

A MARINER'S GUIDE TO WHALES IN THE NORTHWEST ATLANTIC

2ND EDITION





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In 2014, the Marine Mammal Observation Network (MMON), the Shipping Federation of Canada, and Dalhousie University teamed up to produce the first edition of a guide for mariners operating in the Northwest Atlantic in order to provide them with information on the presence of whales and educate them on areas where extra caution is warranted. This tool represented a compilation of information on the issue of ship-whale collisions, risk factors and mitigation measures. Additionally, the guide presented species factsheets and distribution maps of the whale species present in the covered region. Widely used by domestic and international ship owners and operators, this guide inspired the creation of similar works in the Canadian Arctic and west coast.

Five years later, the guide was in need of an update to incorporate new knowledge acquired on the distribution of certain cetaceans, notably the North Atlantic right whale in the Gulf of St. Lawrence, as well as to update the areas warranting extra caution and the measures implemented to minimize collision risks between ships and whales. Collaboratively produced by the MMON, World Wildlife Fund Canada (WWF-Canada) and the Shipping Federation of Canada, this second edition also sought to incorporate data that had been collected by the maritime industry since 2015. These data represent whale sightings for areas that are remote and/or for which little information had previously been available. Many knowledge gaps remain to be filled in order to obtain a clearer view of the issue in the Northwest Atlantic region. However, as whales know no borders, it is important to be on the constant lookout for their presence.



Visit the Web-based platform navigatingwhales.ca to learn more on the topic and discover how you can get involved in whale conservation, notably by collecting observation data as well as reporting carcasses or vulnerable animals to any of several emergency networks.

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This document has been prepared by the Marine Mammal Observation Network (MMON), World Wildlife Fund Canada (WWF-Canada) and the Shipping Federation of Canada.



Founded in 1998, the MMON is an organization dedicated to the protection and promotion of whales and seals, mainly those in the Gulf of St. Lawrence and the St. Lawrence Estuary. Fulfilment of this mission is contingent on planning, organizing and following up on knowledge acquisition, conservation, collaboration, education and outreach initiatives. The core of the organization consists of a network of observer members that gather data on whales and seals that they observe throughout their season of activity. This vast environmental observation project aims to better understand the distribution of these animals in the St. Lawrence.

For more information: romm.ca



World Wildlife Fund Canada (WWF-Canada) is the country's largest international conservation organization. Guided by the best scientific analysis and Indigenous knowledge, we work to conserve species at risk, protect threatened habitats, and address climate change. Our long-term vision is simple: to create a world where nature and people thrive.

For more information: wwf.ca

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The Shipping Federation of Canada is the national voice of the owners, operators and agents of foreign flag ships that carry Canada's imports and exports to and from world markets. Our members represent over 200 shipping companies whose vessels make thousands of voyages between Canadian ports and international markets every year, carrying hundreds of millions of tonnes of cargo, ranging from dry bulk commodities such as grain and coal – to liquid bulks such as crude oil and oil products – to containerized consumer and manufactured goods. These ships play an essential role in the Canadian economy and the prosperity of all Canadians.

For more information: shipfed.ca

PREFACE – WHALES

MARINE MAMMAL OBSERVATION NETWORK (MMON)

The Marine Mammal Observation Network (MMON) is proud to work in collaboration with representatives of the maritime industry on conservation projects for the whales of the Northwest Atlantic. The first collaboration began in 2014 with the Shipping Federation of Canada, which culminated in the creation of the first edition of A Mariner’s Guide to Whales in the Northwest Atlantic. Galvanized by this positive experience, in 2016 the MMON teamed up with Green Marine to develop a comprehensive data collection and training program tailored to the reality of ship owners and operators. The response exceeded our expectations: currently, more than ten different companies with a combined fleet of over 60 ships are actively participating in the data collection program. In light of this growing interest, we can affirm that the industry is actively participating in furthering knowledge on the presence of whales in the most important shipping lanes.

In order to satisfy the interest generated by the project, in 2019, the MMON joined forces with WWF-Canada to develop training tools and make improvements to the data collection program. This new edition of the guide, prepared in tandem with the Shipping Federation of Canada, is part of this initiative and uses the most recent whale observation data to update the areas warranting extra caution in an effort to minimize collision risks. A heartfelt thanks to each and every one of our partners and long live the project!

Esther Blier,
General Director

WORLD WILDLIFE FUND CANADA (WWF-CANADA)

WWF-Canada has a long history of working on cetacean conservation. It is hard work that need strong partnerships and collaborators. There is still so much that we don’t know about these animals and how to best protect and ensure their recovery while sustaining our economy and communities. WWF-Canada is pleased to be part of this second edition of the Mariner’s Guide to Whales in the Northwest Atlantic. The first edition paved the way for a number of similar guides in Canada, including the ones that WWF-Canada developed in the Arctic in close partnership with Inuit communities where shipping activities is affecting their livelihood. These tools are essentials to increase awareness of the impacts of shipping on the marine environment and communities and to share best practices with the industry.

The rapid industrialization of our oceans and increase in shipping activities is putting enormous pressures on marine ecosystems. Alongside our partners, we work to eliminate spills and pollutants, reduce climate impacts, address dumping of wastewater (i.e., grey water, sewage and scrubber effluent) and reduce vessel-based underwater noise to restore the natural ocean soundscape. There is still a lot of work ahead of us to reduce our collective impacts on the oceans. WWF-Canada looks forward to pursuing our conservation efforts and delivering great work, including this guide, together with our partners.

Aurelie Cosandey-Godin,
Senior Specialist, Marine Ecosystems
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PREFACE – MARITIME INDUSTRY

SHIPPING FEDERATION OF CANADA

We are pleased to be part of the second edition of this important guide for mariners transiting the waters of the Northwest Atlantic.

Since the initial publication of this guide in 2014, much work has been done to address the impact of commercial navigation on whales in the region – especially as relates to interactions between vessels and at-risk whales in the vital shipping trade corridors of the Atlantic Region and the Saint Lawrence River. The shipping industry is working closely with the Canadian government, the scientific community, and conservation interests to develop and implement management measures to not only reduce the risk of collisions between ships and whales, but to also minimize the impact of vessel underwater noise.

As we collectively advance our understanding of these issues, awareness remains a key tool for ensuring the safe coexistence of ships and whales. This guide is designed first and foremost to support the work of mariners by providing updated maps of areas that are known to be frequented by various species of whales and encouraging greater vigilance for vessels operating in these areas. The guide also provides information on measures that can be implemented to reduce the incidence of collisions, and on what to do in the event a collision occurs.

Mariners play an essential role in keeping their eyes on the water in order to ensure the safety of navigation and the safe co-existence of ships and whales. We cannot thank mariners enough for their ongoing efforts to help ensure that these magnificent creatures continue to share our waters in the years ahead. Enjoy your reading!

Karen Kancens,
Vice-President

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Introduction

Commercial shipping plays a critical role in the economies of the Northwest Atlantic region through the transport of raw materials and manufactured goods for import and export. The benefits of shipping are significant, and not only from an economic standpoint. Indeed, as a mode of transport, shipping has a smaller environmental footprint by ton-mile than either rail or road haulage. On the other hand, the waters of the Northwest Atlantic are home to highly productive ecosystems characterized by the presence of a rich diversity of whales. The majority of those species frequenting Canadian waters undertake annual migrations that take them beyond the country's borders. Consequently, shipping corridors and whale migration routes inevitably overlap at certain locations and times of the year.

Underwater noise and ship-whale collisions are issues in countries around the globe, and Canada is no exception. For certain endangered species such as the North Atlantic right whale and the blue whale, ship strikes are one of the main threats compromising their recovery. Over the years, Canada has adopted a number of measures, including rerouting shipping lanes in the Bay of Fundy, which has reduced collision risks by 90 per cent in this area.

For the past few years, this issue has underscored the importance of taking into account the distribution of at-risk marine mammals in order to optimize shipping traffic management and marine resource conservation. A Mariner's Guide to Whales in the Northwest Atlantic provides information that aims to facilitate identification of various species of cetaceans, including those at risk. It helps understand the impacts that ships have on whales and provides direction for conservation-oriented actions. The maps featured in this guide illustrate the areas where greater caution is warranted in order to minimize the risks of collision.

Lastly, the guide strives to make maximum use of whale observation data collected by the maritime industry while encouraging mariners to share their observations. These data, particularly those gathered outside the summer months and in areas less monitored by scientists, improve our knowledge of the distribution and relative abundance of whales in the Northwest Atlantic.



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WHEN SHIPS MEET WHALES



© M. Brown

Species at Risk

Many of Canada’s whale species are considered to be at risk. Heavily hunted until the start of the last century, certain populations have severely declined and are struggling to rebound to historical levels, notably due to low reproduction rates. Even if whales are no longer widely harvested, a number of natural and anthropogenic factors are compromising the recovery of the most affected populations. Of the 14 whale species in the Northwest Atlantic presented in this guide, eight are considered to be at risk in Canada and half of these are protected under the Species at Risk Act (SARA).

Vessel strikes, underwater noise, pollution and other ship-related disturbances that can cause whales to abandon a given habitat (e.g., a prime feeding ground) have been identified as significant threats for many at-risk whale populations. The following pages aim to provide a better understanding of these impacts and what mariners can do to minimize them while actively participating in whale conservation, notably for those species at risk.

Status attributed to whales of the Northwest Atlantic by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) in 2020.

Visit the [COSEWIC](#) website for the most up-to-date status.¹

<div><div></div><div>SPECIAL CONCERN SPECIES</div></div>	<div><div></div><div>THREATENED SPECIES</div></div>	<div><div></div><div>ENDANGERED SPECIES</div></div>
Wild species that could become threatened or endangered due to the cumulative effect of its biological characteristics and the threats it faces.	Wild species that could become endangered if nothing is done to reverse the factors contributing to its extirpation from the country or its outright extinction.	Wild species that is at imminent risk of being extirpated from the country or becoming completely extinct.
FIN WHALE, KILLER WHALE, HARBOUR PORPOISE		NORTH ATLANTIC RIGHT WHALE, BLUE WHALE, SEI WHALE, ST. LAWRENCE BELUGA, NORTHERN BOTTLENOSE WHALE

Collisions with Ships

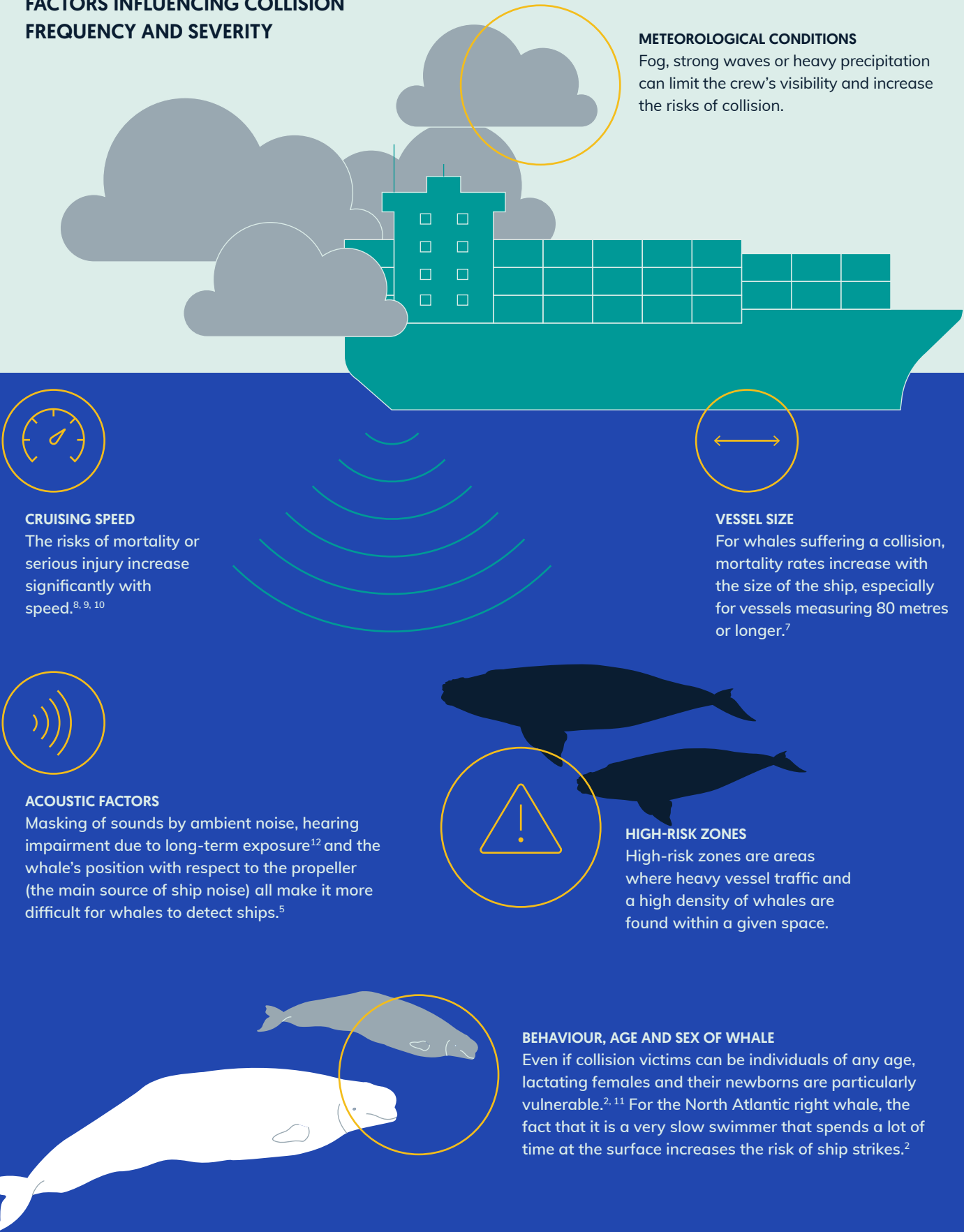
Collisions between vessels and whales is an international issue. For certain endangered species such as the North Atlantic right whale and the blue whale, ship strikes represent one of the main threats that compromise the recovery of these already vulnerable populations.^{2,3} Collisions between ships and whales can also have consequences for the vessels involved, including damage to the hull, thrusters, shafts or rudders as well as delays in the delivery of merchandise.^{4,5} However, the majority of collisions go unnoticed by mariners and the issue remains poorly understood. Since 2007, efforts have been made to encourage mariners to report their collisions in order to create a more complete picture and better manage this issue of international concern.⁶

The primary risk factor for collisions remains the overlap between whale habitats and shipping lanes. Additionally, the risks of mortality or severe injury increase significantly with the speed of the vessel. The main factors influencing collision frequency and severity are described below.



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FACTORS INFLUENCING COLLISION FREQUENCY AND SEVERITY



METEOROLOGICAL CONDITIONS
Fog, strong waves or heavy precipitation can limit the crew's visibility and increase the risks of collision.

CRUISING SPEED
The risks of mortality or serious injury increase significantly with speed.^{8,9,10}

VESSEL SIZE
For whales suffering a collision, mortality rates increase with the size of the ship, especially for vessels measuring 80 metres or longer.⁷

ACOUSTIC FACTORS
Masking of sounds by ambient noise, hearing impairment due to long-term exposure¹² and the whale's position with respect to the propeller (the main source of ship noise) all make it more difficult for whales to detect ships.⁵

HIGH-RISK ZONES
High-risk zones are areas where heavy vessel traffic and a high density of whales are found within a given space.

BEHAVIOUR, AGE AND SEX OF WHALE
Even if collision victims can be individuals of any age, lactating females and their newborns are particularly vulnerable.^{2,11} For the North Atlantic right whale, the fact that it is a very slow swimmer that spends a lot of time at the surface increases the risk of ship strikes.²

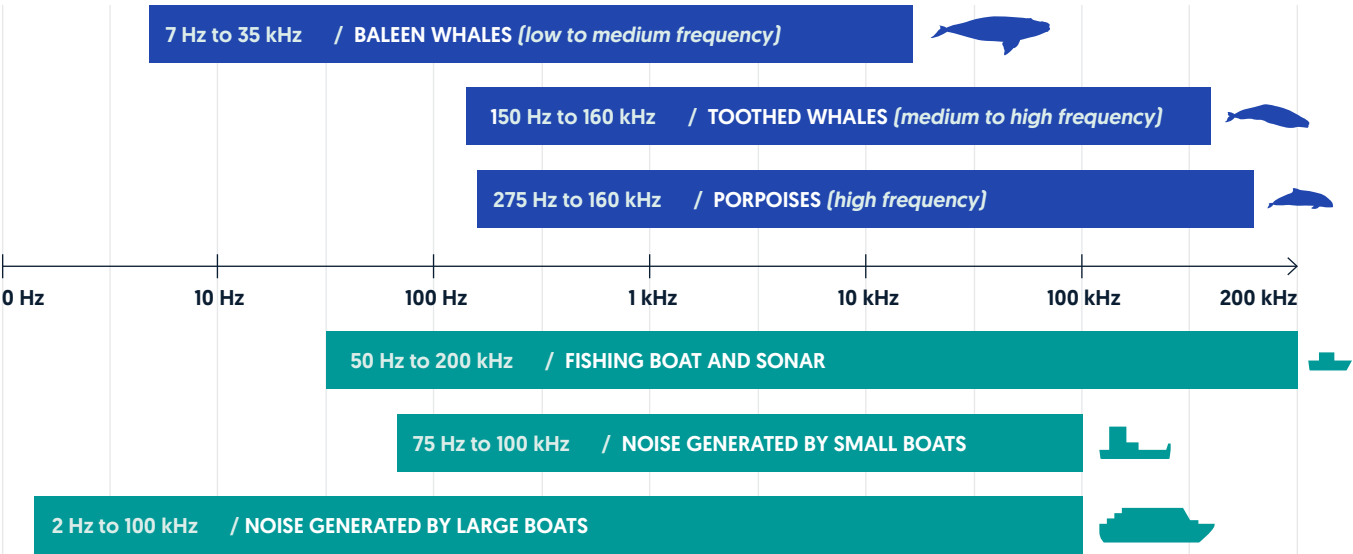
* The phenomenon of masking is defined as the presence of one noise that prevents an animal from perceiving another. It is then said that this noise "masks" the sound, which translates into a partial or total loss of information.

Ship Noise

Underwater noise levels in the environment have doubled every decade since the 1960s, mainly due to the growth of the global maritime industry.¹³ The sounds emitted are essentially low frequencies that cover great distances and travel 4.5 times faster in water than in the air. Most underwater noise generated by large ships is produced by cavitation (i.e., imploding bubbles) around the propellers.¹⁴ As a general rule, whenever a ship with fixed-pitch propellers reduces its speed, it becomes quieter. Since the propeller or propellers are located in the rear of the ship, it follows that the least noisy part of the craft is the bow (the front of the vessel), where the risk of collision is greatest.¹⁵

For whales, hearing plays a far more critical role compared to land mammals, since sound travels much better than light under water. Cetaceans have therefore developed a wide acoustic repertoire of complex frequencies and intensity, including some sounds that are unique to certain species. They use these sounds for orientation, to migrate, to locate prey, to communicate (e.g., find a mate, maintain contact between a female and a newborn, etc.) or to avoid dangers such as predators or vessels. Ships produce underwater noise that interferes with the whales' hearing spectrum, compromising the animals' ability to perceive sounds in their environment.^{16, 17}

OVERLAP OF VESSEL NOISE AND HEARING RANGE OF WHALES



SHIP NOISE AND ITS IMPACT ON WHALES

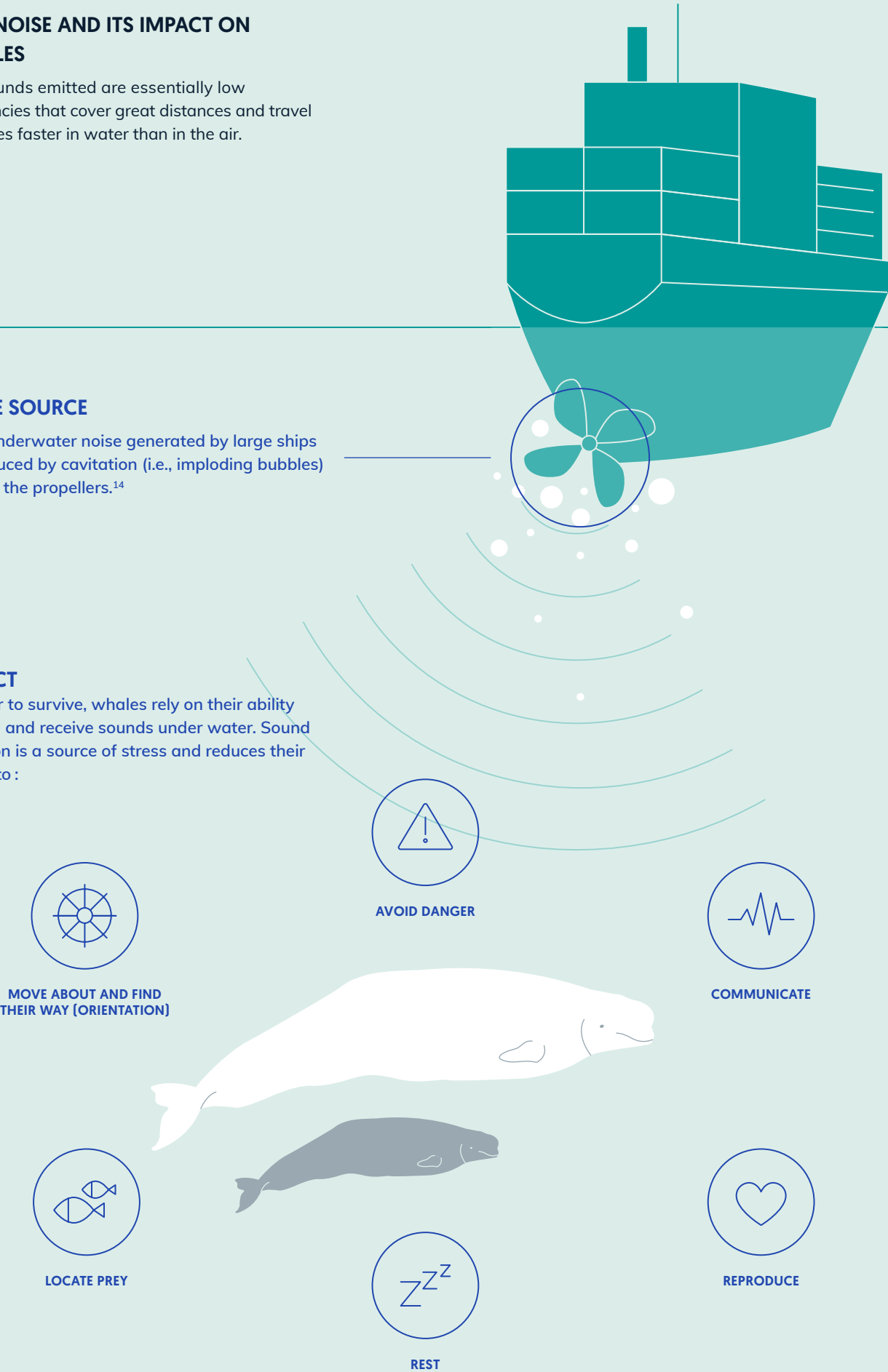
The sounds emitted are essentially low frequencies that cover great distances and travel 4.5 times faster in water than in the air.

NOISE SOURCE

Most underwater noise generated by large ships is produced by cavitation (i.e., imploding bubbles) around the propellers.¹⁴

IMPACT

In order to survive, whales rely on their ability to send and receive sounds under water. Sound pollution is a source of stress and reduces their ability to:





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Other Disturbances

Shipping can generate other types of disturbance such as environmental pollution, which can affect marine mammals directly (e.g., ingestion of plastic) or indirectly (e.g., atmospheric emissions). Pollution from ships may be accidental, such as the loss of cargo or fuel following a grounding, collision or an accident on board the ship. Operational pollution includes the disposal of waste produced on board the ship such as sewage, tank washings, engine exhaust and tank venting emissions.^{18, 19}



© V. Nolet, MMON



DID YOU KNOW?

An environmental certification program exists for the North American maritime industry called Green Marine. This voluntary initiative targets priority environmental issues using 14 performance indicators, including one on underwater noise generated by ships and port activities. This indicator aims to reduce the impact on marine mammals. All issues and criteria making up Green Marine's environmental certification program are listed in the "Scope and Criteria" section of the [website](#).

WHAT YOU CAN DO



Precautionary Measures to Adopt

The following measures are intended to reduce the risks of collisions between large ships and whales. These recommendations should be applied only when appropriate and safe for navigation. It is important to stay informed and follow the regulations and voluntary measures presented on the following pages with regard to the speed limits and avoidance zones in the sectors you are navigating.

WHALE COLLISION MITIGATION MEASURES



Be especially cautious and vigilant in areas known to be highly frequented by whales, paying extra attention during periods of poor visibility.



Reduce your speed to 10 knots or less any time you see a whale or if you are travelling through waters heavily frequented by whales. The risk of a fatal collision with a whale increases considerably with the speed of the ship.



Pay attention to concentrations of feeding birds, which is sometimes a sign that whales are also foraging in the area.



Maintain your distance from whales. Whenever possible, gradually change your course by steering the craft away from the location or direction of the cetacean.



If you see a large concentration of whales that cannot be avoided, try to pass through the area where the gathering is least dense.



Exercise caution in narrow passages such as fjords where the risk of collision is greater, notably for large vessels.

Regulatory and Voluntary Measures

TRANSPORT CANADA REGULATORY MEASURES FOR PROTECTING RIGHT WHALES

Transport Canada is committed to the protection and recovery of the North Atlantic right whale, an endangered species whose population is significantly affected by human activities. Between 2017 and 2019, a total of 30 mortalities of this species were tallied off the Canadian and US coasts, 20 including 21 in the Gulf of St. Lawrence (Canada). Necropsies were performed on twelve of these animals, which revealed that seven of the deaths were attributable to collision with a ship. Other mortalities were concluded to be due to entanglements in fishing gear. Analysis results for three other carcasses are still unknown.²

Regulatory measures to protect this species are in force between the months of April and November, when right whales are present in large numbers in the Gulf of St. Lawrence. They are developed in close collaboration with the maritime industry, expert biologists, non-governmental organizations, the academic community and other federal

ministries. These measures notably include specific speed reduction zones to 10 knots. See section “Maps of the Northwest Atlantic”, subsection “Sector 2: Gulf of St. Lawrence” for further details on these measures.

Two websites offer interactive maps that mariners can use to see the most recent right whale observations. These maps are based on aerial surveys, acoustic surveys and ad hoc observations from different sources. It is also possible to report one’s right whale observations directly via these sites and thereby help reduce the risk of collisions with this or other species.

Dalhousie University’s [WhaleMap](#)²¹
Fisheries and Oceans Canada’s [On alert for whales](#)²²



Cargo and North Atlantic right whale in the Saguenay-St. Lawrence Marine Park © R. Pintiaux



© GREMM

VOLUNTARY MEASURES OF THE WORKING GROUP ON MARINE TRAFFIC AND PROTECTION OF MARINE MAMMALS (G2T3M)

The Group on Marine Traffic and Protection of Marine Mammals (G2T3M), co-chaired by Parks Canada and Fisheries and Oceans Canada, is an umbrella group of organizations from various sectors such as marine conservation and protection organizations, the academic community, government agencies and the maritime industry. G2T3M’s mandate is to identify potential solutions to reduce the shipping-related risks faced by marine mammals in the St. Lawrence Estuary, including endangered species such as the beluga and the blue whale, while taking into account the constraints of navigation.

Since 2013, G2T3M has implemented voluntary speed reduction measures and avoidance zones in the St. Lawrence Estuary, which are in force from May to October. See section “Maps of the Northwest Atlantic”, subsection “Sector 1: St. Lawrence Estuary” for further details on these measures.



Prince Shoal lighthouse in the Saguenay-St. Lawrence Marine Park © S. Giroux

Participation in Whale Data Collection

Marine carriers operate in every season of the year and in all types of environments. Their data – sometimes collected outside the summer season, sometimes in areas less monitored by scientists or poorly known – provide insight into the distribution and abundance of whales in important commercial shipping lanes. By getting involved in a data collection program, ship owners and operators actively participate in expanding our knowledge of whales.

Together with Green Marine, MMON launched its data collection program in the maritime industry in 2015 with the goal of adapting protocols and trainings to the reality of ship owners and operators.²³ Since the maritime industry first committed to joining the MMON's endeavour, eleven companies representing a combined fleet of over 60 ships are now voluntarily collecting marine mammal observation data in the course of their regular activities. The 2020 data set exceeded 6,000 observations and the program continues to evolve, with new members joining every year.



Top to bottom photo:
Marine mammal data collection © V. Nolet, MMON
St. Lawrence Beluga © A. Savoie, MMON



© V. Nolet, MMON



TRAINING: THE KEY TO SUCCESS!

In order for the collected data to be recognized and used by marine mammal biologists and wildlife managers, the level of confidence in species identification must be high. To achieve this, training is key. Furthermore, training helps ensure uniformity in data collection techniques. Participants who undergo such training must have access to the right tools to efficiently record and submit data and be able to add photo or video content whenever possible.²⁴ To achieve these objectives, the MMON and WWF-Canada, in collaboration with partners in the maritime industry, developed a training program that would be suited to existing on-board platforms. This initiative helps make the training accessible to all observers directly on board their ship, regardless of the shift they are working or overall staff turnover. All tools developed are available at navigatingwhales.ca.

Emergency Networks: Reporting Carcasses or Animals in Difficulty

In the course of your navigation activities, you might encounter a drifting carcass or an animal in difficulty such as an individual that has gotten itself entangled in fishing gear. Additionally, animals sometimes stray beyond their usual range (e.g., belugas in the southern part of the Gulf of St. Lawrence). Promptly report these cases to the emergency response network that covers the site of the observation.

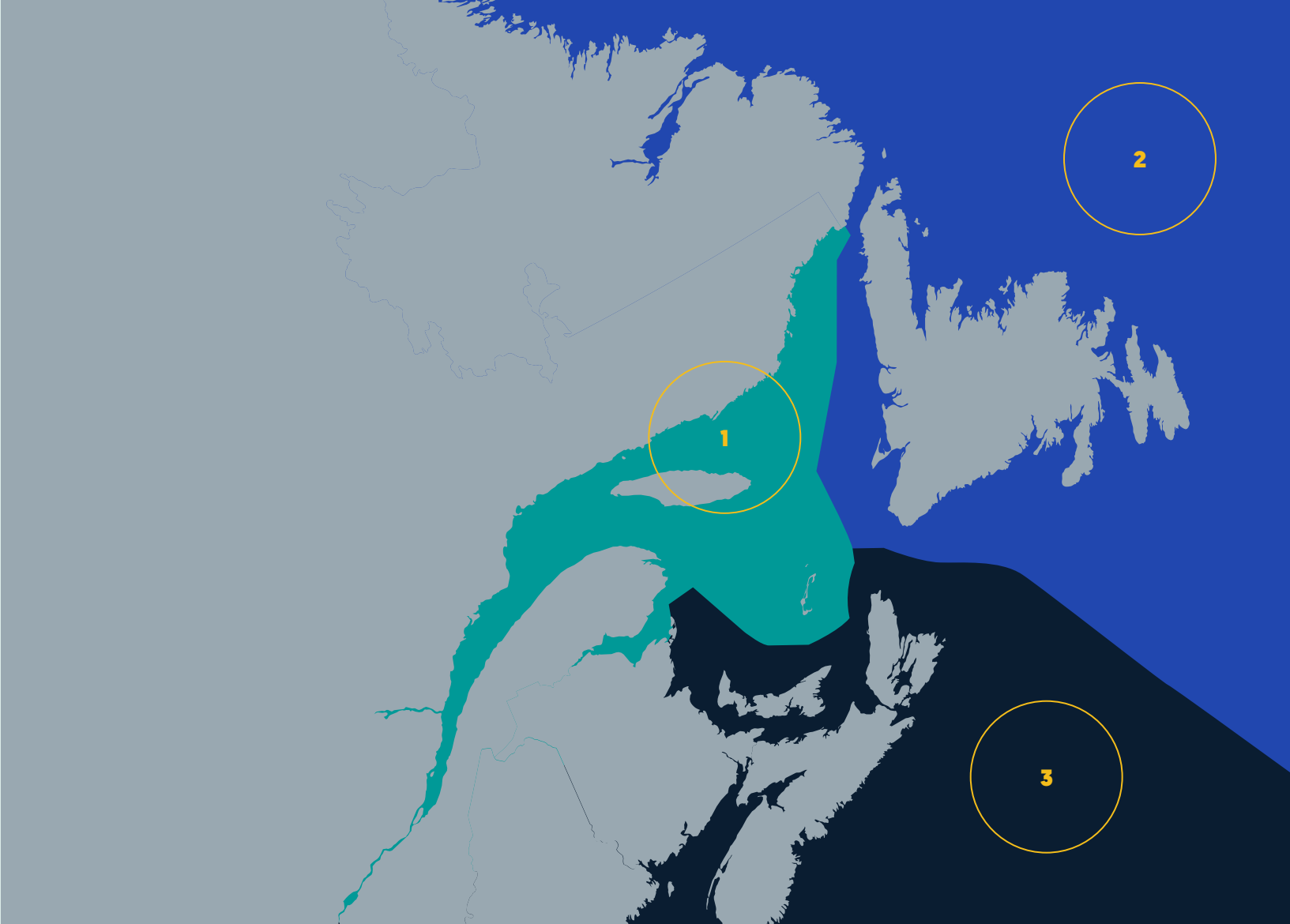
Likewise, if you are involved in a whale collision, it is important to immediately report the incident to the team of responders responsible for your location. This information is critical to better understand and better manage this issue. It should be noted that for whale collisions occurring in the Saguenay-St. Lawrence Marine Park, reporting of the incident is mandatory. To do so, contact a park warden at Parks Canada by dialling 1-866-508-9888.



© Marine Animal Response Society



© GREMM



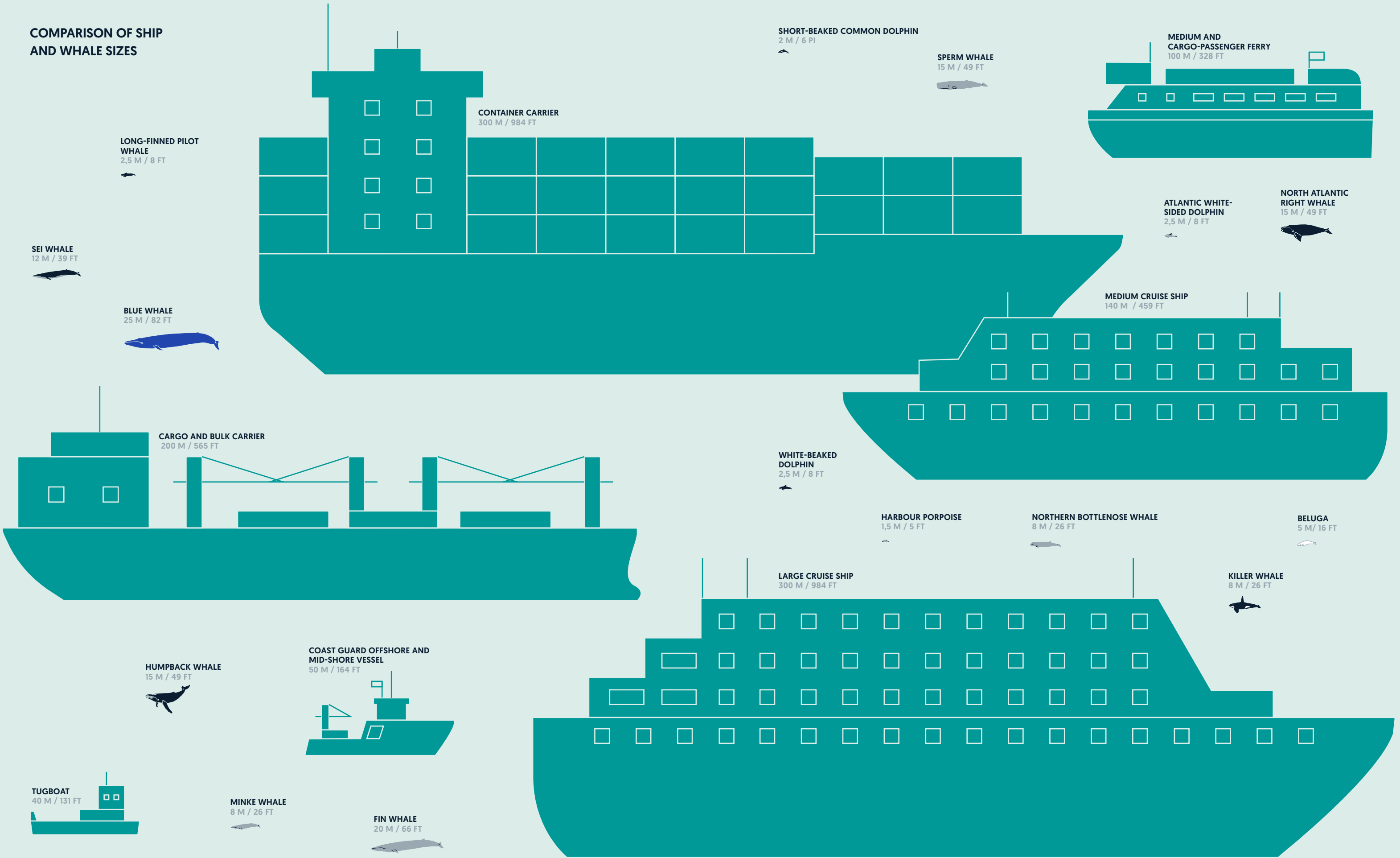
1. ● QUEBEC

Quebec Marine Mammal Emergency Response Network
1-877-722-5346
2. ● NEWFOUNDLAND AND LABRADOR

Whale Release and Strandings
1-888-895-3003
3. ● NOVA SCOTIA, NEW BRUNSWICK AND PRINCE EDWARD ISLAND

Marine Animal Response Society
1-866-567-6277 or VHF 16

COMPARISON OF SHIP
AND WHALE SIZES

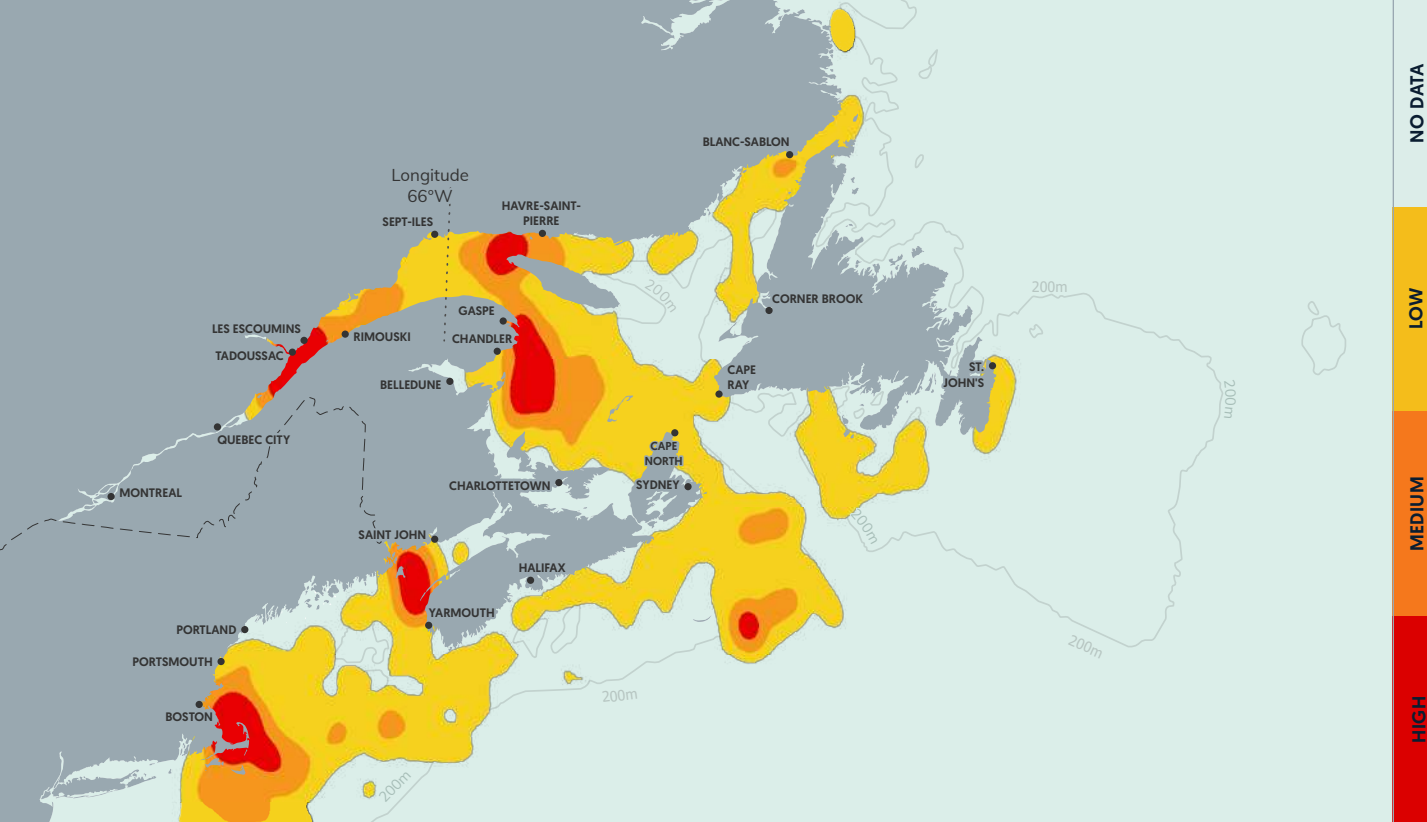


MAPS OF THE NORTHWEST ATLANTIC

This section presents the maps of the Northwest Atlantic Ocean, which are divided into six sectors that experience particularly heavy maritime traffic. These maps illustrate the zones in which the risk of an encounter with a cetacean is greatest and for which interactions are most likely during the months of April to November.

The sectors presented are as follows:

- 1. ST. LAWRENCE ESTUARY
- 2. GULF OF ST. LAWRENCE
- 3. STRAIT OF BELLE ISLE
- 4. CABOT STRAIT
- 5. NOVA SCOTIA COAST AND BAY OF FUNDY (GULF OF MAINE)
- 6. NEWFOUNDLAND AND LABRADOR COASTS



Map 1 - This map shows where whales were seen and recorded between 2015-2019. You may encounter whales in areas not highlighted and you may encounter more whales in some areas than suggested by the maps. Please read the cautionary notes below. Not suitable for navigation. Please refer to CHS charts for navigation purposes.

CAUTION

The maps on the following pages provide information on the relative occurrence of sighting records available for this report. They capture the distribution of reported sightings of species and highlight specific areas where greater vigilance is required. However, these maps should be used and interpreted with the following cautionary notes in mind:

- The data used to build these maps may not capture all areas and times animals are present. **You may encounter animals in areas not highlighted by these maps.**
- In some areas, there is a lot of time spent (effort) in data collection particularly during summer months. However, in most areas, particularly offshore, there is very little of such effort, and thus very limited information available. The maps do not attempt to correct for this difference, which means that areas showing low relative occurrence of sighting records may reflect low search effort rather than a low density or absence of animals. **You may encounter more animals in some areas than suggested by the maps.**
- Information on important habitats and/or critical habitat under Canada Species at Risk Act (SARA) (the habitat that is necessary for the survival or recovery of the species) were merged with the data when available.

For further information about the methodology and data sources used to create these maps, please refer to the supplemental methodology document available by writing to info@romm.ca.



Map 2 - This map shows where whales were seen and recorded between 2015-2019. You may encounter whales in areas not highlighted and you may encounter more whales in some areas than suggested by the maps. Please read the cautionary notes on p. 31. Not suitable for navigation. Please refer to CHS charts for navigation purposes.

Sector 1

ST. LAWRENCE ESTUARY

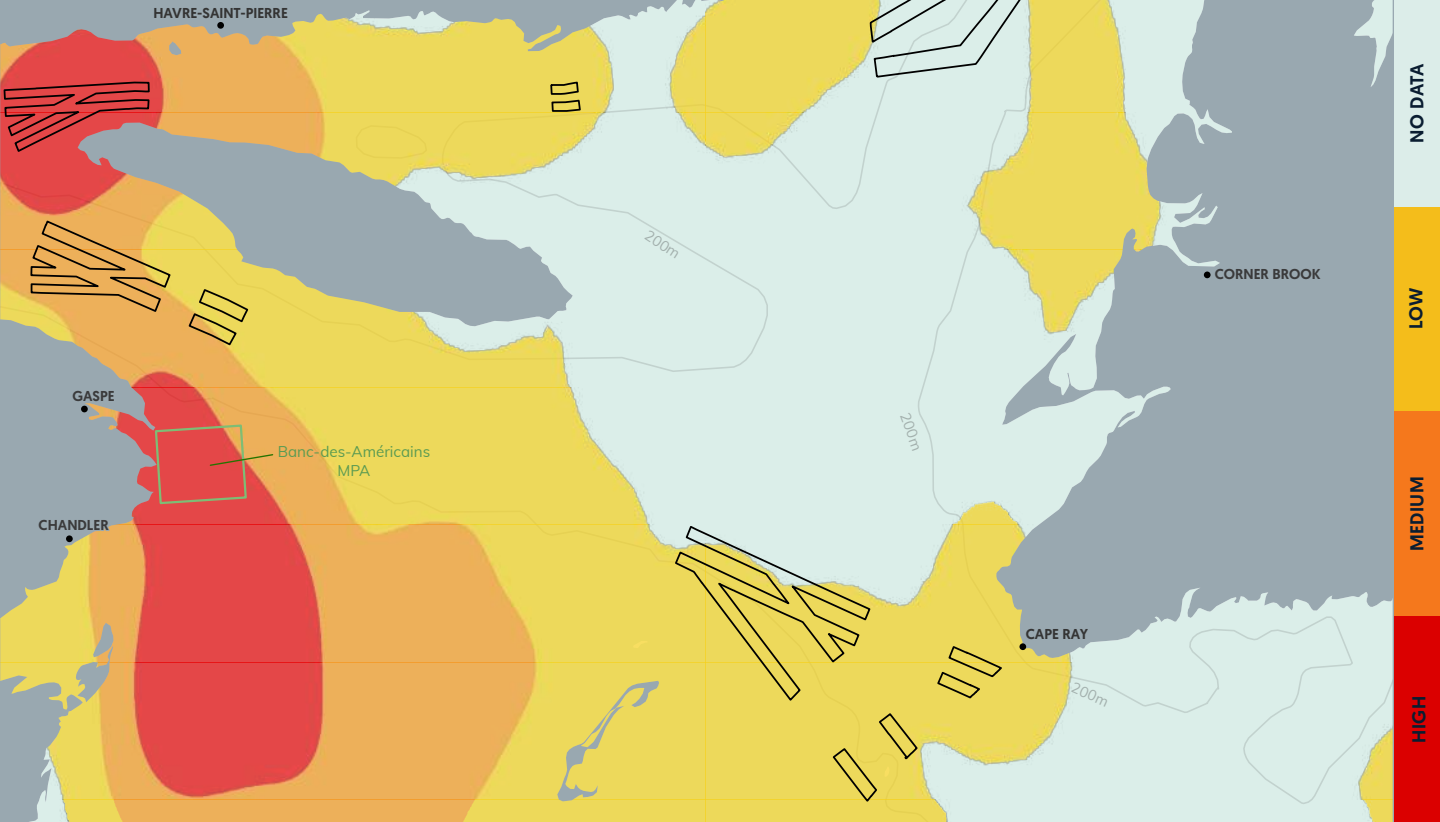
In the western portion of the Lower Estuary lies the Saguenay-St. Lawrence Marine Park. Spanning 1,245 km², this park encompasses a portion of the St. Lawrence Estuary and nearly the entire Saguenay Fjord. Specific regulations are in force in this marine protected area. A potential marine protected area is presently being considered for the entire Estuary in order to safeguard marine mammals, their prey and their habitats.²⁹ Under the Marine Activities in the Saguenay-St. Lawrence Marine Park Regulations (Parks Canada) and the Marine Mammal Regulations (Fisheries and Oceans Canada), any collision with a marine mammal must be reported to the relevant authorities.²⁵

Additionally, since 2013, voluntary measures have been implemented in the St. Lawrence Estuary between Pointe-à-Boisvert and Cap de la Tête au Chien. In effect between May and October, these measures include a speed reduction zone (to 10 knots), an avoidance area, a caution area and a recommended course. The measures aim to lower the risk of collisions with whales, avoid an important feeding ground for blue whales, and reduce noise impact in an area heavily used by beluga herds.^{26, 27, 28} Consult the Canadian Coast Guard’s Notices to Mariners (NOTMAR)

to learn more about any updates made to the voluntary measures. Since these measures (which are regularly reviewed) have been implemented, participation rates for mariners have been high.

The main whale species most likely to be encountered in these waters are:

- **ST. LAWRENCE BELUGA**
- **BLUE WHALE**
- **FIN WHALE**
- **HUMPBACK WHALE**
- **MINKE WHALE**
- **HARBOUR PORPOISE**



Map 3 - This map shows where whales were seen and recorded between 2015-2019. You may encounter whales in areas not highlighted and you may encounter more whales in some areas than suggested by the maps. Please read the cautionary notes on p. 31. Not suitable for navigation. Please refer to CHS charts for navigation purposes.

Sector 2

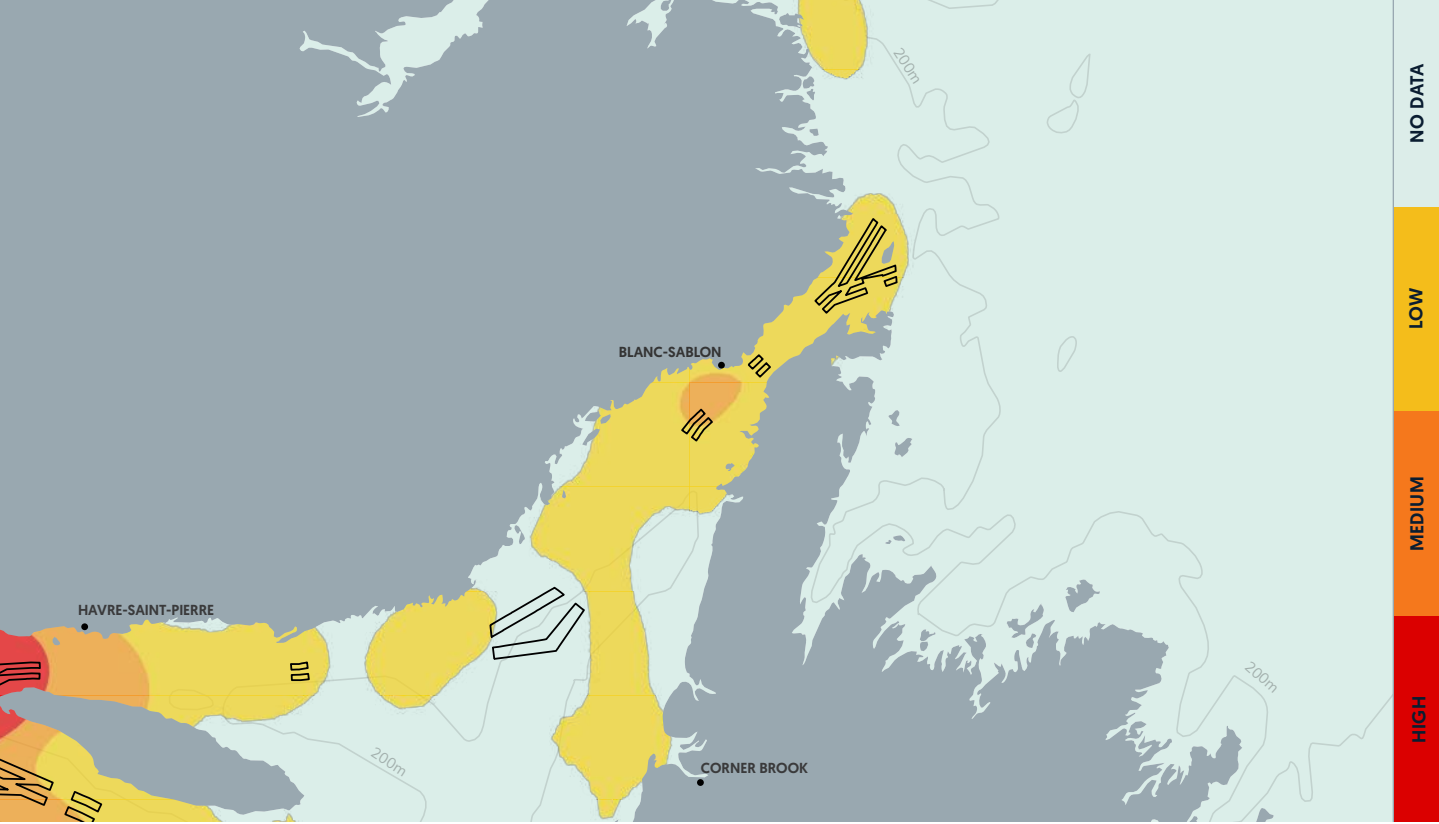
GULF OF ST. LAWRENCE

This region includes Anticosti Island as well as the Magdalen Islands. Between Gaspé and Percé lies the Banc-des-Américains Marine Protected Area,³⁰ which spans 1,000 km² and notably aims to support the recovery of whale species deemed to be at risk. North Atlantic right whales and blue whales, both of which are endangered, are often observed foraging in these waters.

Since 2015, the Gulf of St. Lawrence has seen an uptick in observations of right whales, whose population is estimated to number fewer than 400 individuals.²⁰ In order to protect this species, regulatory measures apply to ships over 13 metres long operating in targeted sectors of the Gulf of St. Lawrence between the months of April and November, when right whales are present in greater number. These regulatory measures include speed limit reduction zones to 10 knots (static, dynamic and temporary) as well as an avoidance zone. For further details on applicable regulatory measures, consult the Canadian Coast Guard’s website and navigational warnings (NAVWARNs).²⁰

The main whale species most likely to be encountered in these waters are:

- **NORTH ATLANTIC RIGHT WHALE**
- **BLUE WHALE**
- **FIN WHALE**
- **HUMPBACK WHALE**
- **MINKE WHALE**
- **HARBOUR PORPOISE**
- **ATLANTIC WHITE-SIDED DOLPHIN**
- **WHITE-BEAKED DOLPHIN**



Map 4 - This map shows where whales were seen and recorded between 2015-2019. You may encounter whales in areas not highlighted and you may encounter more whales in some areas than suggested by the maps. Please read the cautionary notes on p. 31. Not suitable for navigation. Please refer to CHS charts for navigation purposes.

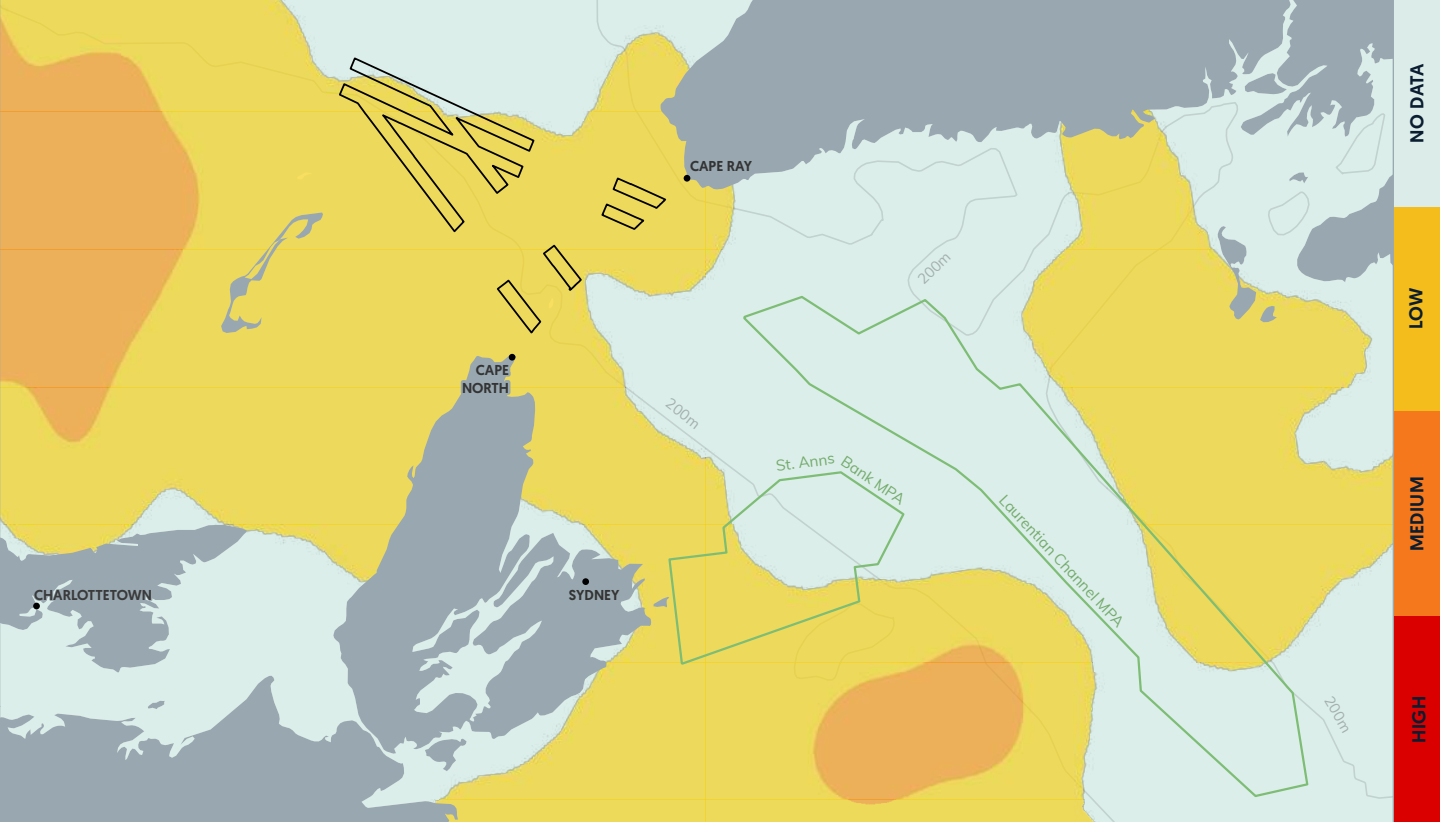
Sector 3

STRAIT OF BELLE ISLE

This region is located between the coast where Quebec and Labrador meet and the shores of Newfoundland. An important gateway for ships entering the Gulf of St. Lawrence, this strait is also frequented by numerous species of whales. Fin whales and humpback whales are often observed in these waters. Sightings of killer whales belonging to the Northwest Atlantic-Eastern Arctic population are also common in the sector. This population of killer whales has been designated Special Concern by the Committee on the Status of Endangered Wildlife in Canada. Threats faced by this population include acoustic and physical disturbances, which are on the rise with the growing volumes of cargo transiting the Arctic.³²

The main whale species most likely to be encountered in these waters are:

- KILLER WHALE
- BLUE WHALE
- FIN WHALE
- HUMPBACK WHALE
- MINKE WHALE
- HARBOUR PORPOISE
- ATLANTIC WHITE-SIDED DOLPHIN
- WHITE-BEAKED DOLPHIN



Map 5 - This map shows where whales were seen and recorded between 2015-2019. You may encounter whales in areas not highlighted and you may encounter more whales in some areas than suggested by the maps. Please read the cautionary notes on p. 31. Not suitable for navigation. Please refer to CHS charts for navigation purposes.

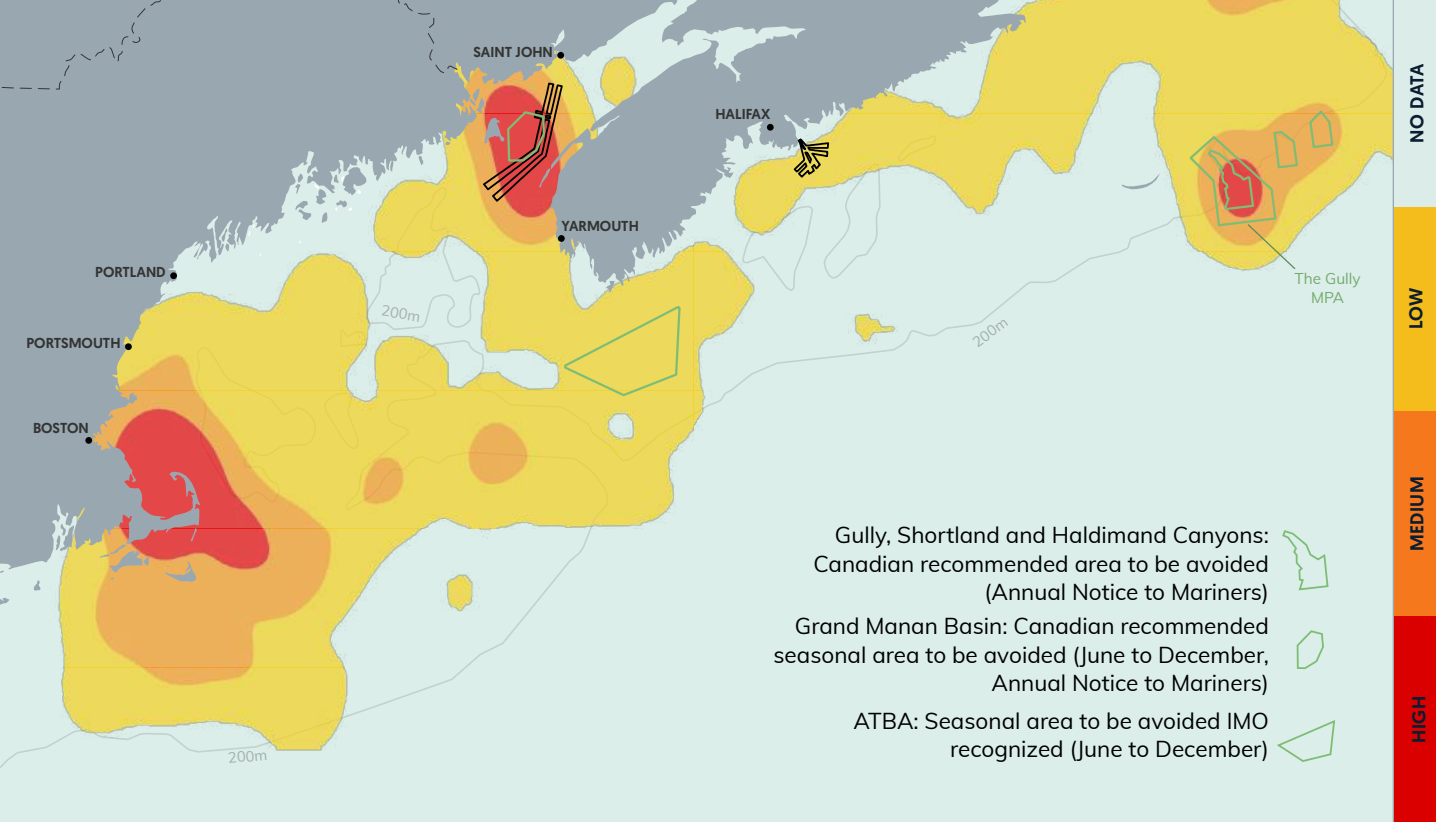
Sector 4

CABOT STRAIT

This region is located between Nova Scotia and Newfoundland. An important entry point for ships entering the Gulf of St. Lawrence, this strait is also a key migratory corridor for many species of cetaceans, including the North Atlantic right whale and blue whale, which use it to move in and out of the Gulf.³³ In addition to Atlantic white-sided and white-beaked dolphins, the short-beaked common dolphin and the endangered leatherback turtle are regularly observed in the region. The Laurentian Channel Marine Protected Area (MPA) and St. Anns Bank MPA were established notably to protect marine mammals as well as the leatherback turtle.

The main whale species most likely to be encountered in these waters are:

- NORTH ATLANTIC RIGHT WHALE
- LONG-FINNED PILOT WHALE
- FIN WHALE
- HUMPBACK WHALE
- MINKE WHALE
- HARBOUR PORPOISE
- ATLANTIC WHITE-SIDED DOLPHIN
- WHITE-BEAKED DOLPHIN
- SPERM WHALE



Map 6 - This map shows where whales were seen and recorded between 2015-2019. You may encounter whales in areas not highlighted and you may encounter more whales in some areas than suggested by the maps. Please read the cautionary notes on p. 31. Not suitable for navigation. Please refer to CHS charts for navigation purposes.

Sector 5

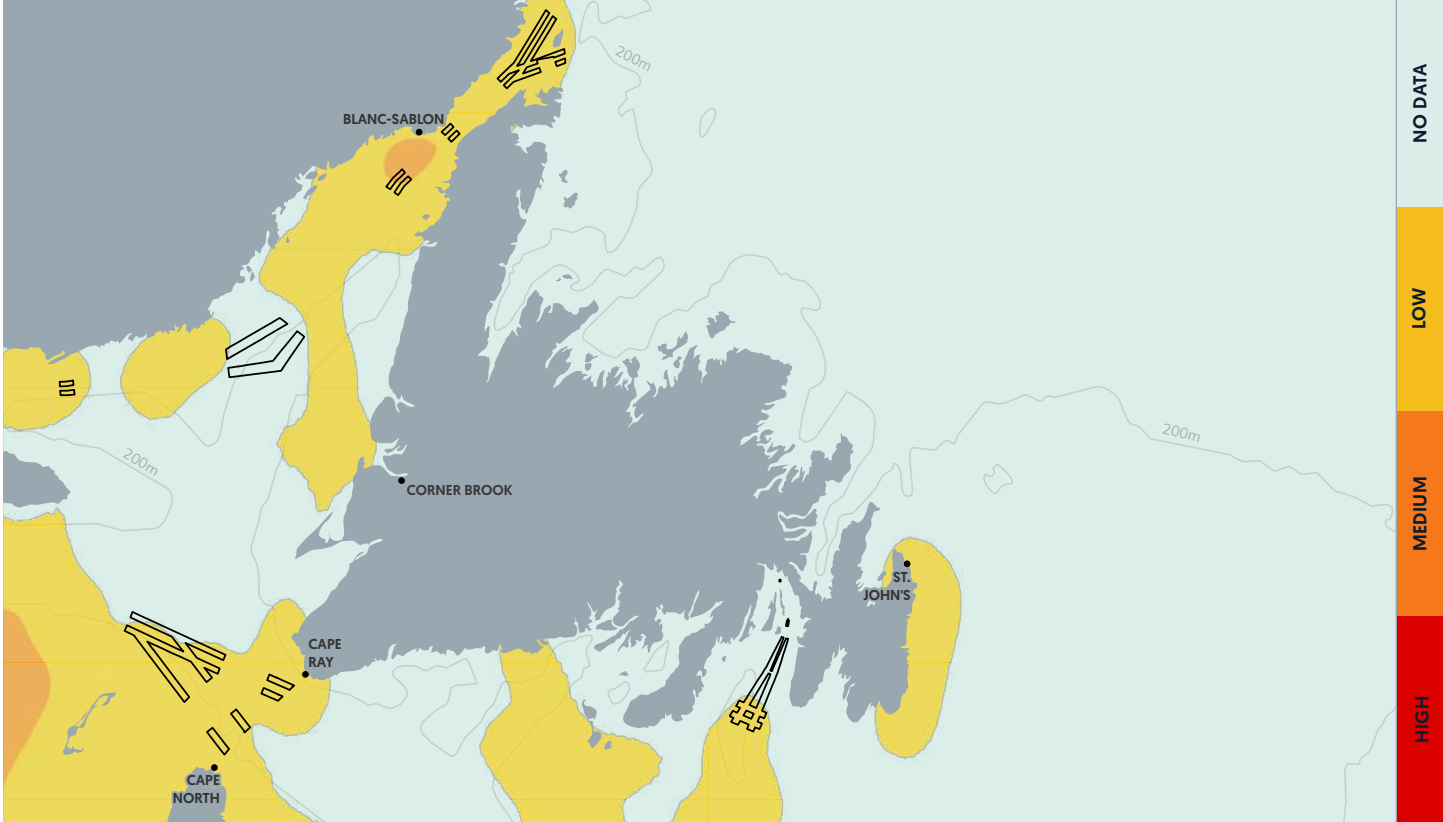
NOVA SCOTIA COAST AND BAY OF FUNDY (GULF OF MAINE)

The Gulf of Maine, the Bay of Fundy and the Nova Scotia coast form a high-traffic area for commercial vessels. This territory also encompasses the Roseway Basin – designated a “seasonal Area to be Avoided” by the International Maritime Organization (IMO) – the Gully Marine Protected Area, and the Shortland and Haldimand canyons.^{34, 35} Ships are requested to avoid passing through these zones in order to reduce acoustic disturbance and the risk of collisions with marine mammals, including the North Atlantic right whale and the Scotian Shelf population of the northern bottlenose whale, both of which are endangered.

If these zones cannot be avoided, it is recommended to slow down to 10 knots or less and to designate a crew member to maintain a watch. Doing so will maximize the chances of spotting marine mammals, which in turn helps prevent collisions. In conditions of poor visibility (rain, fog, rough seas, night-time, etc.), extra caution is essential.

The main whale species most likely to be encountered in these waters are:

- NORTH ATLANTIC RIGHT WHALE
- BLUE WHALE
- FIN WHALE
- HUMPBACK WHALE
- SEI WHALE
- MINKE WHALE
- HARBOUR PORPOISE
- NORTHERN BOTTLENOSE WHALE
- LONG-FINNED PILOT WHALE
- ATLANTIC WHITE-SIDED DOLPHIN
- WHITE-BEAKED DOLPHIN
- SHORT-BEAKED COMMON DOLPHIN



Map 7 - This map shows where whales were seen and recorded between 2015-2019. You may encounter whales in areas not highlighted and you may encounter more whales in some areas than suggested by the maps. Please read the cautionary notes on p. 31. Not suitable for navigation. Please refer to CHS charts for navigation purposes.

Sector 6

NEWFOUNDLAND AND LABRADOR COASTS

Marine mammals are frequently observed in Newfoundland and Labrador, as whales pass regularly off the coasts of this province. Maritime traffic is also heavy in this region. The sperm whale, whose Canadian population is not at risk, can be observed here. Also found here are a significant concentration of humpback whales and two populations of northern bottlenose whales: the Davis Strait-Baffin Bay-Labrador Sea population, which is designated Special Concern, and the Scotian Shelf population, which is endangered. Underwater noise generated by human activities is one of the threats faced by northern bottlenose whales in Canadian waters.³⁶

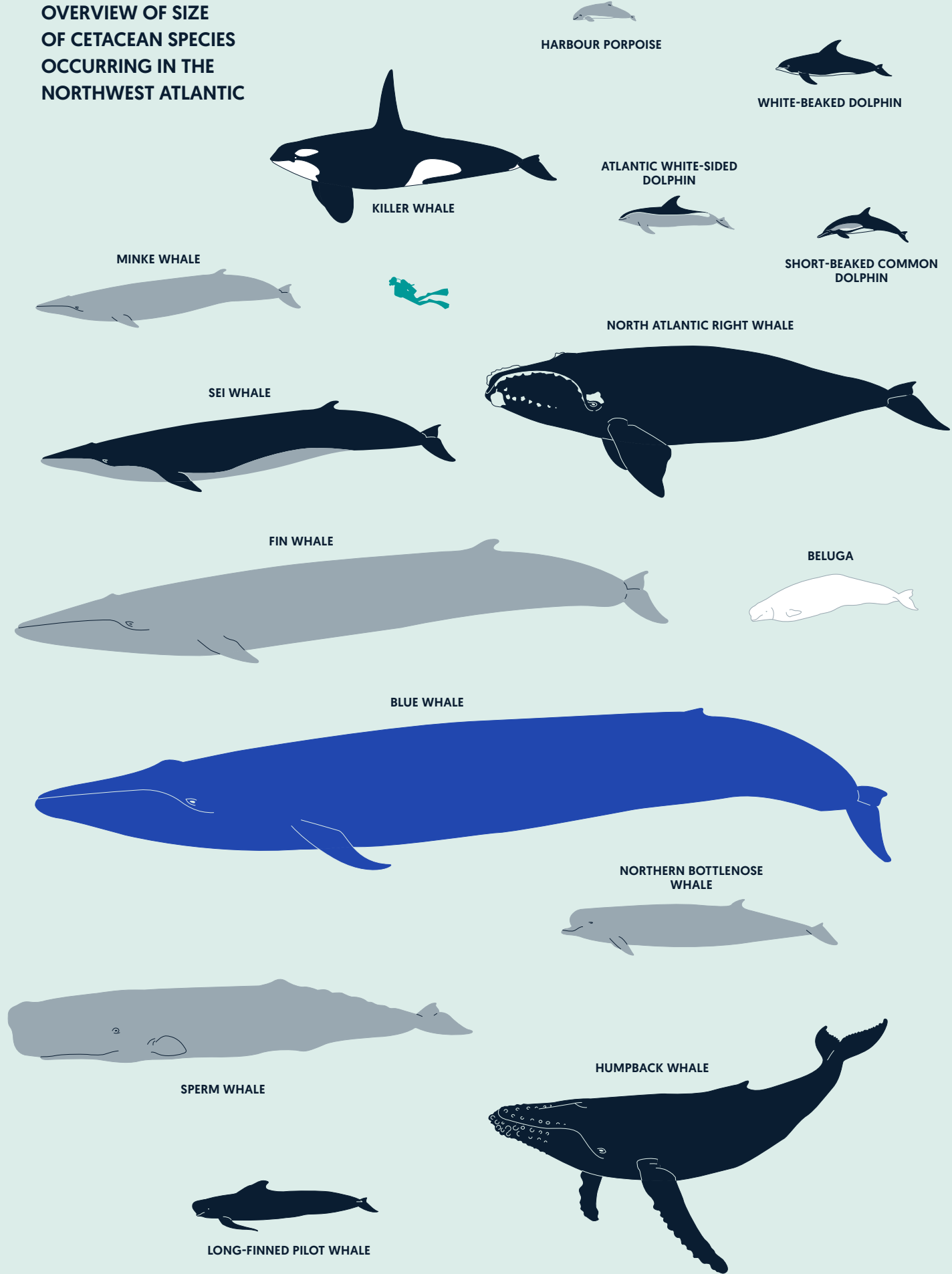
The main whale species most likely to be encountered in these waters are:

- FIN WHALE
- HUMPBACK WHALE
- MINKE WHALE
- SEI WHALE
- NORTHERN BOTTLENOSE WHALE
- LONG-FINNED PILOT WHALE
- SPERM WHALE
- KILLER WHALE
- ATLANTIC WHITE-SIDED DOLPHIN
- WHITE-BEAKED DOLPHIN

WHALES OF THE NORTHWEST ATLANTIC

This section of the guide provides information and identification tools on the species of whales found in the Northwest Atlantic with the goal of enabling ship crews to develop their skills to correctly identify them. After first being divided into two broad groups – baleen whales and toothed whales – individual species are presented according to the following headings:

ENGLISH NAME	VULNERABILITY
FRENCH NAME	Reasons for which the species is particularly sensitive to collisions.
SCIENTIFIC NAME:	PHYSICAL DESCRIPTION
A universal designation used to identify an animal species.	Includes the most characteristic physical traits used to identify a species. Photographs are presented to facilitate identification. When known, the species' temporal distribution in the Northwest Atlantic is indicated.
OTHER NAMES	BEHAVIOUR
Commonly used vernacular names used to identify a species.	This section presents some of the characteristic behaviours of each species that can be used to support identification.
POPULATION	
The population of an animal species indicates a specific group of individuals of the same species within a given geographic area.	
STATUS ●●●●	
Status is an indication of the level of vulnerability, which is determined as a function of various factors and is attributed to the species by the <u>Committee on the Status of Endangered Wildlife in Canada</u> .	



Baleen Whales

Baleen whales (also known as baleen cetaceans or mysticetes) have no teeth, but rather bristly plates attached to their upper jaw called baleen, which they use like a filter when they feed. Baleen whales feed on zooplankton, which consists of tiny organisms such as krill and copepods, as well as small fish such as capelin, herring and sand lance. They possess two orifices on the top of their head called blowholes, which they use to breathe at the water surface. The species in this group are generally larger in size than toothed whales.

Baleen whales of the Northwest Atlantic are most frequently found in this important breeding ground between the months of April and November. Their food is sometimes found near the surface, which can heighten the risk of collision.



© Shutterstock, WWF-Canada



Baleen whales: Feeding humpback whale © R. Schoenherr / Shutterstock.com



© A. S. Seon, MMON

BLUE WHALE

English name	BLUE WHALE
French name	RORQUAL BLEU
Scientific name	BALAENOPTERA MUSCULUS
Other names	SIBBALD'S RORQUAL, GREAT BLUE WHALE, GREAT NORTHERN RORQUAL
Population	NORTHWEST ATLANTIC
Status	● ENDANGERED



© Parks Canada

Measuring 20 to 28 metres long and weighing between 73 and 136 tonnes, the blue whale is the largest animal to have ever roamed the planet. It consumes several tonnes of krill a day equating to approximately 4 per cent of its body weight.

Approximately 25 per cent of the blue whales frequenting the St. Lawrence are believed to show injuries or scars that are potentially attributable to run-ins with ships.³⁷ This is likely due to their strong presence in areas traversed by busy shipping channels such as the St. Lawrence Estuary. The ability of blue whales to detect and avoid ships remains to be determined. Further, compared to the North Atlantic right whale, whose carcass floats on the surface, blue whales sink to the ocean floor, which explains the paucity of data on ship strike mortalities for this species. Given their low numbers in the Northwest Atlantic, the loss of just a few individuals per year may represent a significant obstacle to the recovery of this population.³

VULNERABILITY

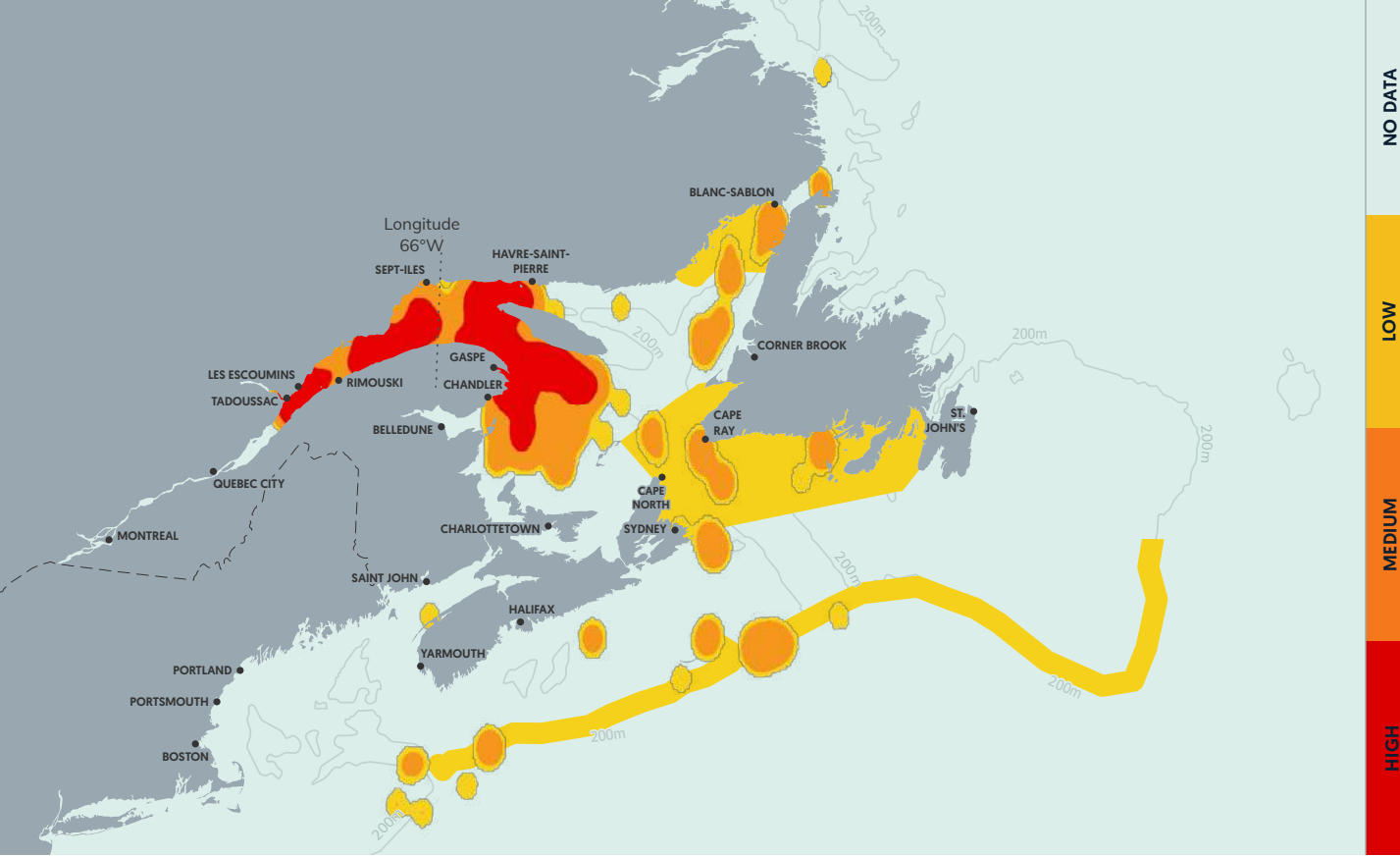
Commercial whaling considerably reduced this blue whale population. It is currently estimated that there are fewer than 250 mature individuals in Canada. Collisions with ships are one of the main causes of anthropogenic mortality.¹⁷ The species is also vulnerable to disturbance caused by underwater noise.²⁶ In pre-industrial times, the song of a blue whale could travel distances of 100 to 1,000 nautical miles, whereas today, communication might be reduced to just 10 to 100 nautical miles, which would severely limit an individual's chances of finding a mate for reproduction.³

PHYSICAL DESCRIPTION

- The blue whale's spout is powerful, very loud, wide and straight. It can exceed 6 metres in height, meaning it can be seen from several kilometres away.
- The back is greyish-blue and is speckled or marbled.
- The dorsal fin is small compared to the overall size of the animal and is located far back on the body. It is clearly visible, especially when the whale arches its back to dive.

BEHAVIOUR

- The tail is broad and T-shaped, and can be seen in approximately 15 per cent of all dives.
- Though typically solitary, blue whales can occasionally be seen in pairs or in small groups. When food is particularly plentiful, groups numbering up to 25 or 30 individuals can be observed.



Generally speaking, the Northwest Atlantic population of blue whales can be found in the waters of eastern Canada, namely the Lower Estuary, the northwestern Gulf of St. Lawrence, off the coasts of Nova Scotia and Newfoundland, near the edge of the continental shelf and in Honguedo and Cabot straits.^{33, 38, 39} Blue whales can also be found between Baffin Island and Greenland. Uncertainties remain with regard to their annual migrations, though it is known that some individuals generally migrate south for the winter while others can linger at our latitudes all year round.³

Map 8
This map shows the areas where blue whales were seen and recorded between 2015 and 2019 (includes also important habitats identified for this species). You may encounter whales in areas not highlighted and you may encounter more whales in some areas than suggested by the maps. Please read the cautionary notes on p. 31. Not suitable for navigation. Please refer to CHS charts for navigation purposes.



© S.-C. Pieddesaux, MMON



© S.-C. Pieddesaux, MMON

FIN WHALE

English name	FIN WHALE
French name	RORQUAL COMMUN
Scientific name	BALAENOPTERA PHYSALUS
Other names	FINBACK WHALE, COMMON FINBACK, FINNER, RAZORBACK, FLATHEAD, COMMON RORQUAL, GREYHOUND OF THE SEA, HERRING WHALE
Population	ATLANTIC
Status	● SPECIAL CONCERN



© Parks Canada

Fin whales can measure 18 to 24 metres long and weigh between 40 and 50 tonnes. Fast swimmers with top speeds of 40 km/h, fin whales are sometimes nicknamed “greyhounds of the sea”.

Due to the presence of major shipping lanes criss-crossing its range, the fin whale often falls victim to collisions. Between 1992 and 2020, a total of 19 incidents – either collisions or observations of animals with fresh wounds – were reported in the Saguenay-St. Lawrence Marine Park. These accidents involved both small watercraft and large vessels. A number of collisions with fin whales have also been reported in various ports along the US Eastern Seaboard and in the Gulf of St. Lawrence.⁴⁰

VULNERABILITY

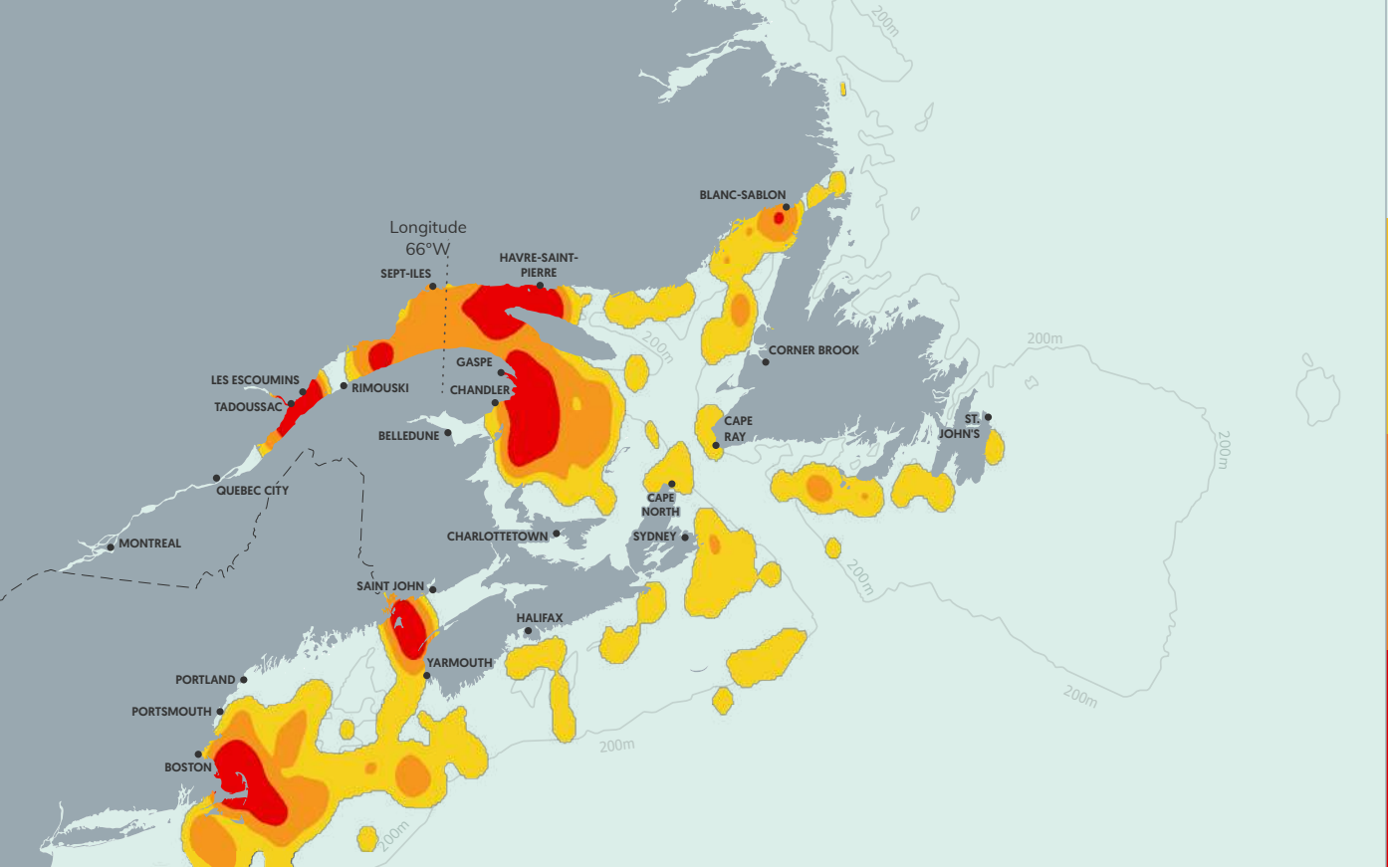
The Atlantic population of fin whales was considerably reduced by commercial whaling, which ended in 1972. The most concerning threats to this species are those related to noise pollution such as seismic exploration and navigation. Ship strikes are also a threat.⁴⁰

PHYSICAL DESCRIPTION

- The spout can reach heights of 4 to 6 metres, making it visible from several kilometres away.
- The back is dark grey, brown or black, with a lighter area behind the head known as a “chevron”. The right side of the jaw is white, as is the belly.
- The dorsal fin – clearly visible and often hook shaped – is located two-thirds of the way down the back. It appears a few seconds after the whale blows.

BEHAVIOUR

- The broad, pointy-tipped tail is rarely visible when the animal dives.
- Though often seen alone or in small groups of three or more, fin whales have been observed in groups of up to 20 or so individuals when food is particularly abundant.



Fin whales are regularly observed in areas featuring steep slopes, along the coasts as well as offshore. In summer, the species can be found in waters harbouring high concentrations of krill and fish such as the oceanic fronts off the coast of Newfoundland and Labrador, in upwellings near Tadoussac, along Quebec’s Côte-Nord region to Blanc-Sablon, the eastern tip of the Gaspé Peninsula, along the Gaspé coast and in areas of turbulence in the Bay of Fundy.⁴¹

Map 9
This map shows the areas where fin whales were seen and recorded between 2015 and 2019. You may encounter whales in areas not highlighted and you may encounter more whales in some areas than suggested by the maps. Please read the cautionary notes on p. 31. Not suitable for navigation. Please refer to CHS charts for navigation purposes.



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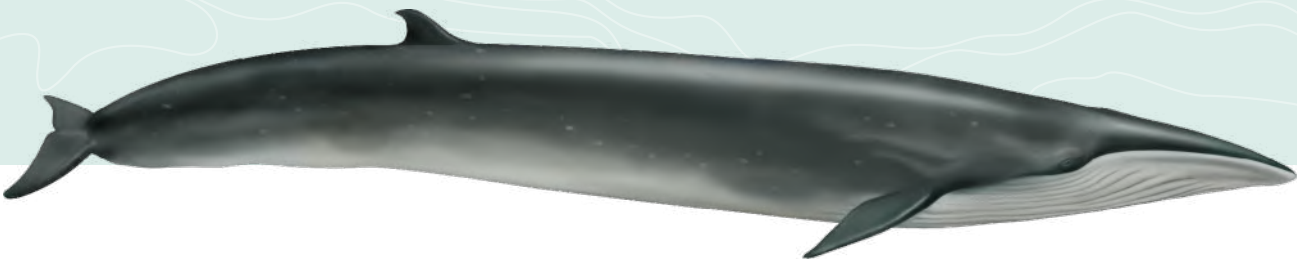
© C. Jetté, MMON



© S. Giroux, MMON

SEI WHALE

English name	SEI WHALE
French name	RORQUAL BORÉAL
Scientific name	BALAENOPTERA BOREALIS
Other names	POLLACK WHALE, COALFISH WHALE, SARDINE WHALE
Population	ATLANTIC
Status	● ENDANGERED



© Parks Canada

The sei whale can measure 12 to 15 metres long and weigh between 20 and 30 tonnes. Its name comes from the anglicization of the word sejhval given by Norwegian whalers due to the simultaneous arrival of this species and seje, or pollock, in Scandinavian waters.

Collisions with ships are the most frequent type of interaction between humans and this species. Between 1997 and 2018, a total of 10 confirmed collisions with ships and two other possible vessel strikes were mentioned in 27 reports of stranded sei whales found in the Maritimes and along the US Eastern Seaboard.⁴²

VULNERABILITY

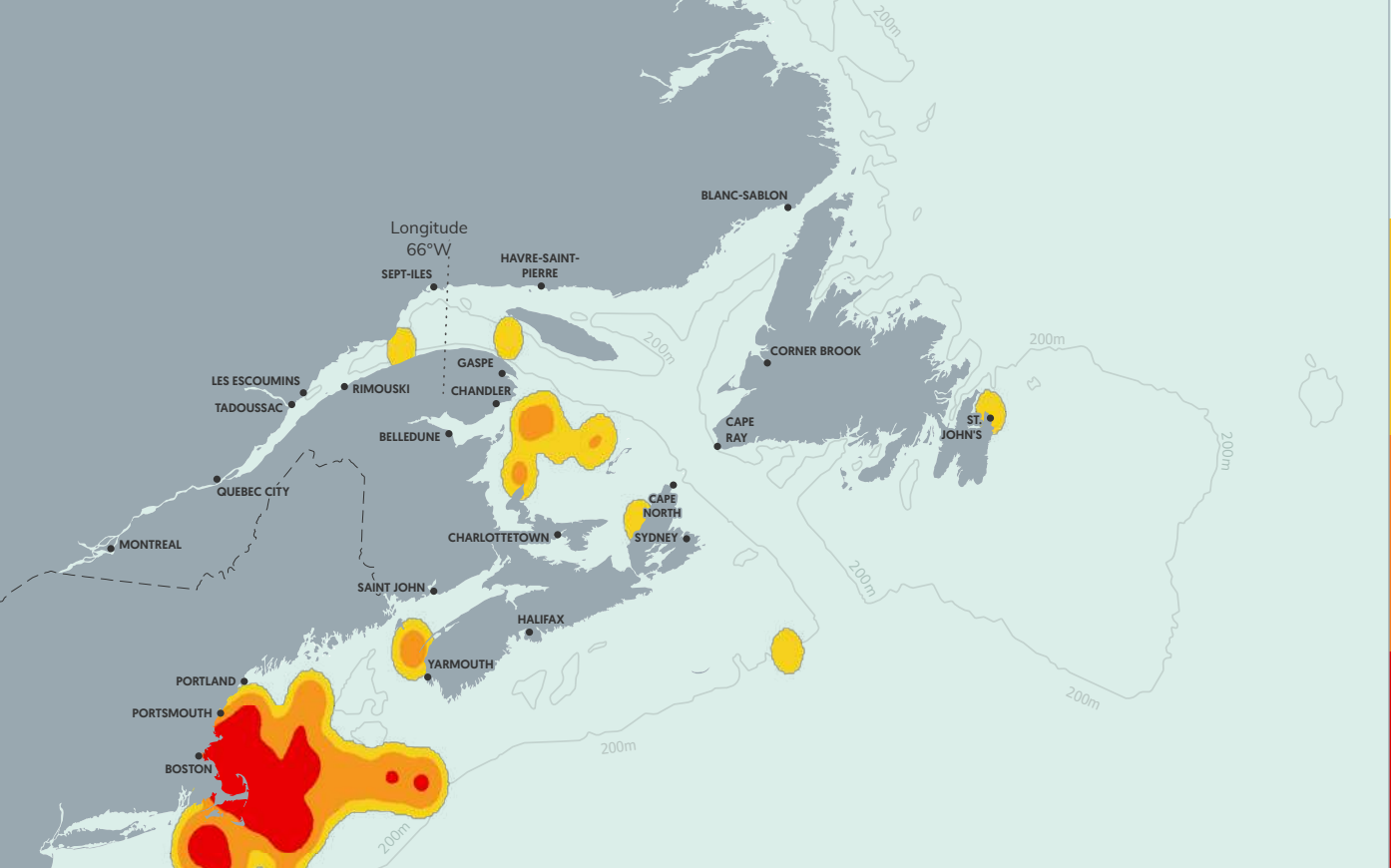
Between 2007 and 2016, only a few individuals were identified during systematic surveys conducted in Canadian Atlantic waters. Sharply reduced by whaling before it was banned in Canada in 1972, the population of this species likely numbers fewer than 1,000 mature individuals. Currently, the primary threats are collisions, entanglement in fishing gear and acoustic disturbance, especially disturbance associated with maritime transportation as well as oil prospecting and drilling.⁴²

PHYSICAL DESCRIPTION

- The spout of the sei whale can reach up to 4.5 metres high.
- The back is dark grey and the belly is light grey or white. The sei whale can be confused with the fin whale, but the colouring is symmetrical and the right jaw is dark.
- The dorsal fin is prominent, curved and located slightly more toward the front of the body compared to other rorquals. The spout and the dorsal fin are seen at the same time, which distinguishes this species from other large rorquals.

BEHAVIOUR

- The relatively small tail, the underside of which is black, is rarely visible when the animal dives.
- The sei whale is often observed alone or in small groups. The fastest of all rorquals, it can reach speeds of up to 50 km/h.



Due to its diet preferences, sei whales have been observed in the Roseway Basin and the Bay of Fundy. Like other baleen species, its distribution in the Northwest Atlantic varies as a function of that of its prey. Sei whales have also been seen off the west coast of Cape Breton Island. The species has been observed off the northeast coast of Newfoundland and along the Labrador Shelf. Even if its abundance and distribution in the region remain poorly known, the sei whale is present in the Gulf of St. Lawrence.⁴²

Map 10
This map shows the areas where sei whales were seen and recorded between 2015 and 2019. You may encounter whales in areas not highlighted and you may encounter more whales in some areas than suggested by the maps. Please read the cautionary notes on p. 31. Not suitable for navigation. Please refer to CHS charts for navigation purposes.



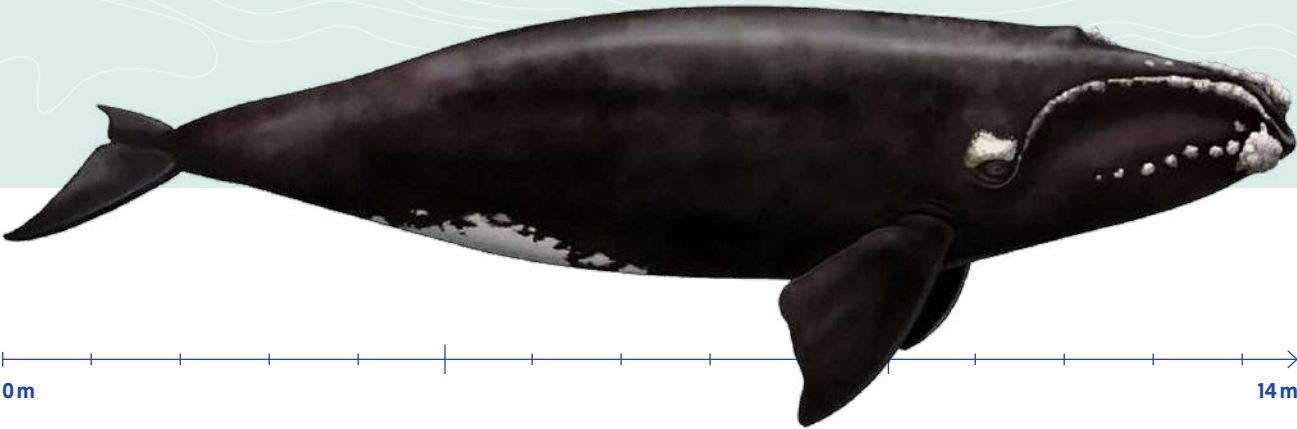
© C. Khan, NOAA



© A. Pierce, MMON

NORTH ATLANTIC RIGHT WHALE

English name	NORTH ATLANTIC RIGHT WHALE
French name	BALEINE NOIRE DE L'ATLANTIQUE NORD
Scientific name	EUBALAENA GLACIALIS
Other names	NORTHERN RIGHT WHALE, BLACK RIGHT WHALE
Population	NORTH ATLANTIC
Status	● ENDANGERED



© Parks Canada

The North Atlantic right whale is one of the most endangered cetacean species in the world. It can reach lengths of 13 to 17 metres and weigh between 30 and 70 tonnes. With an average speed at the water surface of 5-8 km/h, the right whale is a slow swimmer, which makes it susceptible to collisions with ships.

Because it spends a great deal of time at the surface and migrates close to the coasts where maritime traffic is heaviest, the North Atlantic right whale is vulnerable to vessel collisions. Between 2017 and 2019, a total of 30 right whale mortalities were tallied off the Canadian and US coasts, including 21 in the Gulf of St. Lawrence (Canada).²⁰

VULNERABILITY

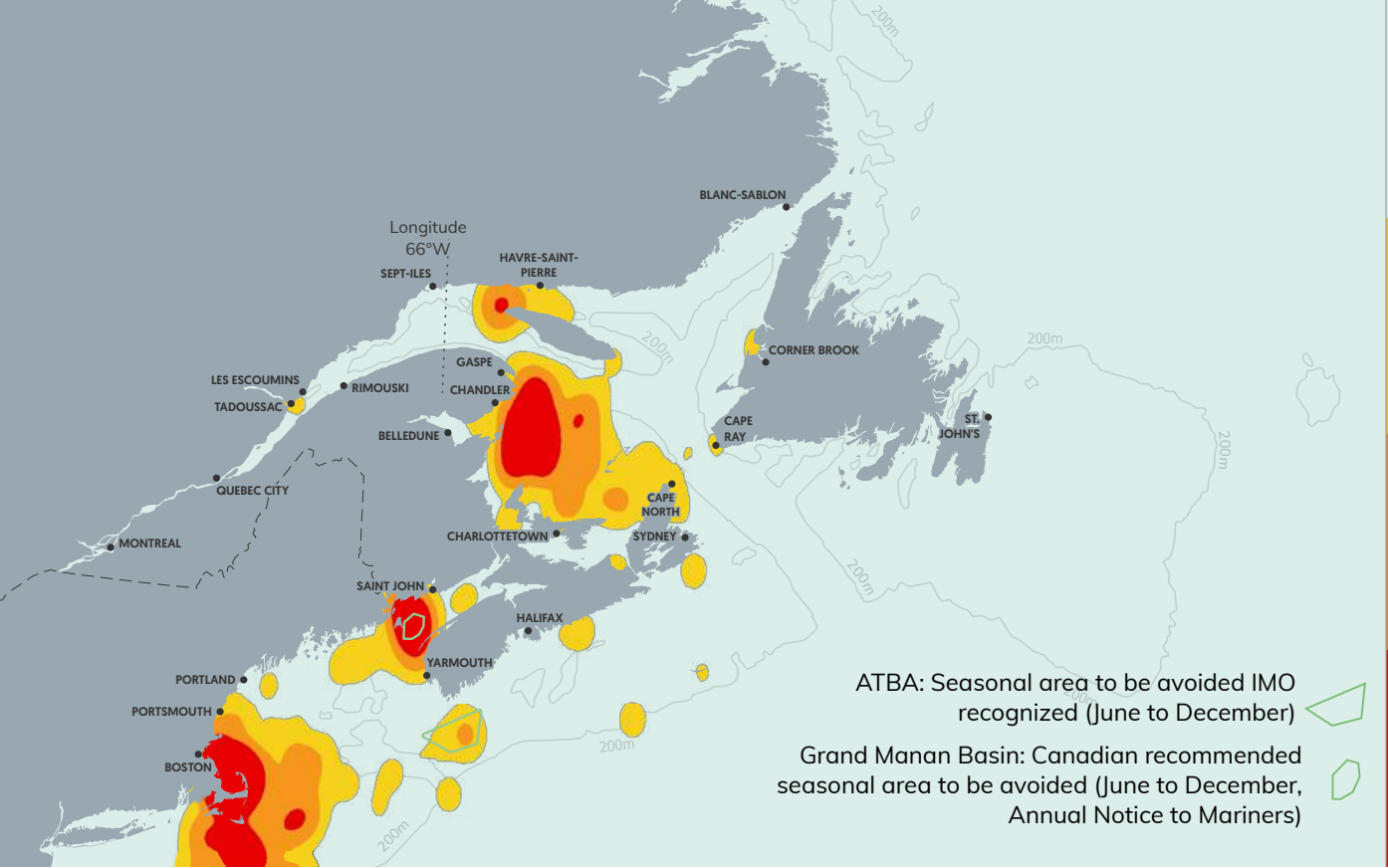
With an estimated population of fewer than 400 individuals, the North Atlantic right whale population has been decimated by whaling. There are believed to be just a hundred or so females of reproductive age and births are few. Population growth is also severely limited by ship strikes and entanglements in fishing gear. Furthermore, adult females seem to be more prone to ship strikes than males.²

PHYSICAL DESCRIPTION

- The right whale's V-shaped spout can reach 5 m high. This diagnostic trait is shared by both the right whale and the bowhead whale, though the latter is generally found farther north.
- Right whales have a black back and a dark belly that sometimes shows white spots. A unique characteristic of this species are the white or yellowish callosities on the head and chin.
- There is no dorsal fin.

BEHAVIOUR

- The Y-shaped tail is entirely black, and is nearly always visible when the animal dives.
- The right whale is often observed alone or in small groups.
- It is capable of breaching and raising its squarish pectoral fins out of the water.
- This species can move very slowly at the water surface and form highly active social groups in which interactions between individuals can be observed.



Right whales frequent the Bay of Fundy and the western part of the Scotian Shelf. They can also be observed off the coasts of Nova Scotia and the island of Newfoundland. The Roseway Basin as well as the Grand Manan Basin in the Bay of Fundy are both designated critical right whale habitat² under the Species at Risk Act. Since 2010, a decline in the number of Individuals has been observed in those waters that had historically been heavily frequented by the species in summer, namely the Gulf of Maine, the Bay of Fundy and the Roseway Basin. Conversely, since 2015, right whales have been increasingly identified in the Gulf of St. Lawrence.³¹

Map 11
This map shows the areas where North Atlantic right whales were seen and recorded between 2015 and 2019. You may encounter whales in areas not highlighted and you may encounter more whales in some areas than suggested by the maps. Please read the cautionary notes on p. 31. Not suitable for navigation. Please refer to CHS charts for navigation purposes.



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© Y. L'Heureux, MMON

HUMPBACK WHALE



© Parks Canada

Humpbacks can measure 11 to 16 metres long and tip the scales at 30 to 40 tonnes. This species is known for its breaching and other acrobatics. It sometimes lifts its enormous white pectoral fins or its head out of the water, which adds to its charisma.

Some individuals are very curious toward boats, which means that extra caution is in order. According to the International Whaling Commission, the humpback is the second most frequently cited species in offshore collision reports throughout the world.⁹ In Canada, there is a lack of data currently available in this regard.

English name	HUMPBACK WHALE
French name	RORQUAL À BOSSE
Scientific name	MEGAPTERA NOVAEANGLIAE
Other names	HUNCHBACKED WHALE, HUMP WHALE
Population	WESTERN NORTH ATLANTIC
Status	● NOT AT RISK

VULNERABILITY

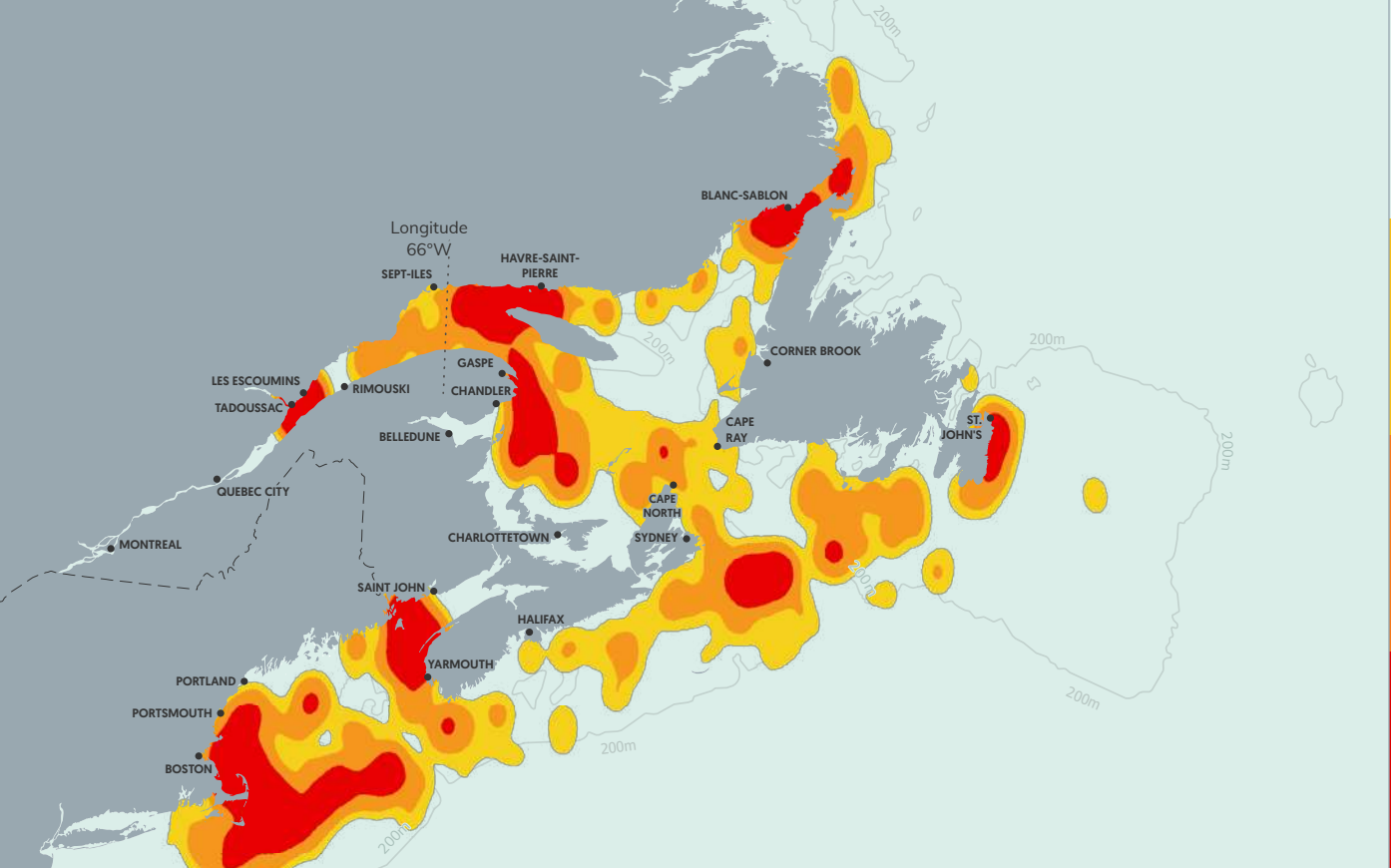
Although humpback numbers were hit hard by whaling, this population has rebounded well over the years. As with all large rorquals, entanglement in fishing gear and vessel strikes are threats to this population, which in 2003 was designated Not at Risk. The Western North Atlantic population of humpbacks is estimated to number approximately 4,000 individuals.

PHYSICAL DESCRIPTION

- The back is dark or black, while the belly shows black and white spots.
- The pectoral fins are very long and white in colour.
- Small black bumps are present on the head.
- The dorsal fin, which varies widely in shape, sits on a rounded hump, hence the name of the species.

BEHAVIOUR

- The tail is broad with jagged edges and pointy tips, and is rarely visible when the animal dives. The underside shows a wide variety of black-and-white colour patterns.
- Humpbacks can be observed alone or in variably small or large groups.



NO DATA
LOW
MEDIUM
HIGH

In the Northwest Atlantic, humpback whales are found off the Newfoundland and Labrador coasts, near the Grand Banks and in the St. Lawrence Estuary and Gulf. In fall, they migrate south to tropical waters where they reproduce in winter, before returning north in spring to their feeding grounds, where they spend the summer.³⁷ However, humpbacks can be observed in Canada during the winter months. Young individuals or those that will not reproduce in a given winter – or have ceased reproducing altogether – may elect not to migrate.

Map 12
This map shows the areas where humpback whales were seen and recorded between 2015 and 2019. You may encounter whales in areas not highlighted and you may encounter more whales in some areas than suggested by the maps. Please read the cautionary notes on p. 31. Not suitable for navigation. Please refer to CHS charts for navigation purposes.



© C. Horvath, MMON



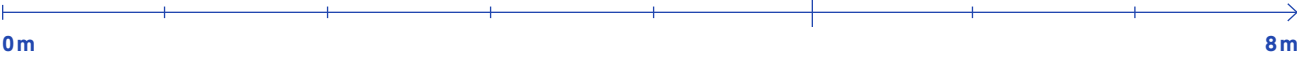
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© I.-E. Foisy, MMON

MINKE WHALE

English name	MINKE WHALE
French name	PETIT RORQUAL
Scientific name	BALAENOPTERA ACUTOROSTRATA
Other names	FINNER WHALE, LEAST RORQUAL, LESSER RORQUAL, LESSER FINBACK, LITTLE FINNER WHALE, PIKE WHALE, SHARP-HEADED WHALE, SHARP-HEADED FINNER
Population	NORTH ATLANTIC
Status	● NOT AT RISK



The smallest of baleen whales, the minke whale inhabits all of the world’s oceans. It measures 6 to 10 metres long and weighs between 6 and 10 tonnes. A fast swimmer, it is known for its agility and its feeding behaviours during which it can thrust half its body out of the water.

The coastal habits of the minke whale make it vulnerable to collisions. Numerous incidents of ship strikes involving minke whales have been reported off the East Coast of the United States, though the impact of these collisions on the population remain unknown.³⁷

VULNERABILITY

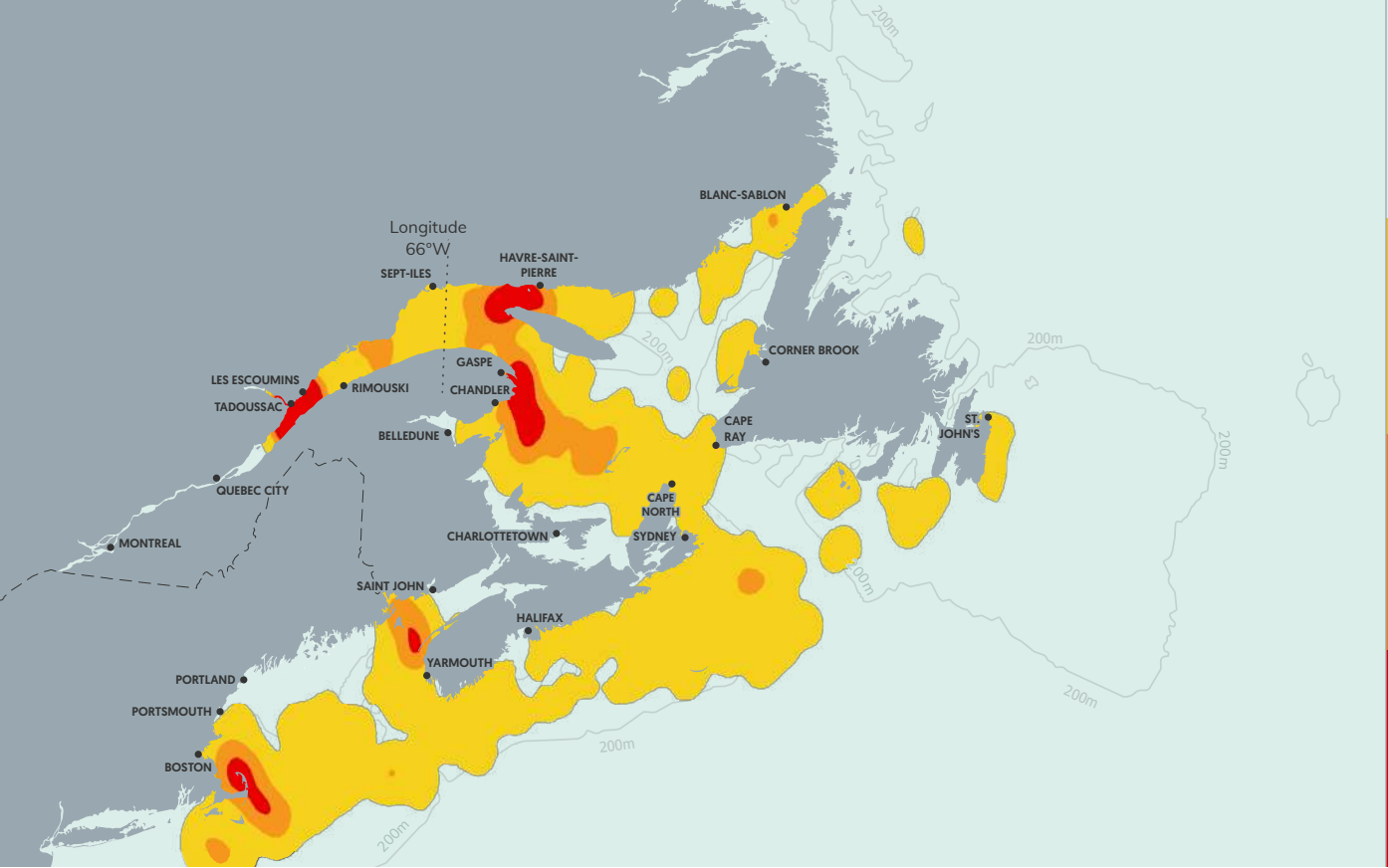
Threats faced by the minke whale include fishery bycatch and collisions with ships. However, the species was not widely hunted like other baleen whales and given its robust populations, human threats do not compromise its survival.

PHYSICAL DESCRIPTION

- Although the minke whale’s spout is rarely visible, it can reach up to 2 metres high.
- Its tall, curved or hook-shaped dorsal fin is located two-thirds of the way down the back.
- The species has a black or dark grey back and a white belly. White spots are present on the pectoral fins.

BEHAVIOUR

- The tail is relatively small and is rarely visible when the animal dives.
- Often observed alone.
- Minke whales are capable of breaching.



The minke whale is a regular seasonal (March through December) resident throughout the region. From spring to fall, this cetacean is very common in the St. Lawrence. It is also observed in Canadian waters farther north, as far as Hudson Strait and Ungava Bay, and occasionally in Hudson Bay.⁴³

Map 13
This map shows the areas where minke whales were seen and recorded between 2015 and 2019. You may encounter whales in areas not highlighted and you may encounter more whales in some areas than suggested by the maps. Please read the cautionary notes on p. 31. Not suitable for navigation. Please refer to CHS charts for navigation purposes.



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Toothed Whales



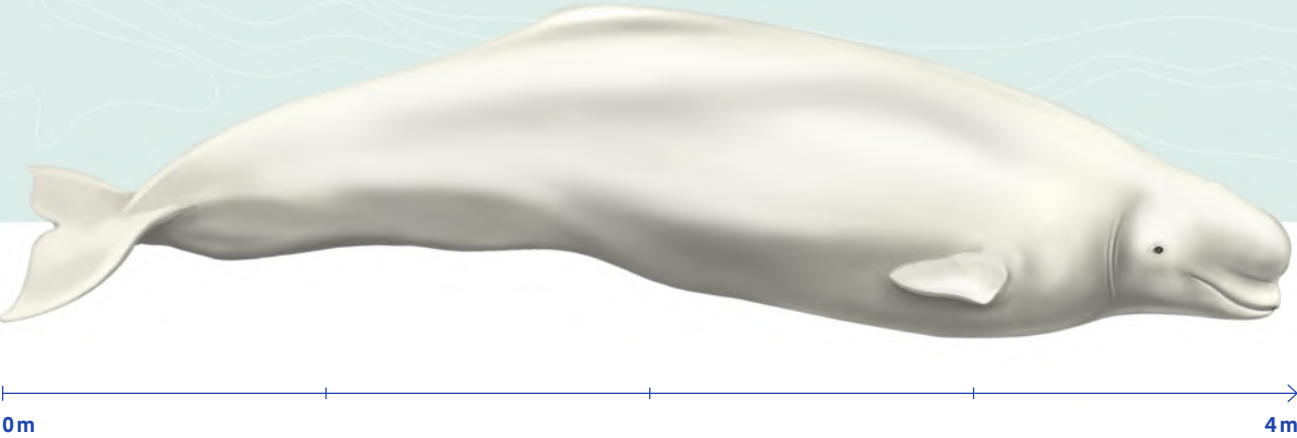
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As their name implies, **toothed whales (also known as toothed cetaceans or odontocetes)** have sets of identical teeth that are used only to take hold of their food, which is then swallowed whole. Using a multitude of hunting techniques, they feed on a wide variety of prey such as fish, squid, crustaceans and even other marine mammals. They are often smaller in size than baleen whales, with the exception of the sperm whale. Toothed whales have a single blowhole at the top of their head and are often observed in large groups.

Much remains to be learned with regard to the annual migrations of the whales that frequent the Northwest Atlantic. The beluga is present year-round in the St. Lawrence Estuary and Gulf. Other species found in these waters are generally observed between the months of April and November. They undertake long annual migrations, though their wintering grounds are poorly understood for the most part. It is therefore not rare to observe toothed whales in winter in Northwest Atlantic waters.

BELUGA WHALE

English name	BELUGA WHALE
French name	BÉLUGA
Scientific name	DELPHINAPTERUS LEUCAS
Other names	BELUGA, WHITE WHALE, SEA CANARY, MELONHEAD
Population	ST. LAWRENCE ESTUARY
Status	● ENDANGERED



© Parks Canada

Easily recognizable by its white colour, the beluga can measure 3 to 4.5 metres long and weigh between 0.7 and 2 tonnes. The St. Lawrence Estuary population is isolated from other beluga populations inhabiting the Arctic. This toothed cetacean is sometimes nicknamed the “sea canary” due to its varied vocal repertoire.

In the St. Lawrence, numerous belugas show injuries and scars, some of which are most likely attributable to run-ins with a watercraft.²⁷ Additionally, it has been demonstrated that young animals have a greater tendency to interact with boats, which increases the risk of collisions.⁷

VULNERABILITY

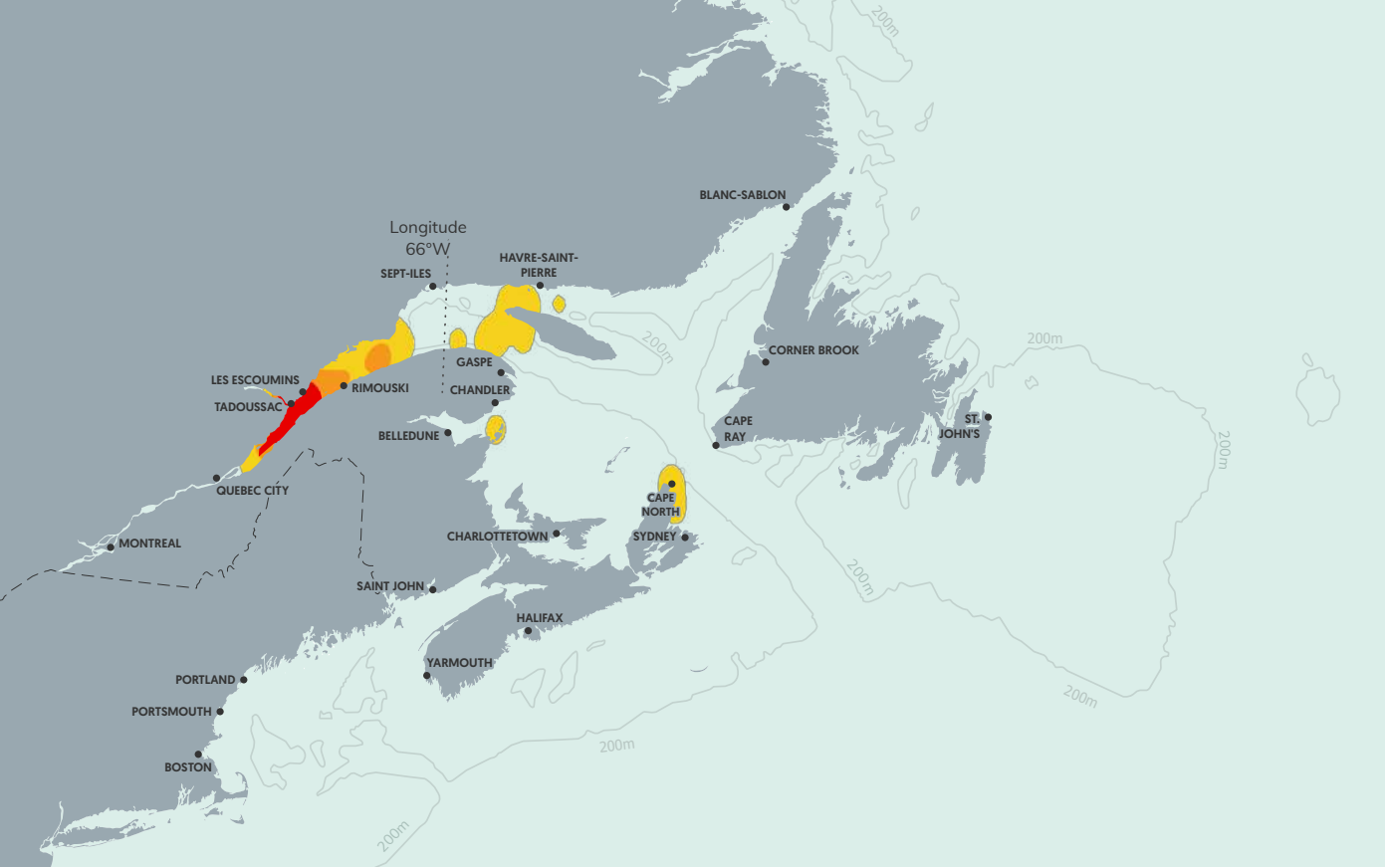
This St. Lawrence beluga whale population was nearly decimated by intensive hunting, which ended in 1979. Only about 900 belugas are believed to remain in the St. Lawrence. In 2013, experts determined that this population, which had been stable in the years after the harvesting ban, began to decline in the early 2000s.²⁸ Despite the absence of predators and the implementation of conservation measures to protect this population, it is still not showing signs of recovery. The beluga is particularly sensitive to anthropogenic noise in the St. Lawrence Estuary and Gulf since it is present in these waters all year long.²⁸

PHYSICAL DESCRIPTION

- Although it can reach 2 metres high, the beluga’s spout is rarely visible.
- Adults are entirely white, while newborns are café au lait in colour and juveniles are bluish-grey.
- Instead of a dorsal fin, the beluga has a small dorsal crest.

BEHAVIOUR

- The tail is occasionally visible when the animal dives.
- The beluga is a gregarious species that lives in pairs, small groups or large herds.



The beluga is very present in the coastal waters of the Arctic, with six other populations residing within Canada’s borders. As its name suggest, the St. Lawrence beluga lives year-round in this part of the region, favouring in summer the section of Estuary between Rimouski and Battures aux Loups-Marins, as well as the Saguenay Fjord as far upstream as Baie Sainte-Marguerite, and migrating in winter toward the part of the Estuary downstream of the Saguenay and toward the northwestern reaches of the Gulf. Observations are rare and sporadic in the waters of the Gulf of St. Lawrence, Newfoundland and Labrador and the Maritimes, as well as elsewhere in the Northwest Atlantic.

Map 14
This map shows the areas where St. Lawrence beluga whales were seen and recorded between 2015 and 2019. You may encounter whales in areas not highlighted and you may encounter more whales in some areas than suggested by the maps. Please read the cautionary notes on p. 31. Not suitable for navigation. Please refer to CHS charts for navigation purposes.



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SPERM WHALE

English name	SPERM WHALE
French name	CACHALOT MACROCÉPHALE
Scientific name	PHYSETER MACROCEPHALUS
Other names	CACHALOT, POT WHALE, SPERMACET WHALE
Population	NORTH ATLANTIC
Status	● NOT AT RISK



© Parks Canada

Measuring 11 to 18 metres long and weighing up to 50 tonnes, the sperm whale is the largest of the toothed cetaceans. The species holds a number of diving records in terms of both depth and duration.

It is interesting to note that sperm whales spend approximately 16 per cent of their time at the surface, compared to 29 per cent for fin whales, for example. However, when they do surface, it is not uncommon for sperm whales to remain there motionless for up to nine minutes, making them highly susceptible to collisions.⁴⁴

VULNERABILITY

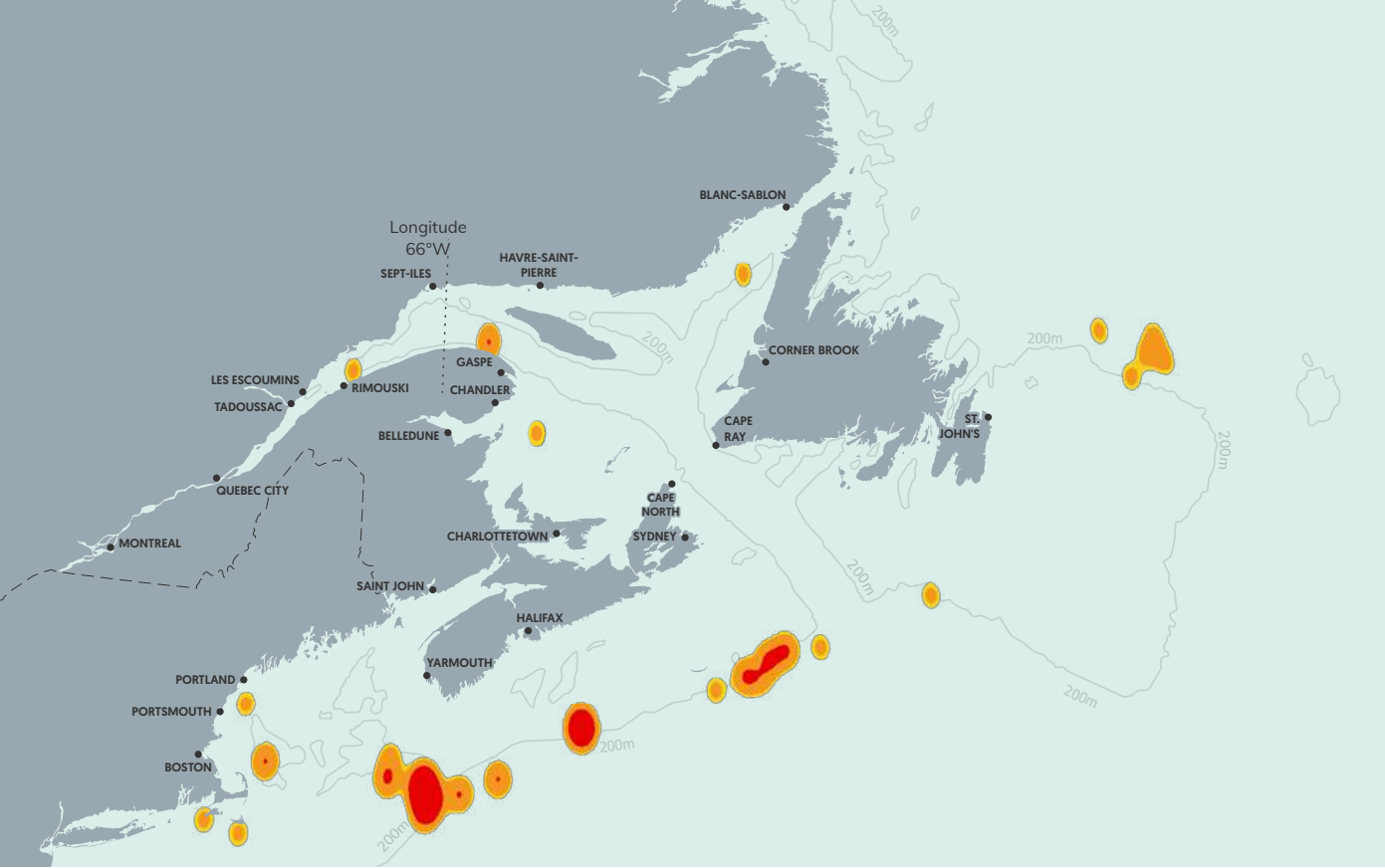
The sperm whale was heavily targeted by commercial whaling, which ended in Canada in 1972. According to data collected around the globe, the sperm whale suffers more collisions than any other toothed cetacean. However, this threat is not significant enough to compromise the long-term survival of the species.

PHYSICAL DESCRIPTION

- The sperm whale produces a spout that is slanted relative to the water surface. It angles forward and to the left due to a single blowhole located on the left side of the animal's head.
- The body is dark grey or brown, and the skin appears wrinkled and silvery.
- The massive, angular head represents over one-third of the total length of the body.
- The dorsal fin is small and triangular, followed by a crest that shows small bumps toward the rear of the back.

BEHAVIOUR

- The tail is large, broad, triangular and dark; it is nearly always visible when the animal dives.
- The sperm whale is most often observed alone or in small groups.
- It performs long breathing sequences of 30 or so inhalations between dives, creating the impression that it is floating on the surface for extended periods.
- The species is known to breach on occasion.



With its cosmopolitan range, the sperm whale is one of the most plentiful species of cetaceans in the world. In the Northwest Atlantic, numerous observations have been made in the Gulf of Maine and off the coasts of Newfoundland and Labrador. In the Gulf of St. Lawrence, sperm whales are occasionally seen between the months of May and October.

Map 15
This map shows the areas where sperm whales were seen and recorded between 2015 and 2019. You may encounter whales in areas not highlighted and you may encounter more whales in some areas than suggested by the maps. Please read the cautionary notes on p. 31. Not suitable for navigation. Please refer to CHS charts for navigation purposes.



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HARBOUR PORPOISE

English name	HARBOUR PORPOISE
French name	MARSOUIN COMMUN
Scientific name	PHOCOENA PHOCOENA
Other names	PUFFING PIG
Population	NORTHWEST ATLANTIC
Status	● SPECIAL CONCERN



© Parks Canada

The smallest cetacean in the North Atlantic, the harbour porpoise measures 1.3 to 2 metres long and weighs between 50 and 70 kilograms. Fast and elusive, it is very difficult to observe if waves are present.

No literature exists on the subject of collisions between harbour porpoises and ships. Carcasses are small and difficult to detect. Fast and rather wary, the species shows little interest in boats. As a result, it is probably not overly exposed to this threat.

VULNERABILITY

No estimates are available to assess the abundance of harbour porpoises throughout their range in eastern Canada, though the North Atlantic population probably exceeds 50,000. The main threat to harbour porpoises is incidental catches in fishing gear. Although the population remains robust, it is still considered Special Concern due to its particular sensitivity to this threat.⁴⁵

PHYSICAL DESCRIPTION

- The harbour porpoise's spout is very short and not visible.
- The back is black and the flanks are lighter in colour.
- The dorsal fin is triangular in shape and is located near the middle of the back.

BEHAVIOUR

- The tail is rarely visible when the animal dives.
- The harbour porpoise is observed alone or in small groups. Unlike dolphins, it does not splash when it swims. It is considerably smaller and more discreet than dolphins.



© J. Houle, MMON

In the Northwest Atlantic, the harbour porpoise's range stretches from the northern reaches of the Bay of Fundy to northern Labrador and encompasses three distinct populations: those of (i) Newfoundland and Labrador, (ii) the Gulf of St. Lawrence and its Estuary, and (iii) the Bay of Fundy and the Gulf of Maine.



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NORTHERN BOTTLENOSE WHALE

English name	NORTHERN BOTTLENOSE WHALE
French name	BALEINE À BEC COMMUNE
Scientific name	<i>HYPEROODON AMPULLATUS</i>
Other names	BOTTLENOSE WHALE, BOTTLEHEAD
Population	SCOTIAN SHELF DAVIS STRAIT-BAFFIN BAY-LABRADOR SEA
Status	● ENDANGERED / ● SPECIAL CONCERN



© Parks Canada

The northern bottlenose whale measures 6 to 10 metres long and weighs between 3 and 7 tonnes. The species often dives to depths of up to 1,500 metres and can remain under water anywhere between 3 and 70 minutes, the record being 2 hours.

Bottlenose whales can and do sometimes demonstrate a certain interest toward boats. On occasion they will approach a watercraft, even swimming around it if it is stationary. Ship strikes are one of the factors limiting the population's recovery, though is not considered to be the most significant threat. Little information is currently available with regard to potential interactions between bottlenose whales and commercial vessels. In an analysis of scars and other markings on their melons, certain whales showed traces of collisions with ships.⁴⁶

VULNERABILITY

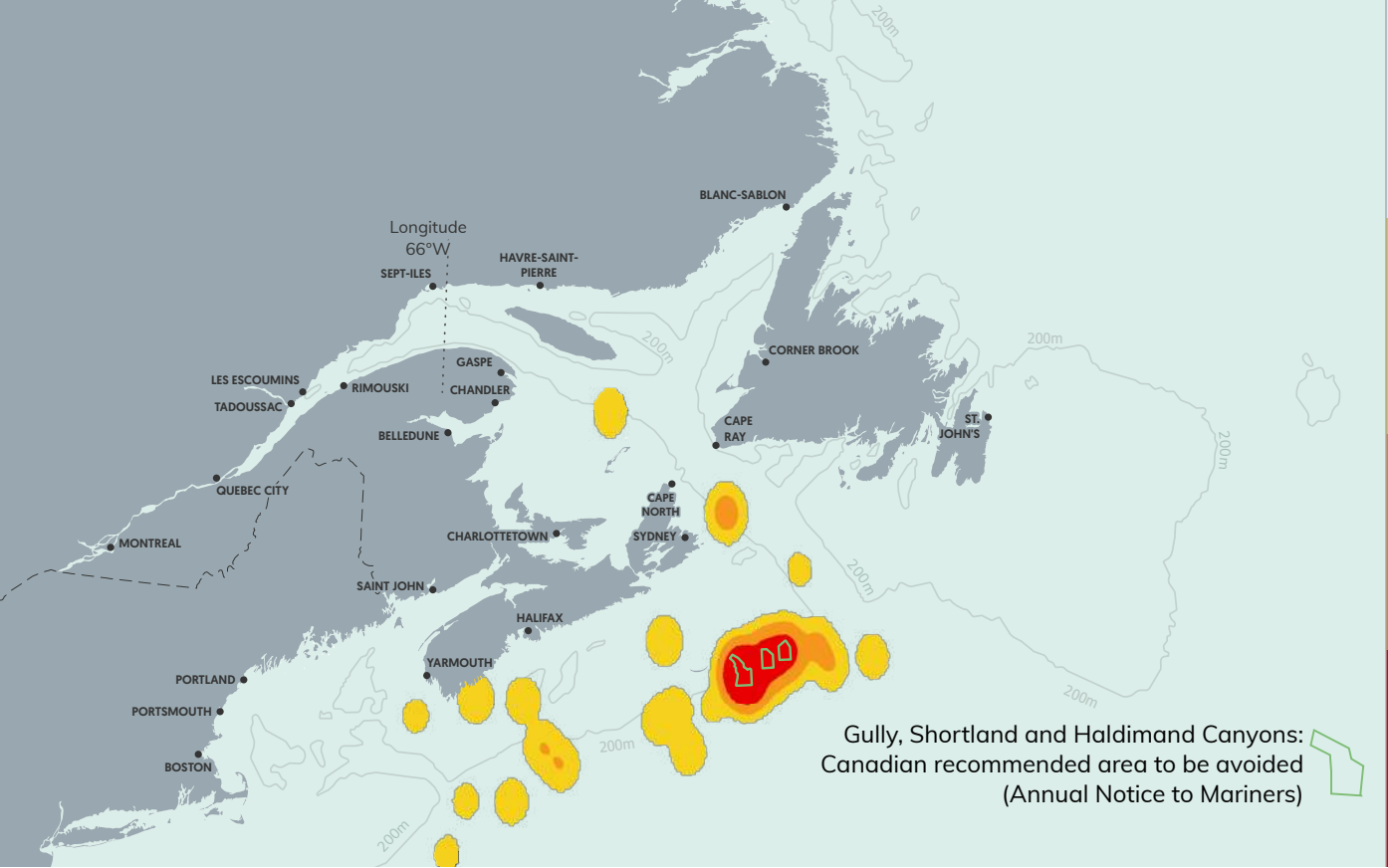
The Scotian Shelf population of northern bottlenose whales has been widely studied due to its high degree of vulnerability. Commercial whaling was the main reason for the decline of this population, which is believed to number just 164 individuals, including 93 adults. Both populations of northern bottlenose whales are vulnerable to fishing gear entanglements as well as oil exploration and drilling, notably due to the noise pollution generated by this type of human activity.³⁶

PHYSICAL DESCRIPTION

- The spout is balloon-shaped and can reach 2 metres high; it may be visible if weather conditions are favourable.
- The back is brownish-grey to pale grey, with a slight cinnamon tint.
- The dorsal fin is small and curved.
- It has bulbous head and a dolphin-like beak, which occasionally pokes above the surface when the animal breaths.

BEHAVIOUR

- The tail is seldom visible when the animal dives.
- This species is often observed far offshore and in small groups.



Bottlenose whales of the Scotian Shelf population are essentially concentrated around three large underwater canyons: the Gully, Shortland Canyon and Haldimand Canyon. Observations of bottlenose whales off the coasts of Newfoundland and Labrador probably concern the Davis Strait-Baffin Bay-Labrador Sea population.

Map 16
This map shows the areas where Northern bottlenose whales were seen and recorded between 2015 and 2019. You may encounter whales in areas not highlighted and you may encounter more whales in some areas than suggested by the maps. Please read the cautionary notes on p. 31. Not suitable for navigation. Please refer to CHS charts for navigation purposes.



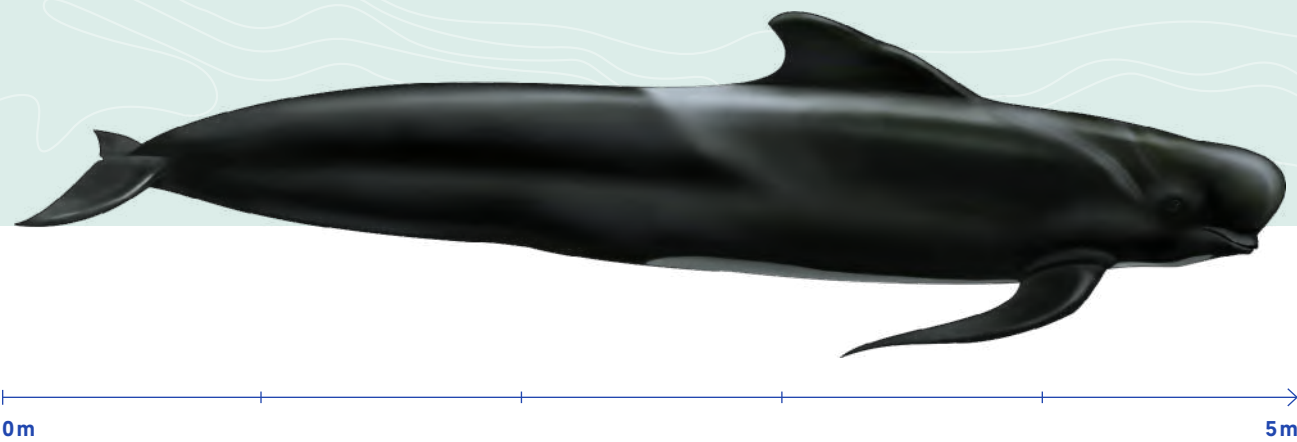
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LONG-FINNED PILOT WHALE

English name	LONG-FINNED PILOT WHALE
French name	GLOBICÉPHALE NOIR
Scientific name	GLOBICEPHALA MELAS
Other names	CALDERON DOLPHIN, PILOT DOLPHIN, POTHEAD WHALE
Population	NORTH ATLANTIC
Status	● NOT AT RISK



The long-finned pilot whale measures 4 to 6 metres long and weighs between 1.5 and 3 tonnes. This small, gregarious cetacean lives in large pods and is known for its mass strandings that are often the subject of extensive media coverage.

Little information is currently available with regard to potential interactions between this species and commercial vessels. Relatively fast swimmers, pilot whales can reach speeds of 35 km/h. Additionally, this species rarely approaches ships and, unlike dolphins, does not surf in their bow waves or wake. Vessel collisions therefore do not represent a major threat to this species.

VULNERABILITY

By the early 20th century, whaling had curbed the size of the population in Canadian waters. Today, bycatch, pollution and a depletion of food resources compromise its recovery. Nevertheless, none of these threats impact the population enough for it to be considered at-risk in the short term.

PHYSICAL DESCRIPTION

- The spout is rarely visible.
- The back is completely black or dark brown, with a black or light grey saddle behind the prominent and distinctly back-sweeping dorsal fin.
- The head is globe-shaped and lacks a conspicuous beak.

BEHAVIOUR

- The tail of the pilot whale is rarely visible when the animal dives.
- It is capable of porpoising like dolphins.
- It regularly rests by remaining motionless at the surface.
- The long-finned pilot whale is often spotted in sizable groups numbering between 20 and 50 individuals.



© H. Moors Murphy

In the North Atlantic, the long-finned pilot whale is a summer resident in the southern Gulf of St. Lawrence, off the Gaspé Peninsula, in the Cabot Strait and off the eastern coast of Newfoundland. Visits to the St. Lawrence Estuary are very rare.



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KILLER WHALE

English name	KILLER WHALE
French name	ÉPAULARD
Scientific name	ORCINUS ORCA
Other names	ORCA, GRAMPUS
Population	NORTHWEST ATLANTIC-EASTERN ARCTIC
Status	● SPECIAL CONCERN



© Parks Canada

Measuring 6 to 9 metres long and weighing between 4 and 7 tonnes, the killer whale is the largest member of the dolphin family. A fast swimmer, it can clock speeds of up to 45 km/h when chasing its prey. Like all dolphins, it is capable of breaching and other aerial acrobatics.

Collisions with ships are not considered a major threat to the North Atlantic-Eastern Arctic population. However, with maritime traffic increasing all around the world, including the Arctic, this could change. In British Columbia, noise is the greatest threat and a number of measures have been put into place.⁴⁷

VULNERABILITY

The Northwest Atlantic-Eastern Arctic population of killer whales is small and scattered. Threats faced by this population include hunting in Greenland as well as acoustic and physical disturbances that are increasing with the swell in cargo volumes transiting the Arctic. Its designation on the Government of Canada’s list of species at risk is justified by the small size of the population, amongst other factors.³²

PHYSICAL DESCRIPTION

- The spout of a killer whale can measure up to 2 metres high but is inconspicuous.
- The back is black with a light grey pattern behind the dorsal fin.
- A white patch is present behind the eyes. The chin and the belly are white.
- The pointed, triangular dorsal fin can reach 2 metres in males and 1 metre in females.

BEHAVIOUR

- The tail, the underside of which is white, is rarely visible when the animal dives.
- Killer whales are observed alone or in groups.



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Killer whales are frequently observed in the coastal waters of Newfoundland and Labrador, especially in the Strait of Belle Isle. They are seen regularly in the northeastern Gulf, while visits to the St. Lawrence Estuary are rare and

sporadic. Historically, they were much more frequent in the Estuary. A small group resides near the French archipelago of Saint Pierre and Miquelon, 25 kilometres off the coast of Newfoundland and Labrador.



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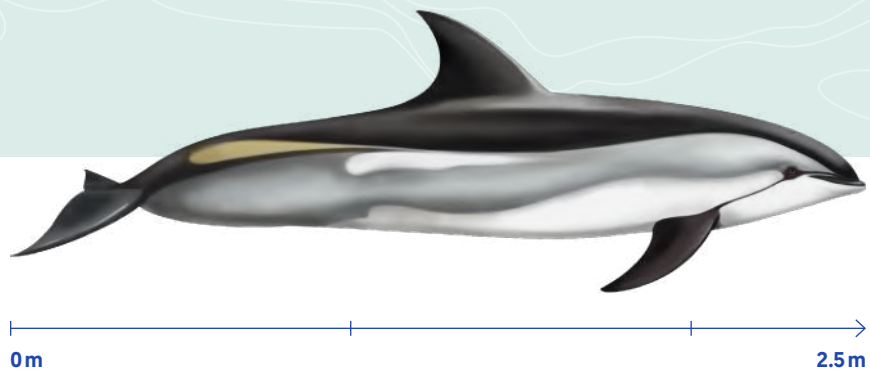
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ATLANTIC WHITE-SIDED DOLPHIN

English name	ATLANTIC WHITE-SIDED DOLPHIN
French name	DAUPHIN À FLANCS BLANCS
Scientific name	LAGENORHYNCHUS ACUTUS
Other names	WHITE-SIDED DOLPHIN, ATLANTIC WHITE-SIDED PORPOISE
Population	ATLANTIC
Status	● NOT AT RISK



© Parks Canada

Several species of dolphins frequent the waters of the Northwest Atlantic. Of these, the Atlantic white-sided dolphin and white-beaked dolphin are the most frequently encountered species in the St. Lawrence. Close cousins, these two species are similar both physically and behaviourally, but do show minor differences that can be used to tell them apart.

Little information is currently available regarding the potential for collisions between Atlantic white-sided dolphins or white-beaked dolphins and ships, though they do frequent the same sectors and the animals do sometimes attempt to approach small watercraft. Their speed and agility in the water might explain why they are at low risk of collisions.

VULNERABILITY

Incidental catches in fishing gear represent the main threat for these two species. However, their populations are robust enough that the issue does not place them at risk.

PHYSICAL DESCRIPTION

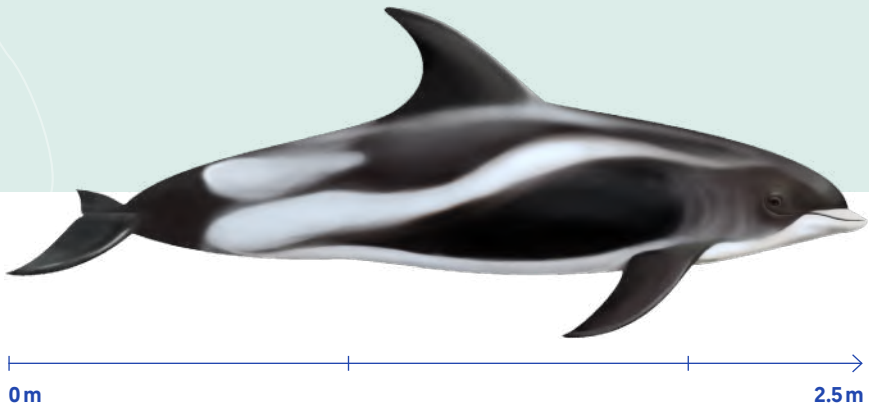
- The spouts of these two species are not visible.
- Both feature a black back, a white belly, and a large, hook-shaped dorsal fin.
- **Atlantic white-sided dolphin:** flanks featuring a white patch below the dorsal fin, above which is a yellow stripe extending toward the tail.
- **White-beaked dolphin:** white beak, black back with a white saddle behind the dorsal fin and light grey or white stripes on the flanks.

BEHAVIOUR

- Dolphins live in pods numbering anywhere from several to several hundred individuals.
- They often leap out of the water, showing their entire body.
- Fast swimmers, they splash when slicing through the water.

WHITE-BEAKED DOLPHIN

English name	WHITE-BEAKED DOLPHIN
French name	DAUPHIN À NEZ BLANC
Scientific name	LAGENORHYNCHUS ALBIROSTRIS
Other names	WHITE-NOSED DOLPHIN, SQUIDHOUND, WHITE-BEAKED PORPOISE
Population	ATLANTIC
Status	● NOT AT RISK



© Parks Canada

The Atlantic white-sided dolphin is regularly observed between spring and fall, occasionally in the Estuary, but especially in the Gulf of St. Lawrence in the Basse-Côte-Nord region and the Gaspé Peninsula. As for the white-beaked dolphin, it can be found in small groups throughout the St. Lawrence, but is most abundant in the northeastern Gulf. Both species are particularly plentiful along the coasts of both Newfoundland and Labrador, in the Gulf of Maine and in the Cabot Strait.



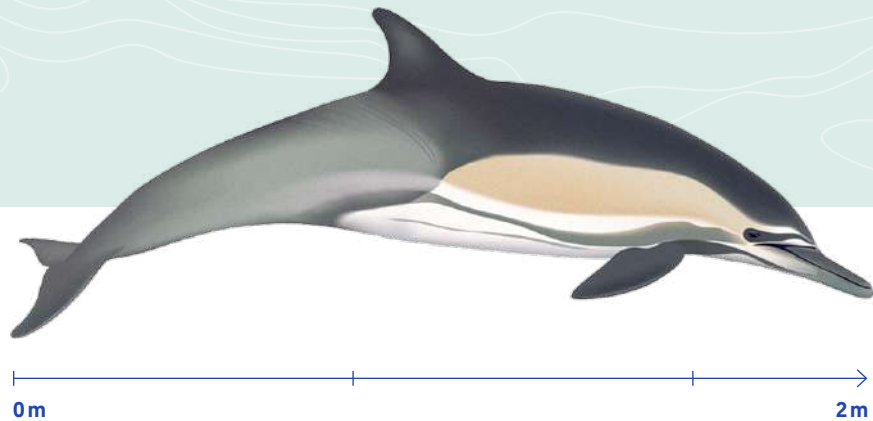
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SHORT-BEAKED COMMON DOLPHIN

English name	SHORT-BEAKED COMMON DOLPHIN
French name	DAUPHIN COMMUN À BEC COURT
Scientific name	<i>DELPHINUS DELPHIS</i>
Other names	COMMON DOLPHIN
Population	NORTHWEST ATLANTIC
Status	● NOT AT RISK



© dlpng.com

The short-beaked common dolphin measures 1.7 to 2.6 metres long and weighs anywhere between 75 and 115 kilograms. It is one of the most abundant and most familiar dolphins in the world.

Little information is currently available regarding potential collisions between common dolphins and ships, though they do frequent the same regions. Their speed and agility in the water might explain why they are at low risk of collisions.

VULNERABILITY

Globally, this species is still abundant, with the exception of a few specific populations where the species has been hunted (e.g. Mediterranean, Black Sea).⁴⁸ The population of the Northwest Atlantic has been estimated to number 121,000 individuals.⁴⁹ As is the case for other dolphin species, incidental capture in fishing gear represents the greatest threat. However, the population is large enough that this issue does not put the species at risk.

PHYSICAL DESCRIPTION

- The spout is not visible.
- The triangular dorsal fin is relatively tall and located in the middle of the back.
- The colour of the latter varies from a bluish-grey to black and the belly is white.
- Each side is marked by large yellowish or tan spots in front (near the head) and light grey in back (behind the dorsal fin). The two colour patterns meet in the middle to form an hourglass, which is diagnostic for the species.



© Fisheries and Oceans Canada

BEHAVIOUR

- Common dolphins live in pods numbering anywhere from several to several hundred individuals.
- Like all dolphins, this species often leaps out of the water, displaying its entire body.
- A fast swimmer, the short-beaked common dolphin can reach speeds of up to 50 km/h.

Short-beaked common dolphins are often associated with the Gulf Stream. They are often found near underwater ridges, seamounts and continental shelves where upwellings occur and prey is plentiful.⁴⁸ The species is not uncommon on the Scotian Shelf off the coasts of the Maritime Provinces.

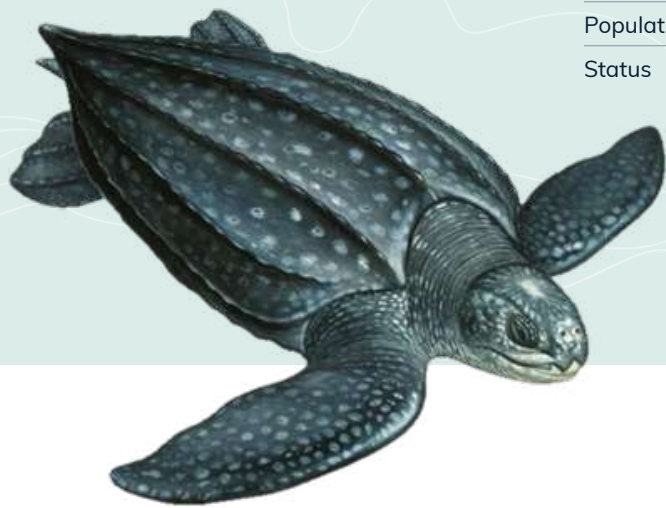


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LEATHERBACK TURTLE



© SeekPng.com

The largest sea turtle in the world, the leatherback can measure up to 2 metres long and weigh over 900 kilograms. Feeding mainly on jellyfish and gelatinous plankton, it is believed to reach the waters of our latitudes by following large concentrations of prey.

To date, three cases of collisions with a leatherback turtle have been reported in Atlantic Canadian waters.⁵¹ Several incidents have also been reported in the United States.⁵² In their feeding grounds, leatherback sometimes float at the surface for extended periods, making them that much more vulnerable to collisions.

VULNERABILITY

Globally speaking, it is estimated that this species has registered a decline of over 70 per cent. In the Atlantic, the greatest threats to leatherback turtles include entanglement in fishing gear, poaching of eggs and changes to nesting beaches, climate change and marine pollution.⁵⁰ Regarding the latter, leatherback have a tendency to mistake plastic bags or balloons in the ocean for one of their favourite prey: jellyfish.

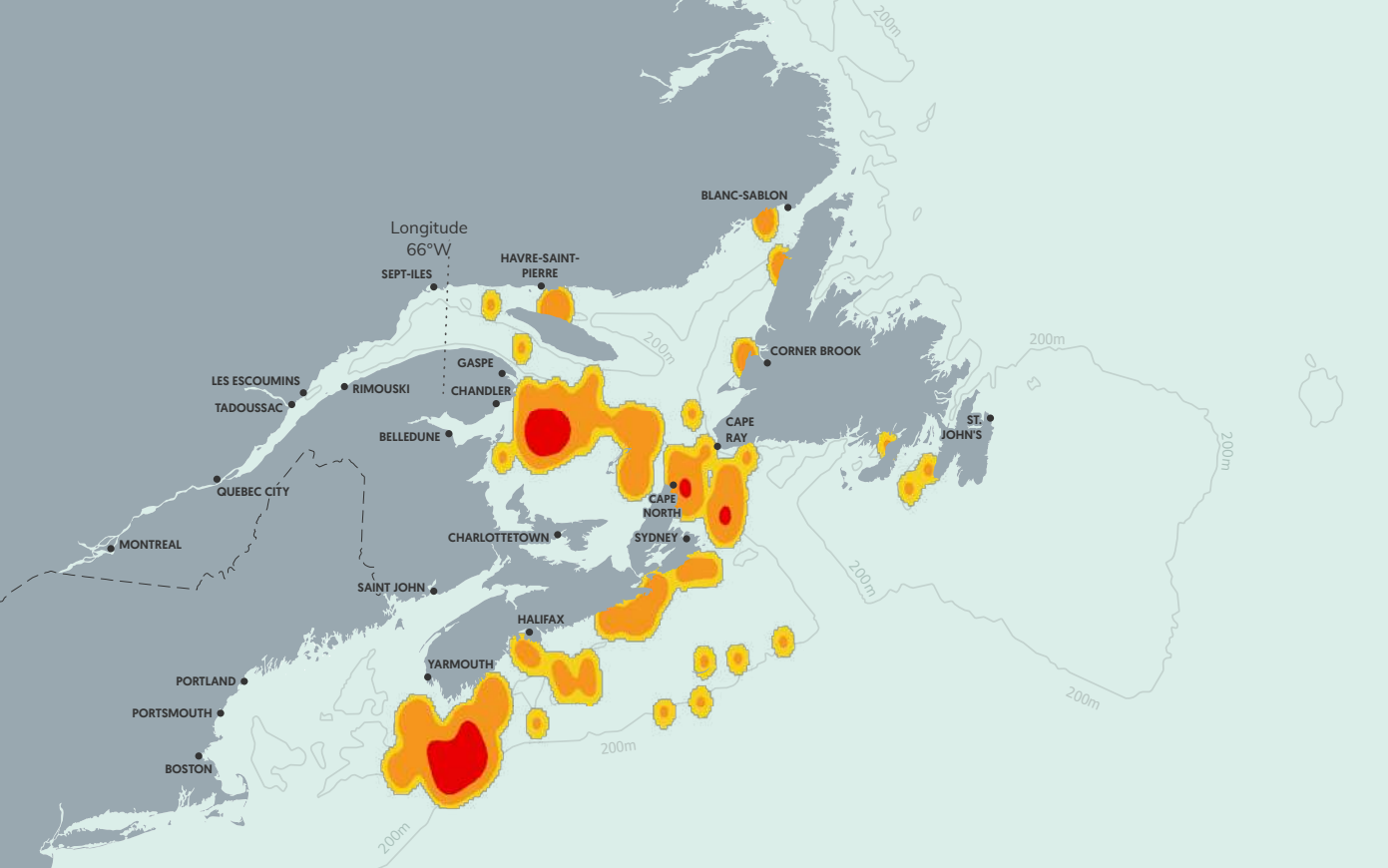
PHYSICAL DESCRIPTION

- The teardrop-shaped shell tapers to a point. It is composed of thick cartilage covered with tough, leathery skin.
- The shell features seven longitudinal ridges.
- Leatherback have a pink spot atop their head that is unique to each individual.

BEHAVIOUR

- The leatherback turtle can dive to depths of up to 1,000 metres and remain under water for over an hour.

English name	LEATHERBACK TURTLE
French name	TORTUE LUTH
Scientific name	DERMOCHELYS CORIACEA
Other names	NONE
Population	NORTHWEST ATLANTIC
Status	● ENDANGERED



In Canada, the leatherback turtle is found off the coasts of Nova Scotia, New Brunswick, Prince Edward Island, and both Newfoundland and Labrador. Research has shown that it is especially prevalent in the waters of Atlantic Canada from July until late October, with the highest densities being on the Scotian Shelf and Scotian Slope, in the southern Gulf of St. Lawrence and the southern coast of the Island of Newfoundland. Observations have been made in the Mingan Archipelago and off the coast of Anticosti Island in the Gulf of St. Lawrence.

Map 17
This map shows the areas where leatherback turtles were seen and recorded between 2015 and 2019. You may encounter whales in areas not highlighted and you may encounter more whales in some areas than suggested by the maps. Please read the cautionary notes on p. 31. Not suitable for navigation. Please refer to CHS charts for navigation purposes.



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Rare Whales


RISSO'S DOLPHIN
Grampus griseus



© NOAA

3.4 TO 5 METRES


STRIPED DOLPHIN
Stenella coeruleoalba



© ClipartKey.com

1.8 TO 2.7 METRES

COMMON BOTTLENOSE DOLPHIN
Tursiops truncatus



© dlpng.com

2 TO 4 METRES


SOWERBY'S BEAKED WHALE
Mesoplodon bidens



© DFO

4.5 TO 5.5 METRES

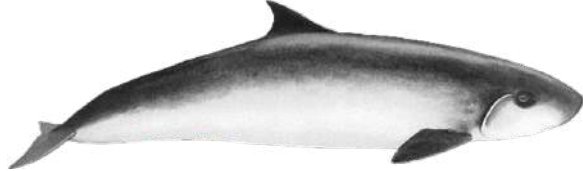
CUVIER'S BEAKED WHALE
Ziphius cavirostris



© NOAA

6 METRES

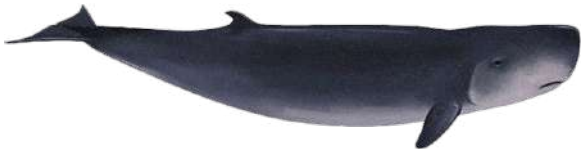
DWARF SPERM WHALE
Kogia sima



© FOA

2.7 METRES

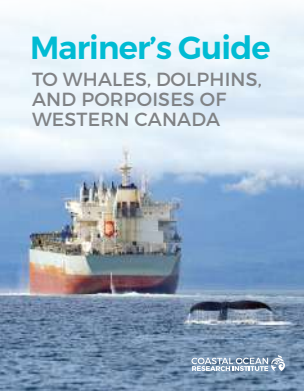
PYGMY SPERM WHALE
Kogia breviceps



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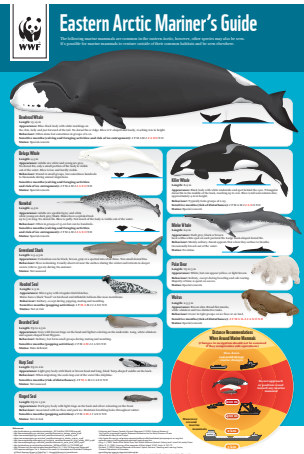
2.5 TO 4 METRES

OTHER GUIDES IN CANADA



WESTERN CANADA

The [Mariner's Guide to Whales, Dolphins and Porpoises of Western Canada](#) is a resource developed by the Coastal Ocean Research Institute, Prince Rupert Port Authority and Port of Vancouver. This guide is intended for large vessel mariners and aims to inform them about the cetacean species along the British Columbia coast, threats to these animals that may be associated with large vessels and shipping, and how mariners can minimize these threats.



EASTERN ARCTIC, WESTERN ARCTIC AND HUDSON STRAIT

WWF-Canada has published three mariner's guides for the Canadian Arctic in order to help identify marine mammals and minimize shipping-related disturbance to wildlife and local Indigenous communities: the [Hudson Strait Mariner's Guide](#), the [Eastern Arctic Mariner's Guide](#) and the [Western Arctic Mariner's Guide](#).

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