

A National Marine Conservation Area Proposal for Lancaster Sound

Feasibility Assessment Report

Submitted by the Lancaster Sound National Marine Conservation Area
Feasibility Assessment Steering Committee

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A Study to Assess the Feasibility of Establishing a National Marine Conservation Area to Represent the Lancaster Sound Marine Region

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The Lancaster Sound National Marine Conservation Area Feasibility Assessment Steering Committee respectfully submits its report entitled *A National Marine Conservation Area Proposal for Lancaster Sound – Feasibility Assessment Report* in fulfillment of the Memorandum of Understanding signed by the Parties in December 2009.

Essentially, our report concludes that the establishment of a national marine conservation area in the Lancaster Sound region is feasible as the consultations we undertook found strong support within local Inuit communities and no reasons not to proceed. Furthermore, during our study, Shell Canada Ltd., the one company that possessed exploratory hydrocarbon licenses in Lancaster Sound voluntarily relinquished them. In the end, our Steering Committee is recommending the establishment of a national marine conservation area approximately 109,000 square kilometres in size.

In the course of our work, we were struck by the strong support by Inuit for the conservation and protection of Lancaster Sound. We came to learn both the ecological importance of the Lancaster Sound area to marine wildlife that resides and migrates through this area, as well as the very direct reliance of Inuit communities on this region for sustaining life and culture.

We encourage each of you to work together to reach a decision on a boundary that hopefully can be announced to Canadians and the world in celebration of Canada's 150 anniversary.

On behalf of the Steering Committee:

For the Government of Canada

For the Government of Nunavut

For the Qikiqtani Inuit Association



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Table of Contents

Executive Summary.....	3
Introduction.....	7
Lancaster Sound – A Globally Significant Marine Area	8
National Marine Conservation Areas.....	10
The NMCA Program	10
Management of NMCAs.....	15
A Feasibility Assessment for the Lancaster Sound Area	17
Lancaster Sound NMCA Steering Committee.....	19
A Federal Government Boundary Proposal	19
Ecological Values and Traditional Knowledge.....	22
Ecological Values	22
Traditional Knowledge (Inuit Qaujimagatuqangit)	25
Economic Considerations.....	29
Tourism.....	29
Fisheries	32
Marine Transportation	34
Hydrocarbon Resources	36
Consultations	41
Comments Received	42
Conclusion.....	47
The Boundary.....	50
Recommendations	55
References	58
Annex 1.....	60





EXECUTIVE SUMMARY

Lancaster Sound is a natural and cultural seascape that is one of the most significant ecological areas in the world. It is the “ecological engine” for much of the Eastern Arctic, exploding with life in the spring and summer with the return of the sun and warm weather. Hundreds of thousands of seabirds and marine mammals migrate to the area to feed and reproduce. It is critical habitat for species such as the polar bear, bowhead whale, narwhal and beluga whale.

For Inuit living in the Lancaster Sound region -- Tallurutiup Tariunga as it is known locally -- it is a home rich in culture and wildlife. Tallurutiup Tariunga has given food, shelter, materials and tools in such abundance that Inuit have been able to thrive in one of the harshest environments on Earth. It is the heart of High Arctic Inuit existence and its bounty supports a traditional way of life, one that is strong in language, culture, and customs.

Lancaster Sound’s influence extends far beyond its boundaries,

the effect of its geography which makes it a natural migratory corridor for numerous species, and of physical processes such as currents, tides and upwelling which result in polynyas and high biological productivity. Regardless of climate change, Lancaster Sound will remain an ecologically important area as the processes which are responsible for its productivity will remain, though species composition might change over time.

The idea of protecting the international, national and regional values of Lancaster Sound has been a recurring theme since the late 1970s. In 2009, work began in earnest as a federal – territorial – Inuit agreement launched a joint study to determine the desirability and feasibility of establishing a national marine conservation area in Lancaster Sound. This work was led by a Steering Committee composed of Parks Canada, the Government of Nunavut and the Qikiqtani Inuit Association (QIA). There followed several years of consultations

with adjacent Inuit communities and key stakeholders, and the completion of various studies. This report summarizes the results of the feasibility assessment and of the Steering Committee’s work and recommendations.

Established under the Canada National Marine Conservation Areas Act, national marine conservation areas (NMCAs) are a type of marine protected area administered by Parks Canada. Their goal is to protect and conserve areas representative of Canada’s diverse marine environments for the benefit, education and enjoyment of Canadians. NMCAs are multi-use areas which balance protection and sustainable use through management as well as zoning, in cooperation with local people. Mineral and hydrocarbon exploration and development and ocean dumping are prohibited. Sustainable commercial uses, notably fishing and shipping, are permitted and continue to be regulated by Fisheries and Oceans Canada and Transport

Canada respectively, in keeping with the purpose and conservation objectives of the NMCA.

Under the terms of the Nunavut Land Claims Agreement, traditional harvesting rights of Inuit will continue to be upheld within the proposed NMCA. In addition, the establishment of an NMCA in Lancaster Sound will require an Inuit Impact and Benefit Agreement to be negotiated between Inuit and government. This agreement will cover the implementation of the financial, employment, training and educational requirements, the economic benefits, as well as the cooperative management of the NMCA.

Over the course of the feasibility assessment, the Steering Committee gathered information on ecological values, tourism opportunities, fisheries, marine transportation and potential hydrocarbon resources. It used Inuit Qaujimagatuqangit (Inuit traditional knowledge) alongside scientific knowledge to get a more complete understanding of the use and value of the area. Consultations were conducted in the five communities adjacent to the NMCA proposal (Pond Inlet, Arctic Bay, Grise Fiord, Resolute Bay and Clyde River), with 32 community meetings attended by over 430 people. Input was solicited from regional and national stakeholders including industry and non-government organizations.

During the consultations, all five communities expressed significant support for the protection of the entire Lancaster Sound region and the establishment of an NMCA, and no substantive reasons to abandon or not pursue the proposal were raised. Inuit Qaujimagatuqangit proved to be fundamental in understanding and

illustrating the Inuit perspective of the region, leading to a more universal ecological and social outlook on the proposed NMCA.

The Steering Committee concluded that the establishment, development and operation of a national marine conservation area in Lancaster Sound can provide a number of ecological and social benefits, including:

- conserving the rich biodiversity and maintaining ecological processes and life support systems of the Lancaster Sound marine ecosystem for the benefit of marine species, Nunavummiut and Canadians;
- establishing a collaborative relationship between Canada and Inuit that would guide current and future activities in Lancaster Sound to ensure the ecological and cultural viability of the area for future generations;
- protecting and conserving species at risk and their habitats;
- protecting the Inuit way of life and Inuit traditions through protection of the marine environment and marine wildlife food sources;
- allowing all activities within the NMCA, including fisheries and marine transportation activities, to be managed in a more ecologically holistic manner;
- protecting historical resources, such as shipwrecks and archaeological sites;
- providing opportunities for visitors to experience and appreciate this environment;
- encouraging ecological research and monitoring;
- providing a level of resilience to the fragile Arctic marine

ecosystem facing climate change; and

- encouraging ecologically sustainable economic opportunities in the region.
- With the announcement by Shell Canada Limited on June 8 (Oceans Day) 2016 that it voluntarily relinquished 8,600 square kilometres of hydrocarbon exploration permits in offshore Lancaster Sound, there are presently no hydrocarbon exploratory permits in either Lancaster Sound or the Canadian portion of Baffin Bay. Nor are there any indications that industry is ready to proceed with any hydrocarbon developments in the Canadian Arctic offshore, given significant environmental challenges and low oil prices. Nonetheless, prior to governments making a final decision on a boundary, additional study of the hydrocarbon potential of the proposed Lancaster Sound NMCA is needed to provide governments and QIA with the necessary information to make an informed decision with respect to a final boundary. The Geological Survey of Canada is to complete its assessment by March 31, 2017.

The Steering Committee considered the following when delineating a boundary for an NMCA in Lancaster Sound:

- the views of local Inuit communities;
- the ecological values identified through contemporary science and Inuit Qaujimagatuqangit;
- Inuit traditional use of the Lancaster Sound region;
- cultural values;
- hydrocarbon resource assessments
- the only industrial hydrocarbon

permit holder in the area voluntarily relinquished its exploration permits;

- the views of stakeholders; and
- government priorities and commitments, in particular, to protect representative marine regions within a system of national marine conservation areas and to achieve the protection of 10 percent of Canada's coastal and marine areas by 2020.

Just as the Steering Committee was completing its work, the Government of Canada announced on December 20, 2016, that it was designating all Arctic Canadian waters as indefinitely off limits to future offshore Arctic oil and gas licensing, to be reviewed every five years through a climate and marine science-based assessment. Although this indefinite moratorium applies to the Lancaster Sound area, it does not diminish the need nor the value of designating Lancaster Sound as an NMCA. And while the moratorium could be viewed as a temporary response to the concerns of local

communities over the prospect of future oil and gas development, it does not bring certainty nor the potential environmental, social and economic benefits that would accrue to the Lancaster Sound region through its protection under the *Canada National Marine Conservation Areas Act*.

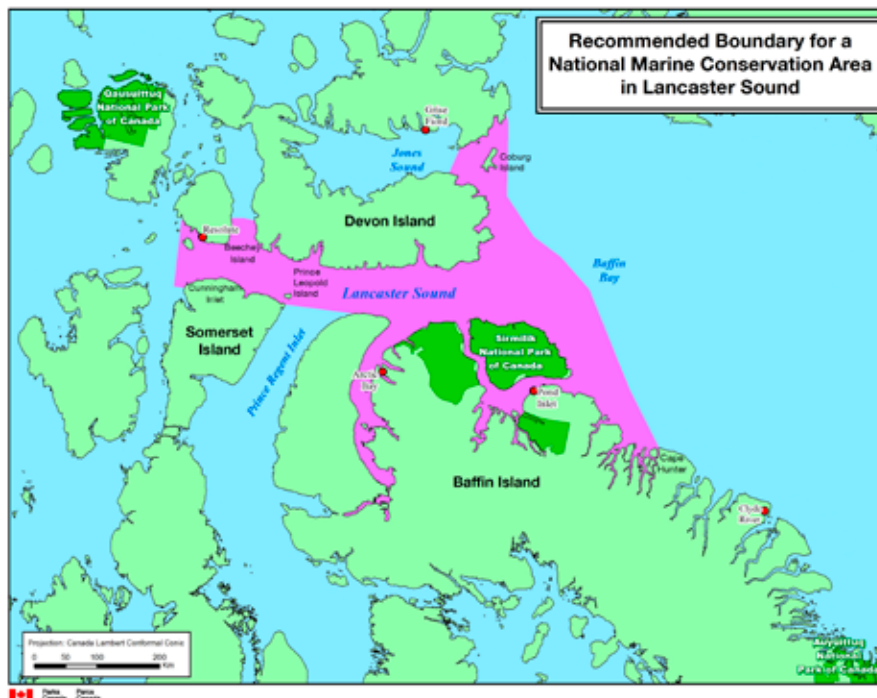
The Steering Committee concluded that a Lancaster Sound NMCA is feasible and recommends a boundary approximately 109,000 square kilometres in size which would result in the protection of:

- a highly interconnected ecosystem that includes important migratory, feeding, nursery and breeding areas for a variety of species;
- polynyas, which are depended on by wildlife for survival and by Inuit for harvesting;
- various sites that support Inuit traditional land use and Inuit way of life;
- essential migratory habitat for the majority of the world's narwhal population;

- narwhal, beluga and bowhead whale aggregations;
- the largest polar bear subpopulation in the Arctic; and
- Inuit cultural sites, as well as heritage sites associated with the history of the search for the Northwest Passage.

The establishment of a national marine conservation area in Lancaster Sound is an investment worth pursuing for the benefit of present and future generations, and one that would produce a new relationship between Canada and Inuit that is in the national interest and of international significance.

An expeditious decision by governments and QIA in response to the Steering Committee's recommendations would allow the parties to announce a final boundary as part of the Canada 150 celebrations in 2017 and allow negotiations on an Inuit Impact and Benefit Agreement to commence in a timely fashion.







INTRODUCTION

What makes a place special? Posing this question to people who intimately know the Lancaster Sound region elicits an immediate and heartfelt response which varies depending on your perspective.

For Inuit living in the Lancaster Sound region, it is home. *Tallurutiup Tariunga* (Tall-lo-ro-tee-oop Taa-ree-o-nga), as it is known locally, is a home rich in culture and rich in wildlife. So plentiful are the animals that it has been able to provide sustenance to Inuit for thousands of years and to this day it still provides. Tallurutiup Tariunga has given food, shelter, materials and tools in such abundance that Inuit have been able to thrive in one of the harshest environments on earth. It is the heart of High Arctic Inuit existence and its bounty supports a traditional way of life, strong in language, culture, and customs. Inuit share a special relationship with this exceptional place.

Scientists see the Lancaster Sound region as an engine of ecological productivity and recognize it as one of the most important marine areas

both in the Circumpolar Arctic and globally. Rich in nutrients as a result of the interactions between bathymetry, currents and environmental conditions, the Lancaster Sound region supports significant populations of a number of Arctic marine species.

Tourists view Lancaster Sound as a unique destination that gives them an opportunity to see large seabird colonies, polar bears, beluga whales, walrus, narwhal, icebergs, and spectacular glacier and fjord scenery, as well as an opportunity to discover and learn about Inuit culture and the quest for the Northwest Passage.

If you ask historians what makes Lancaster Sound special, they will recount stories of early human settlement, exploration and discovery where multiple layers of human drama and tragedy unfolded over time, including the European quest to discover a northern trade route to the Orient through the Northwest Passage.

Industry and small business see the Lancaster Sound region as an exciting prospect to generate

growth and employment in an area where few economic opportunities presently exist. For some, the prospect that the ice will retreat with climate change means the Sound will open up to more traffic, prompting greater opportunities.

For these reasons, the idea of protecting Lancaster Sound has been a recurring theme since the late 1970s. In 2009, work began in earnest as a federal – territorial-Inuit agreement launched an assessment of the feasibility of protecting Lancaster Sound as part of Canada’s national marine conservation areas system, led by a Steering Committee composed of Parks Canada, the Government of Nunavut and the Qikiqtani Inuit Association.

This report presents the results of the feasibility assessment and the Steering Committee’s recommendations.

Tallurutiup Tariunga, refers to the snow streaked mountains rising from the Arctic waters of Lancaster Sound which resemble the “tattooed chin of a woman”.



LANCASTER SOUND: A GLOBALLY SIGNIFICANT MARINE AREA

The Canadian Arctic is in a frozen state for the majority of the year and has only a few well adapted species remain there in all seasons. However the waters of the eastern entrance to Lancaster Sound remain open most of the year, the result of the interaction of several major currents, along with winds and bathymetry, which bring an abundance of nutrients to the surface and support the food chain from the bottom up. In winter, these currents help create polynyas, shore leads and floe edges (Figure 1); in the spring and summer, they enhance that productivity and export it to a wider region.

The area proposed as a national marine conservation area (NMCA) includes much of Lancaster Sound itself -- a long, 100 kilometre wide passage in the heart of the Canadian Arctic Archipelago in Nunavut. This area is one of the most productive areas in the Circumpolar Arctic. The abundant

productivity has far reaching consequences for the Eastern Arctic as a whole. The currents in Lancaster Sound convey food over a much wider area, leading to large aggregations of a broad range of marine mammals, seabirds and other species which depend on the area for their survival.

As a result, this area is the “ecological engine” for much of the Eastern Arctic, exploding with life for a brief period in the spring and summer with the return of the sun and warm weather. It is the reason hundreds of thousands of seabirds and marine mammals migrate to the area to feed and reproduce. It is critical habitat for iconic species such as the polar bear, bowhead whale, narwhal and beluga whale. The importance and influence of this nutrient-rich area extends out for thousands of kilometres and in turn ensures the survival of Inuit culture and the ability of Inuit to sustain their traditional ways of life in the High Arctic.

Above the waters and ice, the area is dominated by 300 to 400 meter high cliffs, cut by numerous inlets, bays and spectacular fjords. Beneath the surface, the seabed deepens progressively from 300 meters in the west to 800 meters at the mouth of Lancaster Sound, with strong currents and tides of up to 2 metres in height. Approximately 3600 people live in close proximity to this area, spread out among the communities of Pond Inlet, Arctic Bay, Resolute Bay, Grise Fiord and Clyde River. The population is primarily Inuit. They use the area extensively and travel in some cases hundreds of kilometres by boat or snowmobile to harvest fish, birds, seals and other marine mammals for food and clothing, according to the seasons.

The importance of the Lancaster Sound region to Inuit extends beyond subsistence. The region is well known for traditional travel routes and archaeological sites that

demonstrate the importance of the area to Inuit and their ancestors.

The area has historically been used as a travel route to Greenland by early Inuit who eventually settled there. Inuit oral history shows bilateral travel of Inuit from coast to coast between Canada and Greenland (Denmark) long before the countries were founded. The natural wealth of the area also offers Inuit families an opportunity to generate income as guides and outfitters for tourism and sport-hunting.

POLYNYAS AND SHORE LEADS

Ice is the predominant feature of the Arctic marine environment, and ice related habitats are prevalent during most of the year. Recurring polynyas and shore leads – areas of open water surrounded by sea ice – play a crucial role in Arctic marine ecosystems. The result of various combinations of currents, tides, upwelling and winds, polynyas permit ice edge ecosystems to develop based on intense primary production by algae within the ice itself and of phytoplankton (microscopic marine plants) stimulated by the greater intake of light energy in the spring in the adjacent open waters. These ice or floe edges are biological ‘hotspots’, attracting fish, birds and marine mammals, and serving as hunting platforms for both animals and humans.

The most important polynyas occur each year (known as “recurrent polynyas”) and marine mammals and birds rely on these areas as overwintering sites, migratory stop-overs and spring feeding areas. The Inuit have for millennia depended on these polynyas for their open water in winter and their abundance of wildlife.



Figure 1. Satellite image of the Lancaster Sound and North Water polynyas in 2015. (MODIS imagery from earthdata.nasa.gov/labs/worldview)

INTERNATIONAL RECOGNITION

Lancaster Sound is a natural and cultural seascape internationally recognized as one of the most significant ecological areas in the world:

- Recognized as a natural site worthy of World Heritage Site status by the International Union for the Conservation of Nature (IUCN) in the 1980s.
- Identified as a Super Ecologically and Biologically Significant Area for the Arctic by the IUCN and the Natural Resource Defense Fund in 2010.
- Identified as an area of heightened ecological importance by the Arctic Council in 2013.
- Identified as a potential Arctic marine World Heritage Site by the IUCN, Natural Resource Defense Fund and the Marine World Heritage Program of UNESCO in 2016.



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NATIONAL MARINE CONSERVATION AREAS

THE NMCA PROGRAM

National marine conservation areas (NMCAs) are marine protected areas established by Parliament under the *Canada National Marine Conservation Areas Act* and administered by Parks Canada. When the Act was proclaimed in 2002, Parliament affirmed that it was in the national interest to pursue a system of national marine conservation areas that are representative of the Atlantic, Arctic and Pacific Oceans and the Great Lakes.

Parliament also affirmed a need to:

- ensure that Canada contributes to international efforts for the establishment of a worldwide network of representative marine protected areas;
- recognize that the marine environment is fundamental to the social, cultural and economic well-being of people living in coastal communities;

- consider implications for ecosystems in the planning and management of NMCAs;
- provide opportunities for the people of Canada and the world to appreciate and enjoy Canada's natural and cultural marine heritage;
- consider traditional ecological knowledge in the planning and management of marine conservation areas; and
- provide opportunities, through the zoning of marine conservation areas, for the ecologically sustainable use of marine resources for the lasting benefit of coastal communities.

The *Canada National Marine Conservation Areas Act* sets some clear guidance on the purpose, management and use, and zoning of NMCAs. More specifically the

Act states:

- Marine conservation areas are established for the purpose of protecting and conserving representative marine areas for the benefit, education and enjoyment of the people of Canada and the world.
- Marine conservation areas shall be managed and used in an ecologically sustainable manner that meets the needs of present and future generations without compromising the structure and function of the ecosystems, including the submerged lands and water column, with which they are associated.
- Each marine conservation area shall be divided into zones, which must include at least one zone that fosters and encourages ecologically

sustainable use of marine resources and at least one zone that fully protects special features or sensitive elements of ecosystems, and may include other types of zones.

In keeping with Parliament's direction, the long-term goal of the NMCA program is to protect and conserve areas representative of the diversity of Canada's marine environments within a system of NMCAs and to offer Canadians the opportunity to visit, meaningfully experience and personally connect with these marine areas. The notion of protecting representative areas is affirmed as part of national marine protected area planning and biodiversity goals.

To achieve this goal, Canada's waters have been divided into 29 marine regions based on biological and oceanographic characteristics (Figure 2). The objective of the NMCA program is to set aside

a portion of each region as an NMCA. The resulting system of NMCAs will collectively protect examples of Canada's marine heritage for present and future generations.

There are presently four sites that represent five regions in Canada's NMCA system totaling 15,740 square kilometres:

- Gwaii Haanas NMCA Reserve and Haida Heritage Site in British Columbia;
- Fathom Five National Marine Park in Ontario;
- Lake Superior NMCA in Ontario; and
- Saguenay- St. Lawrence Marine Park in Quebec.

NMCAS AND CANADA'S NATIONAL NETWORK OF MARINE PROTECTED AREAS

NMCAs are part of a larger commitment to establish a comprehensive network of marine protected areas in Canada's oceans. In addition to NMCAs, two other complementary federal programs form the backbone of this national marine protected area network:

- Marine National Wildlife Areas established by Environment Canada primarily to protect critical seabird habitat; and
- Marine Protected Areas established by Fisheries and Oceans Canada to protect and conserve specific or threatened marine resources and habitats.
- These two types of MPAs are single purpose designations while Parks Canada's NMCA program has a broader purpose that includes protecting and conserving a representative sampling of Canada's natural and cultural marine heritage and providing opportunities for public education and enjoyment.





Figure 2: National marine conservation areas system map showing the 29 mae regions, with the location of existing sites and proposals.

NMCAs are established using the following process, depicted in Figure 3 with the proposed Lancaster Sound NMCA as an example:

- Identify and Select Area:** Parks Canada works to identify a number of marine areas which are representative of the biological, geological, oceanographic and cultural features of the marine region and that could merit protection as NMCAs. Working with other partners, Parks Canada then selects a potential NMCA from this list.
- Assess Feasibility:** Should there be support from implicated provincial and territorial governments and Indigenous governments and organizations, an assessment of the feasibility and desirability of protecting a specific site as an NMCA is undertaken, including consultations.
- Decision on Feasibility:** Based on the results of the feasibility assessment, the relevant Parties determine whether establishment of an NMCA should proceed.
- Negotiate Agreements and Develop Interim Management Plan:** Should the Parties agree that protecting a specific site is feasible, the next step is to negotiate an establishment agreement or agreements that sets out the terms and conditions under which the area will be administered and managed. At the same time, an interim management plan is developed through consultations to guide management during the first five years of operations.
- Establish in Legislation:** The final step is formal designation of the area under the *Canada National Marine Conservation Areas Act*.

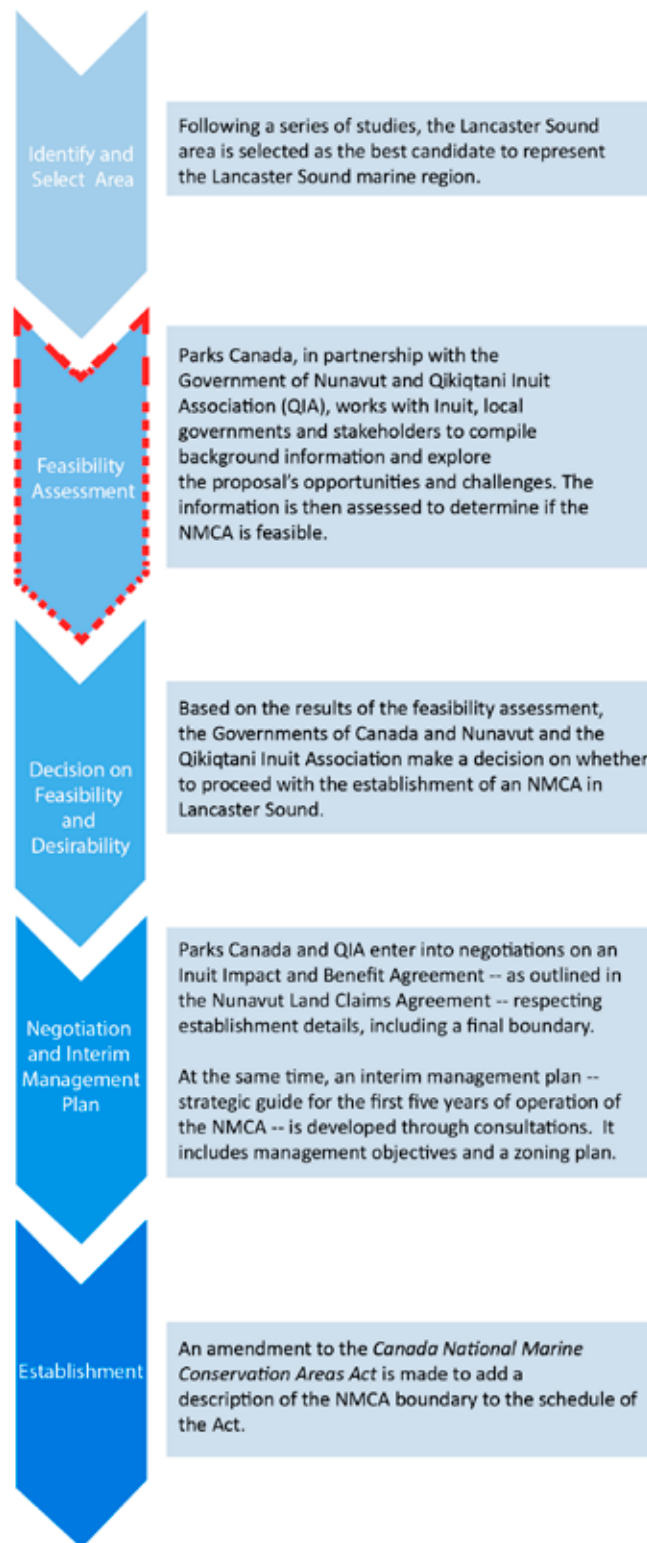


Figure 3: Steps towards the establishment of an NMCA, using the proposed Lancaster Sound NMCA as an example. The step currently being completed for the proposal is outlined in red.



As noted above, Parliament affirmed a need in passing the *Canada National Marine Conservation Areas Act* for Canada to contribute to international efforts to establish a worldwide network of marine protected areas. In that context, in 2010, Canada joined with other nations in adopting a target to protect at least 10 percent of coastal and marine areas by 2020. In 2015, the federal, provincial and territorial governments adopted the 10 percent target as one of 19 targets under the “2020 Biodiversity Goals and Targets for Canada”. And in 2016, the Prime Minister directed the federal Minister of Fisheries, Oceans and the Canadian Coast Guard and the Minister of Environment and Climate Change to work with others to protect 5 percent of Canada’s coastal and marine waters by 2017, and 10 percent by 2020.

National marine conservation areas are a major component of how Canada will achieve these international and domestic targets goals. The establishment of a national marine conservation area in Lancaster Sound would be a major contributor, protecting up to 1.9% of Canada’s marine estate depending on the final boundary.

MANAGEMENT OF NMCAs

NMCAs are composed of the seabed and water column and may include wetlands, estuaries, islands and other coastal lands. Parliament made it clear that in order to protect marine ecosystems and maintain biodiversity, the primary considerations in the development and modification of management plans shall be the principles of ecosystem management and the precautionary principle.

NMCAs are multi-use marine areas containing zones of high protection. Activities such as commercial and recreational fishing, marine transportation and a range of recreation and tourism activities may continue in an NMCA, managed in an ecologically sustainable manner. However, undersea mining and exploration and development of oil and gas resources, as well as ocean dumping, are prohibited. Marine transportation continues to be administered under the *Canada Shipping Act* and fishing under the *Fisheries Act*.

Although Fisheries and Oceans Canada and Transport Canada retain their responsibilities for

fisheries and marine transportation within NMCAs, these activities are to be managed in collaboration with Parks Canada in keeping with the purpose of NMCAs, the *Canada National Marine Conservation Areas Act* (CNMCA Act) and the long term conservation objectives of the specific NMCA.

NMCAs are managed through a management plan with the goal of providing for sustainable uses within these areas consistent with the need to maintain the structure and function of their marine ecosystems. The plan provides guidance to managers and users about the day-to-day management and use of the area. Parliament requires that the first management plan be tabled in Parliament five years after the area has been legally established under the Act.

Zoning is an essential part of the NMCA management plan. Its main purposes are to define and map the different levels of protection and use that will occur in the NMCA as well as to separate potentially conflicting human activities. Regular consultation and direct involvement of resource users and residents of the surrounding region is essential to the preparation and implementation of the



management plan. The creation of a management advisory committee is therefore required for each NMCA under the CNMCA Act. These would be in addition to any cooperative management boards required under a land claim agreement or NMCA establishment arrangements with Indigenous organizations.

NMCAs are managed in a way that respects traditional Indigenous cultural uses, including continued traditional harvesting, and responds to the needs of local communities. In Nunavut, NMCAs are to be established and managed in accordance with the Nunavut Land Claims Agreement, which requires the negotiation of an Inuit Impact and Benefit Agreement (IIBA) providing Inuit with an opportunity to secure benefits from the establishment, planning and management of protected areas in the Nunavut Settlement Area. Inuit will also participate directly in the management of any NMCAs created in Nunavut.



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ECOLOGICAL SUSTAINABILITY OF NMCAS

NMCAs are to be “managed and used in a sustainable manner that meets the needs of present and future generations without compromising the structure and function of the ecosystems [...] with which they are associated.”

CNMCA Act

In other words:

An NMCA aims to harmonize conservation with human activities consistent with the values of the NMCA.

KEY FEATURES OF NMCAS

- A type of marine protected area with conservation and economic benefits administered by Parks Canada under the *Canada National Marine Conservation Areas Act* and managed collaboratively with others.
- Protect and conserve areas representative of Canada’s marine and Great Lakes environments for the benefit, education and enjoyment of Canadians.
- Multi-use areas which balance protection and sustainable use through management as well as zoning.
- Mineral and hydrocarbon exploration and development are prohibited.
- Ocean dumping (i.e. disposal of any substance in the waters of an NMCA) is prohibited under the *Canada National Marine Conservation Areas Act* except in special circumstances.
- Traditional harvesting rights are not affected.
- Must be zoned, including zones which fully protect special features and sensitive elements of ecosystems and zones where the ecologically sustainable use of renewable marine resources may occur.
- Commercial uses are permitted, so long as they are ecologically sustainable, including fishing and shipping but they may be prohibited in the special protection zones which must be put into place in each NMCA.
- Fisheries and Oceans Canada and Transport Canada continue to regulate fishing and marine transportation activities, in keeping with the purpose of NMCAs and the specific conservation objectives of each NMCA.
- Local support and continued involvement in management is essential.



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A FEASIBILITY ASSESSMENT FOR THE LANCASTER SOUND AREA

Lancaster Sound was first proposed by Parks Canada as a marine protected area during the 1980s but work on the proposal was postponed as Inuit and Government moved to complete the Nunavut Land Claims Agreement. Communities also wished to first focus on the establishment of terrestrial national parks in the eastern Arctic, most of which were completed in the early 2000s, including Sirmilik National Park which is located immediately adjacent to Lancaster Sound. In addition, the initial National Marine Park Policy prohibited sports hunting, which was a major concern for northern communities, given the economic importance of this activity. The revised NMCA Policy released in 1994 allowed for this activity, in the same way it allowed for commercial fisheries. Sport hunting in an NMCA would continue to be administered under existing legislation and regulations.

In its 2007 budget, the Government of Canada indicated its intention to create additional marine protected areas in Canada. It provided \$5 million to assess the feasibility of establishing a national marine conservation area in Lancaster Sound, which would conserve a significant representative component of Canada's marine environment and serve as a clear demonstration of Canadian sovereignty in the Northwest Passage.

Through the process prescribed by the Nunavut Land Claims Agreement, the Qikiqtani Inuit Association (QIA) was identified as the Designated Inuit Organization responsible for ensuring that Inuit concerns and wishes would be voiced and heard throughout the process to establish an NMCA in Lancaster Sound.

Thus, in December 2009, the federal and Nunavut governments and QIA announced the signing of a Memorandum of Understanding (MOU) (see Annex 1) to examine the desirability and feasibility of establishing a national marine conservation area in Lancaster Sound. The MOU specified that the study would consider social, environmental and economic benefits of establishing an NMCA and included a general description of a study area for the NMCA proposal, but also stated that boundary options were to be considered as part of the feasibility assessment. It provided for funding to enable the full participation of QIA and to undertake a traditional knowledge study which would inform boundary decisions. The MOU also created a Steering Committee to guide the process.



LANCASTER SOUND NMCA STEERING COMMITTEE

Established pursuant to the 2009 MOU, the Lancaster Sound National Marine Conservation Area Feasibility Assessment Steering Committee (“Steering Committee”) has equal representation from each of the three signatory Parties. The Steering Committee was mandated to guide the feasibility assessment process, bearing in mind the social, environmental and economic benefits and impacts of establishing an NMCA. At the end of the process, the MOU directed that the Steering Committee submit a report to the Environment Ministers of Canada and Nunavut and to the President of QIA, concluding whether the NMCA was feasible and under what conditions and recommending a boundary.

Between 2011 and 2016, the Steering Committee supervised the completion of various studies (traditional knowledge, ecological values, energy resource assessment and tourism opportunities) and undertook consultations with local Inuit communities

and key stakeholders, including industry. The concerns and opinions respecting the Lancaster Sound NMCA proposal expressed during the consultations informed Steering Committee discussions and their recommendations to governments and QIA.

A FEDERAL GOVERNMENT BOUNDARY PROPOSAL

In December 2010, the Government of Canada announced for consultation purposes its position on a potential future boundary for an NMCA in Lancaster Sound. The proposal totaled 44,300 km² (see Figure 4) and was put forth as a basis for discussions, with final decisions regarding a boundary to be informed by consultations and by an assessment of the area’s energy resources and its ecological values, based on both contemporary science and traditional knowledge. The federal government also made it clear that while the feasibility assessment was underway, exploration or development of petroleum resources within the proposed boundary would not be permitted, nor would they be allowed in an established NMCA.

A SHORT HISTORY OF AN NMCA PROPOSAL IN LANCASTER SOUND

2007 – Federal budget provides direction and funding for the feasibility assessment of an NMCA in Lancaster Sound.

2009 – Governments of Canada and Nunavut and Qikiqtani Inuit Association (QIA) sign a Memorandum of Understanding to launch a feasibility assessment on a proposed Lancaster Sound NMCA and establish the Steering Committee.

2010 – Government of Canada announces its position on a potential future boundary of 44,300 km² for an NMCA in Lancaster Sound.

2011-2016 – The Steering Committee, established under the 2009 MOU, conducts community consultations, key stakeholder consultations and completes ecological and traditional knowledge studies. A resource assessment was also completed by Natural Resources Canada.

2016 – Federal budget announces funding to establish an NMCA in Lancaster Sound.



BENEFITS OF AN NMCA IN LANCASTER SOUND

An NMCA in Lancaster Sound can provide a number of ecological and social benefits, including:

- conserving the rich biodiversity and maintaining the ecological processes and life support systems of the Lancaster Sound marine ecosystem for the benefit of marine species, Nunavummiut (“people of Nunavut”) and Canadians;
- establishing a collaborative relationship between Canada and Inuit, formalized through an Inuit Impact and Benefit Agreement and implemented through a Joint National Marine Conservation Area Management Board, that would guide current and future activities in Lancaster Sound to ensure the ecological and cultural viability of the area for future generations;
- protecting and conserving species at risk and their habitats, like the bowhead and beluga whales, narwhal, walrus and polar bear;
- helping to preserve the Inuit way of life and Inuit traditions through protection of the marine environment and marine wildlife food sources;
- allowing all activities within the NMCA to be managed in a more ecologically holistic manner;
- protecting historical resources, such as shipwrecks and archaeological sites;
- providing opportunities for visitors to experience and appreciate this environment;
- encouraging ecological research and monitoring;
- providing a level of resilience to the fragile Arctic marine ecosystem facing climate change;
- encouraging ecologically sustainable economic opportunities in the region;
- supporting the traditional use of five Inuit communities adjacent to the NMCA: Pond Inlet, Arctic Bay, Resolute Bay, Grise Fiord and Clyde River; and
- representing the diversity of the Lancaster Sound marine region.

The establishment of an NMCA will require an Inuit Impact and Benefit Agreement to be negotiated with Inuit which will see the implementation of the financial, employment, training and educational requirements, the economic benefits, as well as the cooperative management of the NMCA as outlined in the Nunavut Land Claims Agreement.

The intrinsic value of protecting wildlife, harvesting rights and Inuit knowledge cannot be underestimated – these generate benefits on a much wider scale, including providing benefits for local communities, encouraging responsible management, and providing valuable ecosystem services over the longterm.



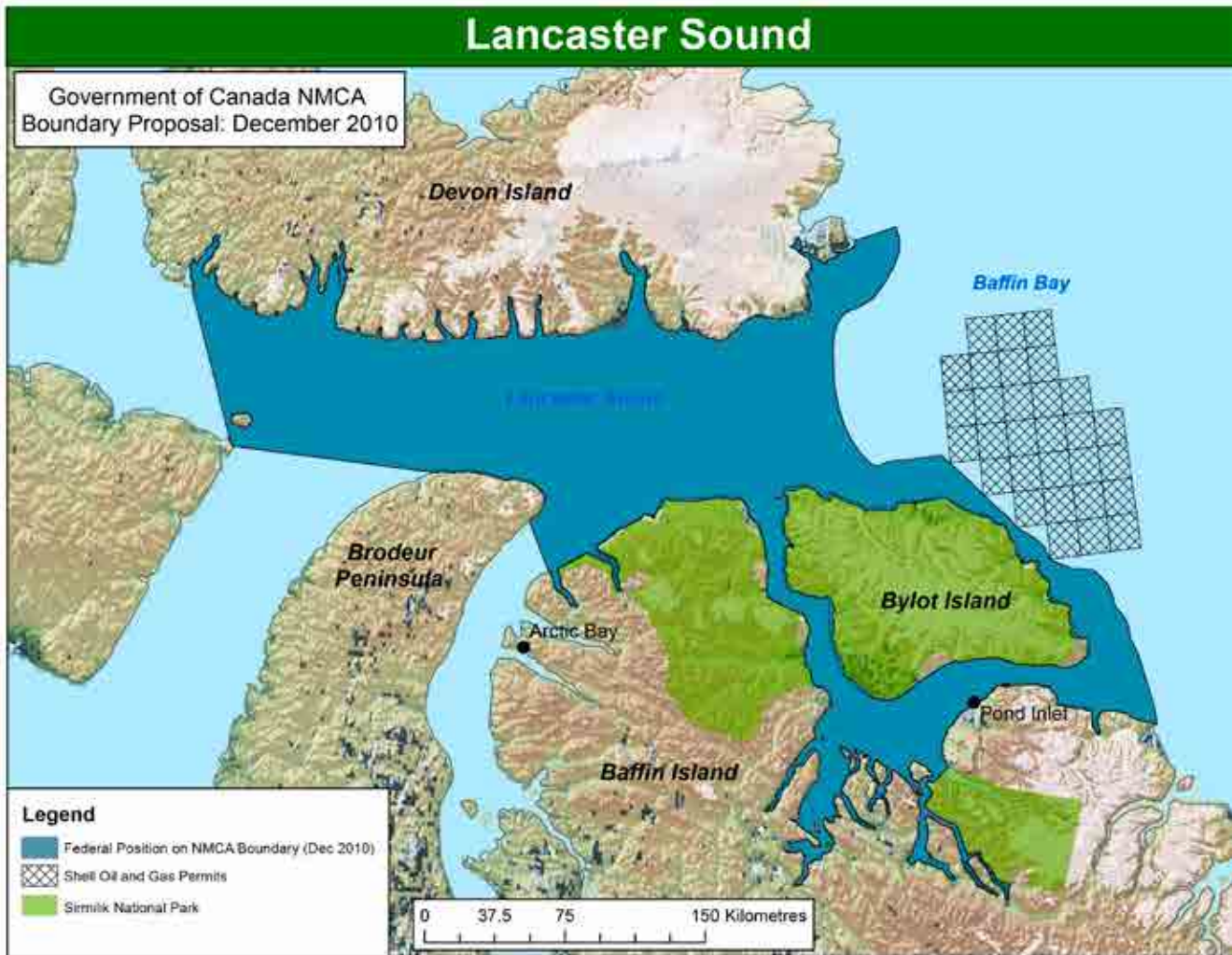


Figure 4: 2010 Government of Canada position on a potential boundary for an NMCA in Lancaster Sound. The map also shows the location of the Shell Canada exploration permits which were subsequently contributed to the Nature Conservancy of Canada in 2016.

DRAWING THE FEDERAL BOUNDARY PROPOSAL

The 2010 federal boundary proposal was based on the general study area description provided in the MOU. Discussions amongst the federal departments with interests in the seabed of a potential NMCA in Lancaster Sound (Indigenous Affairs and Northern Development, Natural Resources Canada and Parks Canada) led to the eastern limit being drawn to exclude known potential petroleum structures and the then existing petroleum exploration permits held by Shell Canada Ltd.

The Government of Nunavut and the Qikiqtani Inuit Association were not involved in determining the federal boundary. The boundary served as a starting point for consultations and did not preclude considering other boundary options for the NMCA as stipulated in the Lancaster Sound NMCA Feasibility Study Memorandum of Understanding signed in 2009 by the governments of Canada and Nunavut and the Qikiqtani Inuit Association.

ECOLOGICAL VALUES AND TRADITIONAL KNOWLEDGE

ECOLOGICAL VALUES

An ecological values study was prepared to address the requirements of the MOU and as part of the necessary considerations for the federal boundary proposal. The results were published in a report entitled Updated Assessment of the Ecological Values of Lancaster Sound in the Eastern Canadian Arctic (Yurick and Mercier, 2013). This study provided a summary of the scientific information gathered with respect to the Lancaster Sound region since the 1970s and updated it with more current information about the area's species and ecosystems. It was completed primarily within the limits of the 2010 federal boundary but includes data which extends beyond. It also complements the traditional knowledge study undertaken by the Qikiqtani Inuit Association.

The information gathered was analysed using geographic information system (GIS) methods. Eighteen layers of data were used in this analysis, related to the importance of the area for species or groups of species, such

as concentration areas (feeding, breeding, moulting), migration routes, shore leads and polynyas. Simple overlay techniques were used to identify areas of high conservation value. As the number of layers which overlap increases, "biological hotspots" are revealed (see Figure 5).

The updated ecological assessment confirmed many things about the Lancaster Sound region that had been known since the 1980s and provided greater insight into others, specifically:

- Lancaster Sound is a globally-significant ecological treasure that is the ecological engine of the entire eastern Canadian Arctic marine ecosystem.
- Part of its importance is linked to the presence of polynyas – large open water winter oases in the Arctic – which allow early productivity and attract large numbers of marine birds and mammals. These are also areas where Inuit undertake many traditional activities.

- Wind and current-driven upwelling bring nutrients to the surface, leading to high productivity along the floe edges of polynya and during the open water season. Currents at the mouth of Lancaster Sound move nutrients east, west, north and south, nourishing the entire region.
- Lancaster Sound is a major east-west migratory corridor leading from Baffin Bay into the Arctic Archipelago and linking wintering and summering areas – most species present are migratory and they all depend on Lancaster Sound as they move from one essential habitat to another (see Figure 5).
- Lancaster Sound provides essential habitat for narwhal (up to 75% of global population); beluga (20% of Canadian population); polar bears (largest subpopulation in Canada); and several seabird species (some of the largest

colonies in the Canadian Arctic) (see Figure 5).

- Eastern Lancaster Sound and the coasts of Lancaster Sound and Baffin Bay have been identified as the areas with the highest conservation value as a result of the number and abundance of species which depend on them.
- Regardless of climate change and potential change in ice cover, Lancaster Sound will remain an ecologically important area as the physical processes which are responsible for productivity remain, though species composition may change over time.
- This study confirms the critical ecological importance of the

full width of eastern Lancaster Sound and of the coastal waters along the entire length of the sound and north and south into Baffin Bay.

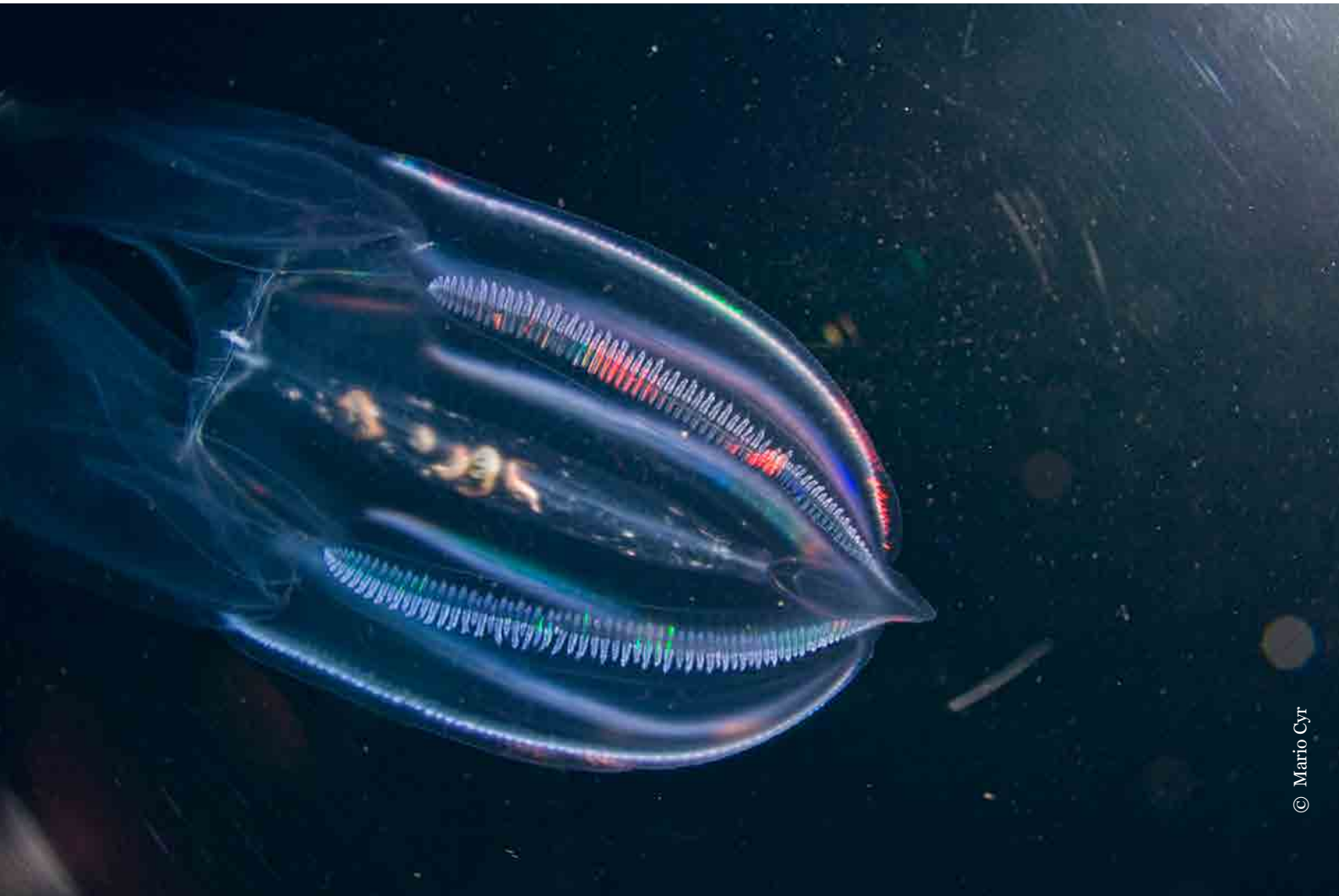
Subsequent to the publication of the Parks Canada ecological values study, Fisheries and Oceans Canada conducted a cetacean survey in August 2013, which for the first time surveyed most of the main narwhal and bowhead whale aggregation areas in the Canadian High Arctic during one summer (DFO 2015a; 2015b). This survey reinforced the importance of the Lancaster Sound region for both narwhal and bowhead whales and provided the following estimates for the Canadian High Arctic and more specifically for areas in, or adjacent to, the Lancaster Sound region (see Figure 5):

Baffin Bay narwhal population:

- Canadian High Arctic total: 142,000
- Jones Sound: 12,500
- Smith Sound: 16,000
- Somerset Island: 50,000
- Admiralty Inlet: 35,000
- Eclipse Sound: 10,500
- East Baffin Island: 17,500

Eastern-Canada West-Greenland bowhead whale population:

- Canadian High Arctic total: 6,500
- Admiralty Inlet: 100
- Prince Regent Inlet: 900
- Eclipse Sound: 30
- East Baffin Island: 2,100



TRADITIONAL KNOWLEDGE (INUIT QAUJIMAJATUQANGIT)

In 2012, the Qikiqtani Inuit Association (QIA) published Tallurutiup Tariunga Inulik (QIA, 2012) to provide Nunavut Land Claims Beneficiaries with an introduction to the proposed national marine conservation area in Lancaster Sound, and to inform Parks Canada, the Government of Nunavut and other interested parties about Inuit perspectives on marine conservation. In 2014, based on community consultations with Inuit, the QIA Board of Directors brought forward a boundary proposal to inform further discussions with governments.

Tallurutiup Tariunga is the Inuit place name for Lancaster Sound. The high productivity of the area provides an abundant food source of a variety of species and Inuit are dependent on this unique ecosystem for both physical and cultural sustenance. This is an important area to Inuit and has served as a rich natural resource for millennia,

sustaining populations of the High Arctic through subsistence hunting that supports all facets of traditional activities. Through the practice of traditional activities, people are able to provide for themselves and their families while fostering a healthy sense of cultural strength and identity amongst a people.

“Inuit have a very strong emotional link to the land and wildlife. The establishment of an NMCA is important for our traditional lifestyle and country food - the ocean is like a forest to us and we feed on the animals in the ocean.”

**Community Consultations
December, 2013**

Traditional knowledge, also referred to as Inuit Qaujimajatuqangit (Khao-yee-muh-yah-tut-khanggeet) (IQ), is a source of information based on historical and/or current observations by Inuit which has been passed on orally over several lifetimes. A large portion of IQ is tied to harvesting and the environment, but it is also directly linked to local socio-economics and cultural practices of Inuit.

IQ is a holistic approach to gathering and understanding information and relates to Inuit traditional land use. IQ is the basis for survival in the Arctic. It is the passing of traditional knowledge and proven best practices amongst a people. It has occurred for hundreds of generations and the result is a collective knowledge bank of oral history that has allowed Inuit to gain an insightful understanding of their environment.

“Money comes and goes, but when the animals are gone, they are gone: culture trumps economics every time for Inuit.”

**Community Consultations
December, 2013**



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“We have to work together, all of us on the same page.”

Community Consultations July, 2012

As part of the Lancaster Sound feasibility assessment, IQ was collected from all the adjacent communities of Grise Fiord, Resolute Bay, Pond Inlet, Clyde River, and Arctic Bay. Each community was visited three times between July 2012 and August 2013, and the public consultations included community meetings and discussions, written surveys and mapping sessions. The participants were informed of why this information was being gathered and signed a consent form to use their knowledge. In addition to being used for the feasibility assessment, the information gathered will be included in QIA’s Inuit Qaujimaqatungit database. In providing this information, it was made clear that communities wanted feedback from the Steering Committee as to how this information was used, and how it did or did not influence the decision on feasibility. Hence, there will be a need to revisit communities to inform them of the decision and rationale and how their information was used.

QIA developed a method to map IQ from communities in a way that highlights areas of relative importance to Inuit with respect

“We are always trying to protect wildlife and environment. Trying to balance modern ways of living and our past. [It is] very important to protect Lancaster Sound because of this area being very important to large numbers of marine mammals, but also shorebirds and polar bears. We need to protect them for future generations.”

Community Consultations July, 2012

to the proposed Lancaster Sound NMCA. The results of this study show the importance of each community’s marine food source and overlays them on a colour-coded map, taking into account several different factors, including migration routes of marine mammals, rich hunting areas, and important travel routes associated with the harvesting of wildlife. The map is a visual aid that helps to highlight areas that are important for Inuit use and areas with high concentrations of marine mammals (Figure 6). It also shows how the areas surrounding Lancaster Sound are all connected, not only at an ecosystem level, but by interconnecting areas of Inuit use and importance. As shown in Figure 6, the areas of importance stretch beyond Lancaster Sound itself into the surrounding inlets and fiords.

IQ confirms the importance of the Lancaster Sound region to Inuit communities from an Inuit perspective:

- Narwhal concentrations are very important in Eclipse Sound (Milne Inlet) and in Admiralty Inlet.
- The coast of the Lancaster Sound region includes a large number of cultural sites.
- The region of Lancaster Sound includes very important polar bears denning sites, and the western part of Lancaster Sound (toward Resolute Bay) is known as a very important polar bear feeding ground.
- Abundance of seabirds and their use of the polynyas and floe edges during the winter.
- Bowhead, which is listed as a species at risk under the Species at Risk Act, beluga and walrus are also very abundant in the region
- The inventory of hunting sites show the extensive use of

the territory by Inuit and the importance of maintaining their traditional way of life.

- Floe edges are particularly important for Inuit as a platform for hunting activities.
- The mouth of Lancaster Sound is considered very important for the balance of the ecosystem.

USE OF INUIT QAUJIMAJATUQANGIT AN INNOVATIVE APPROACH

The incorporation of IQ is a fundamental premise of the Canada National Marine Conservation Areas Act, the Nunavut Wildlife Act and the Nunavut Land Claim Agreement.

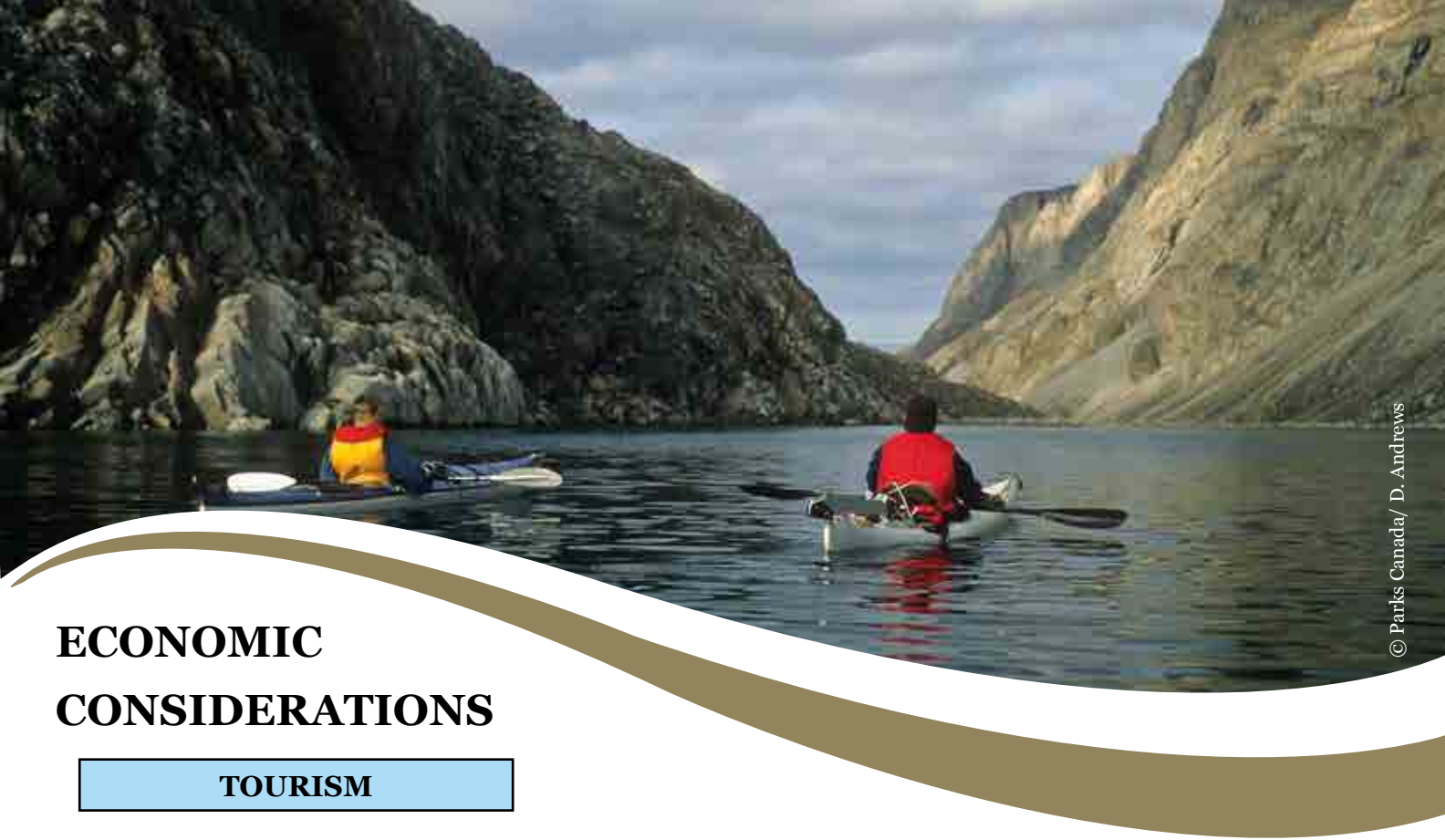
IQ and contemporary science are information bases that complement each other. IQ can be used alongside scientific knowledge to get a more complete understanding of the use and value of an area.

Using IQ alongside scientific knowledge:

- helps identify community values and sense of connection to place;
- provides relevant current and historical data that is not readily available to scientists (baseline data);
- allows for community members to be involved in decision-making through the use of IQ; and
- empowers community based monitoring to identify parts of the ecosystem that are stressed or undergoing change.

In the Lancaster Sound NMCA feasibility assessment, IQ was fundamental in understanding and illustrating the Inuit perspective of the region, leading to a more ecologically and socially holistic boundary recommendation.





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ECONOMIC CONSIDERATIONS

TOURISM

Tourism Opportunities

The Study of Existing and Potential Marine-based Tourism Opportunities in Lancaster Sound (Dawson, 2013) was commissioned by the Steering Committee. The report integrates findings from a thorough review of published information on tourism in the circumpolar Arctic and an analysis of interviews with key stakeholders in the region.

The Lancaster Sound region has a number of key tourism attractions, such as the Northwest Passage, the stunning natural landscapes of Sirmilik National Park, Nirjutiqarvik National Wildlife Area on Coburg Island, Prince Leopold Island Migratory Bird Sanctuary, Beechey Island Sites National Historic Site and Cunningham Inlet. There are also many opportunities for world class wildlife viewing and to learn about Inuit culture, history and Arctic marine natural heritage. Specific tourism activities include

cruise and yacht excursions, kayaking, sport hunting, floe edge tours, wildlife viewing, dogsledding, snowmobiling, and cultural education. In addition, the proposed NMCA may act as both an additional draw for tourists, and a means to coordinate and augment regional tourism.

Although tourism is seen as a key component to economic diversification in the Arctic via increased employment and business development opportunities, and marine-based tourism in the Lancaster Sound region offers the potential for growth and contribution to the local economy, barriers to its development exist. For the most part, the industry is limited by seasonality, high costs to get to the region, limited infrastructure and complex permitting processes. However, the region’s remoteness, ruggedness and wilderness quality, and potential World Heritage

Site status, are also strengths that attract a certain visitor segment. Strategies that could be employed to enhance conditions for marine tourism development in the Lancaster Sound area include:

- developing a tourism planning process that involves local communities and ensures that communities share in the economic opportunities (i.e. cruise expeditions);
- investing in small to medium scale multi-use tourism infrastructures, such as docking facilities, passenger vessels and a system of seasonal use huts;
- developing guidelines to improve visitor experience and ensure that sensitive sites and cultural heritage are protected;
- simplifying government permitting processes;



- developing means to reduce travel costs to the region; and
- promoting Sirmilik National Park and a national marine conservation area in Lancaster Sound and other protected areas as a potential World Heritage Site designation.

The report concluded that marine based tourism offers the potential for growth and contribution to the local economy if appropriate mitigation strategies are employed and key barriers are addressed. It also suggests that the proposed Lancaster Sound NMCA has the potential to become a world leader in protected area management by combining contemporary science

and local Inuit knowledge and cultural traditions to create an educational tourism offer.

CURRENT CONTEXT

The 2012 Government of Nunavut report *Tunngasaiji: A Tourism Strategy for Nunavummiut* mentions that:

- a third of travellers to Nunavut visit parks or heritage rivers, generating a significant amount of visitor revenue;
- total spending by visitors to national and territorial parks in Nunavut was \$7.2 million in 2009;
- tourism-related businesses in Nunavut generated

more than \$40 million in revenue, representing 3.2% of the territory’s overall Gross Domestic Product (GDP) in 2011; and

- the tourism industry in Nunavut remains relatively underdeveloped.

However, in terms of numbers of tourists coming to protected areas in the Eastern Arctic, visitation by cruise ships is generally more significant than tourists arriving by land. For example, 136 people visited national parks in Nunavut in 2014-15 (Outspan Group, 2011), while about 600 cruise ship passengers visited Ninginganiq (Isabella Bay) National Wildlife Area along eastern Baffin Island,

POTENTIAL ICONIC EXPERIENCES IN A LANCASTER SOUND NMCA

The following are some of the highlights that visitors could experience in a Lancaster Sound NMCA:

- some of the most spectacular natural scenery and polar wildlife viewing opportunities including icebergs, floe edges, dramatic cliffs and spectacular fjords, large seabird colonies, a diversity of marine mammals such as polar bears, beluga and bowhead whales, ringed and harp seals, walrus and a chance to see the “unicorn of the sea”, the narwhal;
- the 3000 year old Inuit culture of Canada’s High Arctic, including stories, drum dancing, throat singing, Arctic sports and archeological sites;
- the stories behind the exploration for the Northwest Passage; and
- incredible protected areas including Sirmilik National Park, Beechey Island Sites National Historic Site, Prince Leopold Island Migratory Bird Sanctuary and Nirjutiqarvik (Coburg Island) National Wildlife Area.

350 visited Nirjutiqarvik (Coburg Island) National Wildlife Area in Jones Sound and 950 visited Prince Leopold Island Migratory Bird Sanctuary in Lancaster Sound in 2015 (Environment Canada, pers. comm.).

Protected heritage areas are important economic drivers in small communities across Canada, attracting 23 million visitors in 2015 (Parks Canada, 2016) and significantly contributing to small and rural communities where they attract spin-off economic and employment growth for small businesses, including local ecotourism industries and Indigenous enterprises. Most economic benefits stem from older, more developed and visited parks in the south. In remote regions and the north, the contributions are comparatively modest but

no less important to the local economy. Northern protected heritage areas provide sustainable employment, and help to diversify local economies, providing greater stability during the periods of fluctuation common to resource-based economies.

The number of cruise ships and yachts coming to the Arctic and specifically to the Lancaster Sound – Northwest Passage area increases every year, just as the size of the ships arriving is getting larger. For example, the *Crystal Serenity*, with 1000 passengers and 600 crew, sailed the full Northwest Passage in 2016 and plans to do it again in 2017 due to the “tremendous response”.

An NMCA in Lancaster Sound would be a means to attract new visitors, but also a means to

manage tourism. Cooperatively managed by Parks Canada and Inuit under the terms of the IIBA, with links to Fisheries and Oceans Canada and Transport Canada, this partnership could assist in the development and management of tourism by bringing about measures to manage tourism opportunities, tourism routes, key messages, etc. A well-developed tourism strategy, one created collaboratively with Inuit, the Nunavut government, the tourism industry and federal departments, could increase visitation, enhance the capacity of Inuit communities to influence the tourism experience and product, while managing potential conflicts with traditional activities. A tourism strategy would also be a way to address existing barriers to tourism.



FISHERIES

Inuit have long depended upon marine resources for their survival. Throughout history, Inuit have developed specialized tools, harvesting practices and values that have significantly influenced the development of modern and sustainable fisheries in Nunavut. The fishing industry, including both subsistence and commercial fisheries, has continued this rich heritage into the modern era as a fundamental aspect of the health and well-being of the people of Nunavut (Nunavummiut).

Nunavut's fishing industry has made significant progress. Through increased quotas and allocations to Nunavut interests, improved industry collaboration, the creation of the Nunavut Offshore Allocation Holders Association in 2011, strong brand development and quality products, expanded research programs and capabilities, and focused training programs, Nunavut's fisheries have become more significant and are considered growing contributors to the territory's economy.

While the industry as a whole has made significant gains, it is still challenged by a lack of marine infrastructure, funding for education and training, the cost and time it takes to grow and expand arctic fisheries, the remoteness of the territory, transportation costs, competition with aquaculture fish, and the lack of Nunavut-specific fisheries regulations.

The total landed value (i.e. market value of the goods when they are offloaded from the ship) in 2015 of the three main commercial species harvested in Nunavut (turbot, shrimp and Arctic char) was \$86.3 million.

Since the inception of the original Nunavut Fisheries Strategy in 2005, increasing numbers of Nunavummiut are participating in commercial fisheries inshore and offshore, often using the income to afford other fishing and hunting activities, or combining part-time work in fisheries with other forms of employment. The inshore fishery is dominated by the harvest of Arctic char, some dried whale meat products, and, less commonly, whitefish.

Across Nunavut fisheries are improving food security, providing employment, and increasing the socio-economic wellbeing of Nunavummiut. More communities are realizing the potential of developing fisheries and the related benefits. Communities are also very proactive in expressing their concerns about the protection of marine resources and frequently and openly state the importance of protecting Nunavut's resources for current and future generations. The focus is often on important issues such as food security, fish health, contaminants, the impacts of shipping, climate change and the threat of oil spills and lack of response capabilities in the north.

Achieving long-term, sustainable growth in Nunavut's fishing industry requires commitment and strategic investments, the fostering of an overall conservation and stewardship ethic, and the inclusion of IQ in the decision-making process. It also depends on having access to sufficient fish stocks to ensure economic feasibility while respecting Inuit rights and the Nunavut Land Claims Agreement.





The char fishery remains a critical food source and important commercial element of Nunavut's economy. Due to the remote locations and associated economics of development, char fisheries are currently only utilizing a small percentage of available quotas. Inshore exploratory fisheries for turbot and shrimp have also not been fully realized and face similar challenges to char fisheries. Access and allocation of offshore resources in Nunavut has been an ongoing challenge for decision-makers and fishery-dependent communities.

An NMCA in Lancaster Sound would be a means to holistically manage the introduction of commercial fisheries in this area, in partnership with Inuit and Fisheries and Oceans Canada, which maintains its jurisdiction over fisheries in NMCAs. Done in an ecologically sustainable manner, locally based commercial and recreational fisheries could be compatible with the overall

management of an NMCA in Lancaster Sound.

CURRENT CONTEXT

Fisheries and Oceans (DFO, personal communication, August 2016) reported that in the last few years the following fishing licences were issued for the Lancaster Sound area, and the actual fishing which occurred:

- 2013-14: a stage 1 Emerging Fishery¹ licence issued for Jones Sound/Grise Fiord/Starnes Fiord for Greenland halibut, cold water shrimp and whelks; fishing did occur using longlines and whelk pots.
- 2015: a Stage 2 Exploratory Fishing licence² issued for Grise Fiord/Resolute Bay/Arctic Bay areas for Greenland halibut, cold water shrimp and whelks; no fishing in Jones Sound due to ice, but fishing did occur in other locations.
- 2016: Licence to Fish for Scientific Purposes issued to Marine Institute for Jones Sound, using longlines, shrimp pots and whelk pots.
- All fishing in these years done from the vessel Kiviuq 1, owned and operated by Arctic Fishery Alliance.

¹ Stage 1 licence: tests the feasibility of a fishery by determining 1) if harvestable quantities are present; 2) if the species/stock can be captured by a particular gear type; 3) if there are any multi-species or environmental impacts; and 4) if markets exist.

² Stage 2 licence: an exploratory fishery used to determine whether a species/stock can sustain a commercially viable operation and to collect biological data in order to build a preliminary database on stock abundance and distribution.

MARINE TRANSPORTATION

Lancaster Sound has long been an area where Inuit have travelled by sea and over ice. Winter travel routes have been a means of reaching favourite hunting sites, as well as keeping contact with family and friends in other communities. The open water season is the chance to travel by boat for hunting and fishing.

Within the last two centuries, Lancaster Sound has been part of numerous explorations by Europeans intent on finding the Northwest Passage to the Orient and has seen an increase in commercial transportation, though all have been limited by the seasonal presence of significant sea ice.

Given these ice conditions, marine transportation in the Lancaster Sound region in the last 50 years had mostly been restricted to community resupply ships, Coast Guard icebreaker activity, research vessels and a few cargo ships transporting goods and products

to and from the few sites with operating mines (e.g. Nanisivik Mine near Arctic Bay from 1976-2002) or oil fields (e.g. Bent Horn on Cameron Island in 1980s-90s).

More recently, with summer sea ice retreating as a result of climate change, more vessels are coming to the region. Excluding local pleasure craft traffic originating from communities, 49 individual vessels (with a total of 58 voyages) were present in Lancaster Sound in 2013: 25 of these were small cruise ships and adventurers; 11 were sealift and community resupply ships; 5 were government vessels (Coast Guard icebreakers and research vessels); 6 were bulk carriers serving the Baffinland Mary River mine site; 1 was a non-government research vessel and the last was the Nordic Orion which became the first bulk carrier to complete a full transit of the Northwest Passage (Vard Marine, 2016).

An NMCA in Lancaster Sound would be a mechanism allowing for greater management of marine transportation activities in certain locations, through zoning of the NMCA and working

in collaboration with Inuit and Transport Canada. The latter continues to regulate shipping in NMCAs.

CURRENT CONTEXT

Because sea ice conditions in the Northwest Passage are not likely to change significantly in the next several decades, presenting considerable navigational and logistical difficulties for most vessels, it is not likely to become a major shipping route in the foreseeable future. More large ships have transited the Arctic via the Northern Sea Route along the Russian coast (supported by Russian ice breakers) but the amount of cargo on that route has decreased from 1.3 million tons in 2013, to 100,000 tons in 2015 (Vidal, 2016).

Nevertheless, more vessels are coming to the Lancaster Sound region every year, most of these related to tourism, community resupply or affiliated with the Baffinland mining operation. During the 2015 open water season, Baffinland's Mary River





Mine project shipped almost 1 million tons of ore on 13 bulk carrier trips out of its port facility in Milne Inlet and through Eclipse Sound and Pond Inlet to Baffin Bay (Vard Marine, 2016)

Although Baffinland submitted a request to the Nunavut Impact Review Board (NIRB) in 2014 to modify its existing permit to allow for shipping from June to March (including icebreaking), it recently advised NIRB that it would drop its request to seek approval for 10-month shipping, citing community concerns, and will focus on shipping between June and December as ice conditions permit (Baffinland, 2016).

Shipping in Canadian Arctic waters is covered by some of the world's strictest legislation, in particular the Arctic Waters Pollution Prevention Act. In addition, the International Maritime Organization (IMO) has adopted the International Code for Ships Operating in Polar Waters (Polar Code) which is expected to come into force on January 1, 2017 and which will make several environmental safety measures mandatory for all ships in Arctic and Antarctic waters, particularly with respect to pollution and waste management.

Furthermore, Transport Canada, in collaboration with Northern and Indigenous partners, is working on the identification of low impact shipping corridors in the Arctic as announced in the joint statement on climate, energy and Arctic leadership by Prime Minister Trudeau and President Obama in March 2016. The implementation of the Northern Marine Transportation Corridors initiative will take into account important ecological and cultural areas, vessel traffic patterns and input from local communities, and will determine what infrastructure, and navigational and emergency response services are needed.

HYDROCARBON RESOURCES

RESOURCE ASSESSMENTS

As part of the necessary considerations for the federal boundary proposal, an assessment of possible petroleum resources was conducted by the Geological Survey of Canada (GSC) within the limits of the 2010 federal boundary proposal. The results are detailed in the report Assessment of the Conventional Petroleum Resource Potential of Mesozoic and Younger Structural Plays Within the Proposed National Marine Conservation Area, Lancaster Sound, Nunavut (GSC, 2013).

The assessment analysed existing

seismic and geological data acquired in the 1970s and 1980s, including a 1989 assessment (Smith et al. 1989) that considered a larger area. This quantitative assessment provided a range of possible volumes for conventional crude oil and natural gas.

Established and accepted methods including computer models were used to calculate the resource potential. The assessment used knowledge of petroleum systems in similar geological settings from established petroleum provinces in the Gulf of Mexico and the Beaufort Sea. It concluded that there are potential petroleum generating source rocks within the study area and that seafloor and seismic survey features confirm an active petroleum system. Recent

exploratory drilling has identified non-commercial petroleum accumulations in a similar setting in offshore Western Greenland.

The assessment indicates that potential petroleum resources of the proposed Lancaster Sound NMCA are comparable in volume to those of the Jeanne d'Arc Basin of offshore Newfoundland. The average in-place crude oil resource is estimated to be 4.5 billion barrels and the average in-place natural gas resource is estimated to be 13.0 trillion cubic feet. Because there is a scarcity of modern data and a lack of exploratory wells drilled in the Lancaster Sound NMCA area, the assessment data indicates a wide range for potential resources, with a 90% probability that the area contains 0.6 billion barrels of oil

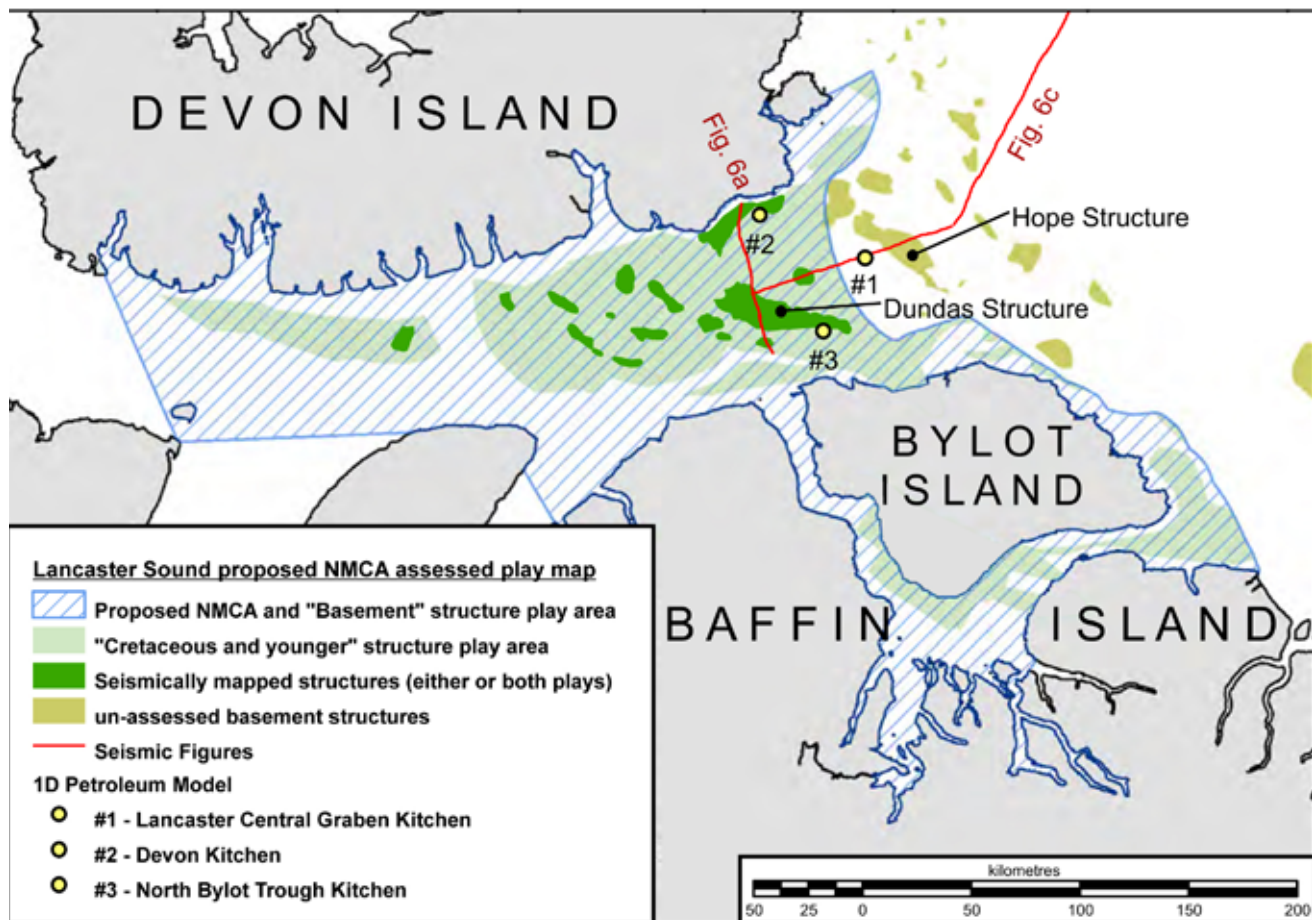


Figure 7: Map illustrating areas of hydrocarbon potential within the 2010 federal boundary proposal for an NMCA in Lancaster Sound. From Assessment of the Conventional Petroleum Resource Potential of Mesozoic and Younger Structural Plays within the Proposed National Marine Conservation Area, Lancaster Sound, Nunavut. Produced by the Geological Survey of Canada, 2013.

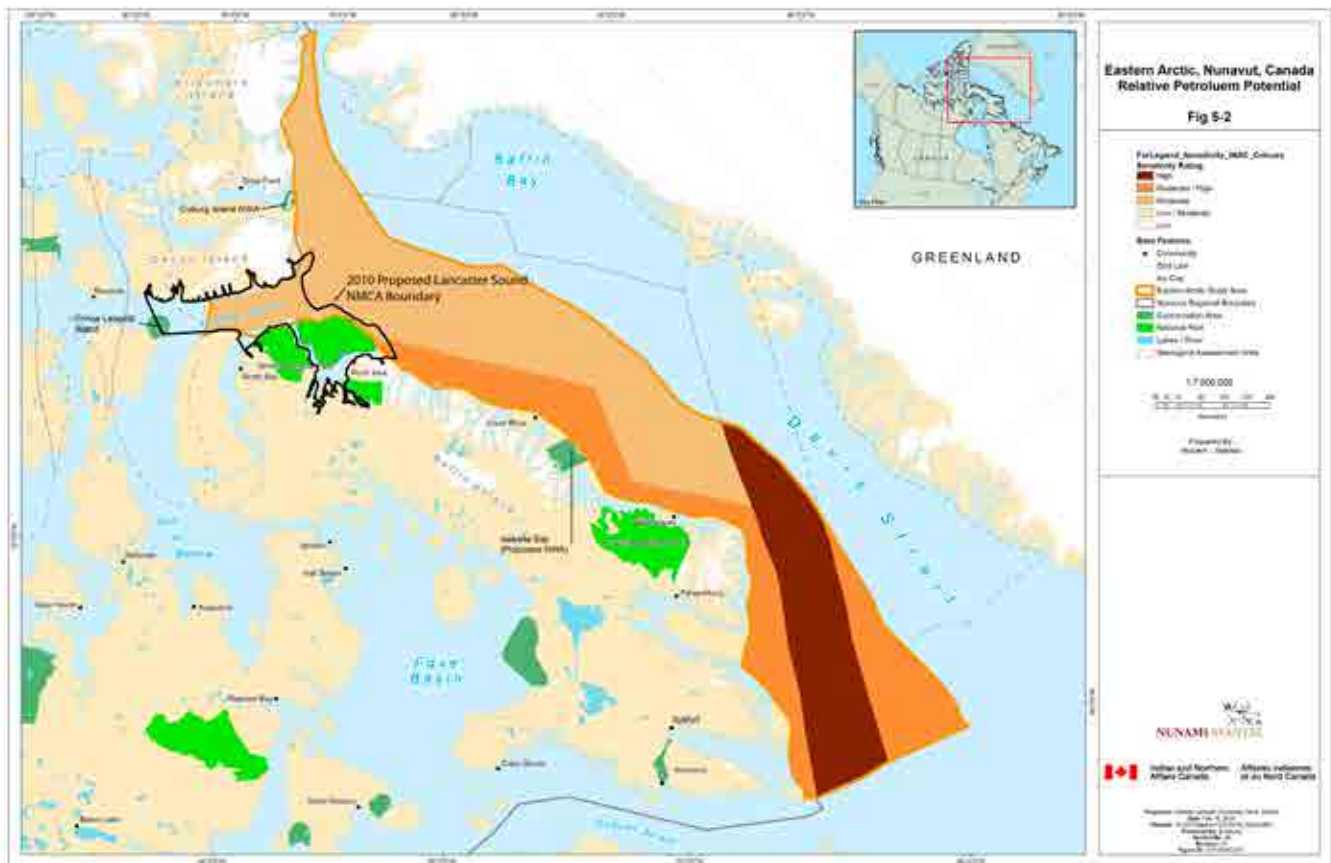


Figure 8: Petroleum and Environmental Management Tool – Eastern Arctic Study Area. Nunami Stantec. 2010. Prepared for Indian and Northern Affairs Canada. Based on data from the 2008 US Geological Survey study, *Assessment of Undiscovered Oil and Gas Resources of the West Greenland-East Canada Province*. Fact Sheet 2008-3014.

and 2.1 trillion cubic feet of natural gas and a 10% probability that it contains as much as 10.1 billion barrels of oil and 28.5 trillion cubic feet of natural gas. The Dundas structure, illustrated in Figure 7, is prospective for potentially large accumulations.

Because it is possible to extract only a portion of the in-place resources (less than 45%), there is a further reduction in the amount of resources that are recoverable. The GSC assessment suggests the average recoverable crude oil is about 2 billion barrels and the average recoverable natural gas is about 8.8 trillion cubic feet (i.e. 90% probability of ≤ 0.2 billion barrels of oil and 1.3 trillion cubic feet of natural gas and 10% probability of ≥ 4.6 billion barrels of oil and 19.5 trillion cubic feet of natural gas).

The potential resources identified are a portion of the petroleum resource attributed to the larger area examined in 1989. The 1989 assessment extended into Baffin Bay, and it also indicated a large potential in Lancaster Sound and suggested that the Hope Structure could potentially contain up to 9.4 billion barrels of crude oil or equivalent natural gas.

All of these figures are potential resources, not proven reserves since no exploratory wells have been drilled in the Lancaster Sound area.

The GSC assessment report was provided to stakeholders in 2014, including Shell Canada Ltd and the Canadian Association of Petroleum Producers (CAPP). During subsequent consultation

meetings held by the Steering Committee with industry, Shell Canada Ltd indicated it thought the GSC assessment was overly optimistic and that its own estimates were more conservative. Shell Canada then directed the Steering Committee to a 2008 regional Eastern Arctic assessment completed by the US Geological Survey (USGS) which concluded that the Lancaster Sound region has less petroleum potential than the Baffin Bay/Davis Strait area (see Figure 8 (USGS, 2008)).

Although CAPP also had the GSC assessment in hand, in a presentation to the 2015 Maritime Arctic Security and Safety Conference St. John's, NL, CAPP provided a map showing that the recoverable potential for the

Eastern Arctic (including Lancaster Sound) is 10 times less than the potential for either the Beaufort Sea or Sverdrup Basin areas (see Figure 9). The map was derived from information provided in a 2009 report of published estimates of oil and gas resources for Canada North of 60 (Drummond, 2009).

HISTORY OF HYDROCARBON RESOURCES

Exploration for oil and gas in the Lancaster Sound region has been limited to seismic operations and geological field work. Although drilling in Lancaster Sound was approved in principle in 1974, no well has ever been drilled, a result of strong opposition by local Inuit communities and the Canadian public. A moratorium on drilling

was put in place following an environmental review in 1978 and has been in effect since then.

In the 1970's, various companies held exploration rights to more than 6,000,000 hectares in Lancaster Sound and Baffin Bay. By 1989, that figure was down to 3,400,000 hectares held by three main groups – Consolidex-Magnorth-Oakwood (CMO), PetroCan and Shell (Smith et al. 1989). By 2001, PetroCan had abandoned its permits, leaving some 1,790,000 hectares under exploratory permits to CMO and Shell. By 2010, only Shell still retained a block of exploratory permits totalling more than 860,000 hectares in offshore Lancaster Sound.

“The Nature Conservancy of Canada is pleased to be able to work constructively with government and business to take meaningful steps towards achieving Canada’s global conservation commitments. We are grateful for Shell’s contribution. Together we are supporting the conservation of an area of uncommon beauty, incredible biodiversity and rich ecological importance for the benefit of Canadians and future generations.”

**John Lounds, President and CEO,
Nature Conservancy of Canada,
June 8, 2016**

On June 8, 2016, Shell Canada announced it had voluntarily contributed all of its permits to the Nature Conservancy of Canada, which subsequently released them to the Government of Canada. As a result, there are presently no hydrocarbon exploratory leases in either Lancaster Sound or the Canadian portion of Baffin Bay.



Figure 9: From: Industry Perspectives on Offshore Oil and Gas Development and R&D in Canada’s Arctic by Paul Barnes, Manager - Atlantic Canada & Arctic. Presentation to: Maritime Arctic Security and Safety Conference, St. John’s, NL October 15, 2015.

CURRENT CONTEXT

A review of numerous information sources presents the following picture of the current situation with respect to hydrocarbon exploration and development in the Arctic:

- Despite billions of dollars spent on exploration of oil and gas reserves in the Canadian Beaufort Sea – where oil and gas reserves are estimated to be substantially more than in the Eastern Arctic – and with petroleum companies currently holding rights to 48 significant discoveries covering over 220,000 hectares (INAC, 2016), none of those discoveries has led to production as of March 30, 2016.
- There are an additional 20 significant discovery licences in the Sverdrup Basin in the Arctic Islands, totalling over 325,000 hectares (INAC, 2016). Bent Horn on Cameron Island (now abandoned) produced and shipped oil between 1985 and the late 1990s. None of the other discoveries have yet led to production.
- By 2013, 142 offshore wells had been drilled in the Canadian Arctic, 92 of those in the Beaufort Sea and the remainder in Sverdrup Basin, with the last drilled in 2005-06 in the Beaufort Sea. The deepest drilling to date in the Arctic has been in less than 70m of water (LTLC Consulting and Salmo Consulting Inc, 2013). (Lancaster Sound ranges from 300 m to 800 m in depth.)
- As of January 2016, there are no active oil exploration projects in Arctic waters offshore of the United States, Canada or Greenland. Several companies, including Chevron, ExxonMobil and BP have shelved exploration in Canadian waters of the Beaufort Sea. Norway and Russia have also backed off many of their Arctic offshore drilling programs (Hoag, 2016).
- Speaking of its prospects in the Chukchi Sea off Alaska in 2015, Shell indicated that in order to be profitable, a venture in the Arctic would require a large reserve of at least 10 billion barrels. Even then, world oil prices would need to be well over \$100/barrel on a long term basis to cover costs of production and to make a profit (Mathiesen, 2015).
- In 2015, CAPP stated that the Canadian Arctic offshore is not a focus area for industry in the near term and that hydrocarbon development in the Arctic presents significant challenges (CAPP, 2015).
- The Arctic Institute lists a number of important concerns about hydrocarbon exploration and development in the Arctic, notably: environmental sensitivity and risks to Arctic marine ecosystems such as the impact of seismic surveys and oil spills on the health of marine wildlife; lack of science with respect to the effects of oil spills in Arctic ecosystems; inherent safety risk of deep-water drilling in an Arctic environment; logistical problems of cleanup in Arctic conditions; and inadequate oil spill response capacity in the Arctic (The Arctic Institute, 2012).
- Given the level of technical expertise needed for offshore petroleum exploration or development (in the Arctic or elsewhere), these projects rarely lead to the hoped for regional benefits and local community involvement. Training and education takes decades and assumes that the industry will be a long-term stable employer.
- The Government of Canada announced on December 20, 2016, that it was designating all Arctic Canadian waters as indefinitely off limits to future offshore Arctic oil and gas licensing, to be reviewed every five years through a climate and marine science-based life-cycle assessment.

“I am delighted that Shell is making this major contribution to supporting marine protection in the Lancaster Sound region. Contributing our offshore rights to the Nature Conservancy of Canada builds on 30 years of joint conservation efforts between our organizations. Through collaboration across sectors, we can achieve greater conservation outcomes together.

(The region) is adjacent to where the government has already said it would like to establish a conservancy, so our hope is that it will contribute to a much larger marine conservation area in the North.”

**Michael Crothers, Shell
Canada President and
Country Chair, June 8, 2016**





CONSULTATIONS

The following section provides a summary of the consultation activities undertaken and the concerns and issues raised during local, regional and national consultations conducted in support of the proposed national marine conservation area proposal in Lancaster Sound.

The consultation process was developed under the direction of the Lancaster Sound Steering Committee and formally vetted and endorsed by the QIA Executive Board and senior officials from the Government of Nunavut and Parks Canada.

The overall objective of the consultations was to inform and generate interest by providing opportunities for broad involvement in a process that would gather input from the Inuit of Nunavut, affected Inuit communities in the Qikiqtaaluk Region, relevant government departments and agencies, key stakeholders and interested Canadians.

To achieve this, the Steering Committee ensured that all studies and documents were shared with all the target groups. For community consultations and meetings, all documents were translated into Inuktitut and provided in hard copy as well as electronic format.

A variety of techniques were used to provide information to, and solicit input from, community members, including public meetings, radio, newsletters, and targeted meetings with Hunters and Trappers organizations and Hamlet councils. Translation services were provided during all community consultations and meetings. Representatives of all three parties to the MOU participated in all consultation efforts.

Views and comments were sought on a variety of elements including: (i) desirability of the proposal; (ii) the NMCA boundary; (iii) needs

and values associated with the proposal; (iv) identifying issues, opportunities and challenges faced (and how they could be addressed). Should an NMCA be established, this information can also inform subsequent phases of the establishment process, such as content for the Inuit Impact and Benefit Agreement and framing out issues to address as part of management planning.

Between 2012 and 2016, the Lancaster Sound Steering Committee:

- Conducted two consultation tours in the five communities adjacent to the proposed NMCA – Pond Inlet, Grise Fjord, Arctic Bay, Resolute Bay and Clyde River – including 32 community meetings (with Hunters and Trapper Organizations, Hamlet Councils and the public), attended by 434 people in total.

- Held information sessions in Iqaluit for the public, Government departments and local non-government organizations.
- Solicited input from the five affected Inuit communities and 33 regional and national stakeholders – Institutions of Public Government, third party interests (including petroleum, mining, shipping and tourism businesses and outfitters), academics, and conservation organisations – resulting in seven written submissions.
- Held bilateral meetings with key industry and non-government organization stakeholders.
- Organised briefing sessions for concerned federal government departments.

Results of these consultations and meetings are presented in the following pages and more detailed submissions and meeting notes are included in a consultation overview (Parks Canada, 2017).

COMMENTS RECEIVED

COMMUNITIES

As part of the overall consultation process, the five communities most adjacent to the Lancaster Sound NMCA proposal were visited twice by the Steering Committee members, once in summer 2012 and again in fall 2013. During these consultations, all five communities expressed significant support for the protection of the entire Lancaster Sound region and the establishment of an NMCA. Furthermore, based on the results of the consultations, a QIA resolution supporting a larger boundary was passed unanimously by the QIA Board of Directors in June 2014.

In addition to the long-term protection of the marine environment, the NMCA is also seen as an investment in healthy communities through economic development opportunities like ecotourism, the protection of essential marine food sources, and fostering of Inuit traditional land use.

Local leaders, community members and hunters and trappers

organizations (HTOs) all stressed the importance of food security and protection of Inuit traditions.

A number of questions and concerns were raised with regard to the possible impact of oil and gas development, seismic exploration and increased marine traffic on Inuit traditional land use. Answers to a number of these were provided in newsletters (available in English, Inuktitut and French) which were distributed to all community members via the post office and during community meetings (included in Parks Canada, 2017).

“People are a functional part of a dynamic biophysical environment, and land use cannot be planned and managed without reference to the human community; accordingly, social, cultural, and economic endeavours of the human community must be central to land use planning and implementation.”

NLCA 11.2.1(a)

“Recognize that the marine environment is fundamental to the social, cultural and economic well-being of people living in coastal communities.”

CNMCA Act Preamble



Table 1: Specific community concerns identified from consultations respecting the designation of a Lancaster Sound NMCA.

<p>Pond Inlet:</p> <ul style="list-style-type: none"> • Lancaster Sound is vitally important, “like a farm where Inuit get their resources”. The NMCA will help protect marine life as well as culture. • It is important to protect narwhal, as they prefer quiet places. Milne Inlet is a narwhal sanctuary for the people of Pond Inlet. • The NMCA designation should include the oil and gas lease areas, if not it seems to defeat the purpose of a protected area.
<p>Clyde River:</p> <ul style="list-style-type: none"> • The marine ecosystem is where Inuit get resources. There is a very strong cultural link to the lands, waters, and wildlife. • Inuit depend heavily on marine mammals for food. • Calving areas for Greenland sharks and narwhal in the area need protection. • The community wants an NMCA since any oil spill would affect Clyde River due to prevailing currents.
<p>Arctic Bay:</p> <ul style="list-style-type: none"> • Elders only eat country food and an NMCA designation ensures protection of the food source. • Creswell Bay has a high concentration of belugas. • Economic benefits from an NMCA welcomed. • The creation of an NMCA would see marine traffic more closely monitored; there’s a longstanding concern that cruise ship activities have been disrupting harvesting.
<p>Resolute Bay:</p> <ul style="list-style-type: none"> • Locals have seen an increase in marine traffic and the disruption of walrus in their calving areas. • Tourists are scaring marine mammals. • Somerset Island has sandy areas where narwhal come to shed their skin. • There is a narwhal and beluga area off Cornwallis Island with high concentrations. • People would like to see additional protection of Prince Leopold Island Migratory Bird Sanctuary.
<p>Grise Fiord:</p> <ul style="list-style-type: none"> • An NMCA would support traditional lifestyles and protect marine food sources. • Polynyas, as high productivity areas, support marine mammals and need to be protected. • The Coburg Island National Wildlife Area has walrus haul out areas and bird colonies. Protection should extend beyond the island to surrounding areas.

INDUSTRY

Industry was consulted as part of a general consultation effort for key regional and national stakeholders during summer 2014. The following companies and industry associations either provided written submissions and/or asked for, and were given, bilateral meetings:

Shell Canada

At the time Shell Canada Ltd was consulted in 2014, it had a block of 30 exploratory permits at the entrance to Lancaster Sound which it had held since 1971, though no actual exploratory work had ever been authorized or undertaken. Shell requested a meeting with the

Steering Committee, which took place in May 2014. During that meeting, Shell commented that:

- It was neither opposed to nor did it specifically support an NMCA in the area.
- It had no short-term nor medium-term plans to undertake any exploration or development there, nor did it have a mandate to consider giving up its permits which were then inactive as oil and gas exploration in the region had been under a de facto moratorium since the 1980s³.
- The 2013 Geological Survey of Canada report on the petroleum potential within the 2010 federal boundary

was overly optimistic and that Shell’s estimates were far more conservative. Shell suggested Parks Canada look at other sources for oil and gas information, notably a U.S. Geological Survey (USGS) study (USGS, 2008) which indicates that on broader regional scale, Davis Strait has significantly more potential, with Lancaster Sound being on the low end of the scale (see Figure 8).

³ Two years after these meetings, on June 8, 2016, Shell Canada Ltd voluntarily contributed its permits in the Lancaster Sound area to the Nature Conservancy of Canada.

Canadian Association of Petroleum Producers (CAPP) and NWT and Nunavut Chamber of Mines

Both associations sent in submissions and requested meetings which were held with CAPP in May 2014 and with the NWT and Nunavut Chamber of Mines (via teleconference) in August 2014. The associations' main points were to suggest looking at other marine protected area options and not wanting potential energy and mineral resources to be locked up in an NMCA.

Baffinland Iron Mines Ltd

Baffinland, which operates within the area and ships its product through the proposed NMCA, sent in a submission in 2014 and wanted to ensure that the NMCA would not affect them unreasonably --particularly with respect to shipping. The Steering Committee and the Government of Canada provided assurances in this regard in the form of a letter from the Minister of Environment for Canada sent in April 2015 (see Parks Canada,

2017). The Steering Committee also met with Baffinland in September 2015 to reconfirm understandings based on the Minister's response.

INSTITUTIONS OF PUBLIC GOVERNMENT

Nunavut Wildlife Management Board (NWMB)

The NWMB – the main instrument of wildlife management in the Nunavut Settlement Area – provided a submission as part of the general consultation conducted in 2014. In their submission, the NWMB indicated it supports the NMCA proposal and sought clarification on the timeline and next steps towards the establishment of the NMCA.

Nunavut Planning Commission (NPC)

Though NPC did not provide a specific submission, it has been involved in the process and included the 2010 federal boundary as input to the Nunavut land use planning as a protected area to be established.

ENVIRONMENTAL NON-GOVERNMENT ORGANIZATIONS (ENGOS)

As part of the regional and national consultation effort in 2014, submissions were received from the World Wildlife Fund (WWF), Oceans North, and the Canadian Parks and Wilderness Society (CPAWS). In these submissions, all expressed support for the NMCA proposal and recommended that the 2010 boundary be expanded to include areas of high conservation value adjacent to the boundary. More particularly:

- WWF and Oceans North both indicated an interest in moving forward with the existing 2010 federal boundary as soon as possible and committing to a process for potential expansion.
- Oceans North noted that the resource assessment process would benefit from a broader assessment so that industry concerns could be balanced against strong oil potential elsewhere. They also recommended that the Steering





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Committee begin discussions with Shell with respect to the lease area, reminding that they had voluntarily relinquished their leases off Gwaii Haanas National Marine Conservation Area Reserve and Haida Heritage Site in 1997.

- CPAWS included specific information about where the boundary could be expanded and why it should be. It also included comments on the high risk to this particular environment from any petroleum exploration or development.

FEDERAL DEPARTMENTS

In March 2016, the Steering Committee invited concerned federal departments (Natural Resources Canada, Fisheries and Oceans Canada, Environment Canada, Transport Canada, National Defence, Global Affairs Canada, Indigenous and Northern Affairs Canada and

the Canadian Northern Economic Development Agency) to briefing sessions on the Lancaster Sound NMCA proposal.

In general, departments supported the proposal. Bilateral meetings were subsequently held with a number of these departments in the spring of 2016 to discuss specific concerns with respect to their activities and/or the boundary (e.g. National Defence, Environment Canada, Natural Resources Canada).

GENERAL

Comments and boundary considerations were also received through petitions, letters and emails sent to the Lancaster Sound email address, notably:

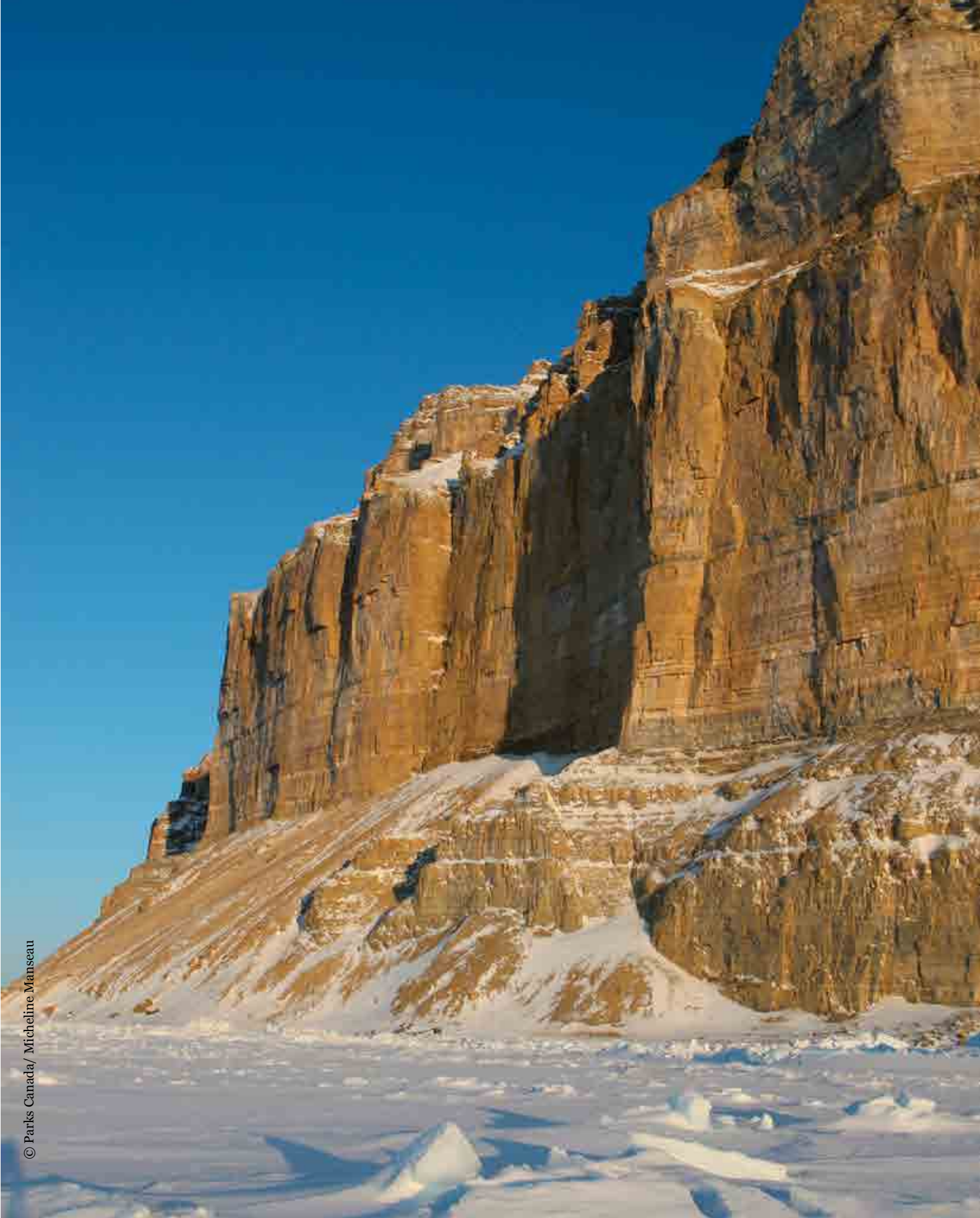
- Request to add Cunningham Inlet to the proposal because of its importance to beluga whales through an environmental petition to the Commissioner of the Environment

and Sustainable Development, as well as an email from a Vancouver Aquarium researcher.

- Request to include Beechey Island given it is a National Historic Site associated with the Franklin expedition and the subsequent searches and because it currently receives little protection.
- Several letters/emails of general support from individuals and organisations.



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CONCLUSION

The idea of protecting Lancaster Sound within a national marine park, and more recently a national marine conservation area, dates back to the early 1980s. Substantive progress on the proposal has only been made in the last few years, particularly as a result of the Nunavut Land Claims Agreement providing a framework for assessing and negotiating this project. The submission of this feasibility assessment report to the federal and territorial ministers of Environment, and the president of the Qikiqtani Inuit Association, brings to a close a critical part of the establishment process.

In undertaking its work to assess the potential to designate Lancaster Sound a national marine conservation area, including a range of studies and consultations, the Steering Committee was continually reminded of the regional, national and global significance of this ecological and cultural treasure. The international significance of the area is being

reinforced as there is emerging interest in nominating the site as a potential World Heritage Site.

Early boundary proposals from the 1980s were based solely on scientific studies. However, the work of the Steering Committee built on this scientific knowledge by fully embracing and complementing its work with the traditional Inuit knowledge study, resulting in a boundary recommendation that reflects the ecological and cultural values of the Lancaster Sound region and ecosystem, an ecosystem that supports and sustain Inuit communities and culture. A hallmark element of the Steering Committee's work is that Parks Canada brought a range of scientific studies to the table while Inuit produced a traditional knowledge study. Developed independently, the results of both studies were used to produce a single boundary recommendation.

The importance of protecting this area was reinforced by Ms. Mary Simon who was appointed by the federal Minister of Indigenous and Northern Affairs to recommend an Arctic leadership model and new, ambitious Arctic conservation goals as called for by the Prime Minister in March 2016. In her October 31, 2016, interim report, Ms. Simon, citing preliminary engagement with a broad spectrum of leaders and specialists in Canada's Arctic, and the fact that the Qikiqtani Inuit Association had proposed an expanded boundary of some 109,000 square kilometres, made the following recommendation: "The Government of Canada should expedite the process of completing Lancaster Sound as a National Marine Conservation Area using the expanded Qikiqtani Inuit Association boundary." In making her recommendation, she observed: "Lancaster Sound, Tallurutiup Tariunga, is one of the most culturally and ecologically



significant areas in the Canadian Arctic. It is commonly referred to as the Arctic Serengeti.”

Thus, after due consideration, the Lancaster Sound Steering Committee concluded that a national marine conservation area in Lancaster Sound is feasible. Furthermore, the Steering Committee concluded that the establishment of a national marine conservation area would enable a joint Canada – Inuit cooperative management framework that, in the spirit of the Nunavut Land Claims Agreement, would result in the conservation and ecological sustainability of Lancaster Sound while integrating environmental, economic and social considerations.

The Steering Committee concluded that a boundary encompassing approximately 109,000 square kilometres, illustrated on Figure 10, is the area needed to adequately represent this natural region, to protect the natural and cultural values of the area as an intact ecosystem, and to respond to the views and aspirations of Inuit

communities who depend on this ecosystem.

In reaching this conclusion, the Steering Committee considered the following when delineating a boundary for a potential NMCA: (1) the concerns and wishes expressed during consultations by Inuit from local communities; (2) the ecological values based on contemporary science and Inuit Qaujimagatuqangit; (3) Inuit traditional use of the Lancaster Sound region; (4) cultural values; (5) the QIA Board of Directors’ passage of a unanimous resolution in June 2014 supporting a boundary of some 109,000 square kilometres, based on community concerns from consultations to further protect the area from oil and gas development; (6) hydrocarbon resource assessments; (7) the only industrial hydrocarbon permit holder in the area voluntarily relinquished its exploratory permits; (8) the views of stakeholders; and (9) government priorities and commitments, in particular, to protect representative marine regions within a system of national

marine conservation areas and to achieve the protection of 5 percent of Canada’s coastal and marine areas by 2017 and 10 percent by 2020.

During consultations, no substantive reasons to abandon or not pursue the proposal were raised. Industry suggested that other types of marine protected areas should be pursued rather than an NMCA, presumably because the latter prohibits exploration and development for oil, gas and minerals. The federal government provided funds through Budget 2007 for a Lancaster Sound National Marine Conservation Area feasibility assessment, and the Steering Committee’s terms of reference, as per the MOU, approved by Canada, Nunavut and the QIA, were specifically to consider an NMCA.

While community concerns about the future of Lancaster Sound did include concerns over the potential impact of oil and gas development, the Steering Committee was not solely motivated to recommend its proposed boundary for an

NMCA in Lancaster Sound to end the prospect of oil and gas development. Change is coming to Lancaster Sound. The prospects of diminishing ice cover, both geographically and seasonally, will accelerate this change. Transportation, tourism, fisheries and other marine-based activities are expected to increase over the years and as noted earlier, the NMCA is a mechanism that could play a key role in helping to manage and mitigate the impact of this change by establishing a collaborative management board to both develop a management plan for the NMCA that recommends special protection zones, and to put in place a collaborative governance model to ensure a sustainable future for Lancaster Sound and its dependent communities.

Just as the Steering Committee was completing its work, the Government of Canada announced on December 20, 2016, that it was designating all Arctic Canadian waters as indefinitely off limits to future offshore Arctic oil and gas licensing, to be reviewed every five years through a climate and marine science-based life-cycle assessment. While this indefinite moratorium applies to the

Lancaster Sound area, it does not diminish the need nor the value of designating Lancaster Sound as an NMCA under the *Canada National Marine Conservation Areas Act*.

A moratorium does not convey nor guarantee any prospect of long-term protection nor a clear indication of which areas are or are not off limits permanently to development, while the NMCA designation makes it clear that Lancaster Sound will be protected forever, and business decisions can be made accordingly. In addition, a moratorium does not bring with it the long-term investments that an NMCA will, including funding for capital development, various management programs, and ongoing funds for cooperative management. Nor will a moratorium result in the collaborative governance framework that an NMCA would bring to Lancaster Sound that would enable future decisions about access and use of the region to be taken in a manner that places priority on ecological sustainability and ensuring the future of Inuit use of the area's resources.

In short, while the moratorium could be viewed as a temporary

response to the concerns of local communities over the prospect of future oil and gas development, it does not bring certainty nor the potential environmental, social and economic benefits that would accrue to the Lancaster Sound region through its protection under the *Canada National Marine Conservation Areas Act*.

Therefore, the Lancaster Sound Steering Committee has concluded that the establishment of a national marine conservation area in Lancaster Sound is an investment worth pursuing for the benefit of present and future generations, and one that would produce in this region a new relationship between Canada and Inuit that is in the national interest and of international significance.



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THE BOUNDARY

The boundary recommended by the Steering Committee will result in the protection of:

- A highly interconnected ecosystem that includes important migratory, feeding, nursery and breeding areas for a variety of species (narwhal, beluga, bowhead, walrus, seals, seabirds).
- Polynyas – Arctic oases of open water where concentrations of various species occur – which are depended on by wildlife for survival and by Inuit for harvesting.
- Several Community Priorities and Values for Marine Areas⁴ and one Community Area of Interest⁵ identified in the 2016 draft Nunavut Land Use Plan by Pond Inlet, Arctic Bay, Grise Fiord, Resolute Bay and Clyde River.
- Essential migratory habitat for the majority of the world's narwhal population, as well as summering aggregations for over 40% of the population and a nursery area in Eclipse Sound.
- Beluga aggregations near Somerset Island.
- The largest polar bear subpopulation in the Arctic.
- Important heritage sites associated with the history of

the search for the Northwest Passage, including Beechey Island Sites National Historic Site and Breadalbane National Historic Site.

- Important sites that support Inuit traditional land use and Inuit way of life of the five affected Inuit communities.
- Seven ecologically and biologically significant areas (EBSAs) identified in 2015, including eight key migratory bird habitats identified by Canadian Wildlife Service.
- The waters around Prince Leopold Island Migratory Bird Sanctuary and Nirjutiqarvik (Coburg Island) National Wildlife Area.

The boundary recommended by the Steering Committee will also support:

- Mitigation of climate change impacts, as a larger MPA is more resilient to stress, particularly one in continuity with several terrestrial protected areas including Sirmilik National Park.
- Involvement of the five adjacent communities in the management and development of the NMCA.
- Connecting Canadians and the world with one of the Arctic's greatest treasures.
- International commitments for the protection of the marine environment and the

Arctic, including the March 2016 reaffirmation of these commitments by Prime Minister Trudeau and former President Obama to surpass the goals of protecting at least 17% of land areas and 10% of marine areas by 2020.

- Completion of the NMCA system by representing the Lancaster Sound marine region.
- Federal, provincial and territorial government commitments under the 2020 Biodiversity Goals and Targets for Canada (2016).
- Achieving the federal government's target of protecting 5 percent of Canada's marine environment by 2017 and 10 percent by 2020.
- International commitments such as the "Because of Ocean" declaration, signed by Canada at the COP 21 Climate Change conference in November 2015.
- The recommendation by Ms. Mary Simon, the federal Minister of Indigenous and Northern Affairs special representative on Arctic issues, that Canada should expedite the establishment of a national marine conservation area in Lancaster Sound with a boundary that is similar in size to that recommended by the Steering Committee.



⁴ Those priorities and values of importance identified by the communities, such as polar bear, seabirds, fish, marine mammals, etc. taken into account in the 2016 draft Nunavut Land Use Plan.

⁵ Moffatt Inlet identified by Arctic Bay and assigned a Protected Area Land Use Designation in the 2016 draft Nunavut Land Use Plan.

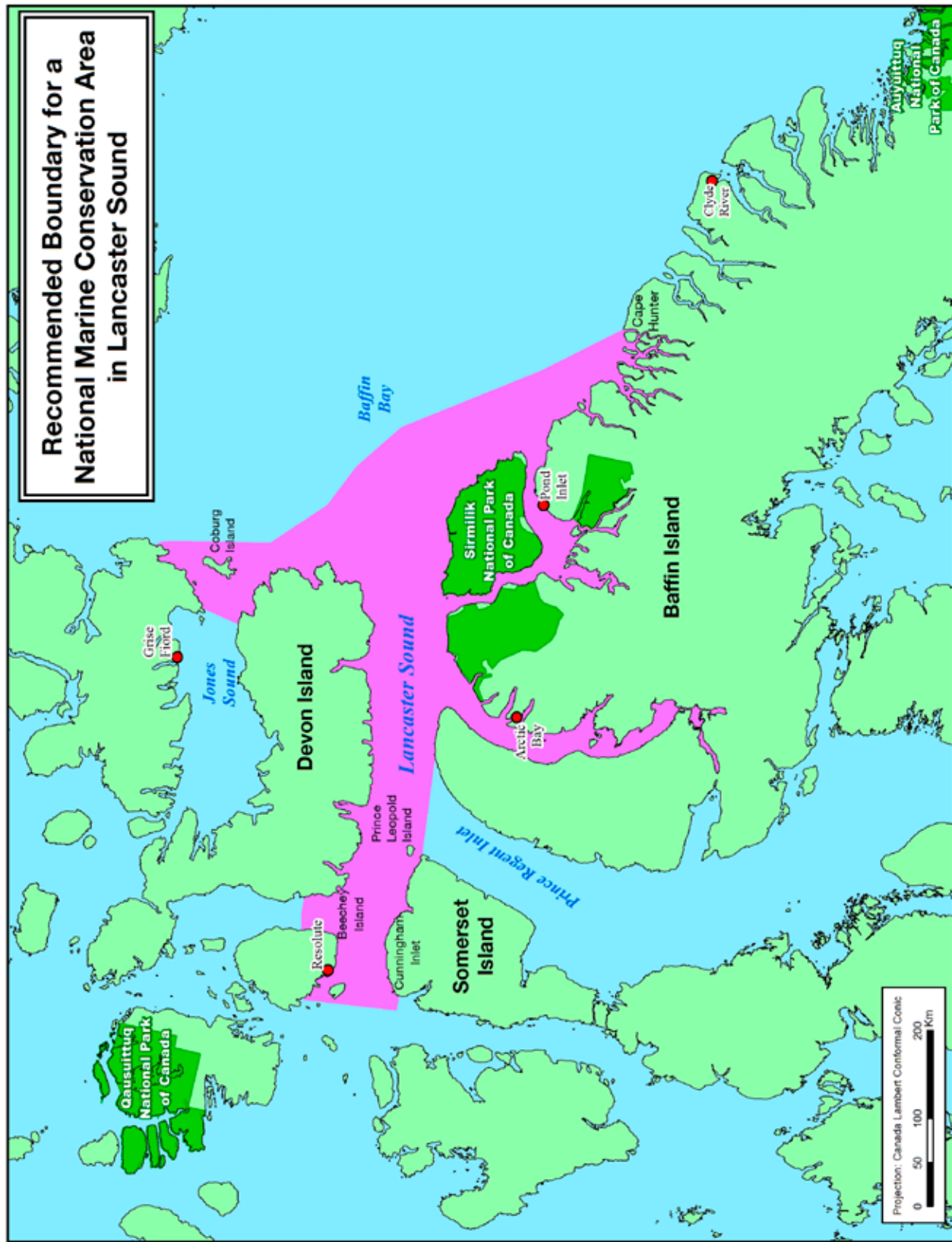


Figure 10: Boundary recommended by the Steering Committee for designation as an NMCA.

SPECIAL BOUNDARY CONSIDERATIONS

Several specific considerations still need to be finalized with respect to the boundary legal description, including, but not necessarily limited to the following:

- Exclusion of specific areas around the communities to allow for future development, including options for ports and small craft harbours, as requested by communities.
- Exclusion of a portion of southern Milne Inlet for Baffinland's Mary River mine operations, as agreed to with Baffinland.
- Exclusion of an area for the DND Nanisivik port operations.
- Addressing how boundaries around migratory bird sanctuaries and national wildlife areas (Prince Leopold Island MBS, Bylot Island MBS, and Nirjutiqarvik (Coburg Island) NWA) would intersect with the NMCA.

- Consideration of whether to include land areas, notably important seabird nesting cliffs and important polar bear denning areas on Devon Island.
- Consideration of whether to include Beechey Island Sites National Historic Site, Prince Leopold Island Migratory Bird Sanctuary and other such designations in the NMCA.

Many of these, and other potential boundary questions will be considered during negotiations for the Inuit Impact and Benefits Agreement, a requirement under the Nunavut Land Claims Agreement.

Prior to governments making a final decision on a boundary, additional study of the hydrocarbon potential of the Steering Committee's recommended boundary is required. Federal policy requires that mineral and energy resources be assessed for areas under federal jurisdiction north of 60 that are proposed for national park or

national marine conservation area status. This is because the Canada National Marine Conservation Areas Act prohibits exploration for and extraction of minerals and hydrocarbon resources from NMCAs.

In the case of Lancaster Sound, a quantitative petroleum resources assessment report was completed, published in 2013, and available for public consultation for the 2010 proposed federal boundary of 44,300 square kilometres. It did not include the areas proposed to be added to that boundary, to the west, east and south. A further assessment of these areas is needed to provide governments and QIA with the necessary information to decide on a final boundary. Parks Canada is working with the Geological Survey of Canada to ensure this information will be available in a timely manner.

In recommending the larger boundary, the Steering Committee considered a number of factors





with respect to hydrocarbon resources as a result of its consultations:

- While the existing petroleum resource assessment concluded that there was the potential for a Hibernia-like find within Lancaster Sound, it also indicated that only half of this resource, if confirmed, would be extractable.
- Shell Canada Limited, which was the only company with exploratory permits and history in the area, informed the Steering Committee that its review of the petroleum resource assessment report found that the report overestimated the likely size of hydrocarbon resources within Lancaster Sound. Shell Canada has also agreed to supply the data it has from its former leases to the Geological Survey of Canada for use in determining the hydrocarbon potential of the proposed NMCA.
- Shell Canada Limited also suggested the Steering Committee consider the results of the 2008 report by the United States Geological Survey which clearly indicated that on a qualitative basis, the Lancaster Sound area, in comparison to the rest of the Baffin Bay area, had the least amount of potential on a regional scale.
- As part of a public presentation in 2015, the Canadian Association of Petroleum Producers provided data showing that the Baffin Bay Basin area (including Lancaster Sound) had the least potential of three northern basins, indicating that the other two had at least ten times the potential of the Baffin Bay area.
- Both Shell Canada Limited and the Canadian Association of Petroleum Producers indicated during the time of this study that industry did not have any short term plans for exploratory work in the Arctic.
- Finally, on June 8th, World Oceans Day, Shell Canada Limited announced that it had voluntarily donated to the Nature Conservancy of Canada its 30 exploratory permits covering 8,600 km² located in the eastern mouth of Lancaster Sound and within the boundary of the Steering Committee's proposal. The Conservancy, in turn, confirmed that it had transferred the permits to the federal government and INAC has confirmed that they received the permits and had taken them off the books.

Combined, all of these elements, plus the ecological and Inuit Qaujimajatuqangit results, provided the Steering Committee with the confidence it required to recommend the boundary.





RECOMMENDATIONS

The Steering Committee recommendations to the Governments of Canada and Nunavut and the Qikiqtani Inuit Association are as follows:

- Lancaster Sound be established as a national marine conservation area under the Canada National Marine Conservation Areas Act.
- The boundary for the national marine conservation area encompass an area of approximately 109,000 square kilometres, as illustrated in Figure 10. The boundary to include waters to the low water mark along the coast and take in the mouth of Lancaster Sound, the area previously covered by the Shell leases and Admiralty Inlet, extending west to Cornwallis Island, north to Jones Sound and south to

Cape Hunter along Baffin Island.

- Governments and QIA endorse this boundary and announced it during the Canada 150 celebrations in 2017.
- Governments and QIA provide a mandate for negotiation of an Inuit Impact and Benefit Agreement and that negotiations be launched in a timely manner.
- An Inuktitut name be given to the national marine conservation area, taking into account existing traditional place names, to be chosen as part of IIBA negotiations and confirmed through community participation.
- The following draft conservation objectives for the national marine conservation area – based on

the consultations undertaken to date – be considered for discussion during a final community tour to be undertaken following approval of the feasibility report:

- ◇ Protect within the Canada’s national marine conservation area system a representative seascape in the Lancaster Sound marine region.
- ◇ Protect important marine mammal and seabird habitat (nursery and calving areas, feeding areas) and key migratory routes through the region.
- ◇ Enable Canada and Inuit to work collaboratively to conserve and present

the natural and cultural values of the Lancaster Sound region.

- ◇ Contribute to food security and the maintenance of Inuit traditional cultural activities, including harvesting.
- The conservation objectives which come out of the community discussions serve as the basis for an interim management plan for the national marine conservation area, including a zoning plan, to guide the management

of the national marine conservation area until its first formal management plan is approved, within five years of its establishment under the Canada National Marine Conservation Areas Act.

- The Steering Committee remain in place for the purpose of ensuring coordinated discussions between the parties during IIBA negotiations and interim management planning for the NMCA.

Protection of this ecologically and culturally significant area

responds positively to the strongly expressed desire of local Inuit to include all of the important elements of this area in the national marine conservation area, including the highly vulnerable mouth of Lancaster Sound.

An expeditious decision by governments and QIA supporting the Steering Committee's recommendations would allow the parties to announce a final boundary in 2017 as part of the Canada 150 celebrations and allow negotiations on an Inuit Impact and Benefit Agreement to commence in a timely fashion.





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ANNEX 1

MEMORANDUM OF UNDERSTANDING

BETWEEN

THE GOVERNMENT OF CANADA AS REPRESENTED BY THE MINISTER
OF THE ENVIRONMENT FOR THE PURPOSES OF THE PARKS CANADA
AGENCY
("CANADA")

AND

THE GOVERNMENT OF NUNAVUT AS REPRESENTED BY THE MINISTER
OF ENVIRONMENT
("NUNAVUT")

AND

THE QIKIQTANI INUIT ASSOCIATION AS REPRESENTED BY THE
PRESIDENT OF THE ASSOCIATION ("QIKIQTANI INUIT ASSOCIATION")

RESPECTING A STUDY TO EXAMINE THE DESIRABILITY AND
FEASIBILITY OF ESTABLISHING A NATIONAL MARINE CONSERVATION
AREA OF CANADA TO REPRESENT
THE LANCASTER SOUND MARINE REGION

WHEREAS Canada is committed to expanding the system of national marine conservation areas of Canada; and

WHEREAS the Lancaster Sound Marine Region is one of the nine Arctic marine regions of Canada that is not represented in the national system of national marine conservation areas; and

WHEREAS Lancaster Sound is of very high ecological significance, serving as the primary eastern gateway to the central Arctic for large numbers of migrating marine mammals and as breeding and foraging habitat for immense colonies of seabirds; and

WHEREAS Lancaster Sound is the eastern entrance to the fabled Northwest Passage, a waterway that is prominent in Inuit use and occupancy of the Arctic and in the history of European exploration of Arctic Canada; and

WHEREAS Lancaster Sound likely contains petroleum resources having significant economic value;

WHEREAS the establishment of a national marine conservation area in the Lancaster Sound Marine Region would contribute significantly to protecting Canada's Arctic environmental heritage, strengthen Canada's sovereignty, promote economic and social development and improve Northern governance as envisioned in Canada's Northern Strategy; and

WHEREAS Canada's Health of the Oceans initiative, announced in 2007, provides for a study of the feasibility of establishing a national marine conservation area in Lancaster Sound, and a budget of \$5 million to undertake the study; and

WHEREAS the Nunavut Land Claims Agreement is an agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada, signed in 1993; and

WHEREAS the Qikiqtani Inuit Association is the Designated Inuit Organization pursuant to the provisions of the Nunavut Land Claims Agreement for the purposes of this study; and

WHEREAS the Lancaster Sound Marine Region is within the Nunavut Settlement Area; and

WHEREAS Section 35 of the *Constitution Act, 1982* recognizes and affirms the existing Aboriginal and treaty rights of the Aboriginal peoples of Canada;

NOW, THEREFORE, Canada, Nunavut and the Qikiqtani Inuit Association (the "Parties") have reached the following understandings:

1. The Parties will initiate a study to assess the desirability and feasibility of establishing a national marine conservation area of Canada in the Lancaster Sound marine region. The study will consider the social, environmental and economic benefits and impacts of establishing such an area. It is intended that the study will be completed within two to three years of the signing of this memorandum of understanding.
2. The study area boundary is not firmly set but, put forward as a basis to start discussion, it includes an area from the outer limit of the territorial sea of Canada at the eastern end of Lancaster Sound, westward to a line running approximately from the Brodeur Peninsula of Baffin Island to Cape Clarence on the northeast coast of Somerset Island and then to the southwest coast of Devon Island, as well as Pond Inlet, Navy Board Inlet and Eclipse Sound with its adjoining embayments. Boundary options for a possible national marine conservation area will be considered as part of the study.
3. Participation in the study outlined in Paragraph 1 of this Memorandum of Understanding by any of the Parties will be without prejudice to any future

negotiations or discussions regarding the management of non-renewable resources on or under the seabed within the boundary of the study area.

4. A steering committee will be established to guide the project, with equal representation from each of the Parties.
5. Canada will engage a project manager to lead the study, and a project assistant.
6. Canada will fund any reasonable additional staff requirements of the Qikiqtani Inuit Association that may be required to enable the Qikiqtani Inuit Association to participate fully and effectively in the study, and will also fund any extraordinary costs incurred by the Government of Nunavut, particularly those related to travel for consultations in communities
7. The Parties agree that the feasibility study will provide regular and meaningful opportunities for involvement by those with an interest in the project, and in particular by those in the communities that are in closest proximity to the study area.
8. Canada will pay for all component studies that the steering committee determines are required to assess the feasibility of establishing a national marine conservation area.
9. Canada will enlist the participation of all relevant federal agencies, and the Government of Nunavut will enlist the participation of all of its relevant departments.
10. The feasibility study will take into account relevant provisions in the Nunavut Land Claims Agreement, including but not limited to Articles 8 (Parks), 23 (Inuit Employment Within Government) and 24 (Government Contracts).
11. At the conclusion of the study the steering committee will submit a report to the Minister of the Environment for Canada, the Minister of Environment for Nunavut and the President of the Qikiqtani Inuit Association, recommending whether the establishment of a national marine conservation area is considered feasible and under what conditions. A decision will be made by the Ministers and the President of the Qikiqtani Inuit Association concerning whether or not, on the basis of the report from the steering committee, to proceed thereafter with the steps required to formally establish a national marine conservation area.
12. Canada undertakes that if the study concludes that the establishment of an NMCA is desirable and feasible and the Parties decide to proceed thereafter with the steps required to formally establish it, including negotiations, Canada will enter into the negotiation of an Inuit Impact and Benefit Agreement with the Qikiqtani Inuit Association. Canada and the Qikiqtani Inuit Association would collaboratively

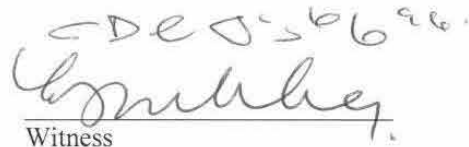
develop terms of reference for the negotiation of an Inuit Impact and Benefit Agreement prior to negotiations beginning.

This Memorandum of Understanding signed in Ottawa, Ontario, on December 8, 2009 by:



Minister of the Environment
and Minister Responsible for
the Parks Canada Agency

for Canada



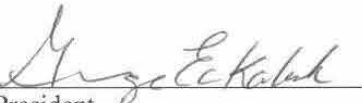
Witness



Minister of Environment
for Nunavut



Witness



President
For Qikiqtani Inuit Association



Witness

