

The Gully
Marine Protected Area



**ANNUAL
REPORT** 2024



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Canada's Oceans Act Marine Protected Areas

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

Cover photo: Sowerby's beaked whale. Photo credit: Catalina Gomez.



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.

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



Map of The Gully Marine Protected Area.



Conservation objectives

- Minimize harmful impacts from human activities on cetacean populations and their habitats
- Minimize the disturbance of seafloor habitat and associated benthic communities caused by human activities
- Maintain and monitor the quality of water and sediments of the Gully
- Manage human activities to minimize impacts on other commercial and non-commercial living resources



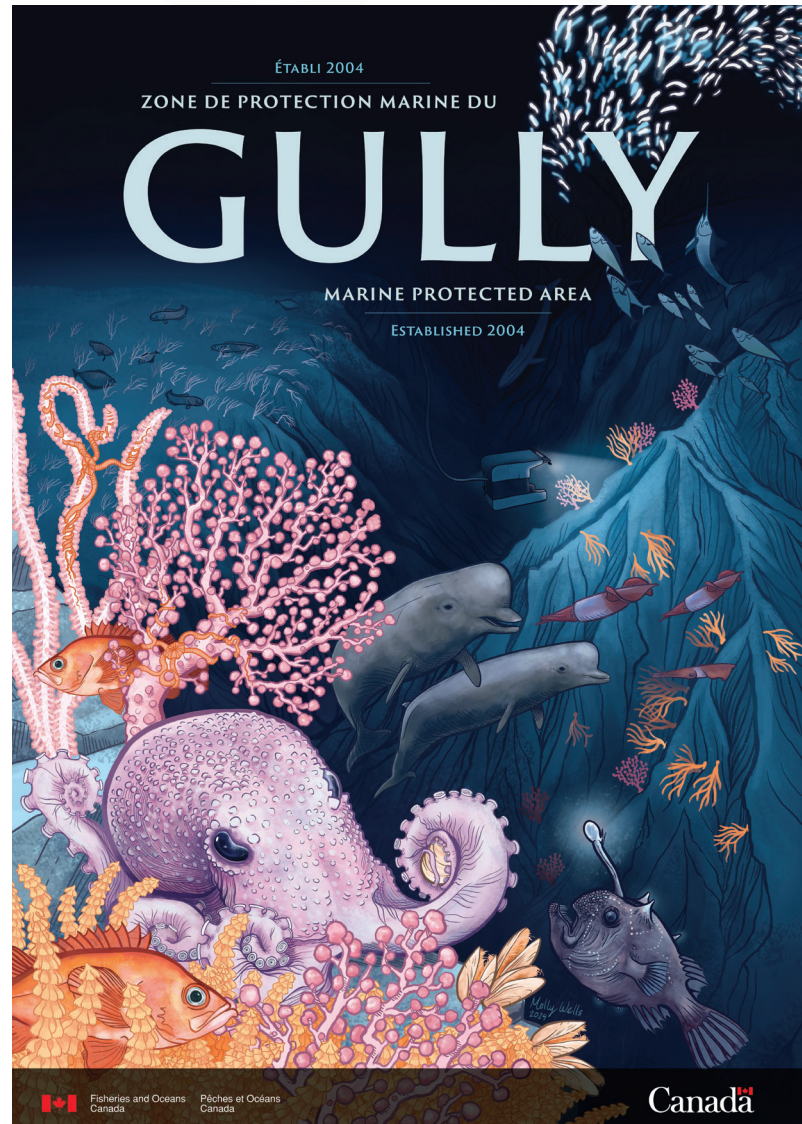
Benthic community in the Gully MPA, including giant clams (*Acesta cryptadelphe*), glass sponges (*Asconema foliatum*) and cup corals (*Desmophyllum dianthus*).
Photo credit: DFO.



Management and governance

The lead authority of the Gully MPA is DFO. The most recent [management plan](#) was published in 2017 and remains active. In addition to the [MPA Regulations](#), a Variation Order under the *Fisheries Act* closes 2 portions in Zone 2 to fishing for groundfish to protect areas of importance to deep sea corals.

In March 2024, the Gully Advisory Committee met to discuss education and outreach activities associated with the 20th anniversary of the establishment of the Gully MPA, which occurred in



Gully's 20th Anniversary Commemorative Poster. Artist credit: Molly Wells.

May 2024.

The annual Gully MPA Advisory Committee meeting occurred on November 28, 2024 at the Bedford Institute of Oceanography and virtually. The meeting had participants from government, industry, academia, non-governmental organizations (NGO) and Indigenous representatives and covered updates from the Advisory Committee members and DFO staff on various topics such as:

- surveillance and enforcement
- DFO science projects
- Dalhousie University's cetacean research
- *Canada-Nova Scotia Offshore Petroleum*

Resources Accord Act amendments (NRCan)

- activity plans
- an overview of the Gully MPA 20th anniversary celebrations

In 2024, 5 new activity plans for the MPA were approved and several multi-year approvals from past years remain active. While the redfish and the ecotourism and seabird surveys did not occur, the following activities did take place in 2024:

- DFO halibut survey
- Dalhousie University cetacean research
- DFO Ecosystem trawl survey

Bill C-49, which introduced amendments to the Canada-Nova Scotia (Can-NS) Offshore Petroleum Resources Accord Implementation Act, received Royal Assent on October 3, 2024. The mirror provincial legislation introduced by Nova Scotia received Royal Assent on September 20, 2024. The amendments modernized Canada's east coast offshore energy framework to include marine renewable energy and established new authorities in support of marine conservation initiatives. For example, hydrocarbon activities can now be prohibited in MPAs and other areas identified for environmental protection or wildlife conservation. These amendments will come into force in 2025, triggering the Canada-Nova Scotia Offshore Petroleum Board to be renamed as the Canada-Nova Scotia Offshore Energy Regulator.



Feature creatures

Named after the Hindu goddess, *Kali indica* is a rare, deep sea fish in the swallower family – so called because they can swallow prey larger than themselves. The only *Kali* yet found in Canada's Atlantic, a specimen of 215 mm length (considered very large), was collected in the MPA by a research midwater trawl, fishing at 1500m depth. The species is bathypelagic (occurring at depth between 1000 m to 4000 m), with only a single known record from above 1000 m depth.



The Swallowers fish (*Kali indica*) external appearance when freshly caught and skeletal structure from CT scan. Photo credit: [Kenchington et al. \(2024\)](#).



Research and monitoring

Numerous research and monitoring activities occurred in the Gully MPA in 2024. Ongoing monitoring is guided by the [monitoring framework](#) and the [Science Advisory report on the monitoring indicators and trends in the Gully MPA](#) by the Canadian Science Advisory Secretariat.

DFO leads several reoccurring and ongoing research surveys in the Gully MPA, including the:

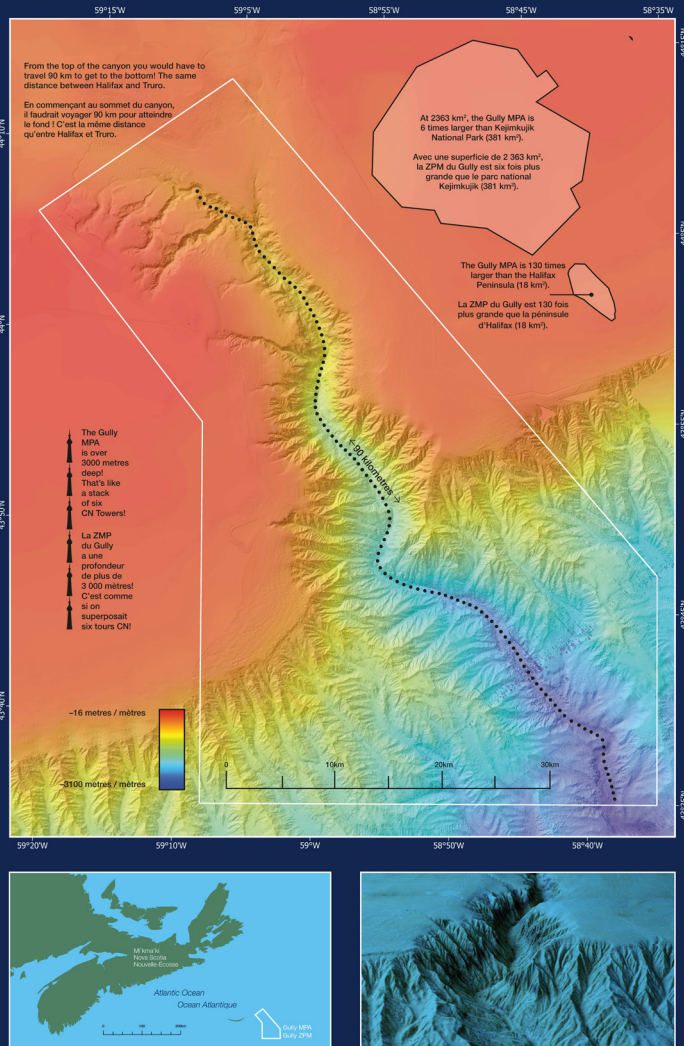
- ecosystem trawl survey
- passive acoustic monitoring survey
- Atlantic Zone Monitoring Program (AZMP)

The above research surveys collect data to provide information pertaining to the MPA's conservation objectives. For example, the passive acoustic monitoring and bottom-moored recording systems aid to assess presence and activity of key marine species in the MPA, such as cetaceans. In addition, the AZMP collects routine oceanographic data during biannual monitoring surveys to maintain and monitor the quality of water in and around the MPA.

The new technique of collecting water samples for environmental DNA (eDNA) studies continued in 2024, as did the joint fishing industry and DFO Science halibut longline survey. Finally, the Whitehead Research Lab out of Dalhousie University continued their beaked whale surveys that have been occurring since the late 1980s.

Seafloor of The Gully Marine Protected Area

Fond marin de la zone de protection marine du Gully

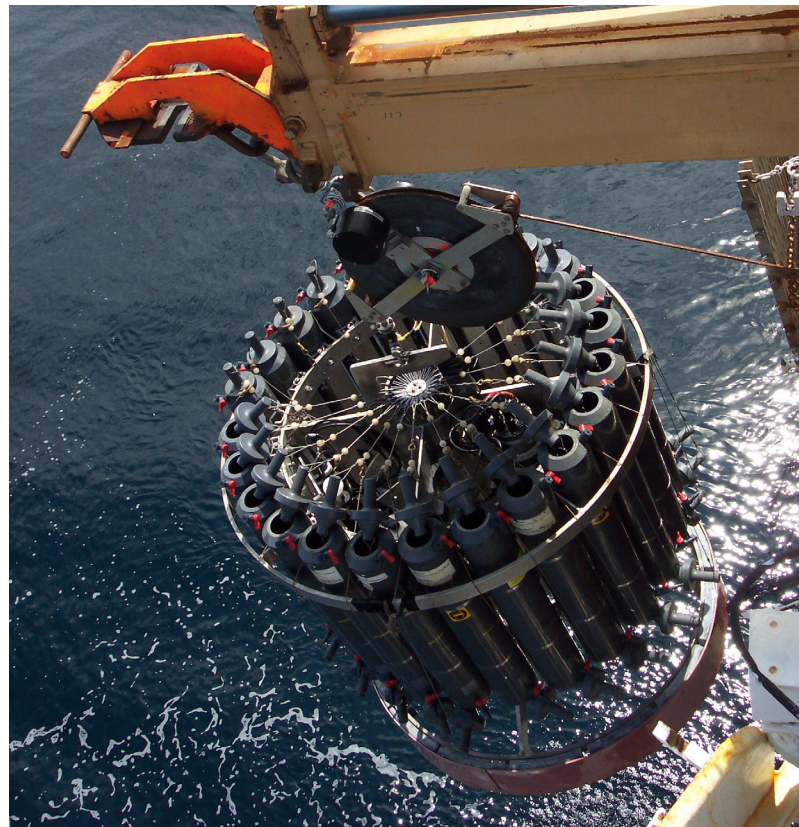


Bathymetry of The Gully. Credit: DFO.

In 2024, 6 new publications pertaining to the Gully MPA were released:

- Biodiversity assessment: [The meso- and bathypelagic cephalopod fauna of the Gully submarine canyon](#)
- technical report: [Cruise Report in Support of Maritimes Region Research Project 'Use of Passive Acoustics to Quantify Fish Biodiversity and Habitat Use': Ocean Observation Systems in the Gully MPA and Scotian Shelf](#)
- case study: [Working together to manage ocean noise in the Gully MPA](#)

- manuscript report: [Image annotations for biodiversity with benthic landers in the Gully MPA and Scotian Shelf from 2021-2023](#)
- new recorded species: [Swallowers \(Chiasmodontidae, Scombriformes\) of The Gully MPA, in the northwest Atlantic](#)
- research document: [Threat Assessment for Northern Bottlenose Whales \(Hyperoodon ampullatus\) off Eastern Canada, with a Focus on the Scotian Shelf Population](#)



Deployment of a rosette to collect water samples from a research vessel at sea. Photo credit: DFO.



Collaborations and partnerships

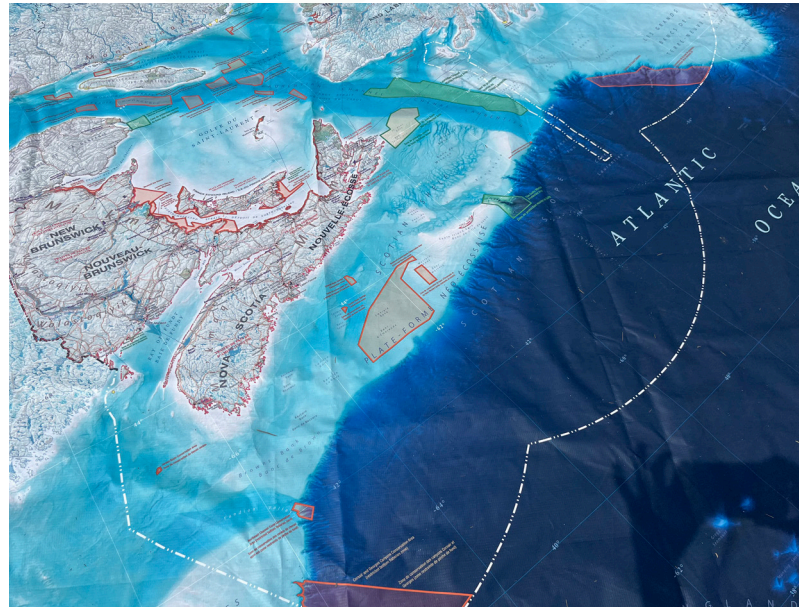
The Whitehead Research Lab (Dalhousie University) continued its work with beaked whales in the Gully MPA. Supplementary activities include the collection of marine debris and sampling when conducting field work to contribute to other initiatives, such as the ongoing assessment of microplastics.

DFO partnered with several environmental non-governmental organizations through SeaBlue Canada to help foster education and outreach opportunities to promote the 20th anniversary of the Gully MPA. This was a great opportunity to collaborate on various products and to educate the public on the canyon and conservation efforts. This effort brought together academics, government, NGOs and the general public to learn about the diversity of species in the canyon ecosystem and the research underway.

The 2024 Gully Recognition Award (established in 2017) was awarded to representatives of the Nova Scotia Museum system. This longstanding collaboration has promoted numerous public learning opportunities on the Gully MPA including displays, celebratory events and dedicated talks at various museums since the MPA was established in 2004. Highlights include both the 2004 designation announcement and the 20-year Gully anniversary celebration held at Maritime Museum of the Atlantic. The 10-year anniversary was held at the Museum of Natural History and a permanent Gully MPA exhibit is in place. As well, a Gully focused placard is installed at Fisheries Museum of the Atlantic in Lunenburg, NS. Discussions are underway for future collaborations at these key facilities.



The Maritime Museum of the Atlantic is part of the Nova Scotia museum system that was awarded the 2024 Gully Recognition award and where the Gully's 20th anniversary celebrations took place. Photo credit: Tanya Pelrine.



Canadian Ocean Literacy Coalition's giant floor map with the Gully MPA as displayed at anniversary celebrations. Photo credit: Tanya Pelrine.



In the spotlight: benefits

Ecological

This MPA provides protection for critical habitat for several threatened and endangered species, such as the Scotian Shelf population of the Northern Bottlenose Whale. In addition to contributing to supporting the recovery of cetaceans listed under the *Species at Risk Act*, this MPA also helps to protect biodiversity of unique deep-sea ecosystems, like cold-water corals. This MPA contains the highest known variety of cold-water corals in Atlantic Canada with approximately 30 species identified to date.

Socio-cultural

Despite the MPA being located far offshore, imagery collected in the MPA enhances ocean literacy and educational efforts by helping to connect people to remote offshore ecosystems, like deep-water corals. This MPA also contributes to the fostering of ocean stewardship. For example, the Dalhousie University Whitehead Research Lab has provided education and research opportunities for many students and members of academia who are interested in the ecology and biology of the MPA.

Economic

Most economic benefits are derived from commercial fisheries due to the MPA's location far offshore, which limits recreational and tourism opportunities for the general public. In Zones 2 and 3 of the MPA, limited commercial fishing is allowed and includes longline fishing for halibut, tuna and swordfish. This allows revenue from the area to flow into the communities around Nova Scotia, noting that landings from the Gully are distributed around the province.



Surveillance and enforcement

DFO provides surveillance and enforcement in the Gully MPA primarily through aerial surveillance and remote surveillance tools, such as a vessel monitoring system. Offshore Surveillance Fishery Officers conduct the majority of aerial surveillance and enforcement, and completed more than 119 hours of aerial surveillance in 2024. On average, 5 flights per month take place over the Gully MPA, including one to two flights that are specifically dedicated to MPA surveillance and enforcement. Activities continue as outlined in the enforcement plan and efforts are underway to update the Gully MPA enforcement plan for 2025-2026.

On November 4, 2024, the captain of a fishing vessel was convicted for multiple fishing infractions that occurred in the Gully MPA in 2023. Convictions were under the *Fisheries Act* for failing to comply with licence conditions and Fishery General Regulations for possessing fish fillets which were not identifiable.

DFO's Fishery Officers also participated in outreach efforts by attending local events to increase knowledge and promote compliance within and around the MPA.

The Marine Security Operations Center hosted by the Department of National Defence, provides enhanced desktop surveillance through various tools to help identify and report marine activities. This includes vessel movements in and around the Gully to assist with ensuring compliance with the [Gully MPA Regulations](#).



Conservation and Protection mid-shore patrol vessel: Canadian Coast Guard Ship G Peddle. Photo credit: DFO.



Outreach and engagement

On May 4, 2024 the Gully celebrated its 20 year anniversary since designation under the *Oceans Act* in 2004, which makes it the oldest MPA in Canada. DFO partnered with SeaBlue Canada to plan and hold various events related to the anniversary in Halifax, Nova Scotia.

Promotion methods included dedicated websites, billboard ads and advertisement posters. A crochet sea creature competition and multiple CBC radio interviews took place to promote the 20th anniversary. Finally, a [short video](#) highlighting 20 years since destination was created with social media posts from DFO and partners.

[Several events](#) were connected to the anniversary celebration and included partnerships with the Nova Scotia Museum programs throughout April and May.

The main celebration event took place on May 11, 2024 at the Maritime Museum of the Atlantic and was free and open to the public. This event was aimed at public education and awareness of the MPA and its ecology involving many Gully connected scientists and organizations. Examples of the activities included:

- kids crafts
- theatre group performances
- short talks and displays by Gully experts
- an interactive floor map
- multiple displays related to marine conservation

This collaboration was a major success in reaching many audiences.



DFO staff in front of the photobooth at the Gully's 20th anniversary celebrations. Photo credit: DFO.

FAMILY FRIENDLY!
FREE ADMISSION!

SPECIAL 20th ANNIVERSARY EVENTS

GULLY

MARINE PROTECTED AREA
ESTABLISHED 2004
NOVA SCOTIA, CANADA

FRIDAY, MAY 3 10AM

TENTACLES IN THE DEEP SEA: SOME PELAGIC CEPHALOPODS OF THE GULLY

VIRTUAL SEMINAR

TUESDAY, MAY 7 6:30PM

SAILORS AND WHALERS: A HUMAN HISTORY OF THE GULLY

MARITIME MUSEUM OF THE ATLANTIC

SATURDAY, MAY 11 | 9:30AM – 1PM

THE GULLY MPA 20th ANNIVERSARY CELEBRATION

MARITIME MUSEUM OF THE ATLANTIC

EXPLORE THE MYSTERIES OF THE GULLY AND THE DEEP SEA! VISIT DISPLAYS ON OUR AMAZING OCEAN AND THE DIVERSITY OF LIFE IN AN UNDERWATER CANYON. CHAT WITH AND LISTEN TO OCEAN EXPERTS AND MAKE AN OCEAN-THEMED CRAFT FOR MOTHER'S DAY!

9:45AM
UNNATURAL
DISASTER
THEATRE
SHOW

10:00AM – 11:45AM
JOURNEY TO THE GULLY:
SHORT TALKS BY EXPERTS
WHO STUDY THE SEA LIFE
IN THE GULLY!

LEARN MORE!

11:45AM
UNNATURAL
DISASTER
THEATRE
SHOW

12PM
ANNIVERSARY
CELEBRATION:
DEDICATION, SNACKS
AND REFRESHMENTS

Gully's 20 year anniversary promotion poster. Credit: Maritime Museum of the Atlantic, Seablue Canada, DFO, Government of Canada.

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