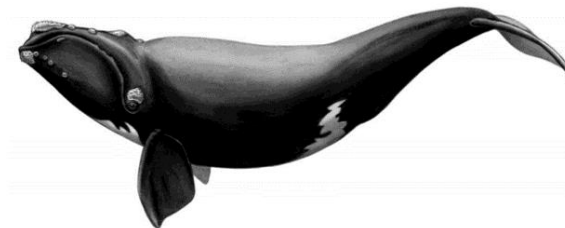




Canadian Management Overview

Marine Mammal Conservation, Protection and Recovery: Focus on the North Atlantic Right Whale

Fisheries and Oceans Canada (DFO)
February 2023



Prepared for: U.S. Canada Lobster Town Meeting 2023



NARW Protection Measures

NARW is listed as Endangered under the *Species at Risk Act* (SARA)

- Federal Departments legally obligated to implement Measures to Protect and Recover NARW – guided by Recovery Strategies and Action Plans

Since 2017, DFO has implemented a suite of fisheries and vessel management measures, supported by targeted science.

- **Targeted science on NARW**
- **Fisheries Management Measures**
 1. Prevention measures for entanglements - priority
 2. Mitigation Measures for entanglements
 3. Other protection measures/tools
- **Vessel management measures to reduce the threat of ship strikes**





Targeted Science on NARW

Surveillance to inform management:

- DFO Science undertakes visual (aerial and boat based) and acoustic (Viking buoys) surveillance to inform management
- DFO Science validates each opportunistic sightings reported to Whale Insight by the public
- Visit [WhaleInsight](#) for more detail on NARW detections and assets

Research activities:

- **Surveying and monitoring informs studies on NARW distribution**, habitat, movement and threats in Canada
- **Prey studies** to characterize potential foraging habitat and the processes that lead to high local concentrations of prey Calanus
- Developing a **species distribution model** for the Gulf of St. Lawrence and collaborating with the US to develop transboundary prey distribution and species distribution models across their North American range
- **SmartWhales**: an R&D project with the Canadian Space Agency to determine if remote satellite imagery can be used to detect and/or predict the distribution of NARW
- [Find out more](#)





Fishery Management Measures

1. Prevention measures for entanglements - priority

NARW monitoring regime

- Aerial, on the water, acoustic detection

Adjustments to start/end of fishing seasons

Adaptive Closure protocols

- Seasonal Closure Protocol – Gulf
- Dynamic Closure Protocol – Gulf, Bay of Fundy, Roseway Basin
- Shallow water protocol
- Mother/calf, 3 whale+ aggregation – Atlantic Canada

Ghost Gear

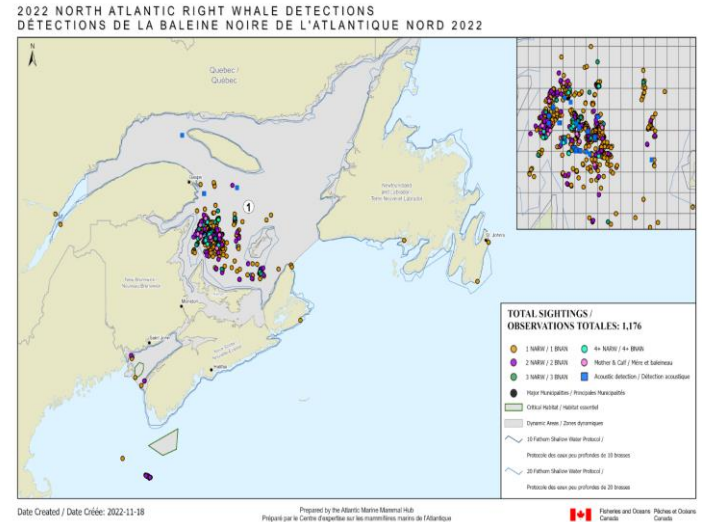
- Ghost Gear Fund

Protected areas

- Federal Protected Areas – no bottom contact fishing

Other

- Reduction of floating rope, neutrally buoyant rope, etc.





1. Prevention: Adaptive Closure Protocols

- A Dynamic Closure Protocol in the Gulf of St. Lawrence and Bay of Fundy, including the North Atlantic right whale critical habitat area in the Grand Manan and Roseway basins.
 - Individual Grid Boxes $\sim 230\text{km}^2$ (88.8mi²)
 - Each detection closes 9 grids $\sim 2070\text{km}^2$ (799.23mi²)
- A Season-long Closure Protocol (to November 15) in the Gulf of St. Lawrence.
- Shallow Water Protocol in waters shallower than 20 fathoms (where lobster fishing primarily occurs).
- Changes to open/close dates of fisheries to avoid whale presence.





1. Prevention: NARW Monitoring & Real-time Detection

Three DFO Science platforms providing real-time NARW detections:

1. Systematic Aerial surveys (mid Apr-Nov)
2. At-sea observations (early April – Nov)
3. Acoustic detections
 - 8 Viking Buoys in GSL (May– Nov)

Other platforms operated by trusted sources contribute to near real-time monitoring

Coverage year-round in areas with active fisheries

NARW detection shared in near real-time via Whale Insight. canada.ca/whale-insight-map

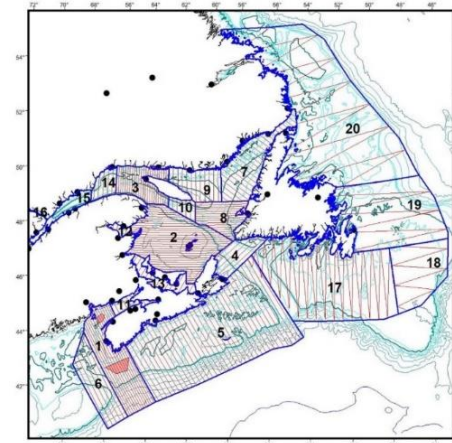


Figure provided by J.-F. Gosselin, DFO



1. Prevention: Adaptive Closure Protocols: 2022 Statistics

Total Seasonal Closures: 29,267.58 km²
(11,300.28mi²)

Total Closures: 55,229.89 km² (21,324.38mi²)

- Separate grids closed at some point in the season

NARW Sighted (Includes duplicates): 1,173

Total days of acoustic detections: 88

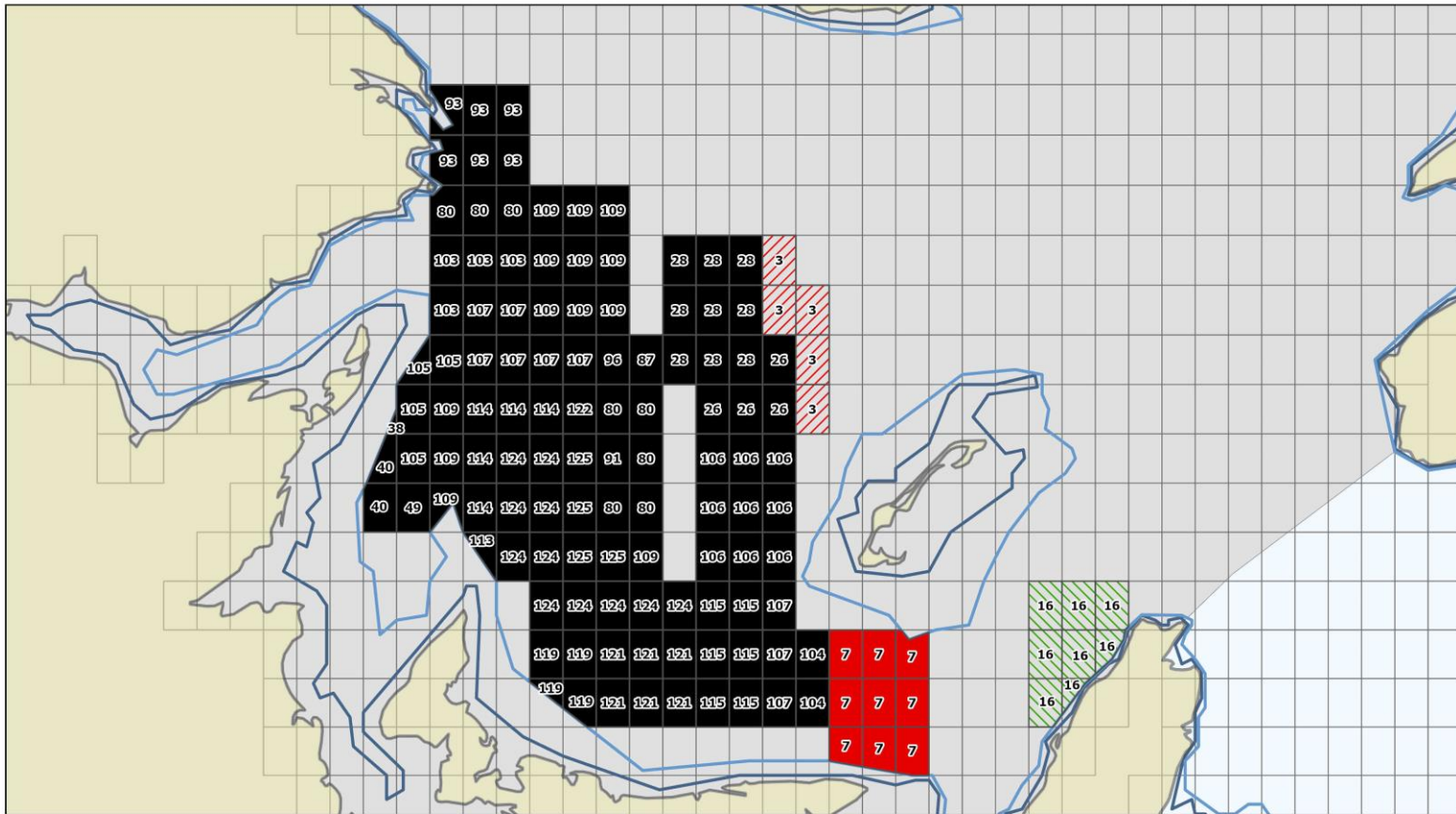
1,325 definite acoustic detections made by five of eight Viking Buoys in the GSL





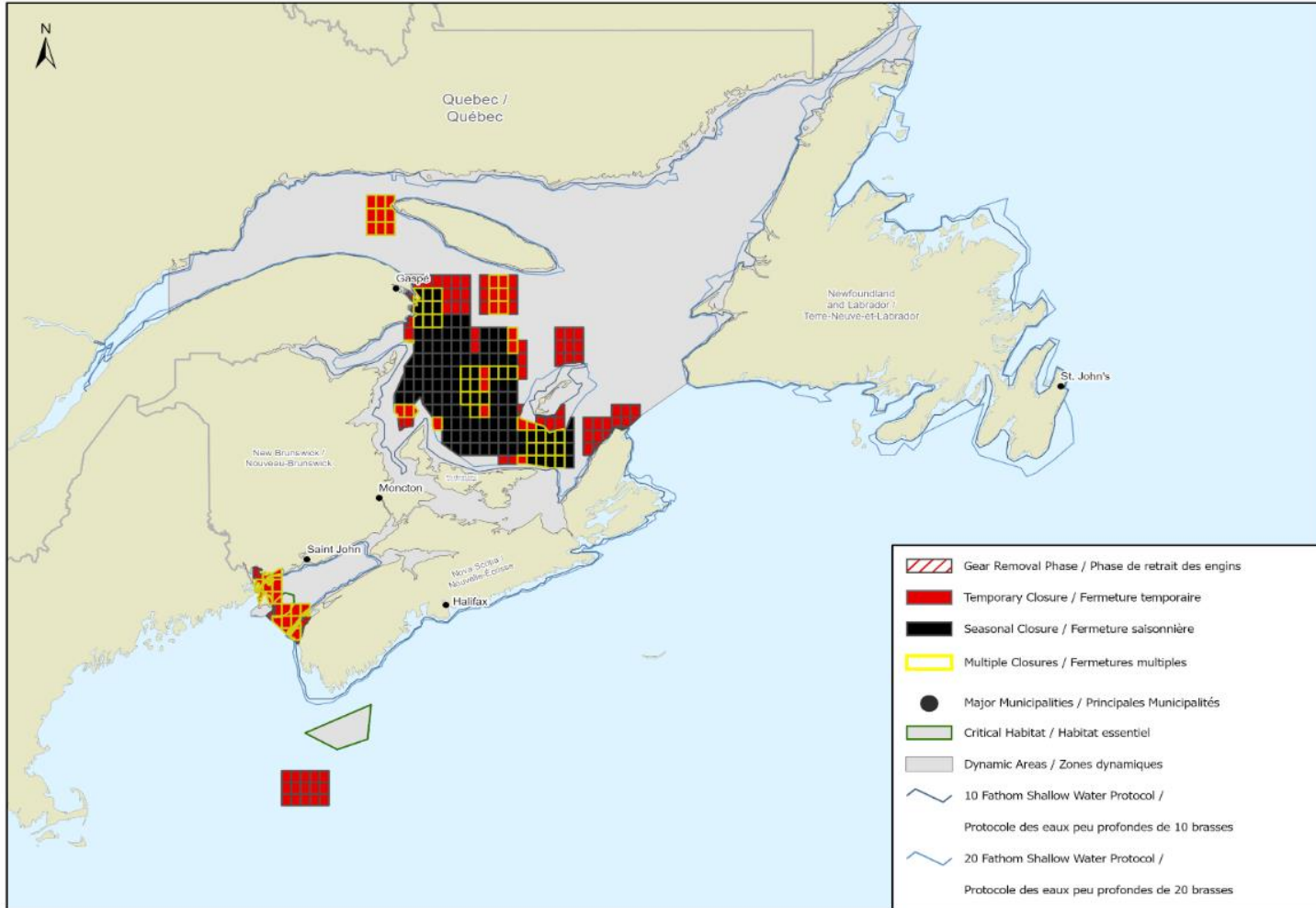
1. Prevention: Adaptive Closure Protocols (September 9, 2022)

2022 NORTH ATLANTIC RIGHT WHALE CLOSURES - DAY COUNT
 COMPTE DE JOURS - FERMETURES POUR LA BALEINE NOIRE DE L'ATLANTIQUE NORD 2022





2022 NORTH ATLANTIC RIGHT WHALE HISTORIC CLOSURES FERMETURES HISTORIQUES POUR LA BALEINE NOIRE DE L'ATLANTIQUE NORD 2022



Date Created / Date Créée: 2022-11-18

Prepared by the Atlantic Marine Mammal Hub
Préparé par le Centre d'expertise sur les mammifères marins de l'Atlantique



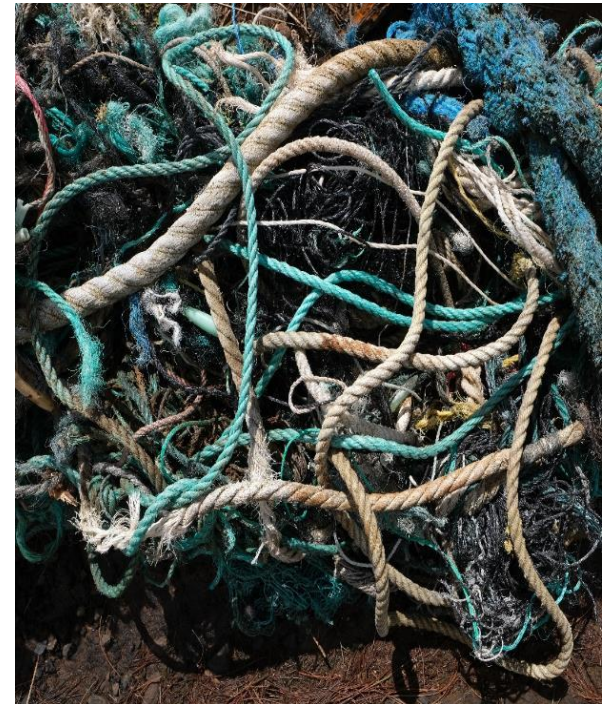


1. Prevention: Canada's Ghost Gear Program

Launched in 2019 under the Federal Leadership toward **Zero Plastic Waste in Canada Initiative**

Overview of the Program:

- Mandatory lost gear reporting
- Fishing Gear Reporting System
- Ghost Gear Fund (launched in 2020)
- Regulatory work ongoing to address barriers to ghost gear retrieval by fish harvesters
- Expanding infrastructure for recycling and disposal
- Targeting priority areas for retrieval (i.e. species at risk)
- Modernizing Canada's fisheries management approaches





1. Prevention: The Ghost Gear Fund

Intended to support Canada's commitment to prevent and mitigate marine litter, improve fisheries sustainability particularly with respects to Abandoned, Lost or otherwise Discarded Fishing Gear (ALDFG)

\$26.7M since 2020 to support projects under 4 themes:

- Third party led retrieval of abandoned, lost or discarded fishing gear (ALDFG)
- Gear acquisition and piloting of currently available innovative gear technology to prevent gear loss
- Responsible Disposal
- International leadership

91 projects were funded by the Ghost Gear Program since 2020, 10 international and 81 domestic

\$1.8M in support of Small Craft Harbour projects to establish storage and processing capacity with Harbour Authorities

The Government has committed \$30M under the Ghost Gear Fund to support the recovery of gear and repairs to Small Craft Harbours damaged by Hurricane Fiona which devastated Atlantic Canada in September 2022

Additional Fiona Ghost Gear Funding – \$1.5M for 2022-23, \$28.4M for 2023-24



1. Prevention: Ghost Gear Fund Results – Statistics

Gear retrieval statistics to date (July 2020 – November 2022)

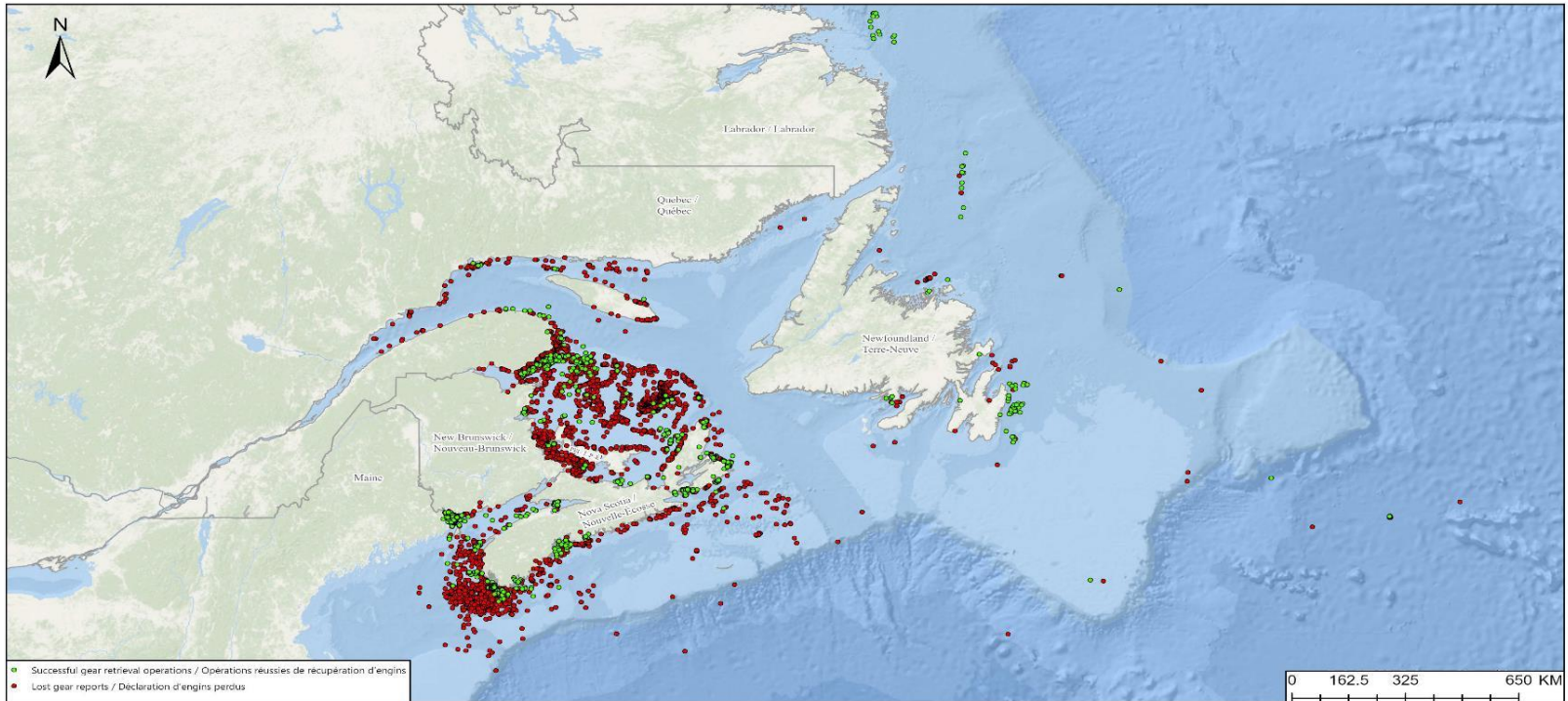
- **1,295** at-sea, shoreline and aquaculture trips
- **14,435** units of gear retrieved **excludes rope and buoys**
 - 10,619 units of traps/pots
 - 1,907 units of other gear (includes: nets, trawls, longline, seine, troll, and other)
 - 1,909 units of aquaculture
- **233 km** of rope retrieved
- **A total of 1,589 tonnes** retrieved including gear, rope, and aquaculture debris

Return of gear through the Fund (July 2020 – November 2022)

- If the owner of retrieved gear can be identified, they are contacted to inform them that their gear has been recovered. Owners are then given the option to collect their gear or relinquish ownership.
- Gear successfully returned to owner: **361**
- Total number of gear matched to harvester: **628**



Locations of Lost and Retrieved Fishing Gear on the Atlantic Coast: 2020-04-01 to 2022-03-31
Lieux des engins perdus et engins de pêche récupérés sur la côte Atlantique: 2020-04-01 to 2022-03-31



Date Created / Date Créée: 2022-09-01

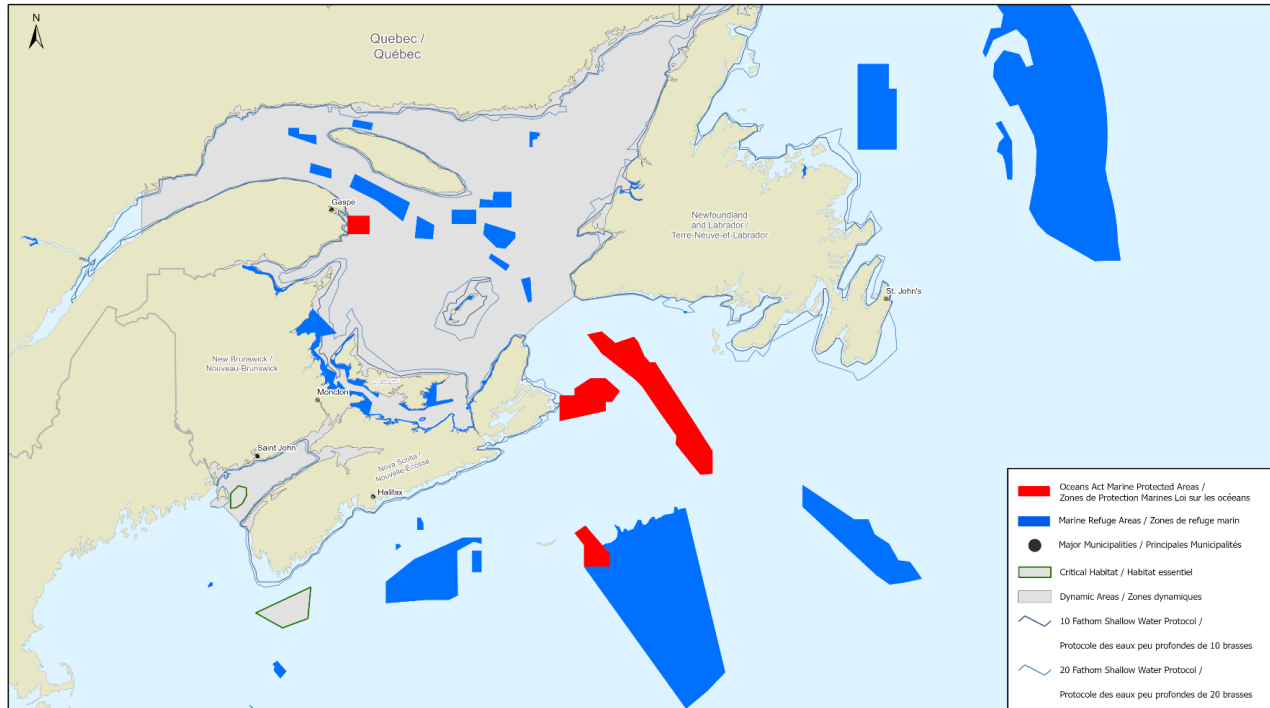
Prepared by the Atlantic Marine Mammal Hub
Préparé par le Centre d'expertise sur les mammifères marins de l'Atlantique





1. Prevention: Protected Marine and Coastal Areas

2022 MARINE REFUGES
2022 REFUGES MARINS



Date Created / Date Créée: 2022-09-20

Prepared by the Atlantic Marine Mammal Hub
Préparé par le Centre d'expertise sur les mammifères marins de l'Atlantique



Fishery Management Measures

2. Mitigation measures for entanglements

Gear Marking

- Vertical line markings, trap tags, etc.

Whalesafe Gear

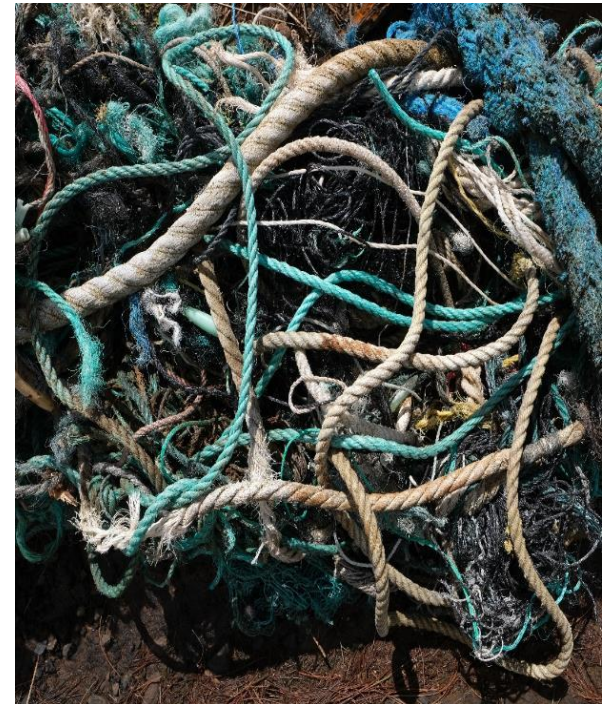
- Lower Breaking Strength rules
- Whalesafe Gear fund and trials
 - Lower breaking strength (1,700lbs)
 - Rope on Demand

Marine Mammal Response Program

- Investments in Capacity for response partners
- Annual investment for operational support of response partners

Necropsy and Gear Investigation

- Necropsy of NARW and other large whales
- Entanglement investigation





2. Mitigation: Whalesafe Gear in Canadian Fisheries

Low breaking-strength gear to be required in non-tended fixed gear, including trap and pot fisheries in Atlantic Canadian and Quebec, in 2024

Gear trials will continue in 2023, DFO will facilitate information sharing among those testing gear innovations.

- Assessment of trial results to inform approach for 2024
- Expanded focus on on-demand gear trials
- Continued engagement with industry, Indigenous partners and other stakeholders.

Internally, DFO's National Whalesafe Gear Implementation Working Group is focusing on operational elements of both gear types in Canadian fisheries and enforcement activities

Whalesafe Gear Adoption Fund provided nearly \$20M to 34 projects in 2021-23



2. Mitigation: Whalesafe Fishing Gear Trials

Lower Breaking Strength Gear 1,700lb

- Alleviates entanglements
- Balance between assisting whales to self-release, and preventing gear loss
- Availability and cost remain in flux
- Crew safety issues considered
- Solutions available for trawls with two buoy lines
- Canadian-manufactured devices are among those approved to date for US fisheries

On-demand fishing gear Trials (future prevention measure)

- Prevents whale interactions
- A variety of systems have been developed and tested, some are being fished
- Higher cost
- Applications for gear location marking continue to be developed; interoperability



2. Mitigation: Low Breaking Strength Gear Trials

Prince Edward Island



Photo credit: PEIFA

Nova Scotia



(Photo credit: Ed Trippel)

Magdalen Islands, Quebec



(Photo credit: Unknown fisher)



2. Mitigation: Rope on Demand Gear Trials

Newfoundland



Photo credit: Jason Card, CCFI

New Brunswick



Photo credit: CORBO Engineering



2. Mitigation: Marine Mammal Response Program (MMRP)

- Fisheries and Oceans Canada is responsible for assisting marine mammals and sea turtles in distress under the umbrella of the Marine Mammal Response Program (MMRP).
 - Collaboration with non-governmental organizations
 - Retrieved gear analysis informs mitigation strategies.
- DFO co-chairs an expert large whale disentanglement advisory committee
 - Safety, case reviews, training and capacity building
- \$1 million annually to support Canadian response experts and \$4.5 million to build Canada's response capacity on all three coasts.



CWRT on rescue in the Gulf of St. Lawrence with two apprentices on board (Photo Alison Ogilvy NEFSC/DFO)



3. Other Protection Measures/Tools

- ***Mandatory elimination of excess floating surface rope*** in all fixed gear fisheries.
- ***Gear marking rules*** for all non-tended fixed gear fisheries in Atlantic Canada and Quebec that allows for the origin identification of lost gear.
- ***Whale Interaction Reporting Requirement***
- ***2018 Amendments to Canadian Marine Mammal Regulations under the Fisheries Act – restricting disturbance, including minimum approach distance for all vessels***





3. Other Protection Measures/Tools

2018 Amendments to Canadian *Marine Mammal Regulations* under the *Fisheries Act*:

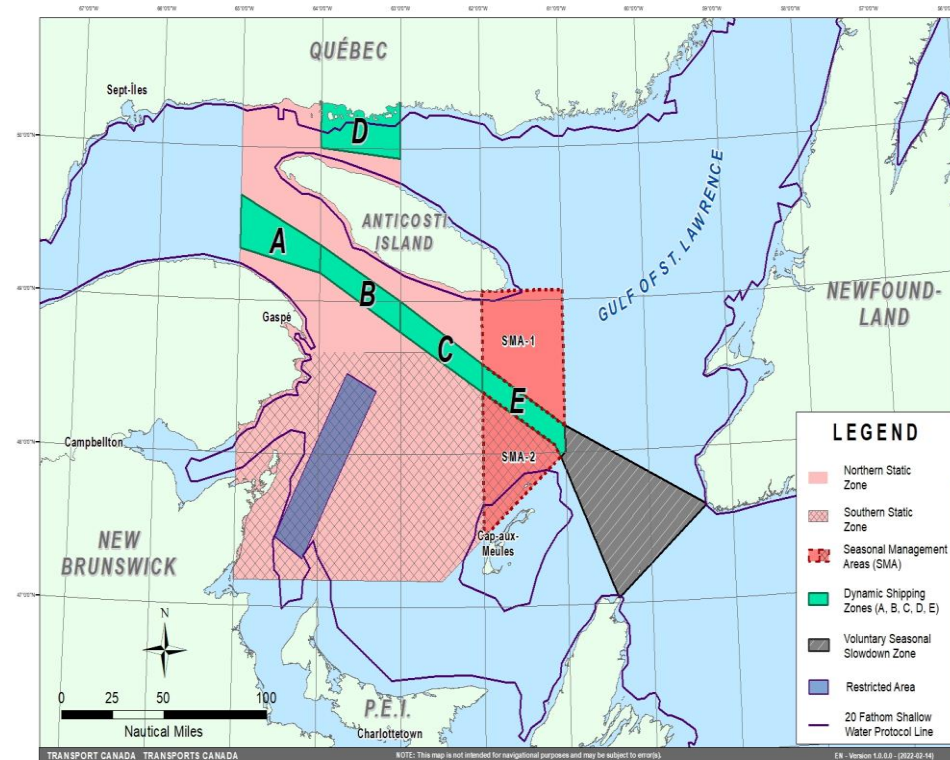
- Updated Application, “the conservation and protection of marine mammals in Canada and in Canadian fisheries waters”
- Mandatory vehicle approach distances
- Mandatory reporting of human and fishing gear interactions
- Redefined definition of disturbance





Overview of Transport Canada's 2022 Measures

- ~ 65,000km² (25,096.6mi²) of mandatory measures with an additional 7,000km² (2,702.7mi²) of voluntary measures
- Implementation dates: Apr. 20 to Nov. 15
- Application of measures to vessels >13m (42.65ft)
- Continued use of static and dynamic shipping zones (DSZ), and seasonal management area
- Voluntary slowdown zone in Cabot Strait (last year of the 3-year trial)
- 4,000km² (1,544.4mi²) Restricted Area (RA)
 - Fishing vessels can transit in the RA at a speed of < 8 knots





Transport Canada Surveillance Efforts

National Aerial Surveillance Program (NASP)

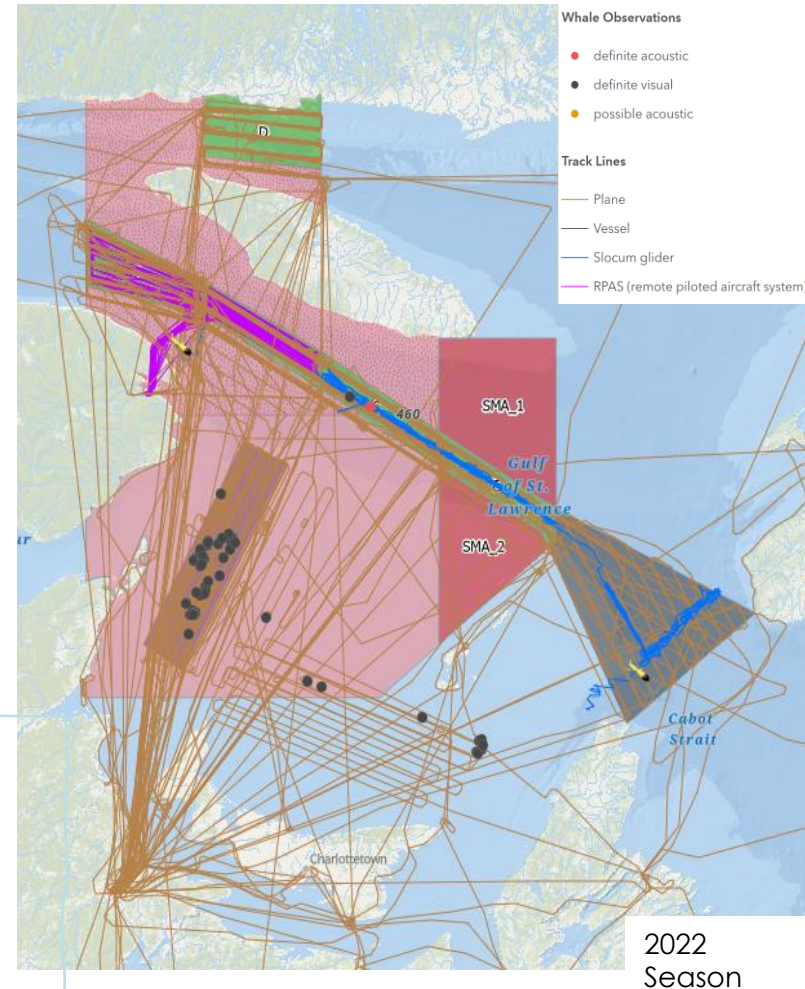
- Dynamic Shipping Zones (DSZs) from April 2 – Nov. 15

Glider (Acoustic Monitoring)

- DSZ E from May 1 – June 28
- DSZ C from June 29 – Aug. 23
- Cabot Strait from April 21 – July 5 and from Oct. 4 – Nov. 11

Remotely Piloted Aircraft System (RPAS)

- DSZs A and B from July 17 – Aug. 17
- Minimum monitoring requirements for all platforms:
 - 1 clearance in 14 days at beginning (April 20 – May 31) and end of season (Sept 21 - Nov 15)
 - 1 clearance in 7 days required mid-season





Compliance and Enforcement

Year	Number of AMPs issued for exceeding speed restriction	Total Yearly Value (CAD)
2017	17	\$102,000
2018	4	\$24,000
2019	19	\$145,800
2020	9	\$109,400
2021	6	\$123,375
2022	4*	\$33,000
TOTAL	58*	\$537,575

**as of January 23, 2023*