

Dolphin and Union Caribou First Joint Meeting Report

Kugluktuk, March 25-27 2015



Department of Environment, Government of Nunavut Iqaluit, Nunavut

Executive Summary

On March 25-27, 2015 a joint meeting was held in Kugluktuk, NU. This meeting was organized by the Government of Nunavut and all co-managements partners were present: Nunavut Tunngavik Inc (NTI), the Hunters and Trappers Organization (HTO) from Kugluktuk and Cambridge Bay, Kitikmeot Regional Wildlife Board (KRWB), Kitikmeot Inuit Association (KIA), Olohaktomuit Hunters and Trappers Committee, Paulatuk Hunters and Trappers Committee/Inuvialuit Game Council, Wildlife Management Advisory Committee (WMAC), Government of Northwest Territory and Environment Canada. The participants are listed in Appendix I, followed by the workshop agenda, Appendix II and presentations in Appendix III. Over the three day meeting, delegates and representatives from co-management organizations engaged in round table discussion. They discussed the status of the Dolphin and Union Caribou and the framework of a joint management plan.

Various threats facing Dolphin and Union Caribou were brought to the table in addition to the numerous concerns of HTO's from both Nunavut and Northwest Territories. Discussions surrounding possible mitigation actions, management strategies, anthropogenic and natural threats, population fluctuations, migration changes and the effects of hunting and predation were all discussed at length. Meeting delegates unanimously agreed that furthering our understanding of the migration behaviors and the natural mortality that occurs while crossing sea ice had to be investigated further. The impact of wolves and grizzly bears on calving and wintering grounds was highlighted as a research priority, as was the significance of marine traffic affecting sea ice formation during the fall and spring migrations. It was agreed that delays in sea-ice formation during the fall migration would likely be of increasing concern in the future, as temperatures in the Arctic continue to rise. Potential management actions were discussed at length, however it was decided that no management actions should be decided until more information pertaining to population size, calving success, predation and migration behaviors could be answered.

During the joint meeting, scientific information was presented to the participants to reflect past monitoring efforts on the Dolphin and Union Caribou. Community perspectives on Dolphin and Union caribou were highlighted, as well as the current usage of this resource by the community and a review of existing and future threats was discussed. The need to have a common management plan in place created jointly by the different jurisdictions was well founded. Based on extensive discussions between all co-management partners at this meeting, a draft framework was produced.

Finally, the last session of the meeting was reserved for Traditional Inuit Knowledge perspectives. Two elders, Tommy Norberg and Isaac Klengenber joined the discussion to provide their knowledge and insight into the Dolphin and Union Caribou movements and population fluctuation during their lifetimes.

The Government of Nunavut, Department of Environment (DOE) will consider information shared during the workshop to write a joint Dolphin and Union Management Plan. Thus, the joint meeting report will be used by the delegates to report back to their communities and share

the information provided at this initial meeting. A second meeting of this group is tentatively planned for late 2015 in Cambridge Bay.

Preface

This report represents the Government of Nunavut, Department of Environment's best efforts to accurately capture and translate all the information that was shared during the Dolphin and Union Caribou joint meeting with the inter-jurisdictional co-management partners.

The views expressed herein do not necessarily reflect those of the Department of Environment, Nunavut or Government of Nunavut.



Delegates during the first day of the Joint Dolphin Union Management Meeting in Kugluktuk

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1.0 Purpose and Objectives of the Workshop

1.1 Meeting Objectives

The purpose of the workshop was to bring wildlife co-management partners together to share knowledge on the Dolphin and Union Caribou, share concerns, and work collaboratively towards a draft framework. The meeting objectives were as follows:

- ❖ Review scientific background and current and on-going research programs
- ❖ Review and discuss the proposed management planning process for the Dolphin-Union Caribou Management Plan
- ❖ Develop a management framework to address species needs, threats, management objectives and broad strategies and conservation measures
- ❖ Identify, review and discuss Inuit Quajimajatuqangit and Traditional Ecological Knowledge and establish how it can be incorporated into the management plan
- ❖ Seek a commitment from participants on how to engage and participate in the development of the Dolphin and Union Caribou Management Plan

The workshop was divided into two different sections:

- 1) Joining different management processes and what do we know?
- 2) What can we do to conserve the Dolphin and Union?

The goal of the first session was to inform participants about current on-going research programs, clarify with the co-management partners the different territorial and federal processes in place that require a management plan, and the need to work together to avoid duplicating efforts and to make it a more homogeneous process. The second session aimed to propose a framework for developing a joint Dolphin and Union Management Plan and discuss how Traditional Knowledge can be equally incorporated into the management plan, as per the Nunavut Land Claims Agreement (NLCA). Thus, this joint meeting engaged the co-management partners in the development of a Dolphin and Union management plan. This report was written based on the discussion that took place during the meeting; verbal quotes from the participants are italicized, whereas information taken from notes and minutes are not.

2.0 Workshop Participants and Structure

2.1 Workshop Participants

The workshop was attended by the representatives from the following organizations:

Canada:

- Environment and Climate Change Canada (ECCC)

Northwest Territory:

- Olohaktomuit Hunters and Trappers Committee
- Paulatuk Hunters and Trappers Committee/Inuvialuit Game Council
- Wildlife Management Advisory Committee (WMAC)
- Government of Northwest Territory (GNWT)

Nunavut:

- Hunters and Trappers Organizations (HTOs)- Kugluktuk, Cambridge Bay
- Elder Advisory Committee (EAC) with the Department of Environment
- Nunavut Tunngavik, Inc (NTI)
- Kitikmeot Regional Wildlife Board (KRWB)
- Kitikmeot Inuit Association (KIA)
- Department of Environment, Government of Nunavut (DOE)

2.2 Format of Discussions

During the workshop, presentations by biologists and collaborators provided background information on the current population and status of the Dolphin and Union Caribou and the process of species-at-risk and management planning for each jurisdiction. Presentations were followed by a question and answer period allowing delegates to provide input based on their experience and observations. Since the group was relatively small, there were no “breakout sessions”, but a group discussion and round table conversations took place to capture the perspectives and current management practices from each of the co-management partners.

One afternoon was dedicated to compiling a rough framework of a potential shared management plan between the three governmental jurisdictions taking into consideration all comments and concerns expressed by other co-management partners and elders that were present. This framework is provided below as management objectives and concerns about threats on the Dolphin and Union Caribou population. It is a compilation of efforts representing both scientific and Traditional Knowledge expertise.

This framework is a working document that will be modified and further discussed with the co-management partners and reviewed at a tentative fall meeting after survey and collar data have been completed.

3.0 Session 1: Joining Differing Management Processes and Addressing Knowledge Gaps

3.1 Scientific Background

Scientific information was presented to the participants; the past monitoring efforts of the Dolphin and Union Caribou and the proposed research program for 2015-2019. The Dolphin and

Union Caribou is the most genetically differentiated of the barren-ground caribou and have unique migration behaviors and a distinct phenotype. They do not form well-defined calving ground and have a more individualist calving strategy followed by fall and spring sea-ice migrations. The Wildlife Biologist, Lisa-Marie Leclerc and Jan Adamczewski presented more specific information from their respective jurisdictions.

The DOE presented information on the distribution, the migration pattern and the previous population surveys of this unique caribou. The range of the Dolphin and Union Caribou encompasses the west and east side of Bathurst Inlet for wintering ground and uses most of Victoria Island for summering ground (Figure 1). Dumond and Lee¹ (2013) provided revised estimates of $34,558 \pm 95\% \text{ CL } 6,801$ in 1997 and $27,878 \pm 95\% \text{ CL } 7,537$ in 2007 (Figure 2). Co-management partners provided information on a potential crossing between Victoria Island and King William Island that was previously unreported in the scientific literature and this local knowledge will be incorporated to forge the current research programs.

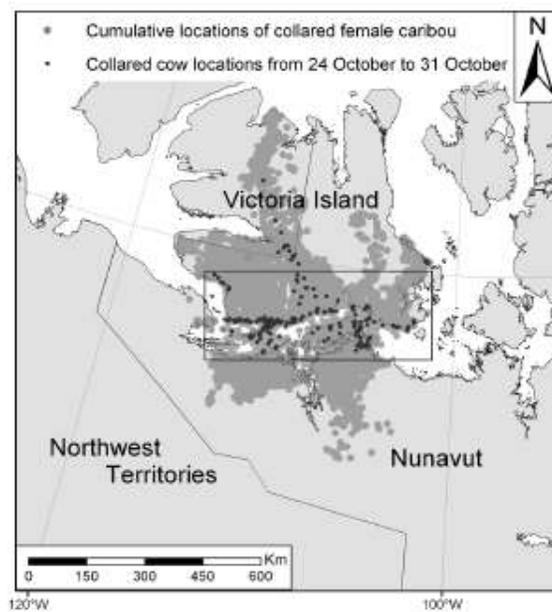


Figure 1: From 1999-2005 satellite collar locations, the cumulative annual distribution of Dolphin and Union caribou was generated and represented on the picture in grey (from Dumond and Lee, 2013)

¹ Dumond M. and Lee D. (2013). Dolphin and Union Caribou herd Status and Trend. Arctic. Vol 66. No 3: 329-337.

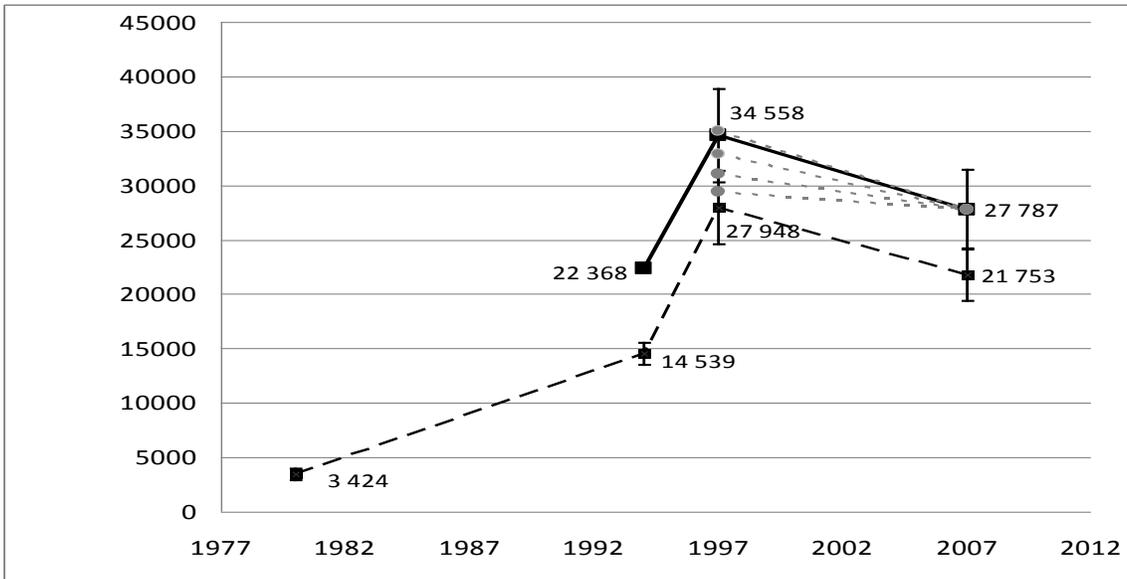


Figure 2: Variation of the Dolphin and Union caribou herd estimates from 1980 to 2007. The dark grey dashed line shows the estimate in the study area and the black solid line shows the extrapolated estimate for the whole herd (from Dumond and Lee, 2013).

The Dolphin and Union research program 2015-2019 will aim to fill the following knowledge gaps:

- Population estimates and habitat selection/range
- Herd health (diseases and toxicology)
- Use of new technologies (drones and new collar design)
- Mortality associated with fall migration and its impact on the herd

The GNWT presented background information from the “Species Status Report for Dolphin and Union Caribou (*Rangifer tarandus groelandicus x pearyi*) in the Northwest Territories” document written by the Species at Risk Committee (SARC) in 2013. An animation showing the compilation of collared caribou movement by NWT and Nunavut from 1987 to 2006 was presented. Attention was drawn to the fall and spring migration date as well as the main crossing point. From what is seen today, difference in the Dolphin and Union migration pattern was highlighted. This animation revealed one of the numerous applications of collaring caribou. Thus, the Dolphin and Union are found in the Northwest part of Victoria Island from July to October.

3.2 Processes under the Federal Species at Risk Act (SARA) and Territorial Species at Risk (NWT) Act.

Environment and Climate Change Canada:

The Dolphin and Union caribou was assessed by COSEWIC in 2004 and listed under the *Species at Risk Act (SARA)* in 2011 as a species of Special Concern. Due to this Special Concern status, a Dolphin and Union Management Plan is required before 2016/2017 under the “Three-Year Recovery Document Posting Plan”. This federal legislation was explained to all co-management

partners and example of completed management plans for other species under the same listing was brought to the table as an object of discussion.

Government of Northwest Territories:

The Territorial *Special at Risk (NWT) Act* assessed the status of the Dolphin and Union caribou in 2013 and this species was then listed in 2015 as a species of Special Concern. Under this status, GNWT has until March 2017 to complete a management plan for the NWT. The management plan has a more specific layout with the first section covering the background information about the species biology and a section about the strategies and approaches to attain the management goal.

Government of Nunavut/ NTI

The Government of Nunavut, Department of Environment (DOE), is responsible for the protection, management and sustainable use of the caribou, such as the Dolphin and Union. The DOE is also responsible for conducting research, in addition to provide supportive information to the co-management partners, is involved in development of management plans for sound management. The *Nunavut Wildlife Act* recognizes Inuit *Qaujimagatuqangit* (IQ) and NTI ensures that Inuit knowledge is then integrated fully into management planning. As the provisions for Species at Risk designation under the *Nunavut Wildlife Act* have not been enacted, Nunavut does not have to produce a management plan by a specific date.

3.3 Community Perspectives:

Round table discussion (from minutes):

Ulukhaktok: The development of a young hunter program was suggested as a means to keep the younger generation on the land and to learn traditional methods of hunting and harvest. Concerns regarding freezing rain events affecting spring and fall survival of caribou were brought up, these were also shared by the other communities. Community members were being paid to collect sea ice thickness using Polar Bear funding and this could be a way of increasing community engagement. Harvest reporting in Ulukhaktok is carried out by having a community member go door-to-door to collect harvest records that otherwise would not be accounted for. Concerns regarding the future of healthy and abundant land foods for future generations were made very evident by Joshua Oliktuak, who emphasized the importance of maintaining sustainable levels of caribou in Nunavut and The Northwest Territories. The suggestion was made that industry should be responsible for paying for research to address the questions of impacts on adjacent areas.

Paulatuk: No comments

Tuktoyaktuk: The community of Tuktoyaktuk had recently created a park that was known to be a key calving area for the Bluenose West herd, but allowed for Inuit harvest and access for hunting. There was a suggestion to pursue a similar project for caribou calving grounds in Nunavut. This community is concerned regarding cruise ships dumping bilge water into the gulf. In addition, they expressed concern about the impacts of tourists and potential invasive plants

and insects if visitors leave the cruise ships. The importance of understanding animal movements was expressed by Charles Pokiak and he acknowledged that the impacts on animals that occurs from collaring was worth undertaking for the information gained. The ability for communities to meet face-to-face with biologists was also expressed as an important aspect for caribou research.

Cambridge Bay: Jimmy Haniliak explained how in the 1950's when he moved to Cambridge Bay, that no island caribou were seen and he had to travel to the mainland (Bay Chimo) to find them. When island caribou began to return, he would travel 100 miles northwest where he would get Peary Caribou, which tasted different than mainland caribou. He noticed that some animals would drown going south and that those returning in the spring were thin and had little fat reserves. Discussions with elders from Cambridge Bay seems unanimous that there has been an observed change in migration route during the fall, utilizing areas east of Cambridge Bay to a much larger extent than previously. Movements from Ferguson Lake east, with crossings to King William Island have been observed personally by Jimmy Haniliak and also believed they return the same way in May. Concerns regarding increased numbers of Grizzly bears and wolves on Victoria Island were expressed multiple times. Human garbage and debris has been observed affecting caribou, such as barbed wire caught in the antlers of caribou. Ships breaking sea ice in the fall was a major concern expressed by every community. This was experienced by people from Cambridge Bay when NTCL were breaking ice in the channel every 12 hours. This prevented caribou from crossing the channel. The suggestion of allowing HTO's to charge fees for land use was made.



Photo 1: Elder Jimmy Haniliak showing where Dolphin-Union Caribou were now crossing sea ice in eastern Victoria Island

Kugluktuk: Concerns regarding caribou mention them been seen frozen in ice and groups as large as 150 animals could be seen floating on large pieces of ice in the Coronation Gulf. Multiple mentions of caribou being seen with ice balls on their fur in the fall from having fallen through sea ice during their migration were made. Jorgan Bolt mentioned that he has seen bugs being so thick that caribou would be seen running kilometers, just to turn around and return to

the same location. Trying to escape this insect harassment meanwhile prevented the caribou from grazing to increase their fat storage. Changing sea ice conditions were a cause of concern for elder Isaak Klengenberg, who had to leave his outpost camp due to the later formation of sea ice, which prevented him from accessing it in the spring and fall. He mentioned that he used to see flocks of gulls gathering around frozen caribou in the ice; the gulls would feed off them. Elder Tommy Norberg mentioned that close by the islands north-east of Kugluktuk (Berens Islands), where the sea ice is often thinner near the edges, caribou were seen either drowned in the water or had died from freezing on the bedrock. He followed up with saying that this happen a number of years ago and that today, most island caribou don't cross in this area anymore.



Gjoa Haven: James Qitsualik Taqaugak confirmed Jimmy Haniliak's observations of caribou crossing from Victoria Island to King William Island. He also expressed concern regarding predator increases and the potential impact of forest fires on wintering caribou.

In the past, the Inuit always kept their camps away from migration routes to avoid disturbing the caribou as they moved between summer and wintering grounds. James also spoke of how respect for using the caribou carcass has changed. In the past, cutting up a carcass was a very careful ordeal, making sure not to cut through sinew, while today people just used saws to butcher carcasses and these traditions are being lost.

Photo 2: Elder Tommy Norberg showing where Dolphin-Union Caribou wintered south-east of Kugluktuk

Predators:

Many comments were received from all communities regarding the potential impacts of increased predator populations in the Arctic, mostly the perceived increase in wolves and grizzly bears. Observations from delegates on grizzly predation on calving grounds and increased observations of both predators on King William Island and Victoria Island were made. There was acknowledgement that predators have been interacting with caribou for millennia and they haven't been responsible for the extirpation of any caribou herds.

Some examples of previous predator control were made by delegates, including stories of killing wolf pups near calving ground and poisoning wolves along migration corridors. Poisoning can have serious detrimental effects on other scavengers and this wasn't the best form of predator management.

A suggestion to increase bounties on wolves in Nunavut was made, as it has been done in NWT and was supported by most communities. Increases in gas prices have negatively affected hunters and fewer people travel on the land due to the extra costs. Comments from delegates confirmed that there was no interest in mass slaughter, but rather would prefer a controlled management to keep numbers from increasing too quickly. The Inuit have always respected wolves and the role they play in the Arctic ecosystems. Examples of this were given by Philip Kadlun, who said when he was living on the land, they would sometimes find aborted wolf pups near dens at times of low caribou numbers.

There are also questions regarding the impact that industrial activities have in the NWT, forcing predators further north due to noise and mechanical disturbances.

It would be important to have a predator monitoring program in place in the region. Thus, even if the HTOs request a wolf bounty, it was made clear that the GN-DOE does not support such an initiative. However, DOE mentioned that there is no limitation on the number of wolves that can be harvested.

4.0 Session 2: What can we do to conserve the Dolphin and Union

4.2 Framework of the Management plan

Management plan group direction:

The management plan should incorporate equally scientific knowledge and traditional knowledge drawn from other existing caribou management plan, but be specific to the uniqueness of the Dolphin and Union caribou.

Management goal/vision:

A) To ensure a sustainable population of Dolphin and Union caribou and intact habitat, that offers harvesting opportunities for present and future generations, recognizing the cultural importance of Dolphin and Union caribou.

or

B) To ensure a sustainable population of Dolphin and Union caribou and intact habitat, that allows for human use of caribou and their habitat while respecting conservation concerns.

Objectives:

These are 5 recommended objectives for the management of Dolphin and Union caribou. These objectives should be applied across the NWT - Nunavut population.

1. Ensure there is adequate and intact habitat with minimal human disturbance (in particular, migratory sea-ice route) to maintain a healthy and sustainable population of Dolphin and Union caribou.
2. Ensure that harvest of Dolphin and Union caribou is sustainable.
3. Collect scientific, technical and traditional information on Dolphin and Union caribou ecology, key habitat, demographic indicators, and cumulative effects to inform sound management decisions.
4. Communicate and share information on an ongoing basis with co-management partners, communities, industry and the public to inform them about monitoring and managing dolphin-union caribou.
5. Adaptively co-manage Dolphin and Union caribou by using a grassroots (bottom up approach) and using the best traditional, scientific, and technical information available.

Approaches and actions to achieve these objectives:

Recommended approaches (numbered as X.X.) are grouped on the following pages under each objective. More specific actions (numbered as X.X.X) are grouped below under each approach.

Objective #1:

Ensure there is adequate and intact habitat with minimal human disturbance (in particular an intact migratory sea-ice route) to maintain a healthy and sustainable population of Dolphin and Union caribou.

- 1.1 Monitor and minimize human/industrial disturbance.
 - 1.1.1 Monitor industrial shipping traffic.
 - 1.1.2 Work with Transport Canada to regulate shipping and industry activities seasonally.
 - 1.1.3 Work with tourism industry to regulate cruise ships as well as human traffic on land;
 - 1.1.4 Establish seasonal limitations for industry shipping and cruise ships during calving and migration seasons.

- 1.1.5 Develop guidelines, standard advice, and best practices for shipping, tourism and industry;
 - 1.1.6 If necessary, in response to caribou lifecycles and changes to habitat recommend that shipping, cruise ships and/or industrial activities be scaled back or temporarily discontinued.
 - 1.1.7 Identify organizations (e.g., HTOs and communities) who could/would play a lead role in promoting standard advice and guidelines for industry.
 - 1.1.8 Develop an oil spill response plan.
- 1.2 Monitor changes to habitat on an ongoing basis.
 - 1.2.1 Track human-caused landscape changes, using both remote sensing and current disturbance data from industry.
 - 1.2.2 Compile and manage spatial information on landscape change.

Objective #2:

Ensure that harvest of Dolphin and Union caribou is sustainable.

- 2.1 Obtain accurate harvest data through measuring harvest levels.
 - 2.1.1. Educate people on the importance of reporting harvest.
 - 2.1.2. Work with local Hunters & Trappers Committees/Associations, and local Wildlife Advisory Boards to collect accurate information on harvest levels of Aboriginal hunters.
 - 2.1.3. Report estimated total harvest levels, including the number harvested and the sex ratio, to caribou management authorities.
- 2.2 Manage the harvest to ensure it is sustainable.
 - 2.2.1. Investigate and define *sustainable harvest* levels.
 - 2.2.2. Elders teach youth about wise harvesting practices that minimize negative impacts on caribou; includes no wasting of meat, avoidance of overharvesting, proper marksmanship, ability to distinguish types of caribou; avoidance of harvesting cows with calves.
 - 2.2.3. Investigate the possibility of promoting alternative food sources as an alternative to harvesting of Dolphin and Union caribou.
 - 2.2.4. Periodically review harvest levels and make management recommendations if necessary (e.g. temporary harvest limitations).

Objective #3:

Collect scientific, technical and traditional information on Dolphin and Union caribou ecology, health, key habitat and population indicators, impacts of human activities, and cumulative effects to inform sound management decisions.

- 3.1 Incorporate community and traditional knowledge on an ongoing basis.
 - 3.1.1 Ensure that plans and activities for Dolphin and Union caribou management are informed by community and traditional knowledge through ongoing communication between co-management partners and through supporting community monitoring programs.
- 3.2 Identify knowledge gaps and establish high priority research questions.

- 3.2.1 Conduct research on Dolphin and Union caribou to determine health, condition and test for possible contaminants.
- 3.3 Improve our understanding of Dolphin and Union caribou distribution and relationships
 - 3.3.1 Identify geographic areas of importance to Dolphin and Union Caribou through research and traditional knowledge.
 - 3.3.2 Monitor changes in predator populations
 - 3.3.3 Promote research on relationships between Dolphin and Union caribou and predators (including new predators)
 - 3.3.4 Promote research on relationships between Dolphin and Union caribou and other species (e.g. ungulates, geese)
- 3.4 Estimate population trends in each region.
 - 3.4.1 Expand community monitoring programs that provide information on Dolphin and Union caribou health and condition, habitat vital rates, numbers, and population trends and predator changes.
- 3.5 Develop an approach to modelling cumulative effects.
 - 3.5.1 Assess and manage cumulative impacts on Dolphin and Union caribou population and habitat.

Objective #4:

Communicate and share information on an ongoing basis with co-management partners, communities, industry and the public to inform them about monitoring and managing dolphin-union caribou.

- 4.1 Encourage flow and exchange of information between parties, using various approaches, depending on group/demographic.
 - 4.1.1 Conduct “out on the land” trips, where more experienced hunters (elders if they’re able) take youth out on the land.
 - 4.1.2 Use social media and the internet to reach out to youth.
 - 4.1.3 Conduct school visits to educate youth about managing Dolphin and Union caribou
 - 4.1.4 Conduct community meetings to inform communities about managing Dolphin and Union caribou.

Objective #5:

Adaptively co-manage Dolphin and Union caribou by using a grassroots, bottom up approach and using the best traditional, scientific and technical information available.

- 5.1 Work with co-management partners, Aboriginal governments and organizations, local harvesting committees, and industry to share information and collaborate on management actions.
 - 5.1.1 Continue to work with wildlife management advisory boards, game councils and local HTOs on Dolphin and Union caribou monitoring, stewardship and management.
 - 5.1.2 Investigate the potential of having industry contribute information to research.

- 5.1.3 Continue engaging hunters, industry and public about Dolphin and Union caribou management.
 - 5.1.4 Annually review new information on population and habitat, and adapt management practices accordingly.
 - 5.1.5 If necessary, recommend alternative management actions (e.g., stricter habitat and/or harvest management) allowing for natural variation in numbers.
 - 5.1.6 Annually report on management actions and progress made toward meeting objectives in management plan.
- 5.2 Co-ordinate research among different partners
- 5.2.1 Co-ordinate research activities with different research institutions to minimize impacts on Dolphin and Union caribou.
 - 5.2.2 Ensure local involvement in research activities (planning, field research)
 - 5.2.3 Potentially charge fees (higher fees if already in existence) to research institutions for conducting research.
- 5.3 Work with all levels of governments to manage populations of other species (particularly geese).
- 5.3.1 Approach other provincial governments to open hunting season earlier
 - 5.3.2 Promote harvesting of geese through subsistence and sport hunts
 - 5.3.3 Educate communities/ promote collection of eggs
- 5.4 Work with communities to reduce release of contaminants through various venues (see 4.1).

4.3 Threats to the Dolphin and Union caribou

During the meeting, the following threats were identified and then listed in priority. Approaches to address these threats were also identified by participants wherever possible. Each threat and approach has been linked to a specific objective in the framework.

Threats:

- Climate change (warmer weather, icing events, more severe storms)
- Drowning and dangerous sea-ice crossing
- Shipping – both industrial and cruise ships (ice-breaking-check specs of “ice-breaking” ie. Ice thickness)
 - invasive species, as a result of dumping of grey water)
 - Contaminants (eg. Oil spill causes destruction of shoreline and potential calving habitat)
- Human activities (conducting research)
- Industrial development
- Harvesting (wastage of meat and over- harvesting)

- Predation (wolves, bears)
- Disease (emerging or increase in disease and parasites)
- Insects (increase in, and/or types)
- Relationship between other species (eg. musk-ox, geese) and caribou (predation, habitat degradation, competition for food)
- Impacts of salt on habitat
- Shipping of oil containers (oil spills)
- Tourism (eg. Cruise ships)

	Threat	Approach that addresses threat	Integrated into Objective # Approach #
1.	Climate Change (resulting in drowning and dangerous sea-ice crossing)		Obj. #1
2.	Shipping: breaking of sea-ice and tourism (tourists go on land) - Also includes shipping of oil containers.	- Regulate shipping activities seasonally (eg. , migration) Develop guidelines and best practices for shipping companies - Monitor ship traffic - Work with Transport Canada and industry to establish seasonal limitations - Develop an oil spill response plan	Obj. #1 1.1.4 1.1.5 1.1.1 1.1.2 1.1.4 1.1.8
3.	Harvesting (wastage of meat and over-harvesting)	Obtain accurate information to estimate population Approach: Manage harvest to ensure it is sustainable: Actions: - Obtain accurate harvest data (measure harvest levels) Investigate and define “sustainable harvest levels - Periodically review harvest levels and make harvest strategies and recommendations if necessary. Community education (Elders teaching youth: - wise harvesting practices; - “Out on the land” trips	Obj. #2 2.2 2.1 2.2.1 2.2.4 2.2.2 4.1.1

	Threat	Approach that addresses threat	Integrated into Objective # Approach #
		Consider alternative species to harvest	2.2.3
4.	Industrial activities – mining (oil and gas exploration)	<ul style="list-style-type: none"> - Develop guidelines, standard advice, and best practices for shipping and industry; potentially have industry contribute to research Minimize human/industrial disturbance - Regulate activities seasonally (e.g. limit activities during calving and migration seasons) - Identify organizations (e.g., HTOs and communities) who could play a lead role in promoting these guidelines. - If necessary, in response to caribou lifecycles and landscape changes, recommend that development activities be scaled back or temporarily discontinued 	<p>1.1.5</p> <p>5.1.2</p> <p>1.1</p> <p>1.1.2</p> <p>1.1.4</p> <p>1.1.7</p> <p>1.1.3</p>
5.	Predation (wolves, bears)	<ul style="list-style-type: none"> - Monitor predator changes (change of predator species) - Research predator-prey relationships among new predators - Conduct and gather research on wolves (correlation between wolf population numbers and caribou pop numbers) - Consider responsible wolf harvesting through: Community education Traditional harvesting 	<p>3.3.2</p> <p>3.4.1</p> <p>3.3.3</p> <p>3.4.1</p> <p>3.3.3</p> <p>3.4.1</p>
6.	Human Activities including: - Conducting research Tourism, Includes: <ul style="list-style-type: none"> • Cruise ships • Low-flying aircraft • Air-borne pollutants • Movement of tourists walking around in caribou habitat 	<ul style="list-style-type: none"> - Coordinate research activities with different research groups to minimize impacts - Identify knowledge gaps and establish high priority research questions - Ensure local involvement in research activities (planning, field research) - Charge fees for conducting research - Have seasonal limitations on cruise ships & limitations to tourists walking in caribou habitat 	<p>5.2.1</p> <p>3.2</p> <p>5.2.2</p> <p>3.1.1</p> <p>5.2.3</p> <p>1.1.3</p> <p>1.1.4</p> <p>1.1.5</p>

	Threat	Approach that addresses threat	Integrated into Objective # Approach #
7.	Disease	- Conduct research on caribou to determine health	3.2.1 3.4.1
8.	- Presence of other species (eg. musk-ox, geese) causing habitat degradation and competition for food	-Examine relationship between other species and caribou - Work with all levels of governments to manage numbers of geese - Approach other provincial governments to open hunting season earlier - Promote harvesting of geese through subsistence and sport hunts - Educate communities/ promote collection of eggs	3.3.4 5.3 3.1.1
9.	Contaminants - includes impacts of salt on habitat	- Conduct research on caribou to determine health - Decrease local community release of contaminants	3.2.1 3.4.1 5.4 4.1
10	Insects	- Conduct research on caribou to determine health - Expand community monitoring programs that provide information on caribou health	3.2.1 3.4.1 3.1.1
11	Forest fires (smoke, air-borne pollutants)	- Conduct research on caribou to determine health - Expand community monitoring programs that provide information on caribou health	3.2.1 3.4.1 3.1.1
Knowledge Gaps			
	Conduct research on health of caribou including monitoring of health		3.2.1 3.4.1 3.1.1
	Research on predator-prey relationship		3.3.2 3.3.3 3.4.1
	Research on impacts of past predator culling programs		Use existing TK and academic info

4.3 Sharing IQ/Traditional Ecological Knowledge and Local Knowledge

Elders had the opportunity to talk about what portions of the animal carcass were traditionally utilized and how each part of the caribou was used. Not only was the meat harvested, but also the organs in the chest cavity, liver, heart, digestive tract, and sinew were taken. Within the communities, successful hunters shared their catches not only with family or close relatives, but also with other community members in need. Since sharing is part of Inuit values, the workshop participants spoke of extending this cultural sharing to other communities in need, via a meat sharing distribution program.

Going Forward

The draft management framework produced at this meeting will be distributed to all wildlife co-management partners for their review and input with their respective board(s) and/or organization(s). A second meeting of this group is tentatively planned for late 2015 in Cambridge Bay, where a request for youth delegation and elders should also take part.

Appendix I: List of Participants

Name	Community	Organization
Joshua Oliktoak	Ulukhaktok	Olohaktomuit Hunters and Trappers Committee
Joe Illasiak	Paulatuk	Paulatuk Hunters and Trappers Committee/Inuvialuit Game Council
Charles Pokiak	Tuktoyaktuk	Wildlife Management Advisory Committee (WMAC)
James Qitsualik Taqaugak	Gjoa Haven	Kitikmeot Regional Wildlife Board (KRWB)
Jimmy Haniliak	Cambridge Bay	Cambridge Bay Hunters and Trappers Organization
Philip Kadlun	Kugluktuk	Kugluktuk Hunters and Trappers Organization
Colin Adjun	Kugluktuk	Kugluktuk Hunters and Trappers Organization
Jorgen Bolt	Kugluktuk	Kugluktuk Hunters and Trappers Organization
Luigi Toretti	Kugluktuk	Kitikmeot Inuit Association (KIA)
Tannis Bolt	Kugluktuk	Kitikmeot Inuit Association (KIA)
Tommy Norberg	Kugluktuk	Kugluktuk Elder and Knowledge Holder
Isaac Klengenber	Kugluktuk	Kugluktuk Elder and Knowledge Holder
David Lee	Quebec	Nunavut Tunngavik Inc. (NTI)
Lisa-Marie Leclerc	Kugluktuk	Government of Nunavut (DOE)
Myles Lamont	Kugluktuk	Government of Nunavut (DOE)
Mathieu Dumond	Kugluktuk	Government of Nunavut (DOE)
Lisa Worthington	Yellowknife	Government of NWT (GNWT)
Jan Adamczewski	Yellowknife	Government of NWT (GNWT)
Donna Bigelow	Yellowknife	Environment Canada (EC)
Amy Ganton	Yellowknife	Environment Canada (EC)

Appendix II: Agenda

Dolphin and Union Caribou Joint Management Planning Meeting

Ulu Visitor Center, Kugluktuk

March 25-27, 2015

Goals of the Meeting:

- Review and discuss the proposed management planning process for the Dolphin and Union Caribou Management Plan
- Develop a management plan framework: species needs, threats, management objectives, and broad strategies and conservation measures
- Review of scientific background and current on-going research investigation
- Identify, review and discuss IQ and TEK information and how it can be incorporated into the management plan
- Seek a commitment from participants on how to engage/participate in the development of the Dolphin and Union Caribou Management Plan

Day 1:

Session 1: Joining different management processes and what do we know?

8:30-9:00	Arrival and Coffee
9:00-9:10	Welcome Opening Prayer Opening Remarks Introductions
9:10-12:00	Dolphin and Union herd Background -Previous aerial surveys (Kugluktuk and Cambridge Bay) Update on research and monitoring program Community Observations
LUNCH	
13:00-15:00	Each jurisdiction explain their process- species at risk and management planning Overview on how the joint process will work and the expected final product
15:00-15:30	HEALTH BREAK
15:30-17:00	Management goals and framework Process consideration Goal, Objectives, Approaches

Day 2:

Session 2: What Can We Do to Conserve the Dolphin and Union?

8:30-9:00	Arrival and Coffee
9:00-9:10	Opening Remarks for Day 2 Overview of Day 1
9:10-12:00	Discussion group - Main concerns Concerns (threats) about the Dolphin and Union caribou
LUNCH	
13:00-14:00	Discussion group - Main concerns Concerns (threats) about the Dolphin and Union caribou
15:00-15:30	HEALTH BREAK
14:00-17:00	Management Practices -Current and future practices -Group discussion

Day 3:

Session 3: What Can We Do to Conserve the Dolphin and Union?

8:30-9:00	Arrival and Coffee
9:00-9:15	Opening Remarks for Day 3 Overview of Day 2
9:15 12:00	Discussion group – What can be done? Management recommendations - Framework Address key stewardship and caribou management questions
<u>LUNCH</u>	
13:00-16:00	Integrating IQ, TEK, and Local knowledge with Science for management action - Aboriginal management practices
16:00-17:00	Next Step and Closing Remarks

Appendix III: Presentations



Dolphin and Union Caribou

Government of Nunavut
Department of Environment

Lisa-Marie Leclerc
March 25, 26, 27, 2013



Introduction

1. Background
2. Distribution
3. Migration pattern
4. Population surveys
5. Dolphin and Union 2015-2019 research program

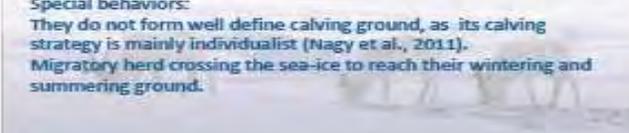


Background

Dolphin and Union caribou are intermediate in size and color between Peary caribou and Barren-ground caribou.

Dolphin and Union caribou is the most genetically differentiated of the barren-ground caribou (Zittlau, 2004) possibly due to genetic bottleneck.

Special behaviors:
They do not form well define calving ground, as its calving strategy is mainly individualist (Nagy et al., 2011).
Migratory herd crossing the sea-ice to reach their wintering and summering ground.



Background

Dolphin and Union caribou are of great importance for the Inuit subsistence and cultural needs for the community

- Kughuktuk
- Cambridge Bay
- Bathurst Inlet
- Bay Chimo (Umingmaktok)
- Ulukhatak
- Pautatuk

This herd is of great importance for subsistence and cultural needs.



Migration pattern



Dolphin and Union Caribou
This herd migrates across the sea-ice from the summering grounds in the north to the wintering grounds in the south. The migration routes are shown in red and blue arrows.



Migration pattern

Fall migration



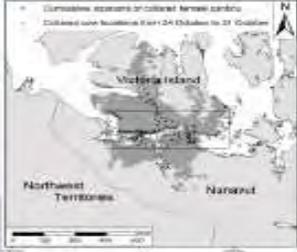
Spring migration



(Pool et al., 2010)



Distribution



Current season of calving female caribou
Calving sites (October to 24 October to 27 October)

(Dumond and Lee, 2013)



Distribution

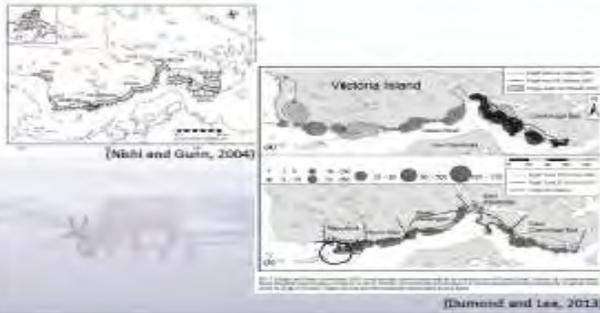


(Dumond and Lee, 2013)

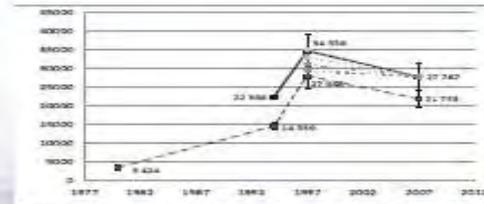
(Northrup, 2015)



Distribution



Population status



(Diamond and Lee, 2013)

Population status

Accurate long-term monitoring of this caribou herd is crucial to its management and conservation. We can only speculate about the factors responsible for the population dynamics observed for 1980-2007.

Goal and Objectives

The main goal of this program is to closely monitor the population of the Dolphin and Union herd. Thus, this study will have four main objectives.

- 1) Population estimate of the Dolphin and Union caribou herd
- 2) Fall migration pattern, highest natural mortality (UVA)
- 3) Habitat selection and distribution (mineral exploration, mining activities)
- 4) Health monitoring (contaminant, diseases, stress level)

Study area



Anticipated Outcomes

- To update the status of the herd, and inform management about sustainable harvest for this herd.
- Identify and monitor some of its stressors
- Land use impact mitigations, impacts of maritime traffic
- Habitat requirement
- Improved monitoring of the population, including collaring of individuals.



Discussion

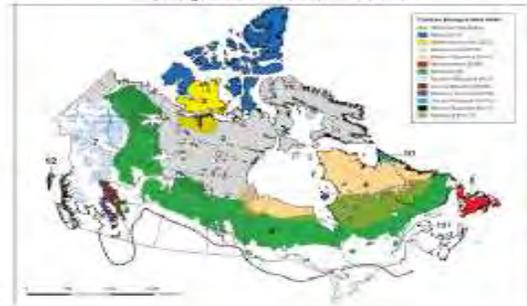
Dolphin-Union Caribou: Overview of Technical Information
March 2015 GNWT



Photo: K. Poole

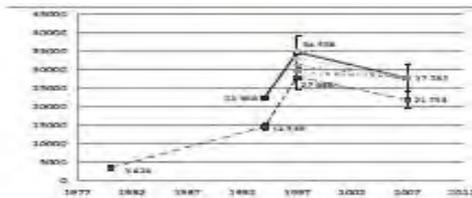


Kinds of Caribou in Canada
('Designatable Units', COSEWIC 2011)



Dolphin-Union Caribou: Status Report 2013 for NWT

Dolphin-Union Caribou: Population Trend 1980-2007
(From Dumont and Lee 2013)



Dolphin-Union Caribou: Population Trend Early 1900s to 2007
(From NWT SARC Report 2013)

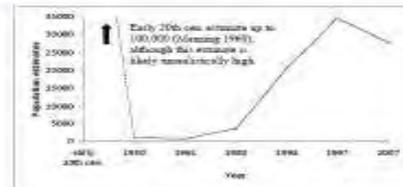


Figure 14. Depiction of approximate population estimates between the early 19th century and 2007 (Anderson 1933, Munnag 1949, Bendfield 1950, MacPhee 1963, Jockmacak and Creffers 1989, Nyts and Buckland 2000, Nyts and Gunn 2004, Dumont and Lee 2013).

Dolphin-Union Caribou: Pregnancy Rate 1980s to early 2000s
(From NWT SARC Report 2013)

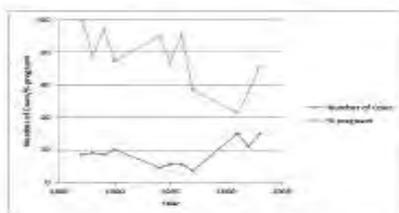


Figure 21. Pregnancy rates based on collared caribou and 1981-89 (12856-3013) and 1991-99 (8968-1086) and overall 1994-01 (946, 1993).

Dolphin-Union Caribou:

Range Based on Collared Caribou & Observations

(From NWT SARC Report 2013)



Dolphin-Union Caribou:
 Calving Locations from
 Collared Caribou 1987-2006
 (From NWT SARC Report 2013)



Caribou Numbers on NW Victoria Island: Peary & Dolphin-Union (July-Aug)
 (from Davison & Williams 2014)

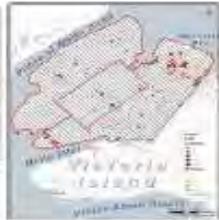
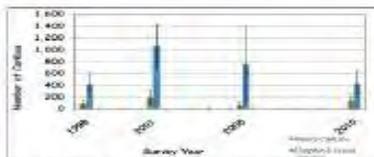


Figure 4. Population trend of non-collared Peary Caribou (Group A and B) and non-collared Dolphin & Union Caribou (Group C) on NW Victoria Island.

UUTUQIAKTOK HARVEST STUDY
 May 2007 to March 2008

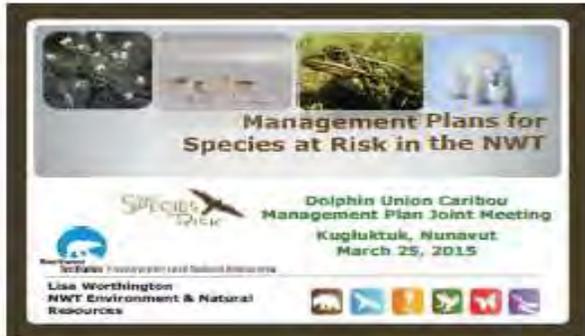
Year	2007	2008	2009	2010	2011	2012	2013
Harvest	10	15	20	25	30	35	40

Your Support is essential to the continuation of this study.

- Dolphin-Union Caribou: Summary of Key Threats/Status:
 (From SARC Report 2013)
1. Declining trend 1997-2007
 2. Population distinct from all others
 3. Vulnerable to environmental change
 4. Mine proposals Bathurst Inlet area
 5. Ship traffic – possible effects on sea-ice
 6. Warmer climate – shorter sea-ice season
 7. Rain and ice on winter range
 8. Harvest estimated 7-11%; may not be sustainable



Photo: E. Toole



Management Plans for Species at Risk in the NWT

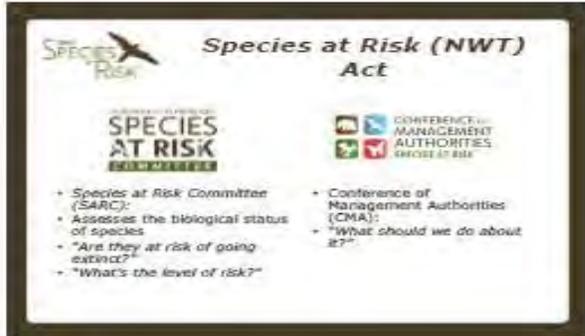
Dolphin Union Caribou Management Plan Joint Meeting
Kugluktuk, Nunavut
March 25, 2015

Lisa Worthington
NWT Environment & Natural Resources



Species at Risk (NWT) Act

Purpose:
Find out which species are at risk in the NWT and do something about it.



Species at Risk (NWT) Act

- Species at Risk Committee (SARC):
 - Assesses the biological status of species
 - "Are they at risk of going extinct?"
 - "What's the level of risk?"
- Conference of Management Authorities (CMA):
 - "What should we do about it?"



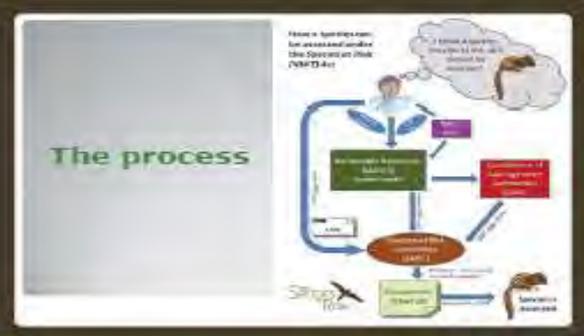
Assessment Categories

Pyramid diagram showing risk levels from BAD (top) to GOOD (bottom):

- Extinct:** Gone from the World
- Endangered:** Gone from the NWT
- Threatened:** Could be gone in our lifetimes
- Special Concern:** Could become threatened
- Not at Risk:** Not at risk
- Not Assessed:** Need more info

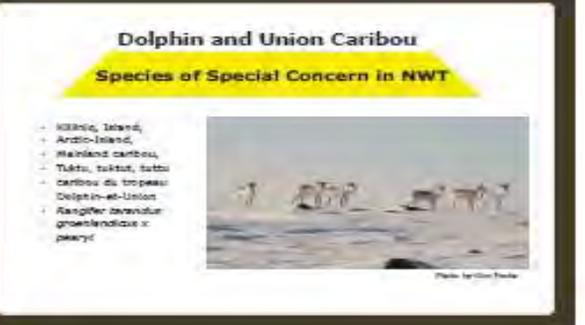


Adding Species to the NWT List of Species at Risk



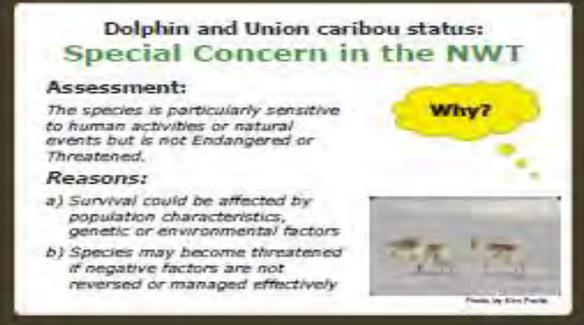
The process

Flowchart showing the process from a species being identified to its assessment and listing in the Species at Risk (NWT) Act.



Dolphin and Union Caribou
Species of Special Concern in NWT

- Killar, Island
- Arctic Island
- Mainland caribou
- Tuktuk, tuktu
- caribou du tro-pesu
- Dolphin-et-Union
- Rangifer tarandus grantlandicus x pearyi



Dolphin and Union caribou status: Special Concern in the NWT

Assessment:
The species is particularly sensitive to human activities or natural events but is not Endangered or Threatened.

Why?

Reasons:

- Survival could be affected by population characteristics, genetic or environmental factors
- Species may become threatened if negative factors are not reversed or managed effectively

Dolphin and Union caribou status: Special Concern in the NWT

Main factors:

- Evidence that population declined between 1997-2007
- Vulnerable to warmer temperatures that cause changes in timing of sea-ice formation, changes in thickness of sea-ice, and icing and crusting on fall and winter range.
- Annual harvest is uncertain, but is believed to be 7-11%

Why?



Photo by Sam Cook

Dolphin and Union caribou status: Special Concern in the NWT

Other threats:

- Two major mining exploration projects are in dolphin caribou range
- Increase in shipping traffic

Why?

Dolphin and Union caribou may become Threatened or Endangered because of a combination of biological characteristics and threats.



Photo by Sam Cook

Dolphin and Union Caribou are now on the NWT List of Species at Risk. Now what?



Dolphin and Union Caribou
Special Concern in NWT



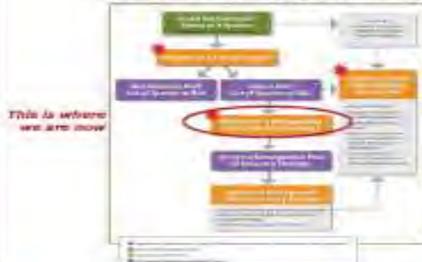
Photo by Sam Cook

Dolphin and Union caribou status: Species of Special Concern

- A Management Plan must be developed for the NWT within 2 years of the species listing.
- The WHAC (NWT) and the GNWT will decide on conservation actions that should be taken to manage the species.

Status	Required:	When:
Endangered	Recovery Strategy	Within 1 year
Threatened	Recovery Strategy	Within 2 years
Special Concern	Management Plan	Within 2 years

What will happen next?



This is where we are now



Management Planning for NWT Species at Risk

Dolphin Union Caribou Management Plan

SPECIES AT RISK



Sections of a GNWT Management Plan

- Part I:**
- Social Perspectives (spiritual and cultural importance)
 - Species Information (Status, Habitat and Biology)
 - Threats and Limiting Factors
 - Factors that may have a positive influence
 - Knowledge gaps
- Part II:**
- Conservation and Recovery/Management of Species
 - Management Goal
 - Management Approaches
 - Actions to achieve these approaches



Management Plan for the Polar Bear (*Ursus maritimus*) in the Inuvialuit Settlement Region of NWT Proposed Draft May 2015



Photo by Gordon Dault

Species at Risk (NWT) Act
Management Plan and Recovery Strategy Series



Part II: Management Goal for ISR Polar Bear

Management Goal:
The management goal is to maintain healthy viable subpopulations of polar bears in the Inuvialut Settlement Region (ISR) in the near term and in perpetuity, recognizing their cultural importance.

Management Objectives:

1. Reduce greenhouse gas emissions and help communities adapt to the impacts of climate change on polar bears.
2. Collect adequate scientific, traditional and historical information in a timely manner to facilitate management decisions.
3. Encourage wise use of polar bear subpopulations and polar bear products.
4. Adaptively co-manage polar bears and their habitat in accordance with all the best information available.
5. Minimize detrimental effects of human activities on polar bears and their habitat.
6. Communicate and share information on polar bears.



That's why we are here!

Part II:

- Overall Management Goal
- Management Objectives
- Approaches to achieve these objectives
- Actions to achieve these approaches



Photo by Glen Thiele

Regional Wildlife Organization

Article 5.2.6 The powers and functions of RWOs shall include:

- (a) the regulation of harvesting practices and techniques among the members of HTOs in the region, including the use of non-quota limitations;
- (b) the allocation and enforcement of regional basic needs levels and adjusted basic needs levels among HTOs in the region;
- (c) the 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; and
- (d) generally, the management of harvesting among the members of HTOs in the region.

Nunavut Wildlife Act

- Nunavut Wildlife Act recognizes and includes principles of Inuit Qaujimajatuqangit:
- Aalliqatigingniq/Pitlakatigkootik, which means that people who wish to resolve important matters or any differences of interest must treat each other with respect and discuss them in a meaningful way, keeping in mind that just because a person is silent does not necessarily mean he or she agrees;
- Avatimik Kamattarniq/Amignik Avatimik, which means that people are stewards of the environment and must treat all of nature respectfully and with respect, because humans, wildlife and habitat are inter-connected and each person's actions and intentions towards everything else have consequences, for good or ill;








Federal *Species at Risk Act (SARA)* and Dolphin and Union Caribou Management Plan

Recovery and conservation of species in Canada

- In the north, wildlife conservation/management is already practiced by the wildlife management boards, hunters and trappers committees/organizations, and governments
- The *Species at Risk Act* is another conservation tool for species that may be at risk of declining or disappearing
- Provides a nationally-consistent strategic framework for conservation of species across Canada
 - Species are not confined by provincial/territorial borders
 - Provides a national standard for consistency in protection
 - Management can be coordinated across the species' entire range

Page 1 March 2011, 2011

Roles and Responsibilities: Federal Role

Federal:

- Environment Canada - *Species at Risk Act (SARA)*
- Parks Canada - *National Parks Act*
- The federal government is responsible for implementing the federal *Species at Risk Act (SARA)*

Territorial:

- Co-management of species
 - In general
 - As a SARA-listed species
- Territorial legislation (*Species at Risk (NWT) Act, NWT Wildlife Act, NU Wildlife Act*)

Page 2 March 2011, 2011

Species at Risk Act (SARA)

Purpose

- Prevent wildlife from becoming extirpated or extinct in Canada
- Provide for the recovery of extirpated, endangered or threatened species as a result of human activity
- Manage special concern species to prevent them from becoming further at risk



Page 3 March 2011, 2011

The *Species at Risk Act* and the Wildlife Management Boards

- The *Species at Risk Act* requires consultation with the wildlife management boards before any decisions affecting Aboriginal people can be made
 - Listing of species
 - Application of prohibitions
 - Recovery strategies, action plans and management plans
 - Regulations for action plans and management plans
 - Critical habitat
 - Permits

Page 4 March 2011, 2011

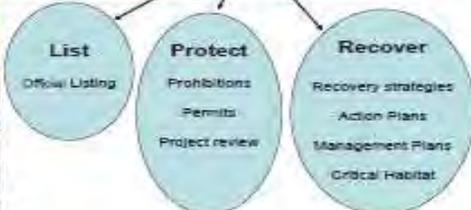
Essential role of Aboriginal Peoples

- The *Species at Risk Act* recognizes that the roles of Aboriginal peoples and Wildlife Management Boards established under land claims agreements in the conservation of wildlife in Canada are essential
- The Act requires:
 - **Consideration of traditional knowledge** in assessment, planning and implementation
 - **Cooperation** with directly affected Aboriginal organizations and Wildlife Management Boards when preparing recovery documents
 - **Consultation** with directly affected persons before making decisions that may impact them



Page 5 March 2011, 2011

Species at Risk Act



Page 6 March 2011, 2011

Recovery and management planning



Page 8 March 2011, 2011

Dolphin and Union Caribou and the federal *Species at Risk Act* Process



What are the implications of Special Concern listing?

- Measures to ensure species does not become threatened or endangered.
- Management plan must be prepared within 3 years of the date of listing.
- Written in cooperation with Aboriginal organizations and Wildlife Management Boards.
- General prohibitions under SARA do not apply to species of Special Concern
- No critical habitat identification

Page 10: March 2017, 2015

What is a Management Plan?

A planning document that:

- Describes the species and its needs
- Lists the threats to the species and its habitat
- Sets management objectives
- Suggests broad strategies and conservation measures
- Describes ways to measure progress



Page 11: March 2017, 2014

Questions? Comments?

