



ANNUAL REPORT

| **The Gully**
| Marine Protected Area

*Photo credit: Northern Bottlenose Whale Project,
Dalhousie University*

2023



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At-a-glance

Date of designation:

2004

Size:

2,363 km²

Contribution towards the marine conservation targets:

0.04%

Location:

The Gully is located 200 km offshore of Nova Scotia, east of Sable Island. It is within the Scotian Shelf Bioregion, Atlantic Ocean.

Managed by:

Fisheries and Oceans Canada (DFO)

Zones:

There are 3 management zones, including:

- the core canyon area (Zone 1), which is afforded the highest protection and is where no commercial fishing activities are permitted.
- the canyon walls, the head of the canyon and the deep water area of the abyssal plain (Zone 2); this is where select hook and line fisheries are permitted.
- the shallow banks on each side of the canyon (Zone 3); this zone also permits select hook and line fisheries.



Key highlights

In 2023, a new sampling technique using environmental DNA (eDNA) was used for the first time in the Gully MPA to identify species presence. This is especially useful as the Gully is a very deep canyon with limited access by other sampling techniques such as research trawling.

A \$1.5 million oil and gas bid on an exploration block beside the Gully MPA was put forth by a Scotland-based company, but it was rejected by federal and provincial governments.

A contribution agreement was signed with the Whitehead Lab at Dalhousie University to support the continuation of their research on cetaceans in the Gully, with a focus on the endangered Northern Bottlenose Whale.

The Gully recognition award was presented to Trevor Kenchington, a research scientist at DFO's Bedford Institute of Oceanography, for his life-time contributions to research of the Gully MPA.

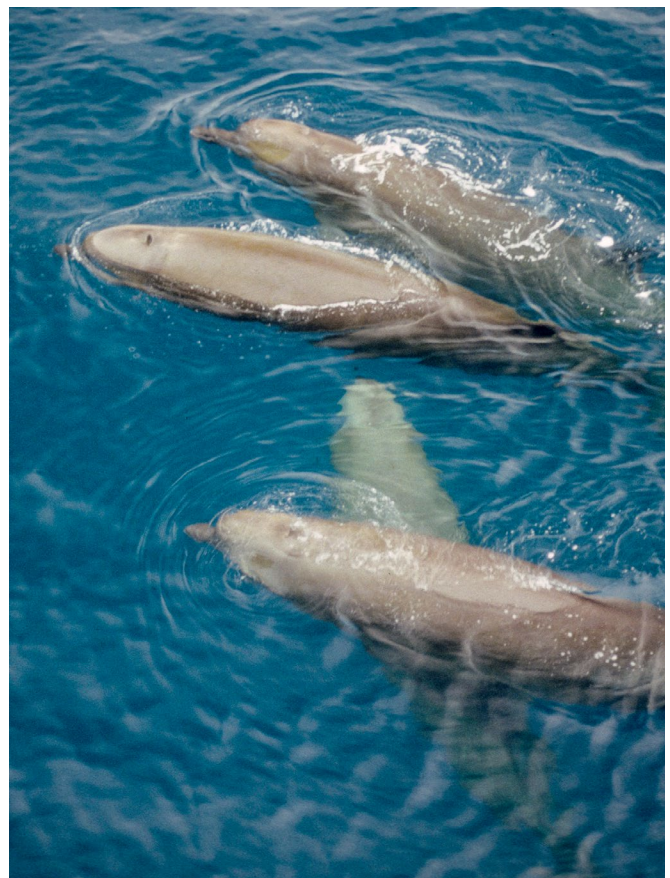


Photo credit: Northern Bottlenose Whale Project, Dalhousie University



In the spotlight: benefits

Ecological	Socio-cultural	Economic
<p>This MPA was identified as critical habitat for the endangered Scotian Shelf population of the Northern Bottlenose Whale under the <i>Species at Risk Act</i> and it is an important habitat for 15 other species of whales and dolphins.</p> <p>The Gully has the highest known variety of cold-water corals in Atlantic Canada with approximately 30 species identified to date. The MPA helps to protect the biodiversity in these unique cold, deep-water coral reefs.</p>	<p>Imagery collected in the MPA enhances ocean literacy and educational efforts by helping to connect people to remote offshore settings. This area also contributes to the fostering of ocean stewardship. For example, the Whitehead Lab has inspired education and research opportunities in the Gully MPA for many students and members of academia who are interested in the ecology and biology of the MPA.</p> <p>In previous years, Adventure Canada has also conducted some seabird and marine mammal observations while they transition through the Gully MPA aboard their luxury eco-tourism vessel that brings adventure and science to its passengers.</p>	<p>Since the MPA is located far offshore, recreational opportunities are limited and most economic benefits are derived from commercial fisheries. Both Zone 2 and Zone 3 of the Gully MPA continue to be an active commercial fishing area, where most fishing activity is by hook and line for halibut, swordfish and tuna species. An economic fisheries fact sheet was produced for landings from 2015-2019 in the MPA versus outside the MPA. The landed values from the area in recent years averaged about \$600,000 per year, most of which is landed within the Halifax Regional Municipality.</p>



Education and outreach

In 2023, one of the Advisory Committee meetings held was fully focused on discussing opportunities and projects related to education and outreach.

Over the past year, there were a number of presentations and posters that featured the Gully MPA, including:

- Fifth International Marine Protected Areas Congress ([IMPAC5](#)) in Vancouver, BC
- Oceans and You event at the Maritime Museum of the Atlantic
- Oceans Week activities across Nova Scotia
- Sable Island Conference
- Nature Zone at the Nova Scotia Natural History Museum in Halifax
- Nova Scotia Underwater Council event in Halifax

Other outreach and engagement materials included:

- several panels were installed at the Fisheries Museum in Lunenburg, Nova Scotia
- a giant floor map from Canadian Ocean Literacy Coalition featured augmented reality content from the Gully MPA





Research and monitoring

Numerous research and monitoring activities occurred in the Gully MPA over the past year. These include several reoccurring and ongoing research surveys, such as:

- Halibut long line survey - Joint survey with industry and DFO
- Ecosystem survey - DFO Science
- Crab survey - DFO Science
- Acoustic tracking of tagged fish - DFO Science
- Atlantic Zone Monitoring Program survey - DFO Science
- Passive acoustic monitoring of cetaceans - DFO Science
- Beaked whale research - Dalhousie University
- Multibeam survey - Canadian Hydrographic Service

One survey technique employed by DFO Science in the Gully MPA for the first time last year was the use of environmental DNA (eDNA) surveys.

Ongoing monitoring of the Gully MPA is guided by the [monitoring framework](#) published in 2010.



Photo credit: H. Moors-Murphy

A [2021 Review of Baseline Information, Monitoring Indicators, and Trends in the Gully MPA](#) continues to frame and outline DFO Science field work.

In 2023, these reports were published:

- Technical Report: [The current state of pressure monitoring in the Gully MPA](#)
- CSAS research document: [Gully MPA Monitoring : Fish and Fishery Resources](#)

Also, a [research paper featuring the Gully](#) was published in June 2023 by DFO scientists and other experts from academia. This paper examines the long-term trends in floating plastic pollution within an MPA and identifies threats for endangered Northern bottlenose whales.



Collaborations and partnerships

A contribution agreement was signed with the Whitehead Lab to continue its work with beaked whales in the Gully MPA. Supplementary benefits include the collection of marine debris and sampling when conducting field work to contribute to other initiatives, such as the ongoing sampling and assessment of microplastics.

A multibeam survey was conducted by the Canadian Hydrographic Service and included coverage of sand waves at the canyon head to help geologists understand the movements of sediments in the canyon.

Transport Canada continues to enforce their regulations related to ballast water exchange in the Gully MPA. Transport Canada's National Aerial Surveillance Program conducts aerial pollution flights over the Gully MPA and reports back any occurrences to DFO.





Surveillance and enforcement

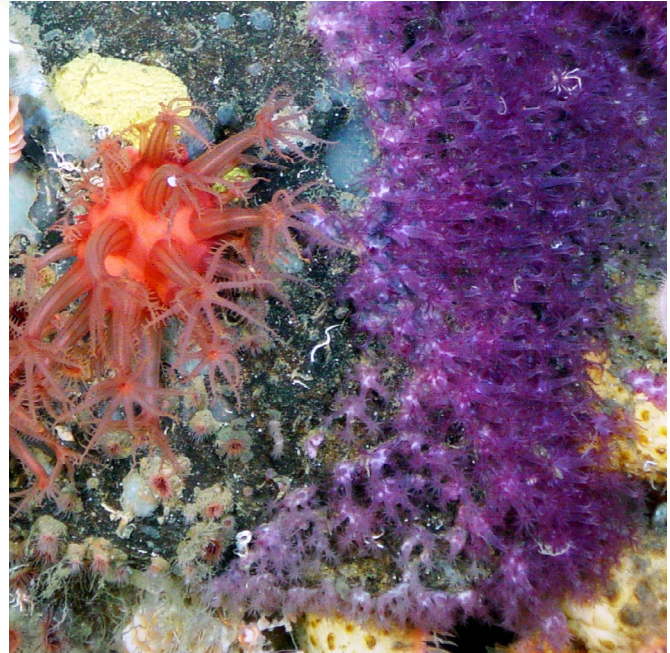
Offshore Surveillance Officers (Fishery Officers) primarily address boundary incursions that are observed from the aerial platform. On average, 1 to 2 aerial patrols occurred per week. For example, in December 2023, 3 MPA dedicated patrols took place. A total of 108 hours of aerial surveillance was completed by the offshore unit. These patrols are in line with the Conservation and Protection enforcement plan.

Several at-sea boardings via vessel patrols were also conducted within the past year, resulting in violations. At-sea boardings have identified issues, such as reporting irregularities (for example, logbook inaccuracies and missing entries for sets and/or species), as well as potential retention of undersize individuals and/or unauthorized species.

On March 20, 2023, an individual from Eastern NS was convicted under the *Fisheries Act* for noncompliance with their commercial condition of licence by fishing in a closed section of the MPA (Zone 1).

One violation remains before the courts for fishing infractions that occurred in the Gully MPA.

Transport Canada also conducted pollution patrol flights over the Gully MPA.



Management and governance

The Gully MPA management plan was last updated and released in 2017; it provides a multi-year framework that includes:

- an overall vision
- objectives
- priorities for conservation

In 2023, there were 2 Gully Advisory Committee meetings. A full-day meeting with scientific updates was held in March and a special outreach meeting dedicated to celebrating 20 years since designation occurred in December.

In 2023, 4 new activity plans for the MPA were approved, and several multi-year approvals from past years remain active. The 2019 variation order was re-issued to close 2 portions of Zone 2 of the MPA to fishing for groundfish to protect areas of importance to deep sea corals.

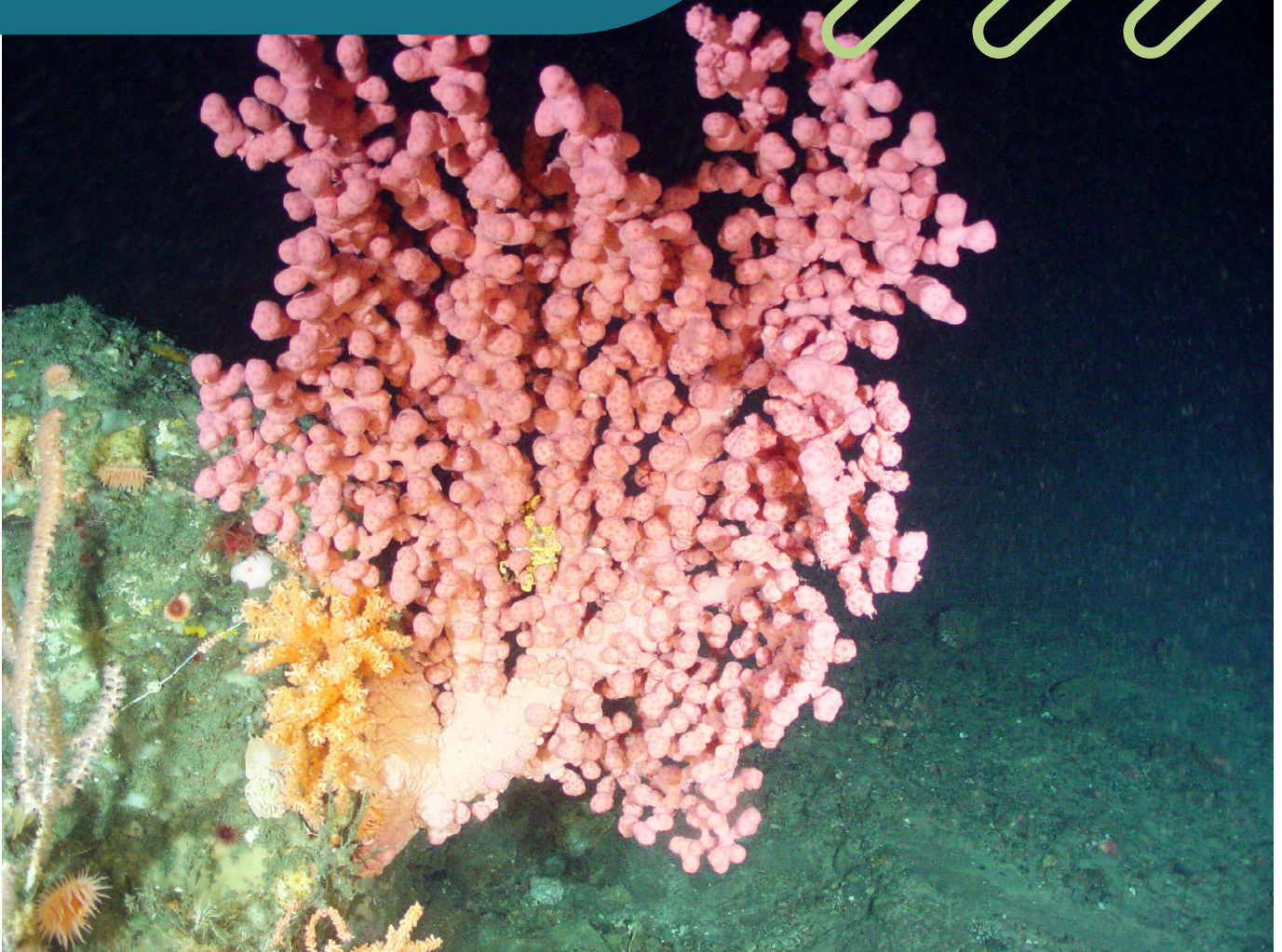
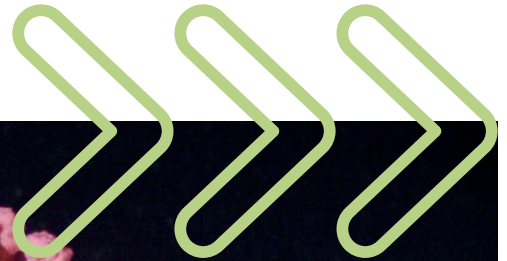
There is still interest in oil and gas exploration beside the Gully MPA. A call for bids was issued on an offshore parcel, a shallow-water parcel on the Sable Bank of the Scotian Shelf. The bid was subject to the approval of the federal and provincial ministers of natural resources, whom ruled against it in a decision to reject the bid.

Looking to the year ahead

The Gully's 20th anniversary occurs in 2024 and there will be celebrations and activities throughout the region.

Analysis is ongoing to identify species presence in the Gully from the eDNA samples collected in the area in the summer of 2023.

An Advisory Committee meeting will be held in the Fall of 2024. An Ocean Noise Strategy case study is in the review stages for the Gully MPA.





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