Photo credit: DFO

ANNUAL REPORT

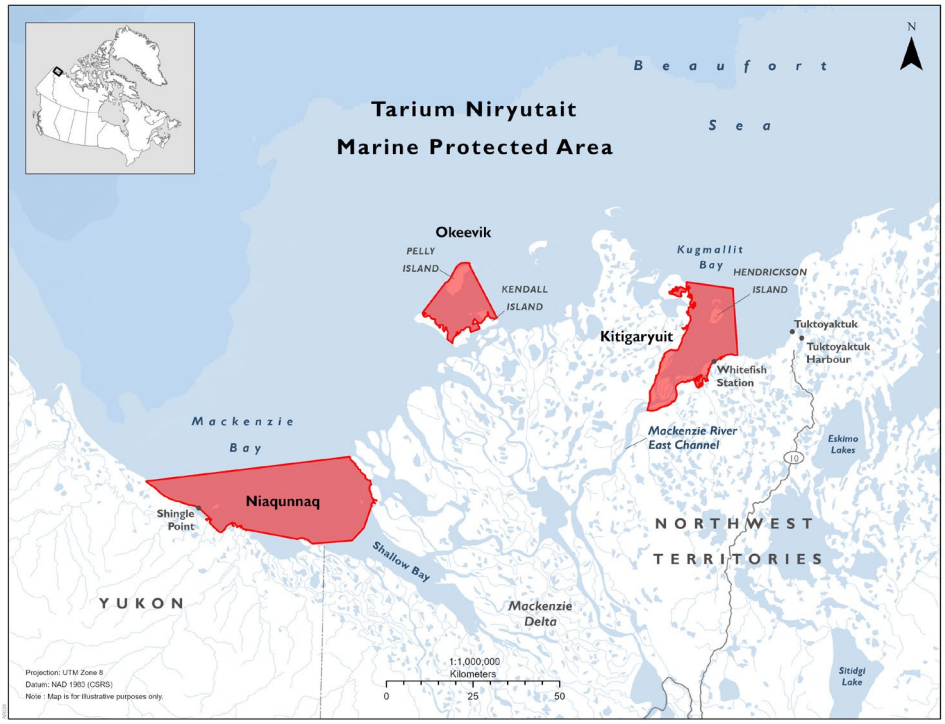
2023

Tarium Niryutait Marine Protected Area

Fisheries and Oceans Canada
Pêches et Océans Canada

Canada

Contents



At-a-glance

Date of designation:
August 26, 2010

Size:
1,750 km²

Contribution towards the marine conservation targets:
0.03%

Location:
This MPA is comprised of 3 areas in the Mackenzie River estuary in the Beaufort Sea. It is within the Inuvialuit Settlement Region (ISR) in the Northwest Territories, Western Arctic.

Co-managed by:
The MPA is co-managed by:

- Inuvik Hunters and Trappers Committee (IHTC)
- Aklavik Hunters and Trappers Committee (AHTC)
- Tuktoyaktuk Hunters and Trappers Committee (THTC)
- Fisheries Joint Management Committee (FJMC)
- Inuvialuit Game Council (IGC)
- Inuvialuit Regional Corporation (IRC)
- Fisheries and Oceans Canada (DFO)

See more details on the structure in the Management and governance section of this report.

Acknowledgement:
The MPA is within the ISR and is co-managed and co-governed by the Inuvialuit and DFO. It originated out of areas designated as Zone 1 in the Beaufort Sea Beluga management plan developed by the FJMC, which was established under the Inuvialuit Final Agreement.

Zones:
There are 2 zones in the MPA, including:

- Primary Protection Zone – 99%
- Special Management Zone – 1%

Key highlights

In 2023, there were several notable achievements in the Tarium Niryutait MPA (TN MPA), including:

- The Western Arctic MPA Steering Committee (WAMPA) approved their Terms of Reference, which confirms the co-management and co-governance structure for the 2 Western Arctic MPAs (TN MPA and Anguniaqvia niqiqyuam MPAs [ANMPA]). These MPAs were collaboratively developed by Inuvialuit organizations and DFO over the past several years.
- The Tuktoyaktuk HTC successfully ran the first stewardship and outreach project funded by MPA funds and brought Inuvialuit youth, called Future Leaders, out on the land in the TN MPA to be trained in beluga harvesting and preparation from harvesters and host families.

Photo credit: George Lennie

The Future Leaders produced a video about their experience, which they shared in Rome at a UN conference!

- In collaboration with the FJMC and others, several ongoing monitoring projects collected another continuous year of data, including the beluga monitoring program that has been ongoing for over 30 years.

Photo credit: Tuktoyaktuk Hunters and Trappers Committee

In the spotlight: benefits

Ecological	Socio-cultural	Economic
Management and monitoring of the TN MPA is collaborative among the Inuvialuit and DFO, ensuring that Inuvialuit Knowledge and Western Science work together to inform how these important species and their habitats are conserved. The conservation priority is to conserve beluga and fish species important to Inuvialuit subsistence and prey of beluga, and their habitat within the TN MPA. Ongoing monitoring ensures that up-to-date information regarding the health of beluga and fish populations, habitat and environmental conditions, and any stressors, to inform management decisions. This ecological monitoring data (e.g. contaminants, body condition, plasticizers, etc.) contributes to our understanding of the larger Beaufort Sea ecosystem that the TN MPA is within.	The TN MPA was established to protect an important Inuvialuit subsistence species, beluga, beluga prey, and other Inuvialuit subsistence species (fish). The 3 regions of the TN MPA are places where Inuvialuit have harvested these subsistence species since time immemorial and still do. The health and sustainability of the beluga and fish populations protected by the TN MPA contributes to the food security of hundreds of Inuvialuit across the ISR. Established co-management and co-governance processes identify Inuvialuit Future Leaders as essential participants. This promotes knowledge-sharing across generations to support strong Inuvialuit leadership informed by Inuvialuit Knowledge now and into the future. The TN MPA WG supports projects that provide training opportunities for community members, supporting the shift to community-led implementation of research and monitoring.	Inuvialuit are involved in every aspect of monitoring and management of the TN MPA, which provides many opportunities for short-term employment. There were over 21 community members hired in the 2023 field season. In addition, 21 community boats received Lowrance (C) sonars from the community bathymetry project, increasing access to these important navigational aids. The focus on shifting research and monitoring to be fully community-led is also more economically feasible, due to reduced shipping and travel costs. The TN MPA WG reviews all research and monitoring project proposals to ensure that budgets account for increasing costs of living and working in the region. The WG also provides feedback on the timing and length of research programs to account for climate change's effects.

Education and outreach

The Contribution Agreement that supports the operation of TN MPA allocates funds for stewardship and outreach to each HTC associated with the MPA (Aklavik, Inuvik, Tuktoyaktuk), as well as for research and monitoring.

The TN MPA WG is striving for fully community-led and community-developed research in the MPA and prioritizes training opportunities for community members. Future Leaders are trained through participation in the TN MPA WG and in MPA research and monitoring projects.

In 2023, Future Leaders participated in the Beluga Health Research and Monitoring project run with scientists and veterinarians from DFO, FJMC and University of Montreal.

The Beluga Harvest Project was run by the Tuktoyaktuk HTC, and Future Leaders were trained by Inuvialuit harvesters and families about beluga harvesting and preparation techniques. There will be additional community-led stewardship programs in future years, as this funding continues to 2025-26.

The TN MPA WG chair and others attended and presented at IMPAC5 in Vancouver in 2023, and TN MPA research and monitoring is presented at several conferences each year by researchers and community members.

Photo credit: Jim Elias

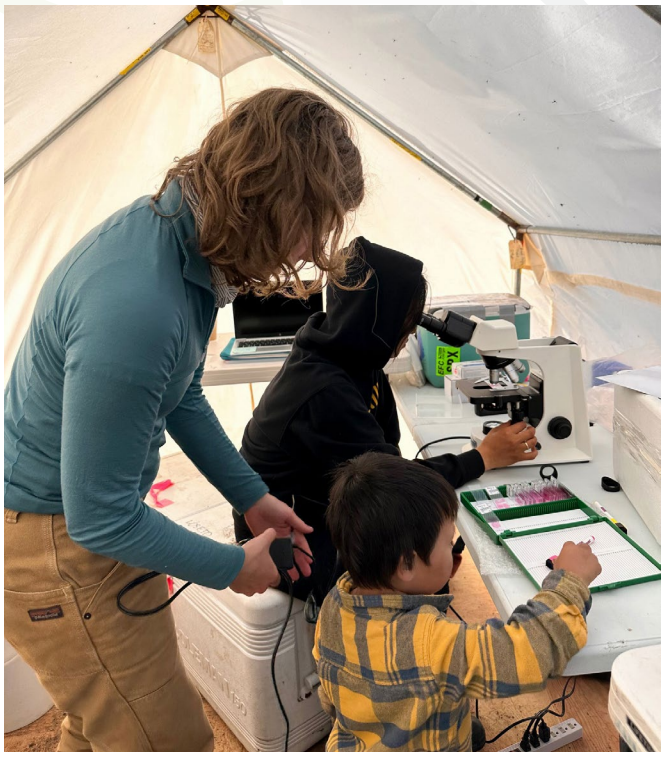


Photo credit: Tuktoyaktuk Hunters and Trappers Committee

Research and monitoring

The TN MPA monitoring plan (2012) has guided monitoring in the TN MPA for 12 years, though beluga monitoring programs by the FJMC and DFO have been running for much longer (30+ years). WAMPA has established a working group with representatives from all management and governance partners to develop recommended governance indicators, and the IRC is undertaking work to develop recommended socio-cultural indicators.

The TN MPA WG and WAMPA review, provide feedback, and approve projects that have applied for TN MPA monitoring funding each year. Other projects happening in the MPA are also reviewed by the TN MPA WG, and all projects must have HTC support before they can be conducted in the TN MPA as it is within the ISR. The research project development and review process ensures that research and monitoring addresses new concerns as well as the impacts of climate change (e.g. increased erosion, changing weather patterns, longer open water season).

Photo credit: DFO

Photo credit: Dustin Whalen

Projects funded by MPA research and monitoring funds in 2023-24

Activity	Lead	Outputs	Outcomes
Population assessment of North Slope Dolly Varden An annual community-based monitoring program for char in the TN MPA was established in 2011. Harvest, biological data, and tissue samples are collected.	DFO, Aklavik HTC	Two community-based monitors hired Additional year of data for long-term dataset	Continuous monitoring dataset since 2011 Informs population status Information from the project supports the implementation of the Integrated Fisheries Management Plan (IFMP) for Dolly Varden.
ACES (Arctic Coast Ecosystem Study)/Shingle Point Community-based monitoring program Five species are monitored based on different habitat use, feeding strategies, potential prey of beluga and important subsistence to Inuvialuit harvesters.	DFO, Aklavik HTC	Additional year of data for long-term dataset 102 fish collected Two community members hired: 1 monitor and 1 Future Leader monitor	Characterizes the niches of coastal fish population using dietary biomarkers. Species' niches are being assessed to identify shifts in feeding ecology and habitat use for the upcoming TN MPA CSAS

Activity	Lead	Outputs	Outcomes
Beluga Habitat Use, Coastal Observations and Environmental Conditions in the TN MPA Uses coastal observatories (i.e., instrumented seabed moorings and weather stations) to examine how beluga whales are responding to coastal and oceanographic change, while providing community members and the general public with observations of environmental conditions.	DFO, NRCan, Tuktoyaktuk HTC, Inuvik HTC, Aklavik HTC	Results presented to Aklavik, Inuvik and Tuktoyaktuk communities 3 community members hired to lead field teams 7 seabed moorings deployed across 3 subregions of the MPA	Addresses knowledge gaps: linkage between beluga and environmental conditions, and collecting data in all 3 subregions of TN MPA
Beluga Health Research and Monitoring in the TN MPA and ISR / Fish and Marine Mammal Community Monitoring Program / Second in depth veterinary beluga health and parasite assessment Multi-project collaboration to charcterize the baseline health of beluga by analyzing data and tissue samples from harvested whales. Veterinarians are conducting necropsies in 2023 and 2024.	DFO, FJMC, Tuktoyaktuk HTC, Aklavik HTC, Inuvik HTC, University of Montreal	12 community members hired as whale monitors and research support 12 whales weighed at Hendrickson Island 52 whales sampled across TN MPA Additional year of data for long-term dataset Veterinarian completed necropsies in 2023 (continuing to 2024) to compare to 2015-16 in-depth health assessment	Continuation of 30+ years of collaborative beluga whale monitoring Data are used in numerous papers, conference presentations, to inform management, etc. First year of data to compare in-depth health assessment

Activity	Lead	Outputs	Outcomes
Assessment of sea ice change 1979-2022 Principal Investigator is from Sachs Harbour and has witnessed the impacts of climate change firsthand. Project will quantify effects and increase awareness.	DFO	Results presented to the Tuktoyaktuk HTC Time series of open water seasons from 1979-2022	Addresses knowledge gap: environmental change Quantified the change in open water season over the period of 1979-2022
Bathymetry Mapping in TN MPA Canadian Hydrographic Charts (upwards of 50 years out of date) have not kept up with the demands of climate driven changes to the seabed and water levels in this dynamic environment. Collected sonar data will be integrated into usable mosaics for several popular navigation routes for the communities.	NRCan, DFO, CIRNAC, CHS, FJMC, Aklavik, Tuktoyaktuk	21 Sonars installed on community boats 10,000 km of single-beam sonar readings	1. Ensure the safety of travelers; 2. Provide more information of ecosystem changes; and 3. Provide a means for the community members to adapt through this knowledge.

Collaborations and partnerships

All research that takes place in the TN MPA is collaborative with the Inuvialuit, as the MPA is within the ISR and subject to the established co-management processes for the MPA and the region. Most projects within the TN MPA are co-developed by research leads and the relevant HTC, and all projects in the ISR must follow established processes and have the support of local and regional Inuvialuit organizations, including co-management committees (e.g. Environmental Impact Screening Committee, community Hunters and Trappers Committees. The MPA-funded research is reviewed by the TN MPA WG and WAMPA, whose membership is outlined in the Management and governance section.

There are also academic institutions that partner with DFO and Inuvialuit organizations on research in the TN MPA. More details on collaborations are outlined in the table in the Research and monitoring section.

Photo credit: Jim Elias

Photo credit: Tuktoyaktuk Hunters and Trappers Committee

Surveillance and enforcement

DFO's Conservation and Protection Officers are responsible for monitoring and ensuring compliance with the TN MPA regulations. In 2023, they did not detect or receive any reports of violations of the TN MPA regulations. They conducted the following activities in TN MPA:

- Remotely monitoring large vessel traffic in the TN MPA by Automatic Identification System (AIS) data
- Two dedicated air surveillance patrols of the MPA during the summer

A planned vessel patrol was cancelled due to mechanical issues with the patrol vessel, and unfortunately could not be rescheduled due to other competing priorities, including response to the forest fire situation in the Northwest Territories. They are currently exploring the use of satellite based dark vessel technology to support further remote monitoring of vessels that do not report on AIS within the MPA.

The TN MPA WG along with the 3 communities are advocating for more enforcement capabilities and education from multiple agencies, including increased DFO Fishery Officer presence and Transport Canada inspections of vessels transiting through the TN MPA. Enforcement officers for the area are located in more southern offices and response times may be delayed due to travel requirements.

Management and governance

The management and governance of this MPA is led by the TN MPA WG and WAMPA:

Tarium Niryutait MPA Working Group (TN MPA WG):

- Inuvik Hunters and Trappers Committee
- Aklavik Hunters and Trappers Committee
- Tuktoyaktuk Hunters and Trappers Committee
- FJMC
- DFO Marine Planning and Conservation

Western Arctic MPA Steering Committee (WAMPA):

- DFO Marine Planning and Conservation
- DFO Fisheries Management
- DFO Science
- Inuvialuit Game Council
- Inuvialuit Regional Corporation
- FJMC
- TN MPA Working Group Chair
- AN MPA Working Group Chair

The TN MPA Working Group and WAMPA met in January and October, and WAMPA also met in June. Numerous meetings occurred throughout the year among researchers and community HTCs to develop and implement approved research and monitoring projects within the MPA.

The Tuktoyaktuk HTC ran the first stewardship and outreach program in TN MPA, bringing Future Leaders to Hendrickson Island to observe whale harvests and sampling by the DFO-University of Montreal research team. Future Leaders worked with host families to learn about preparing muktuk and produced a video about their experience that they shared in Rome at a UN Conference.

The TN MPA management and monitoring plans (2012) are both being updated through a collaborative process involving all MPA partners.

In June 2023, WAMPA approved their Terms of Reference, which sets out the membership and operation of the Steering Committee, as well

as the Working Groups of the 2 Western Arctic MPAs (TN MPA and AN MPA). There is equal representation between Inuvialuit and DFO at all levels of governance for these 2 MPAs.

This year was the third year in a 5-year Contribution Agreement with the Inuvialuit Joint Secretariat. This agreement provides funding for the governance and administration, research and monitoring, stewardship and outreach, and database development of the 2 Western Arctic MPAs.

The TN MPA Regulations do not include a requirement for Activity Plans, although the TN MPA WG would like to see this added in a future update to this MPA's Regulations.

Looking to the year ahead

Looking ahead, there are 11 research and monitoring projects that have been approved to receive MPA funding, and they will be implemented across the 3 regions of TN MPA. DFO will continue to work with the Joint Secretariat and Aklavik, Inuvik, and Tuktoyaktuk HTCs to support stewardship and outreach programs designed and implemented by communities.

In 2024, the TN MPA WG will continue to work on updating the management and monitoring plans. There is also a Canadian Science Advisory Secretariat process planned for 2024 to review data collected on ecological indicators, assess current indicators, and recommend indicators for the updated TN MPA monitoring plan. A working group has been established by WAMPA to develop governance indicators, and the IRC will be developing socio-cultural indicators. Lastly, access to long-term monitoring data will improve as a working group will be developing a regional database for all MPA indicator data.

Photo credit: Tuktoyaktuk Hunters and Trappers Committee

Published by:
Fisheries and Oceans Canada, Ottawa, Ontario K1A 0E6
Également disponible en français.

Cat. No. Fs1-100E-PDF ISSN 2818-6893

Correct citation for this publication:
Fisheries and Oceans Canada. 2025. Tarium Niryutait Marine Protected Area (MPA) annual report 2023. Annual report. Tarium Niryutait Marine Protected Area. 11 p.