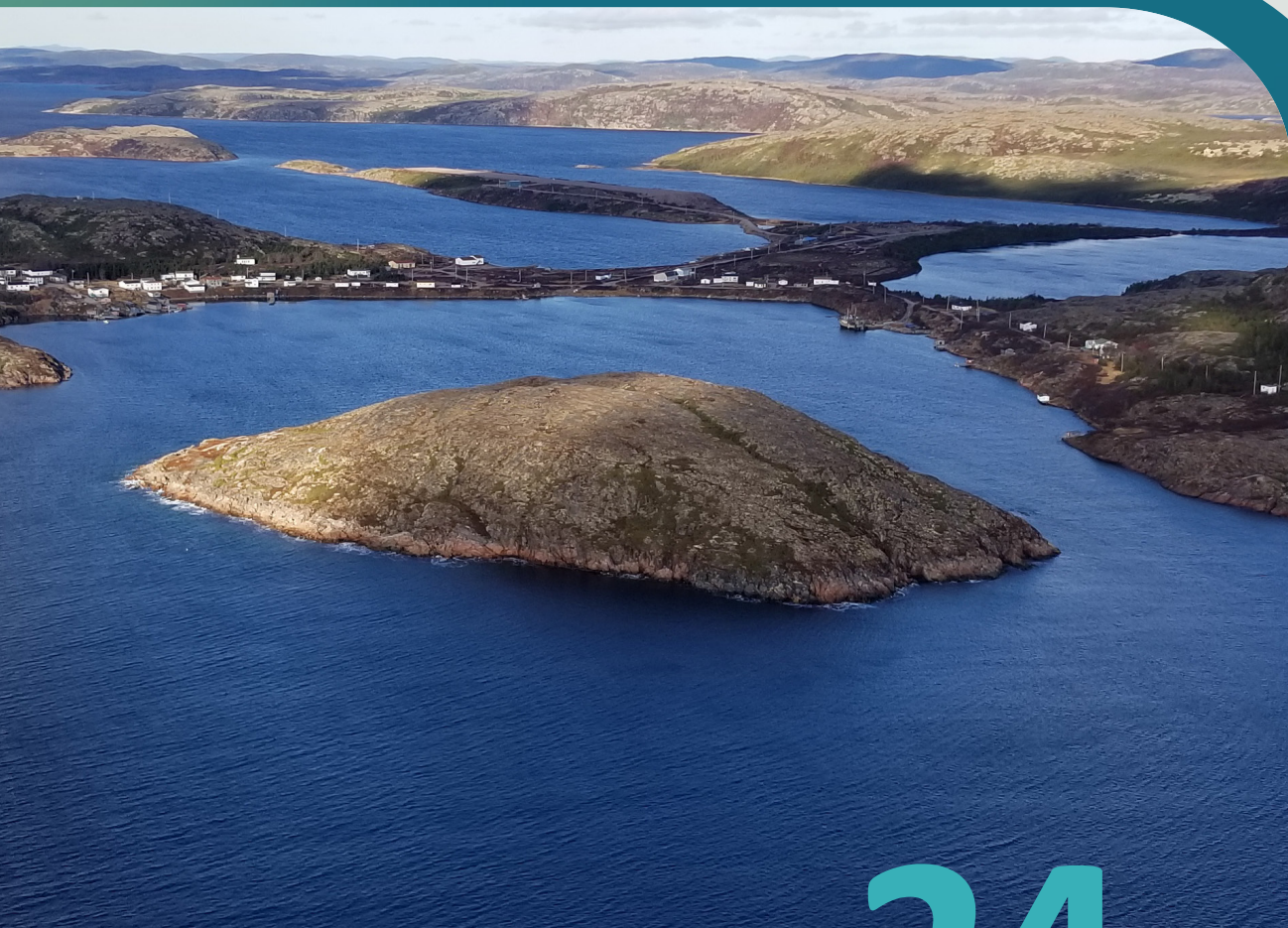


# Gilbert Bay Marine Protected Area



# ANNUAL REPORT 2024



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## Canada's Oceans Act Marine Protected Areas

- |   |                          |                         |
|---|--------------------------|-------------------------|
| 1. SĠáan Kínghlas-Bowie Seamount                          | 5. Anguniaqvia Niqiqyuam | 10. Banc-des-Américains |
| 2. Hecate Strait/Queen Charlotte Sound Glass Sponge Reefs | 6. Tuvaijuittuq          | 11. St. Anns Bank       |
| 3. Tang.ġwan – ħaċxwiqak – Tsigis                         | 7. Gilbert Bay           | 12. Basin Head          |
| 4. Tarium Nirytait  | 8. Eastport              | 13. The Gully           |
|   | 9. Laurentian Channel    | 14. Musquash Estuary    |

## At-a-glance

### Date of designation

2005

### Size

62.4 km<sup>2</sup>

### Contribution towards the marine conservation targets

< 0.01%

### Location

This MPA is located on the southeast coast of Labrador, within the Newfoundland and Labrador (NL) Shelves Bioregion; Atlantic Ocean.

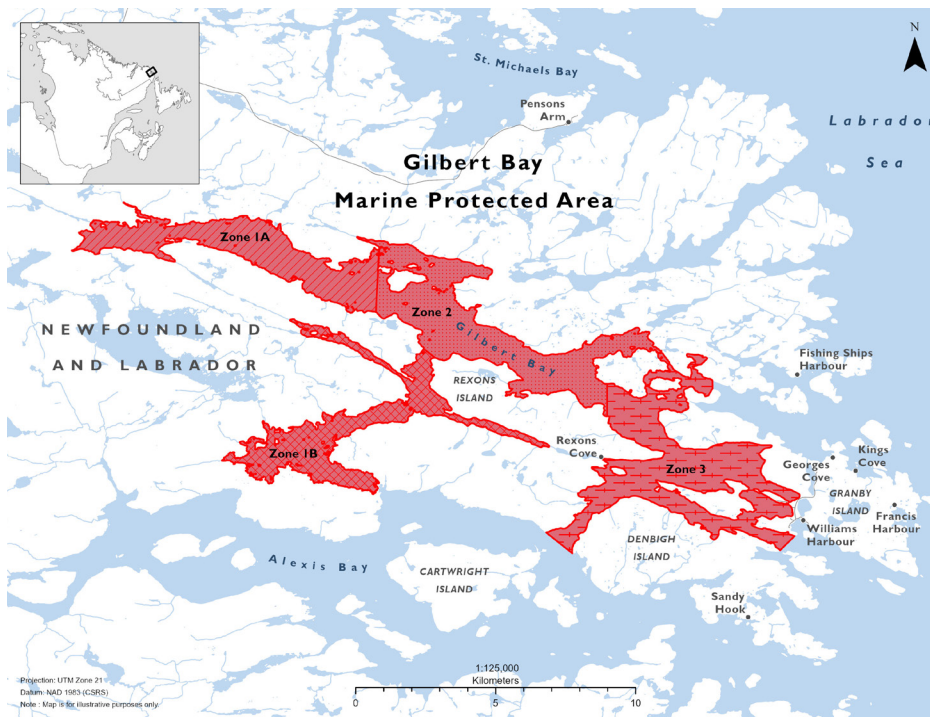
### Managed by

Fisheries and Oceans Canada (DFO), currently working towards co-management with the NunatuKavut Community Council (NCC)

### Zones

There are 3 management zones.

- Zone 1 (28.7 km<sup>2</sup>) – Contains 2 shallow areas in the upper reaches of the bay (1a and 1b). These are critical areas for cod and for migrating salmon, char and trout, and they house pristine maerl beds
- Zone 2 (11.9 km<sup>2</sup>) – A smaller but important area that cod use for spawning, feeding and migrating between the outer part of the bay in the summer and the inner part in the fall
- Zone 3 (19.5 km<sup>2</sup>) - The area from the coastal low water mark seaward to where Gilbert Bay meets the Labrador Sea. It is an important feeding area for mature cod and diversity of fin fish species is highest in this zone

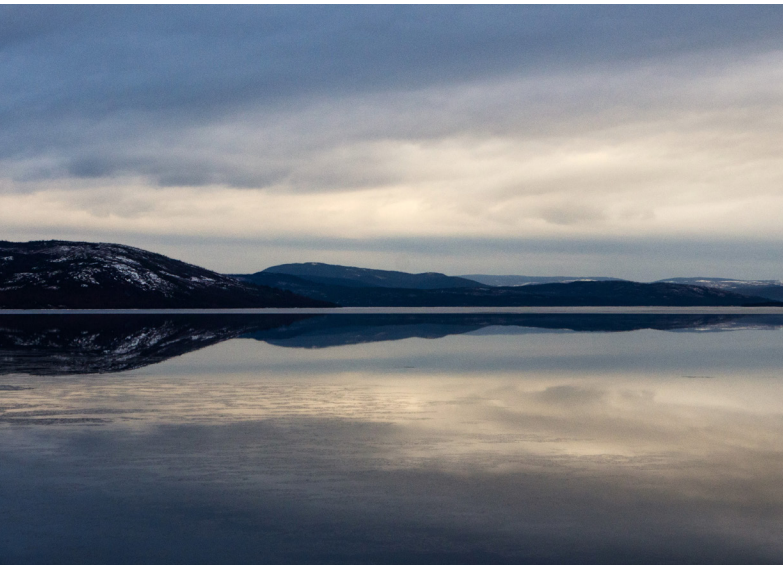


Map of Gilbert Bay Marine Protected Area.



## Conservation objectives

- Conservation and protection of the Gilbert Bay cod and its habitats
- Conservation and protection of the Gilbert Bay ecosystem
- Facilitation of scientific research opportunities in the Gilbert Bay ecosystem
- Promotion of public awareness, education, and support of the Gilbert Bay MPA



Port Hope Simpson. Photo credit: Kristen Milbury, NCC.



## Management and governance

The Gilbert Bay MPA has completed 2 management plan cycles and a third is underway. Management plans have included a strong science-based direction. The [first management plan](#) primarily identified goals and the rationale for the MPA while the [second management plan](#) highlighted some challenges. The third and current management plan delves into co-management and the need for adaptive management changes. The current 3-year management cycle (2023 to 2026) provides the Advisory Committee the ability to adapt to a dynamic environment and to address management concerns in the short-term.

The Advisory Committee was previously represented by communities adjacent to the MPA, but it recently changed to include the NCC as co-chairs of the Committee alongside DFO. The NCC has taken a greater role in the management of the Gilbert Bay MPA on behalf of its members and this change supports greater inclusion of local knowledge in management decisions. The NCC and DFO co-chair the Advisory Committee and are continuing to move toward co-management of the MPA over the term of this third management cycle. The Advisory Committee did not meet in 2024, as a planned meeting was deferred to 2025.

The NCC continues to receive funding through the Oceans Management Contribution Program to work towards the conservation objectives of the Gilbert Bay cod. The objectives of this project, to be carried out from 2023 to 2026, will focus on monitoring and stewardship of the MPA and capacity building to enhance NCC's capacity to participate effectively as a partner with DFO in the management of Gilbert Bay MPA.



Gilbert Bay MPA Advisory Sign. Photo credit: NCC.



In 2024, there was one activity plan that was submitted, approved and carried out. This yearly Gilbert Bay MPA monitoring program is a continuation of the longest ongoing *Oceans Act* MPA science monitoring program in Canada and includes activities such as:

- tagging
- mark-recapture
- acoustic telemetry
- plankton sampling

Ongoing collaborative research activities were also included in the plan, which focused on Greenland cod, sculpin and Striped Bass.



*The Gilbert Bay 'golden' cod. Photo credit: NCC.*

## Research and monitoring

In 2024, the ecological science monitoring program that has been ongoing since 1998 continued. The program activities are directly related to the conservation objectives of the MPA and include monitoring of fish movement, abundance, reproduction and environmental conditions. There is a strong collaboration between DFO and the NCC for field work, planning, and reporting which feeds into management advice.

An important observation from 2024 is evidence of climate change impacting the reproductive success of the Gilbert Bay cod. In 2024, reduced snowpack in winter resulted in lower-than-normal meltwaters in spring, which plays an important role in Gilbert Bay cod reproduction. A sufficient volume of freshwater input is needed during the spring spawning season to retain and protect Gilbert Bay cod eggs in the water column at overwintering and spawning locations. In 2024, this volume of fresh water was not produced because Labrador experienced an extremely warm winter, low snow-pack accumulation and low spring runoff conditions. This resulted in a low abundance of cod eggs and low abundance of juveniles produced.

Dr. Corey Morris, who leads the ecological science monitoring program in Gilbert Bay MPA, has been



*George's Cove. Photo credit: Kristen Milbury, NCC.*

## Feature creatures

Gilbert Bay cod, also called 'golden cod' due to its distinctive 'golden' color, is technically an Atlantic cod. Their unique color is a result of a diet high in shrimp and crab. These cod are genetically distinct and adapted to their specific environment. They contribute important ecological biodiversity to the broader species, warranting special protections.

Unlike Atlantic cod, Gilbert Bay cod:

- are non-migratory
- have adapted to colder waters
- tolerate environmental fluctuations like salinity
- spawn later in the summer

involved with several recent scientific publications in 2024. Of particular note are:

- Green et al. (2024) examined the unique adaptations of Gilbert Bay cod to its exceptionally cold environment. This paper received an editor’s choice award
- King et al. (2024) compared the movement of Gilbert Bay cod, Atlantic cod and Greenland cod in Gilbert Bay based on telemetry tracking. It also received an editor’s choice award

Information gaps include changes to the northern cod fishery and the impact of Indigenous community resettlements on fisheries adjacent to the MPA, which are not well known. Local knowledge could help to address this important information gap.



DFO Cabin for Gilbert Bay MPA Science Monitoring Program. Photo credit: Curtis Pennell (DFO).

and involvement in the summer and fall scientific monitoring initiatives.

As a step further, NCC and DFO are continuing the work towards formalizing co-management of the Gilbert Bay MPA over the period of this management cycle. Under this strategic partnership, management strategies and actions have been identified to help ensure that MPA conservation objectives are achieved. The regulatory conservation objectives will remain the responsibility of DFO, while the non-regulatory conservation objectives will be pursued by community partnerships initiated by NCC and the Advisory Committee with support from DFO as appropriate. By working together, DFO and NCC, with support from the Committee, can continue to explore opportunities to help protect Gilbert Bay cod and its ecosystem, while supporting benefits to local residents.

In addition, an ongoing partnership with scientists from Memorial University, led by Dr. John Green, first began in 1996 to study the Gilbert Bay cod. By 1998, a collaborative monitoring program was established by MUN and DFO with assistance from NCC. DFO Science and NCC continue to regularly work together to carry out the Gilbert Bay MPA ecological science monitoring program.



Collecting information on Gilbert Bay golden cod. Photo credit: Kristen Milbury NCC.



## Collaborations and partnerships

The MPA’s Advisory Committee is co-chaired by NCC and DFO, and it is collaborative and community based. It ensures that the interests of all users are considered. Collaborations with NCC and the Aboriginal Fishery Guardians program consistently offer support through coordination



## In the spotlight: benefits

### Ecological

The Gilbert Bay MPA provides long-term protection of the Gilbert Bay cod and its habitats. Gilbert Bay cod are a unique resident population of Atlantic cod, characterized by significant differences in the genetics, behavior and physiology compared to other northern cod populations. The Gilbert Bay MPA also protects a variety of marine organisms and plants and a wide range of other marine species including:

- shellfish
- demersal fish
- pelagic fish
- waterfowl
- marine mammals

### Socio-cultural

The preservation of Gilbert Bay and Golden cod is very important to the people of NunatuKavut. The NCC has been involved with the MPA since its beginning. The MPA's objectives are directly intertwined with the NCC's goals and areas of focus around ice, sea and land. There are many opportunities for education and to incorporate local knowledge (i.e. resettlement of Williams harbour and its effect on fisheries, and also in gathering information about the northern cod fishery). Building Indigenous capacity is crucial to MPA management and has improved the integration of Indigenous Traditional Knowledge into Fisheries Management Strategies.

### Economic

The Gilbert Bay MPA provides economic benefits for the nearby communities. Local harvesters are compensated for monitoring and research projects, like the cod pot pilot program. NCC supports MPA regulations through the Aboriginal Fisheries Guardian Program, employing several guardians. The NCC are building a research-lodge in Williams Harbour, which can be used for training, education and research.



## Surveillance and enforcement

DFO Conservation and Protection (C&P) officers and NunatuKavut Aboriginal Fishery Guardians conduct surveillance and enforcement patrols by boat, snowmobile and aircraft. They are occasionally assisted by provincial conservation officers. Since 2007, DFO has been working to include extra patrols within the MPA.

Regular patrols are conducted via program vessel and during winter months via snowmobile when ice conditions allow. When available, the Mid Shore Patrol Vessel and air surveillance platforms also add to patrol time in the MPA. Joint patrols with other local enforcement groups including the NCC Indigenous Fishery Guardians is always encouraged. In 2024, a total of 28 sites were checked. C&P dedicated:

- 82 Fishery Officer patrol hours
- 30 snowmobile hours
- 26.5 program vessel hours
- 18 MSPV hours

In 2024, there were no violations detected in the MPA during the regular patrols which is likely a result of the increased patrols and monitoring activity of DFO and other agencies such as the NCC Indigenous Fishery Guardians. Fishery Officers strongly believe that this dedicated



presence has deterred illegal activity in the MPA. It is common knowledge that Fishery Officers are regularly patrolling the area, and this presence continues to be favorably received by most local residents.



C&P Aerial Surveillance. Photo credit: DFO.



NCC World Oceans Day Event. Photo credit: NCC.

coordinated with schools for activities. In St. John's, the Marine Institute hosted a variety of events, including a DFO-led booth that highlighted conservation areas in the province and addressed public questions. Approximately 2000 people attended this event!

In September 2024, NCC presented on Gilbert Bay MPA at the Environmental Studies Research Fund workshop in Membertou, NS and at their Environmental and Natural Resources Workshop. Dr. Corey Morris (DFO) also presented at the NCC Workshop and his presentation focused on Gilbert Bay cod and observations of climate change impacts.

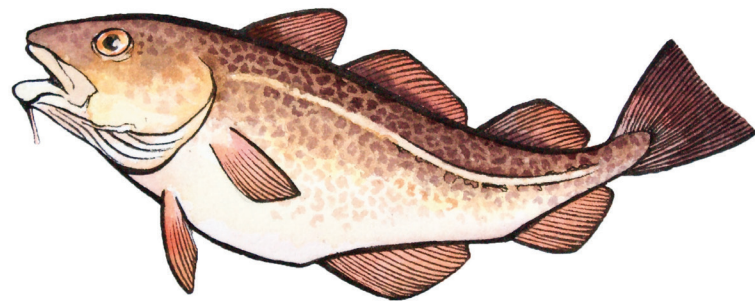


## Outreach and engagement

For the first time in many years, new promotional materials were created, such as temporary tattoos and stickers featuring MPA-specific species like the golden cod. The Marine Conservation Team also sent activity packages to the NCC for distribution to school-age children in Labrador. These packages included marine conservation-themed activity sheets, puzzles and coloring books. Additionally, 5 “golden cod tickets” were randomly placed in the activity packages, offering small prizes such as:

- t-shirts
- waterproof notebooks
- reusable gloves
- eco-friendly dishcloths
- stickers
- temporary tattoos

In 2024, Oceans Day activities spanned Newfoundland and Labrador. NCC hosted World Oceans Day events in a few communities and



Gilbert Bay golden cod stickers and temporary tattoos. Photo credit: Molly Wells Art.

Published by:

Fisheries and Oceans Canada  
National Capital Region 200 Kent St. Ottawa, Ontario K1A 0E6

Également disponible en français.

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Cat. No. Fs1-109E-PDF ISSN 2818-6990

Correct citation for this publication:

Fisheries and Oceans Canada. 2026. Gilbert Bay Marine Protected Area (MPA) annual report 2024. Annual report. Gilbert Bay Marine Protected Area. 9 p.

