).
	h Hall Beach Subsistence harvest 2011 was originally reported as 30-35;the value was replaced with average (33).
	i Qikiqtarjuaq Subsistence harvest 2011 was orginally reported as 4-5; the value was replaced with the average (5).
§	The Nunavik community of Salluit conducts licensed sport hunts within the Area of Equal Use and Occupancy described in S. 40 of the Nunavut Land Claims Agreement.

Appendix 2. Overview of Current Management Measures for the Atlantic Walrus Fishery in the Nunavut Settlement Area

Management Measure	Applicable Legislation/ Regulation
Harvest Levels	• Unless a TAH is in place, an Inuk may, without a licence, fish for food, social or ceremonial purposes for four (4) walrus in a year except where community quotas exist (Coral Harbour (60), Sanikiluaq (10), Arctic Bay (10) and Clyde River (20)). (MMR, s. 6 and 26). • Where a TAH has been established, annual harvest may not exceed the total allowable harvest level established for a particular management unit.
Monitoring and Reporting	• Harvest information must be reported (MMR s. 17; Fisheries Act s. 61; and the NLCA s. 5.7.43). • When the quota or total allowable harvest level is reached, the community will be notified and the fishery will be closed (MMR s. 12 and 26).
Licences	• The Minister may issue a marine mammal fishing licence (MMR s. 4). • The Minister may issue a licence for certain activities such as for tagging (satellite tracking), live capture, biopsies (MMR s. 11).
Post-Harvest Walrus Tag	• Where a TAH has been established, DFO will issue Post-Harvest Walrus Tags to the RWO and/or HTOs in the amount equal to the annual harvest level for the corresponding management unit. These tags will be issued without fee or administrative charge and are not to be considered a licence to hunt.
Humane Harvesting	• Hunters shall only kill a walrus in a manner that is designed to kill it quickly (MMR s. 8). • No person shall disturb a walrus except when hunting for walrus (MMR s. 7).
Reducing Loss Rates	• Hunters must have all necessary equipment on hand to retrieve a hunted walrus (MMR s. 9). • Hunters that kill or wound a walrus must make all reasonable efforts to retrieve it without delay, must not abandon or discard it, or waste any edible part of a walrus (MMR s. 10). • Hunters are to use a rifle or shotgun with the following restrictions: a) a rifle and non-full metal jacketed ammunition that produce a muzzle energy of not less than 1,500 foot pounds; or b) a shotgun and rifled slugs that produce a muzzle energy of not less than 1,500 foot pounds (MMR s. 25).

Sale and Transportation	• A Marine Mammal Transportation licence is required to transport walrus or walrus parts from one province to another (MMR s. 16). • A CITES Export Permit is required to transport walrus products outside of Canada.
Habitat/Ecosystem Protection	• *Fisheries* Act s. 35: prohibits any person from carrying on any work, undertaking or activity that results in serious harm to walrus that are part of a commercial, recreational or Aboriginal fishery, unless authorized by the Minister.

Appendix 3. Walrus Sport Hunt Policy in the Nunavut Settlement Area

A. Where a Total Allowable Harvest has been established for a walrus stock or population

Where the Nunavut Wildlife Management Board (NWMB) and the Minister of Fisheries and Oceans Canada (DFO) establish a total allowable harvest (TAH) for a stock or population of walrus in the Nunavut Settlement Area (NSA), the assignment provisions of the Nunavut Land Claims Agreement (NLCA) shall be used to assign part or all of the TAH to a walrus sport hunt.

In 2013, the Minister of DFO accepted the NWMB's decision to establish the basic needs levels (BNL) for beluga, narwhal and walrus in the NSA to be equal to the levels of total allowable harvest (TAH) established or modified by the NWMB. As per the NLCA, Hunters and Trappers Organizations (HTO) and Regional Wildlife Organizations (RWOs) are responsible for allocating their community's and regional TAH to their members and the assignment to non-members (e.g. walrus sport hunt) (s. 5.7.3 and 5.7.6).

An assignment under section 5.7.34 (b) of the NLCA is used to authorize walrus sport hunts to a person qualified to harvest walrus under the laws of general application, so long as the established annual total allowable harvest for that particular management unit is not exceeded.

Under sections 5 and 6 of the Marine Mammal Regulations, no person other than an Indian, Inuk, or beneficiary, may fish for walrus except under the authority of a licence.

If an HTO wishes to assign part or all of a share of their community's allocation of the TAH for walrus sport hunting purposes, the following process will be undertaken to obtain a valid Marine Mammal Fishing Licence prior to engaging in walrus hunting activities:

The HTO will:

1. Complete and submit the Sport Hunt Application package to DFO.

2. Upon receiving the completed documents and payment of fee, the Minister of DFO may issue a Marine Mammal Fishing Licence for walrus pursuant to section 4(1) of the Marine Mammal Regulations.

3. All conditions identified on the Marine Mammal Fishing Licence must be followed by the assignee (sport hunter). The Marine Mammal Regulations (MMR) include provisions related to the hunting, movement, and sale of walrus products. These provisions include requirements for hunters to report on harvesting activities, to collect biological samples, to hunt in a manner that is designed to kill the walrus quickly, to make reasonable efforts to retrieve a killed or wounded walrus without delay and to have all necessary equipment on hand to retrieve it. Abandoning, discarding or wasting edible parts of walrus is prohibited.

4. Any HTO by-laws that are in place governing walrus hunting will also be followed by the assignee (sport hunter).

5. A DFO Marine Mammal Transportation Licence is required to transport walrus or walrus parts from one province to another (MMR s. 16(1)). These are free and available from a DFO Fishery Officer or from the community's local Conservation Officer.

6. Anyone wishing to export walrus parts or derivatives from Canada must obtain an export permit from the Canadian CITES administration. These permits can take several weeks to obtain. For more information, contact the DFO CITES Permitting Officer at: (888) 641-6464.

B. Where a TAH <u>has not</u> been established for a walrus stock or population

Each year the Nunavut Wildlife Management Board (NWMB) requests applications (Request to Conduct Walrus Sport Hunts) from communities and individuals for walrus sport hunts. These applications are reviewed by the NWMB according to its Interim Policy for Walrus Sport Hunts. Decisions of the NWMB are forwarded to the Minister of Fisheries & Oceans Canada (DFO). If approved, and upon payment of fee, the Minister will provide the applicant with a Marine Mammal Fishing Licence under section 4(1) of the Marine Mammal Regulations. The process is detailed in the steps below:

1. Request to conduct walrus sport hunt:

Each fall, the NWMB seeks applications from individuals and communities who wish to conduct walrus sport hunts for the following walrus harvesting season (April 1-March 31). Applicants are required to submit a completed "Request to Conduct Walrus Sport Hunt" form that includes information on the hunt plan, outfitter information, a safety plan, and evidence of support from the local HTO.

2. NWMB review of applications:

The NWMB reviews the Requests to Conduct Walrus Sport Hunts against its Interim Policy for Walrus Sport Hunts. This Policy seeks to consider conservation concerns, health and safety, humane harvesting and minimization of waste, and long-term economic, social and cultural interests of Inuit harvesters, in making sport hunt decisions.

3. NWMB decision to DFO:

Decisions of the NWMB in relation to the walrus sport hunt are forwarded to the Minister of DFO as per the NLCA. Additional conditions may be included with the NWMB decision, such as the assignment of each walrus to a sport hunter is made in writing and that individuals applying for walrus sport hunts obtain written support from their local HTO.

4. DFO review:

The decisions of the NWMB are forwarded to the Minister of DFO for review. If approved, DFO will notify successful applicants. Upon receiving the completed "Assignment Document", "Hunter Information Sheet", and payment of fee, the Minister of DFO will issue a Marine Mammal Fishing Licence for walrus pursuant to section 4(1) of the Marine Mammal Regulations.

5. Marine Mammal Fishing Licence:

All conditions identified on a Marine Mammal Fishing Licence must be followed. Such conditions include: when and where the hunt is authorized to take place, by whom, their country of origin, quotas, gear type to be used, as well as any specific conditions related to the hunt, such as the reporting of all hunts to the local DFO office, firearm muzzle velocity requirements, the total number of strikes allowed, as well as biological sampling requirements.

6. Any HTO by-laws that are in place governing walrus hunting should be followed by the sport hunter.

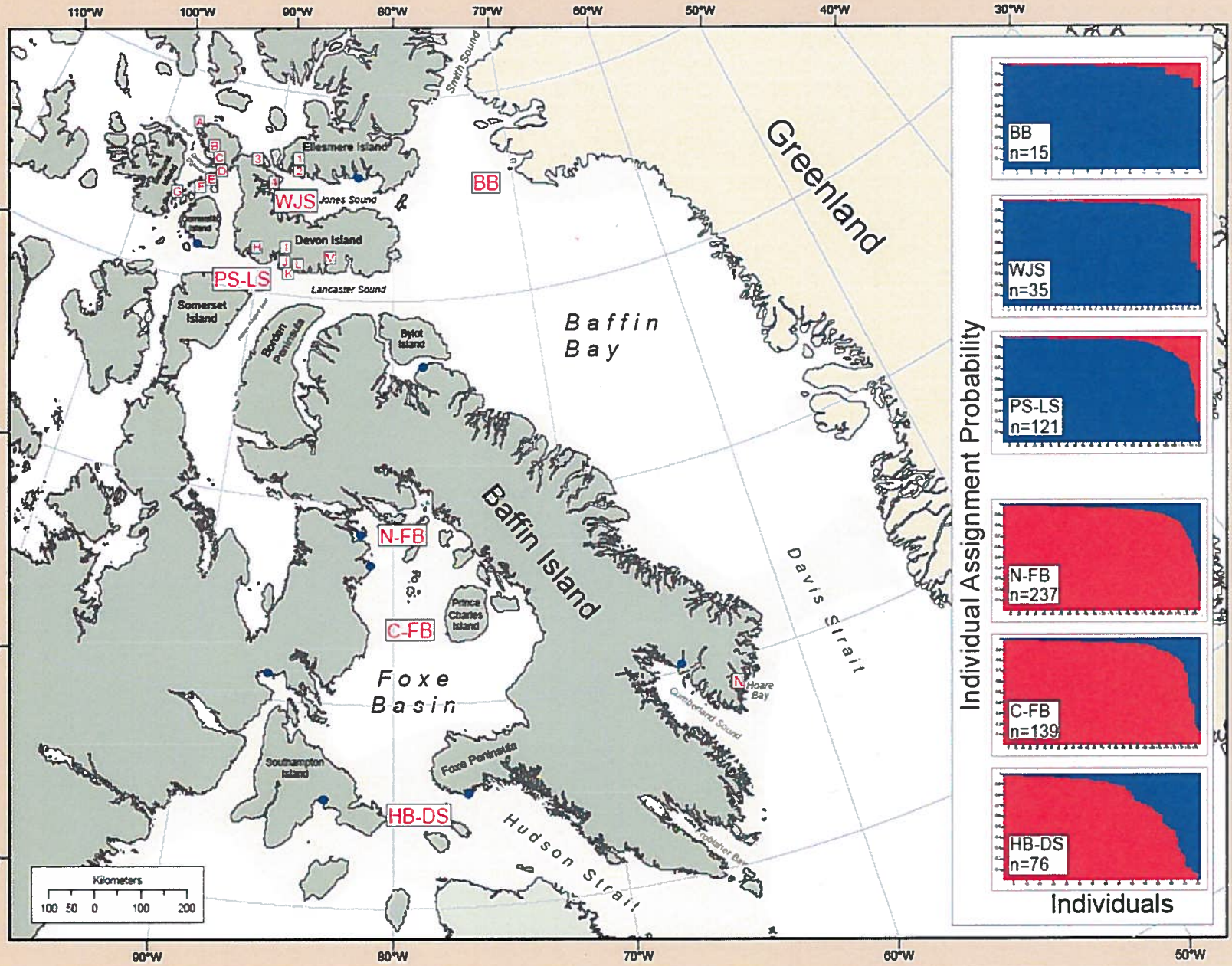
7. A DFO Marine Mammal Transportation Licence is required to transport walrus or walrus parts from one province to another (MMR s. 16(1)). These are free and available from a DFO Fishery Officer or from a local Conservation Officer.

8. Anyone wishing to export walrus parts or derivatives from Canada must obtain an export permit from the Canadian CITES administration. These permits can take several weeks to obtain. For more information, contact the DFO CITES Permitting Officer at: (888) 641-6464.

TAB 4: Information used to propose Management Unit Boundaries for Atlantic walrus in the NSA

1. DFO Stock delineations.
2. Walrus harvesting locations.
3. Nunavut Coastal Resource Inventory Information.
4. Approximate distributions of Atlantic walrus in Canada. COSEWIC Draft Status Report on Atlantic Walrus-unpublished (in progress).
5. Community Knowledge maps of walrus in Foxe Basin and Hudson Strait. Prepared by Baffinland.
6. Traditional knowledge maps developed through community consultations and working group meetings in Arctic Bay, Grise Fiord, Hall Beach, Igloolik, Pond Inlet and Resolute (2007-2015).

Figure 1. Map of putative stocks, with individual assignments shown according to stock. Western Jones Sound (WJS), Baffin Bay (BB), Penny Strait-Lancaster Sound (PS-LS), North Foxe Basin (N-FB), Central Foxe Basin (C-FB), Hudson Bay Davis Strait (HB-DS). Red bars reflect assignment to the sub-Arctic cluster with blue bars the high Arctic cluster.



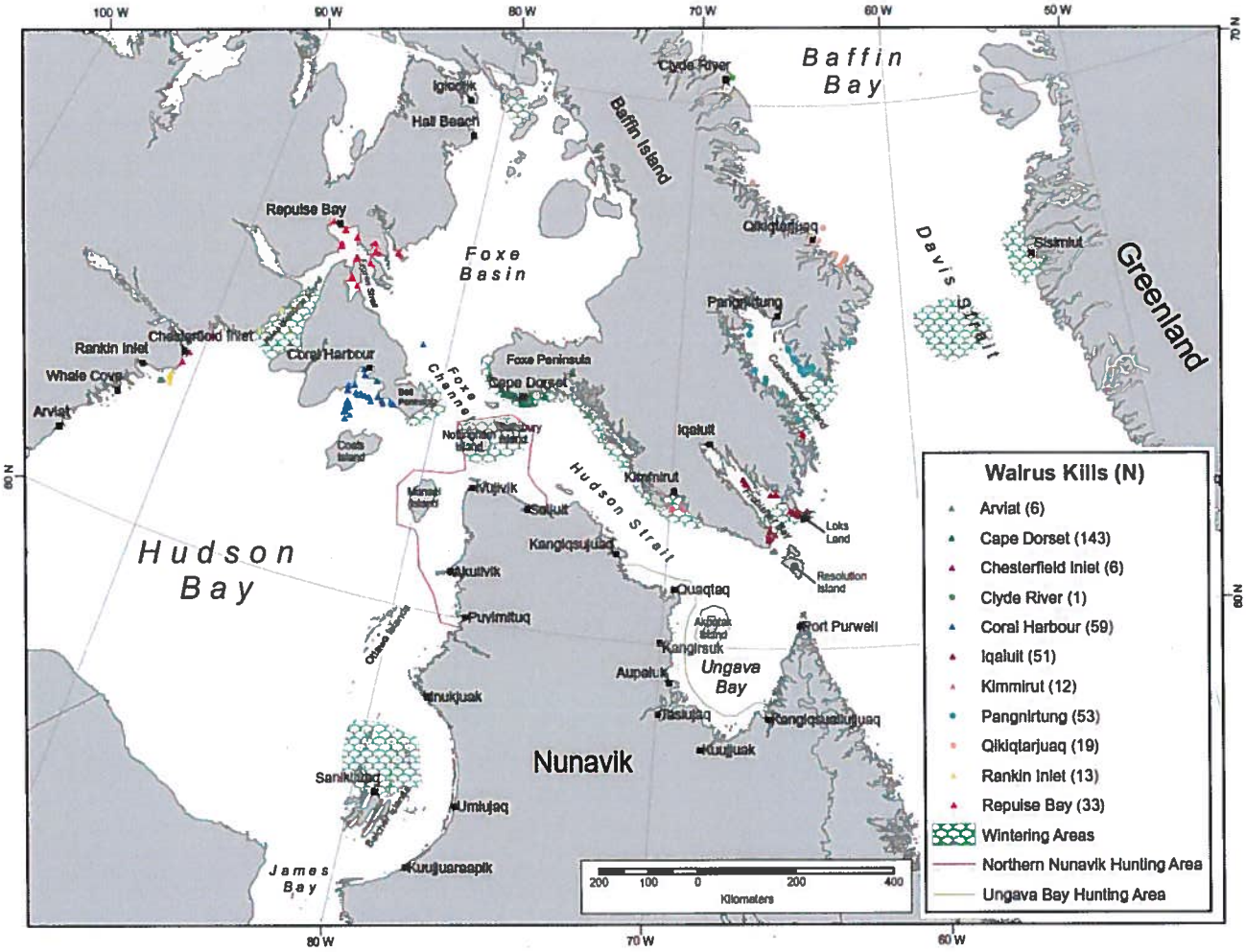


FIG. 6. Hudson Bay–Davis Strait walrus harvesting locations for Arviat, Cape Dorset, Chesterfield Inlet, Clyde River, Coral Harbour, Iqaluit, Kimmirut, Pangnirtung, Qikiqtarjuaq, Rankin Inlet, and Repulse Bay (Priest and Usher, 2004), Nunavik harvesting areas (interpreted from COSEWIC, 2006), and wintering areas (Born et al., 1995). Each kill symbol may represent more than one animal killed; N is the number of walruses reported by each community in the Priest and Usher (2004) database.

Walrus Harvesting Locations

Stewart, R.E.A. 2008. Redefining Walrus Stocks in Canada. Arctic. 61(3):292-308.

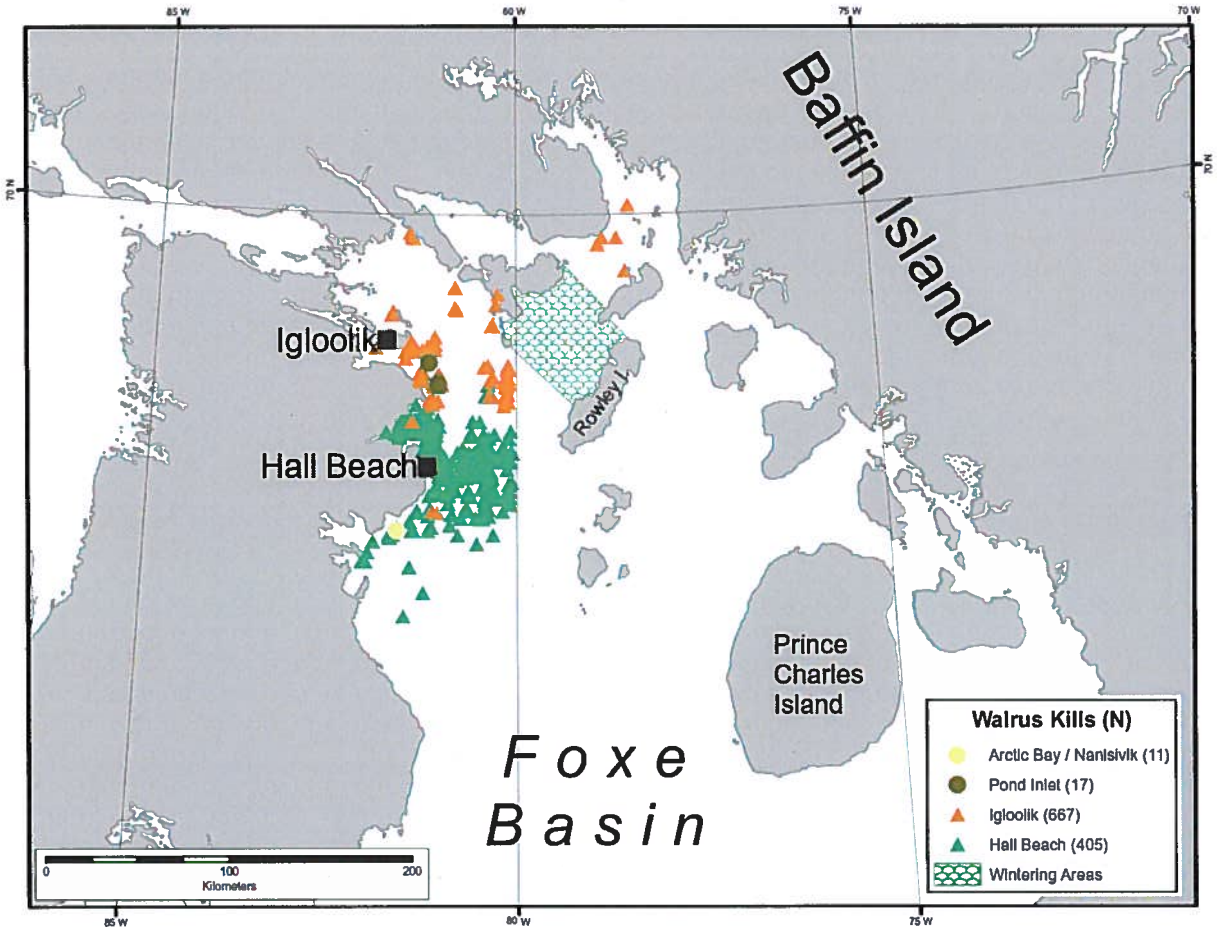
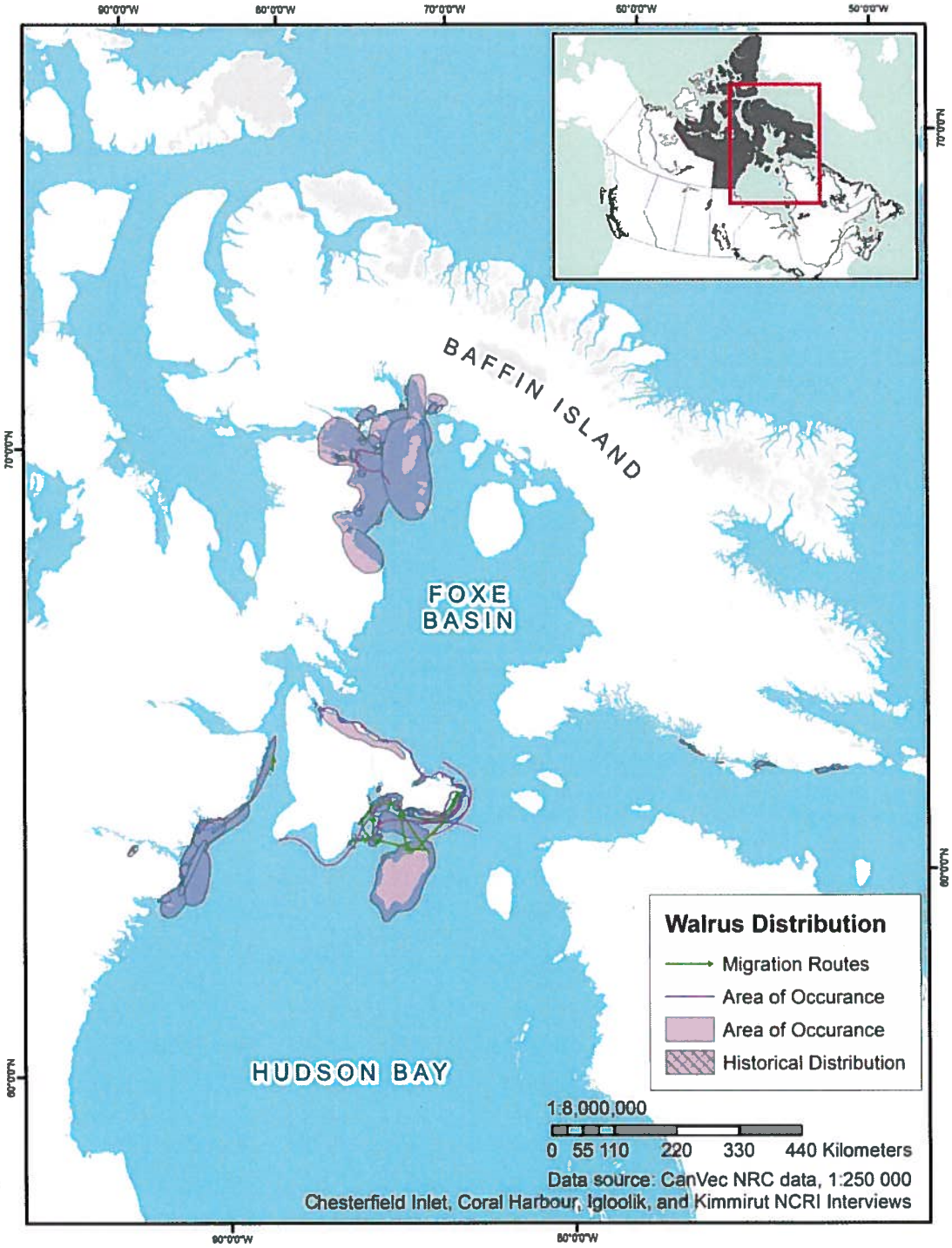


FIG. 5. Foxe Basin walrus harvesting locations for Igloolik and Hall Beach (Priest and Usher, 2004) and wintering areas (Born et al., 1995). Each kill symbol may represent more than one animal killed; N is the number of walruses reported by each community in the Priest and Usher (2004) database.

Foxe Basin

Figure 1: Foxe Basin walrus distribution



Coral Harbour (2014)

Figure 2: Coral Harbour walrus distribution

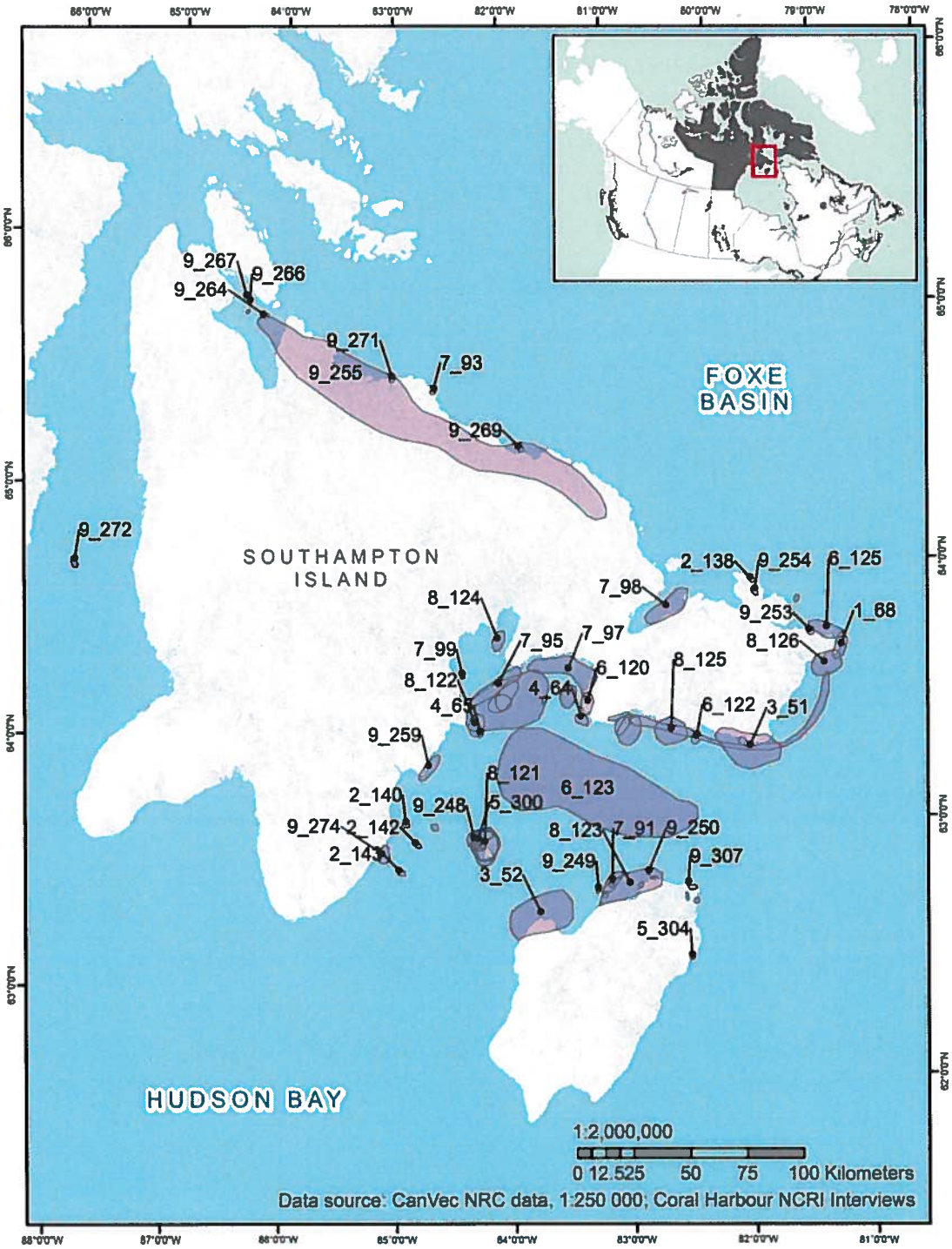
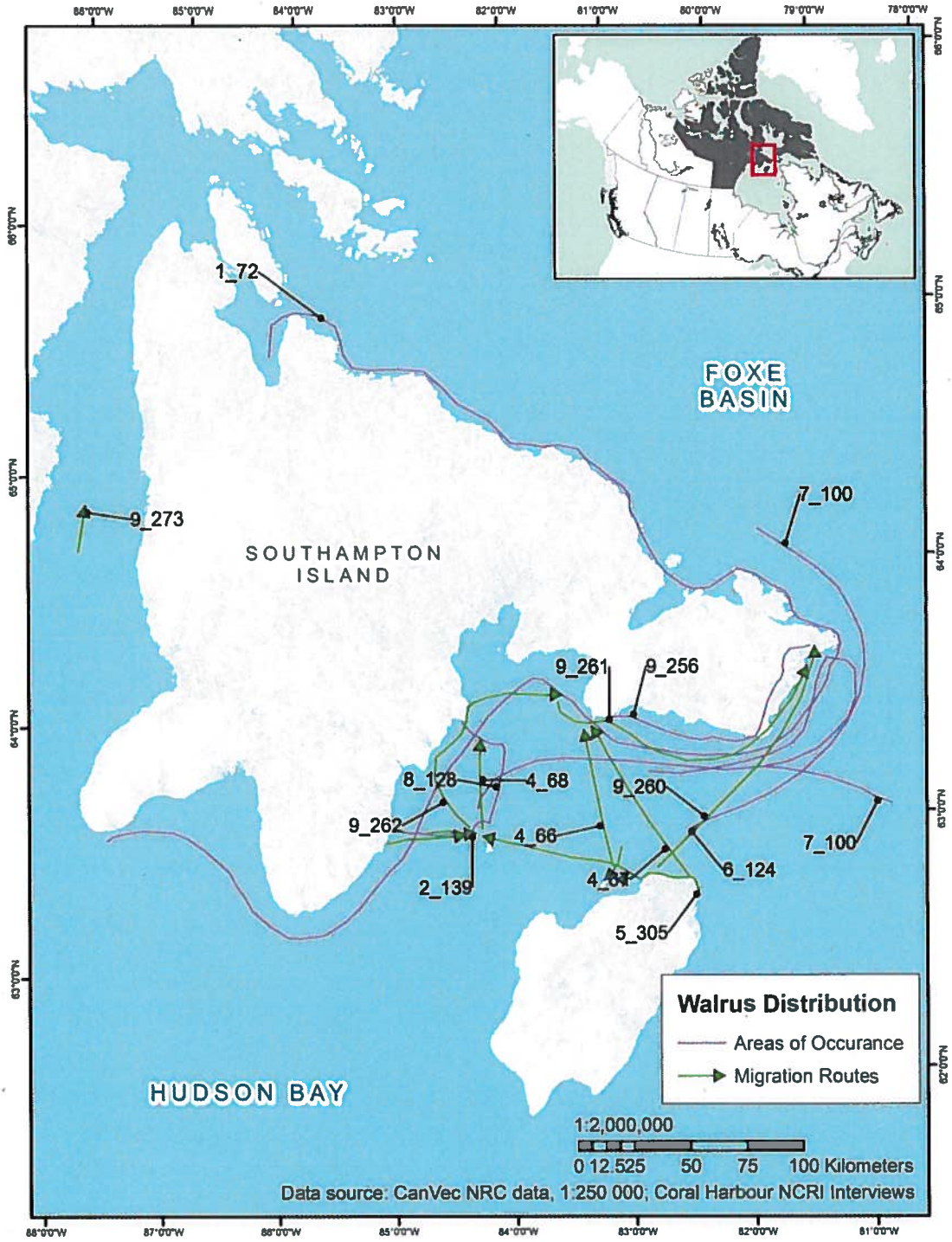
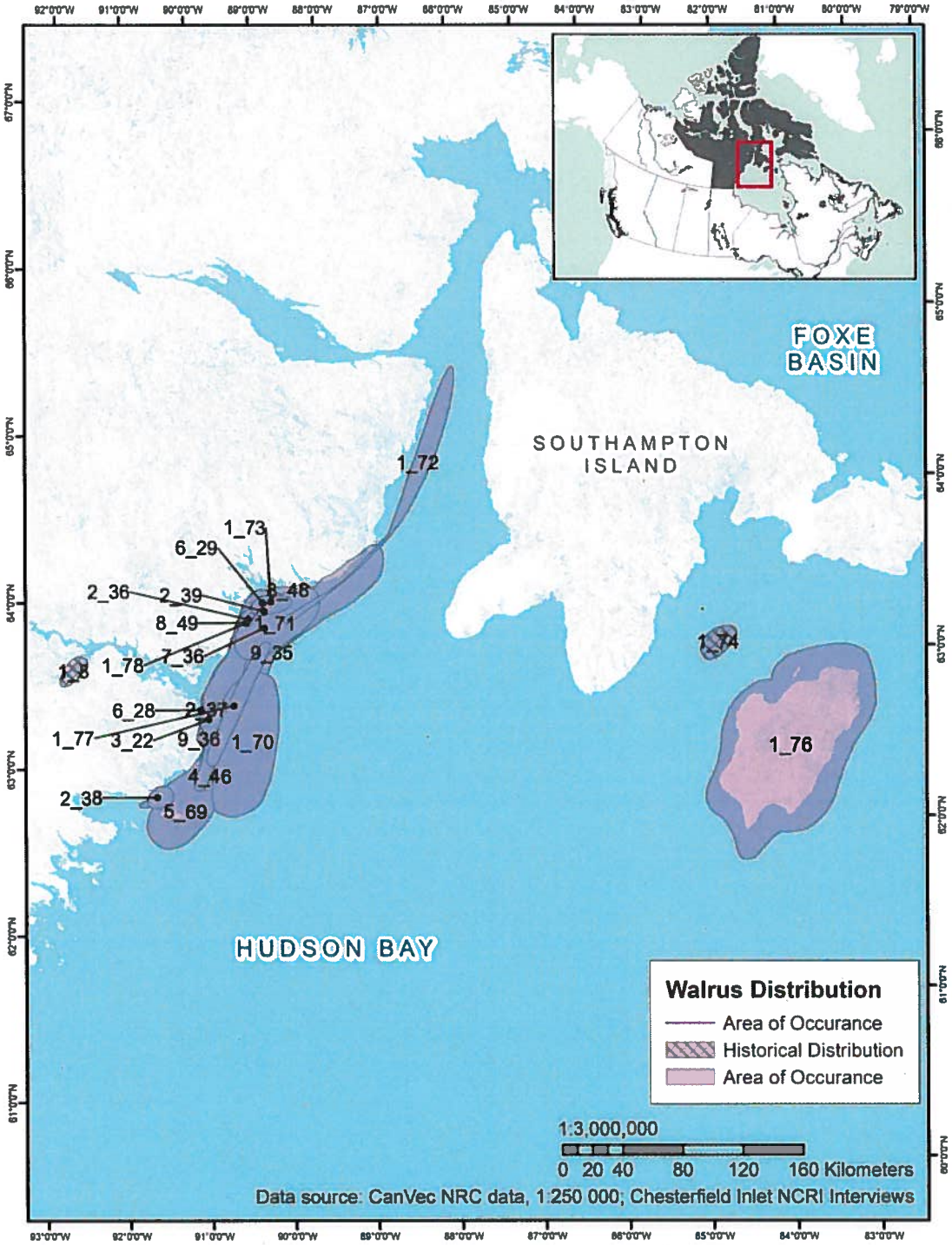


Figure 3: Coral Harbour walrus migration routes



Chesterfield Inlet (2008)

Figure 4: Chesterfield Inlet walrus distribution



Igloolik (2007)

Figure 5: Igloolik walrus distribution

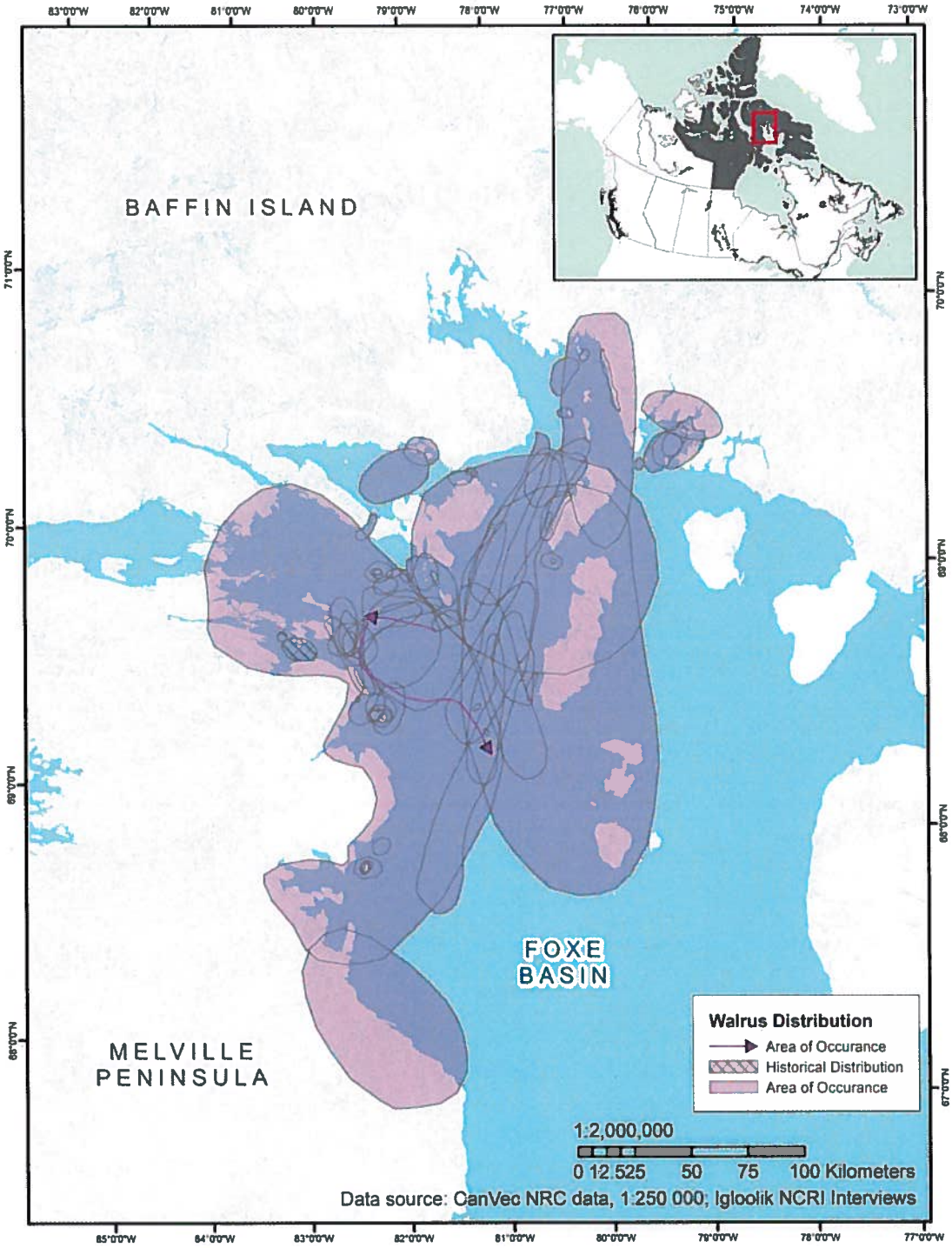


Figure 6: Igloolik walrus distribution; observations from Interviewees 1-5

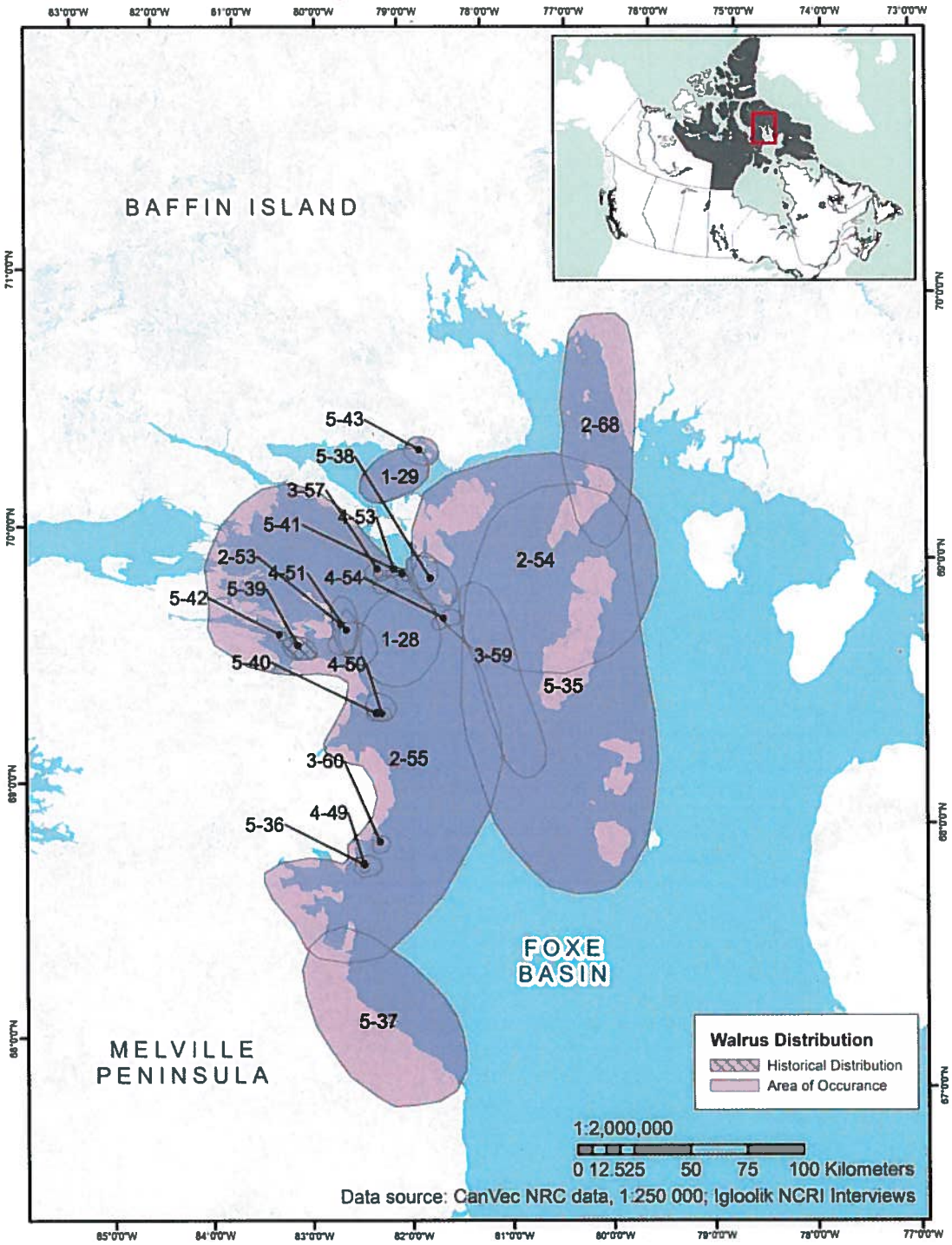
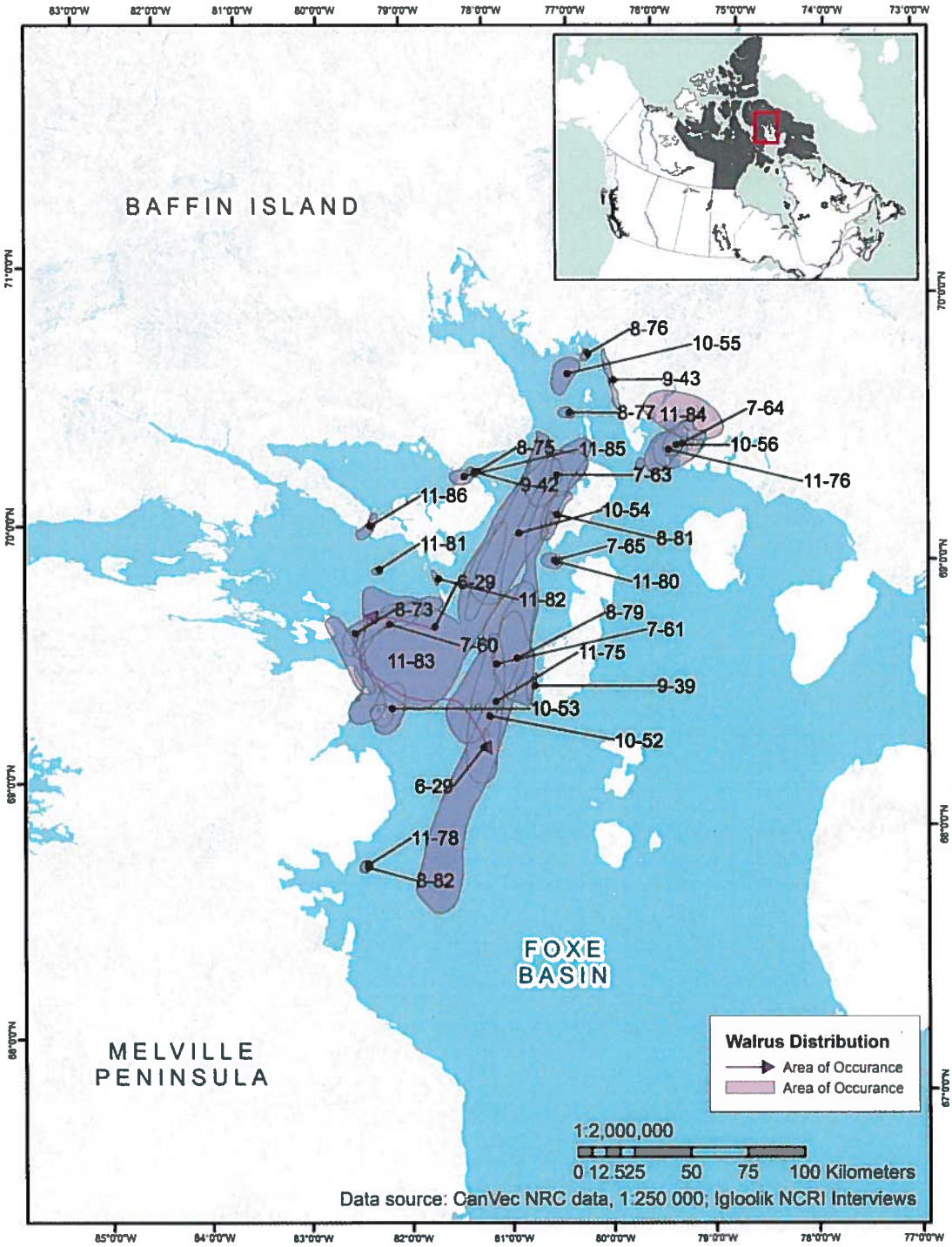
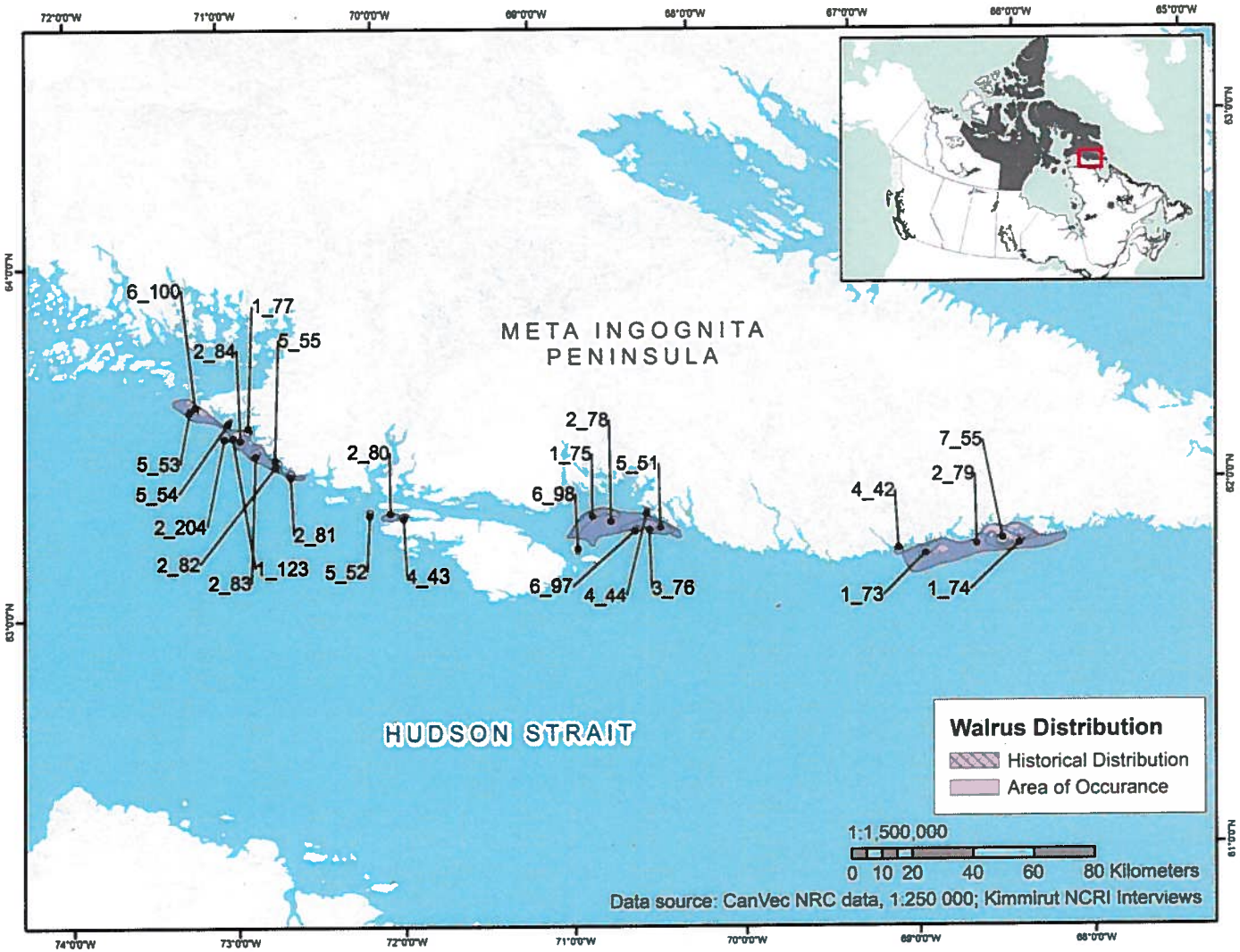


Figure 7: Igloolik walrus distribution; observations from Interviewees 6-11



Kimmirut (2010)

Figure 8: Kimmirut walrus distribution



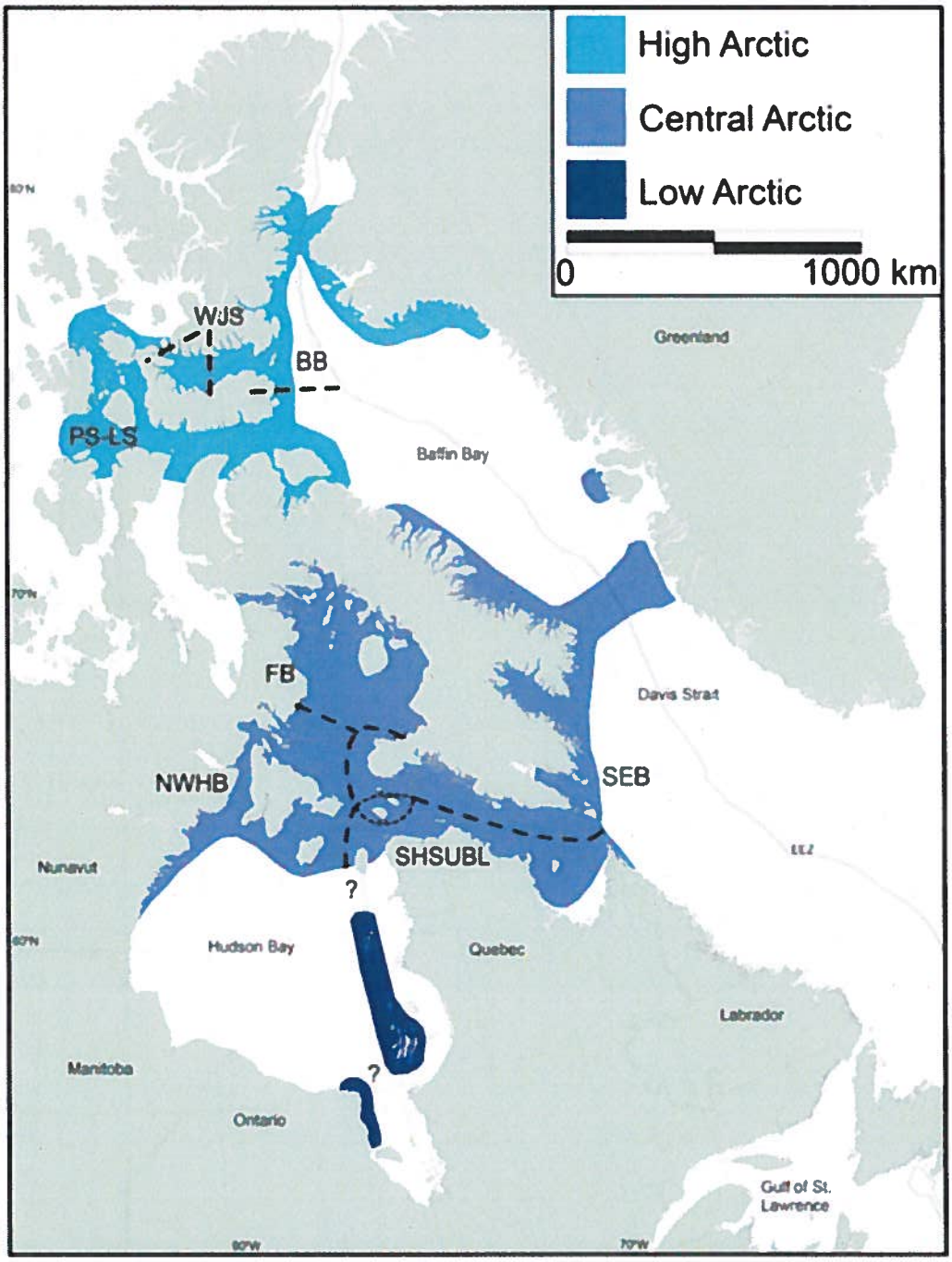


Figure 4. Approximate distributions of the Atlantic walrus populations in Canada. Walrus management stocks within these populations include: BB = Baffin Bay, FB = Foxe Basin, NWHB = North and West Hudson Bay, PS-LW = Pnny Strait-Lancaster Sound, SEB = South and East Baffin, and SHSUBL = South Hudson Strait-Ungava Bay-Labrador, and WJS = West Jones Sound. Question marks (?) indicate uncertainty with respect to distributions and/or movements.

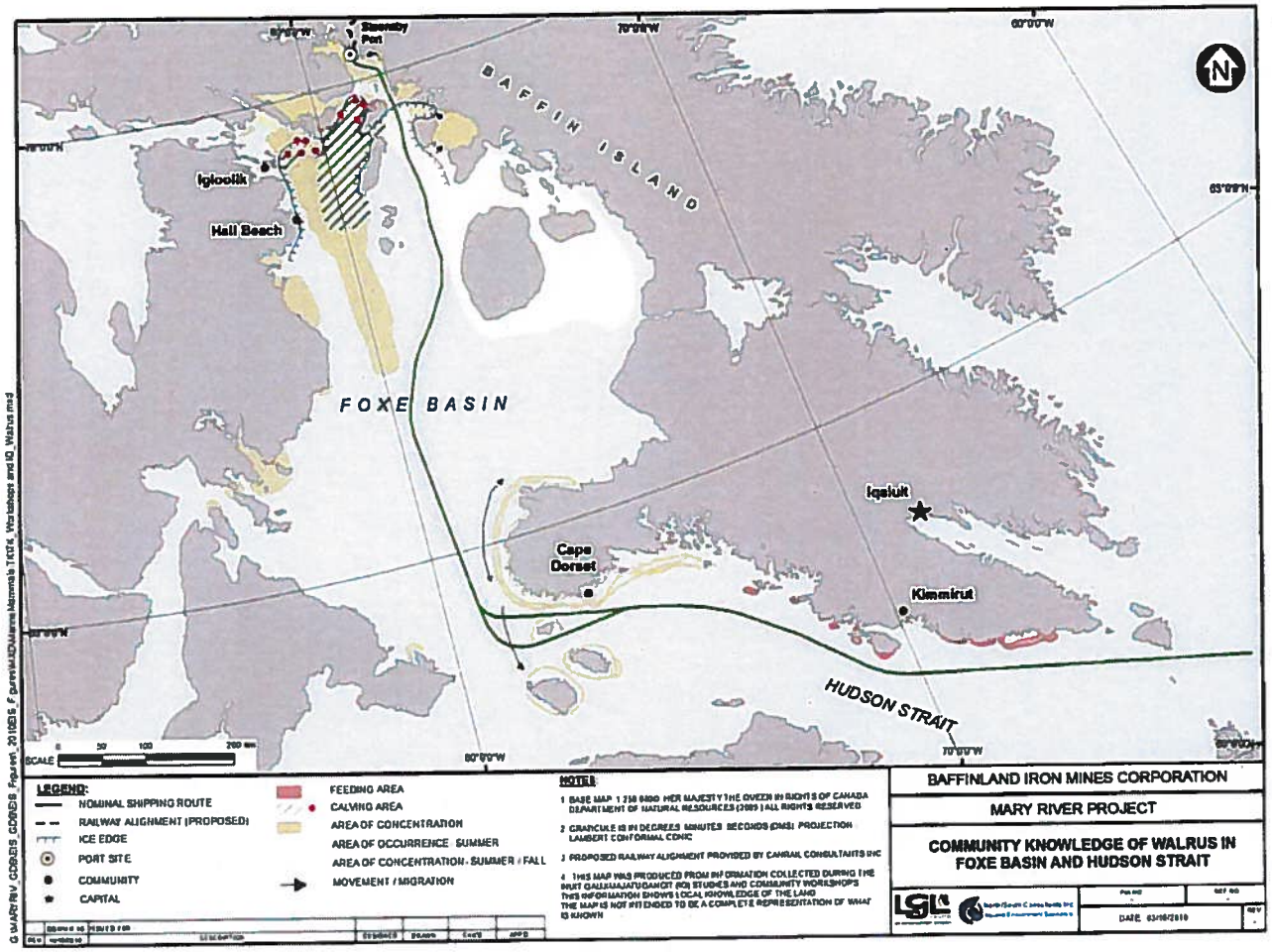


Figure 3.13 Community Knowledge of Walrus in Foxe Basin and Hudson Strait