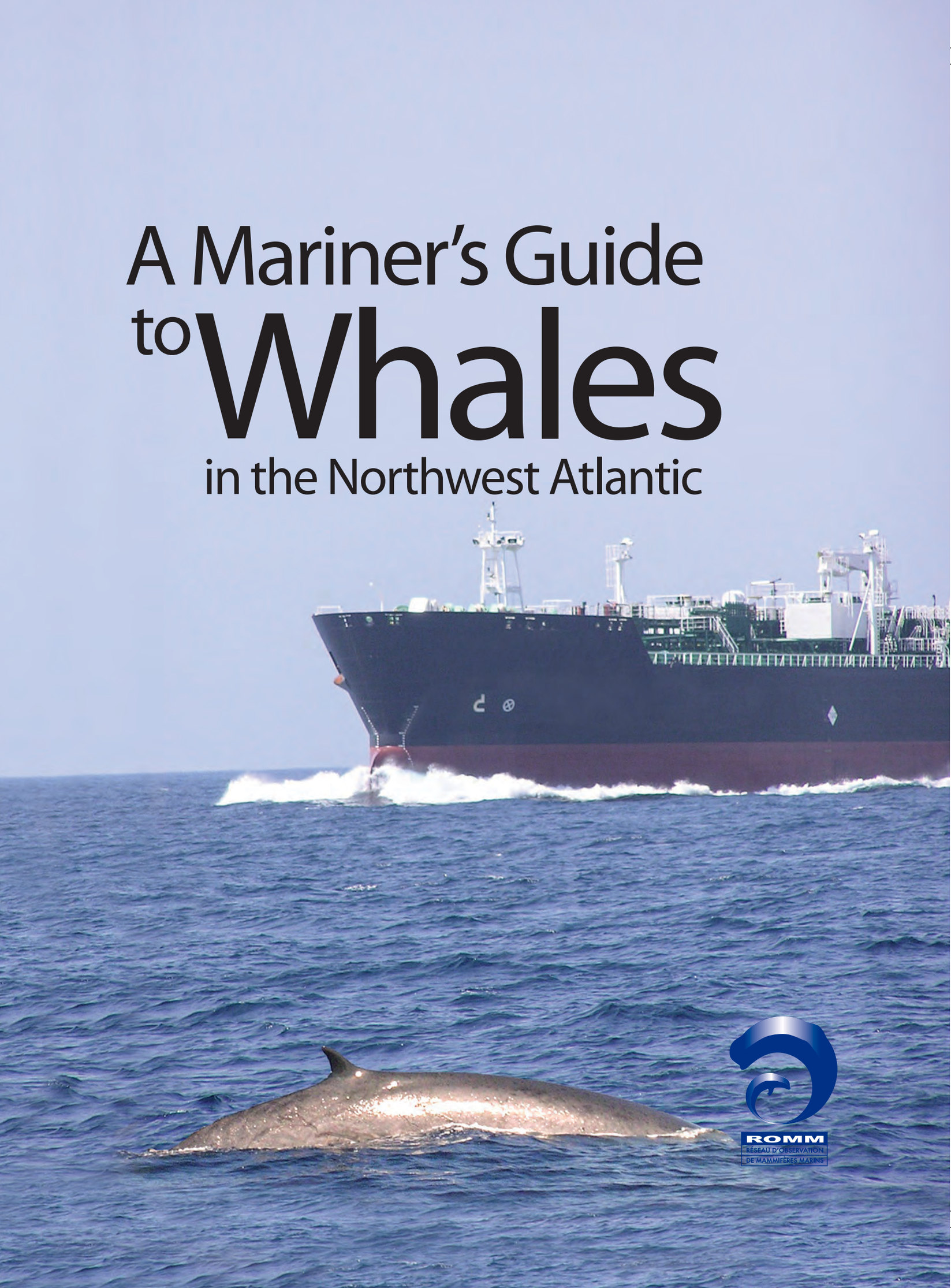
A Mariner's Guide to Whales in the Northwest Atlantic



ROMM
RÉSEAU D'OBSERVATION DE MAMMIFÈRES MARINS

A Mariner's Guide to Whales in the Northwest Atlantic

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This document was prepared by the Réseau d'observation de mammifères marins (ROMM).

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Created in 1998, the **Réseau d'observation de mammifères marins (ROMM)** is an organisation dedicated to the protection and conservation of cetaceans and seals, primarily in the St. Lawrence Estuary and Gulf. To fulfill this mission, ROMM undertakes projects that involve acquiring knowledge, establishing networks, developing educational tools and raising awareness. The organisation is built on a network of members who collect data on the cetaceans and seals they observe throughout their season of activity. The overall purpose of this huge environmental monitoring project is to gain a greater understanding of the distribution of these animals in the St. Lawrence.

For more information, please visit **www.romm.ca**

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The impetus for this project was provided by the **Shipping Federation of Canada**, which has served as an advocate for the owners, agents and operators of ships involved in Canada's world trade since 1903. Its 75 members represent some 200 shipping companies involved in all aspects of the ocean shipping industry, including the dry bulk, liquid bulk, container and cruise sectors. The Federation's overall objective is to work towards maintaining a safe, efficient, competitive, environmentally sustainable and quality-oriented marine transportation system.

For more information, please visit **www.shipfed.ca**

Shipping Federation of Canada

Preface

The waters of the Northwest Atlantic and the St. Lawrence River are a major waterway for shipping. Every day, hundreds of vessels travel through these coastal Canadian waters, as do many cetacean species. This waterway will continue to evolve in the years ahead as it keeps pace with industrial developments.

The area harbours a significant amount of biodiversity, including a great many cetacean species which benefit from the region's food and habitat. Although some of these species are present all year long, most undertake annual migrations, leaving to breed in warmer waters as winter approaches and then returning north to feed in the summer.

Cetaceans are highly susceptible to collisions with ships, which is probably the cause of most human-related mortality for these animals. As several whale species frequenting the Northwest Atlantic have an "at risk" status, it is all the more crucial to try to reduce the impact of human activity on their populations. This being said, the greater the vessel density in an area, the greater the risk of collisions with the whales present in that area.

Technology may soon provide us with tools for monitoring cetaceans and thus reducing their risk of colliding with vessels. Until then, the best way of reducing such risks is to encourage responsible practices and improve our understanding of where in our waters these animals are located. This guide should be viewed as a useful tool in this respect, as it consolidates the knowledge and information that we currently have on cetacean distribution and marine traffic in the Northwest Atlantic. The first of its kind in the region, we hope that this guide will inspire further research into the distribution of whales and their habitat use, and ultimately serve to better protect them.

Lyne Morissette, Ph. D.

Marine Mammal and Ecosystem
Ecology Specialist

Preface

Collisions between whales and commercial ships have become an increasingly serious problem in Canadian waters. However, the lack of a centralised information resource that identifies cetacean species and the areas of our waters that they frequent has made it difficult to sensitize mariners to this issue.

This is why we are so pleased to present this guide for mariners transiting the waters of the Northwest Atlantic. Not only does the guide provide information on collisions between ships and whales, it also contains maps of those areas in which greater vigilance is required. Its overall goal is to encourage mariners to be particularly vigilant when transiting areas that are known to be frequented by the various species identified in the guide. In addition, the guide 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.

We hope this tool, which is the first of its kind, will spark your interest in the many cetacean species that are present in the Northwest Atlantic and, most importantly of all, help ensure that these magnificent creatures continue to share our waters in the years ahead.

Enjoy your reading!

Caroline Gravel

Director, Environmental Affairs
Shipping Federation of Canada

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Hilary Moors-Murphy

Introduction

Commercial shipping plays a crucial role in the economy of the Northwest Atlantic region by carrying raw materials and manufactured goods on both an import and export basis. In addition to its significant economic advantages, shipping also generates considerable environmental benefits. Indeed, marine transportation is the most environmentally friendly way of moving goods, with an environmental footprint that is smaller than that of both rail and road transportation.

With one litre of fuel, a medium-sized ship (i.e. one capable of transiting the locks on the St. Lawrence Seaway) can travel four times as far as a truck and twice as far as a train. It can also carry the same payload as 870 trucks.

The objective of this guide is to raise awareness among ship crews and increase their knowledge of the many cetacean species that are present in the Northwest Atlantic, with a view to promoting better coexistence between ships and whales. The guide identifies measures that have been implemented locally and elsewhere in the world to reduce the risk of collisions. It also contains maps showing areas where such risks are potentially higher, and where crews should therefore be more vigilant in terms of being on the lookout for cetaceans. Given the shipping industry's commitment to reducing its environmental footprint, this guide should be viewed as an information tool that mariners can use to help minimize the likelihood of future collisions.

Sonia Giroux

A group of Fin whales near l'île Verte

Sonia Giroux

When Ships Meet Whales

The Consequences of Collisions Between Ships and Whales

Ships can adversely impact the biological activities of cetaceans in a number of ways. This includes disrupting their breathing, diet, rest and socialisation, and affecting their ability to care for juveniles. Even more seriously, collisions between ships and cetaceans can lead to significant injuries, including deep lacerations (caused by propellers), bruises, fractures, bleeding and possibly death.

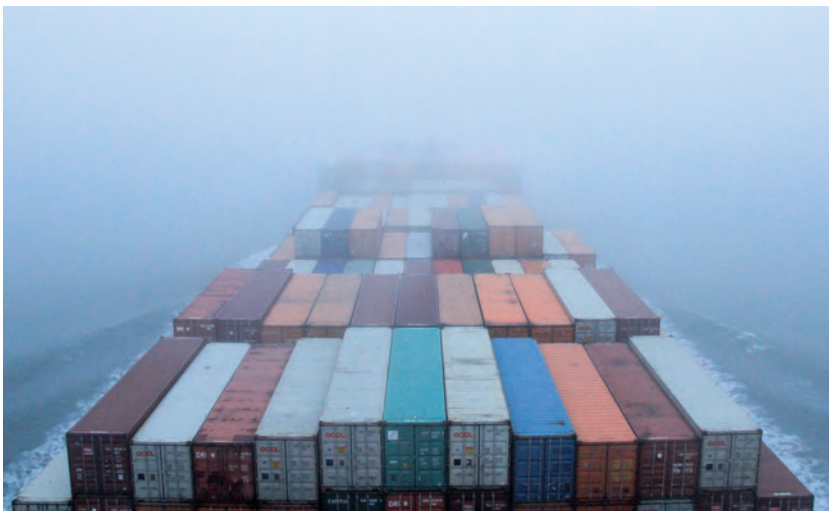
Collisions are a negligible threat for healthy populations. However, for populations that are already weakened (such as those of the Blue whale or the North Atlantic Right whale), any new collision resulting in the death of an individual increases the risk of the species' overall extinction. Collisions between ships and cetaceans also have consequences for the vessels involved, and can cause damage – sometimes major – to the ship's hull, propellers, shafts or rudders, thus leading to slower navigation and potential delays in the delivery of goods. (11; 16)

Factors That Increase the Risk of Collision

The main risk factors that contribute to collisions between ships and whales are overlaps between whale habitats and shipping routes. Other factors that influence the frequency and severity of collisions include:

Adverse Weather Conditions: Foggy weather, high waves or abundant rain or snow can limit the visibility of the crew on the bridge, thus leading to an increased risk of collision.

Louis Rhéaume



Decreased visibility due to foggy weather reduces the likelihood of spotting whales.

Louis Rhéaume

Two ships approach each other near the Port of Québec

Vessel Size: A cetacean's risk of dying from a vessel strike increases with the size of the vessel involved. This is particularly true for ships (such as commercial vessels) that are more than 80 metres long (15). Not only do such vessels have limited short-distance and near-bow visibility, they are also slow to respond when required to change course in order to avoid a whale in their trajectory. This being said, data provided by the International Whaling Commission (IWC) indicates that most ships involved in collisions (whether fatal or not) did not exceed 50 metres in length.

Ship Speed: The risk of seriously injuring or killing an animal increases significantly with speed (20; 27; 28). It is estimated that a large whale has a 31% risk of being killed or seriously injured if it is struck by a ship travelling at 10 knots, while that risk rises to 90% if it is struck by a ship travelling at 17 knots! (20)

A U.S. study indicates that 68% of collisions involving large whales are fatal, while 14.6% result in injuries (11). Although these percentages tend to decrease in global studies, they are still high (44% cause death and 5.2% cause injury).

Whale Behaviour, Age and Gender: Studies have shown that ship-strike victims are most often new-borns, juveniles and pregnant females (30). Indeed, a young or sick cetacean; or one that is swimming slowly, feeding, mating, or giving birth; or one that is accustomed to the presence of ships will have a higher risk of collision, regardless of the type of ship or its speed. Each species' particular vulnerability in this respect is described in the section on whale types found later in the guide.

Acoustical Factors: It is not easy for a whale to detect the presence of moving ships, despite the noise that they make. This

Joël Detcheverry, SPM Fragîles

A group of Killer whales near the coast of Saint Pierre and Miquelon

is because ambient sounds can mask[1] such noise and because a whale's hearing may be weakened by prolonged exposure (21), particularly in areas with a high density of marine traffic. This decrease in sensitivity means that a whale may no longer perceive the noise made by a ship as a threat, unless it is associated with a negative encounter (16). Also, because the main source of noise on a ship comes from the propeller, which is located at the rear of the vessel, this noise will be less pronounced when the whale is in front of the ship. Indeed, the hull acts as a physical barrier that keeps the noise made by the propeller from reaching the

Louis Rhéaume

1. The phenomenon of acoustic masking is described as the presence of a noise that keeps an animal from noticing another noise. In such cases, the first noise masks the subsequent noise, which translates into a partial or total loss of information.

front of the ship, thus creating a noise-free area ahead of the bow where the danger of collision is actually the greatest.

High-Risk Areas: High-risk areas are defined as sectors with both heavy marine traffic and high densities of whales. The St. Lawrence Estuary is one example of a high risk area, as are the Cabot Strait and (farther south) the Roseway Basin.

Collision Records

Although many research projects have studied the phenomenon of collisions between whales and ships, most have concluded that it is difficult to estimate the actual number of individual whales involved in such incidents. There are a number of reasons for this, including the fact that some whale carcasses may sink to the seabed or wash ashore in remote locations (as a result of which they are not recorded). Alternatively, the ship's crew may not know what to do when a collision occurs or they may not even be aware that a collision has occurred. In addition, there is a high error rate in identifying the species involved in collisions, making the statistics that do exist quite unreliable. All of these factors highlight the importance of reporting any and all collisions to the competent authorities. Indeed, in some areas, such as in the Saguenay – St. Lawrence Marine Park, any collision with a whale must be reported to a park warden as a regulatory requirement.

Souffleurs d'Écume

After a collision, a whale sometimes remains hung up the ship's bulbous bow, forcing the ship to reduce its speed and undertake measures to safely dispose of the carcass.

Potential Solutions

Given that boundaries and borders do not exist for cetaceans, the risk of collisions between ships and whales exists in every ocean in the world. It may therefore be useful to examine some of the risk reduction measures that have been implemented in other parts of the world. It is important to note, however, that the use of similar measures in the Northwest Atlantic depends on many factors, not the least of which is developing a solid understanding of the particular species that are likely to be found in the area (and during which seasons). This is why it is so essential to continue the effort to improve our comprehension of these and related issues.

Collision Reduction Measures: A Few Examples

Modified Shipping Lanes: When studies identify an area where high numbers of whales and heavy marine traffic overlap during certain times of the year, one option for reducing the risk of collisions is to modify the route of a shipping lane over a given distance, as has been done in the Bay of Fundy. This is particularly pertinent when the species involved are endangered. Although modifying shipping lanes has proven to be effective in keeping collisions to a minimum, this option – which may seem simple at first glance – requires scientific justification and a comprehensive analysis of its operational implications. In addition, any such changes must be approved by the International Maritime Organisation (IMO) and the information added to existing navigational charts.

Ship Speed: As mentioned above, reducing vessel speed increases the reaction time needed to avoid a collision with a whale (6, 22 and 16). At a speed of 11.8 knots, the percentage of ship strikes resulting in an animal's death falls by 20%, while at a speed of 8.6 knots, the percentage falls by 50% (15). Some speed reduction measures have recently been adopted on the U.S. east coast and their effectiveness is currently being monitored. A similar voluntary speed reduction measure will also be tested in the upstream portion of the St. Lawrence Estuary.

Whale-Detection Technology: The systems used to detect whales have undergone considerable technological development. However, some factors still limit their performance, including the distance at which they are effective, their reliability in both fair and inclement weather, and the high cost that shipping companies must pay to acquire and operate such equipment.

In 1982, the International Maritime Organization (IMO) adopted the Bay of Fundy Traffic Separation Scheme, which required ships over 20 metres in length to use separate inbound and outbound shipping lanes when transiting the bay.

In 2000, an analysis of data from 14 years of Right whale surveys and radar tracking of vessel movements pointed to an overlap between high densities of Right whales and outbound shipping lanes. Further analysis indicated that the relocation of these shipping lanes would reduce the probability of collisions by 80%. As a result, the Canadian Right whale Recovery Team and the regional and national Canadian Marine Advisory Councils proposed that the Bay of Fundy Traffic Separation Scheme be modified to reduce the likelihood of collisions between ships and Right whales. The Canadian delegation submitted this proposal to the IMO's Subcommittee on Safety of Navigation in 2002, and the proposal was subsequently adopted and the shipping lanes changed.

Souffleurs d'Écume

The REPCET (*repérage de cétacés en temps réel* or real-time cetacean detection system) is a type of technology that allows for the real-time detection of whales in the Mediterranean Sea.

The Dedicated Observer: Numerous studies have concluded that one of the most effective ways of reducing collisions is to station a trained observer at the front of the ship to be on the lookout for animals during periods of good visibility (1, 5, 6, 22 and 25). Although this option would also increase the reliability of the data collected on the species being observed, the realities of commercial shipping make such a measure impractical on a day-to-day basis. In addition, a dedicated observer would not be effective at night or in poor visibility, meaning that some kind of technological support would also be required.

Improving Cohabitation Between Ships and Whales

Before developing measures to change navigation practices, it is important to have a better understanding of the risk of collisions between whales and ships. Given the limited knowledge that currently exists on this subject, we need to develop appropriate research programs that are pertinent to the Northwest Atlantic. The knowledge that we gain from such efforts will ultimately make it easier to educate stakeholders and to produce appropriate tools for reducing the risk of collisions.

Louis Rhéaume

An observer on the bridge tasked specifically with detecting whales could potentially reduce the risk of collision.

It is also important to increase collaboration between the scientific and marine shipping communities. There currently exist few formal structures by means of which scientists and shipping industry representatives can exchange pertinent information on this issue. One recent initiative is the creation of the Groupe de Travail sur le Transport Maritime et la Protection des Mammifères Marins (G2T3M), which has been working since 2011 to develop solutions for reducing collision risks in the upstream portion of the St. Lawrence Estuary.

Some potential solutions identified by the group include enhancing emergency networks and organising activities to raise public awareness.

Emergency Networks – Gaining a Better Understanding of Where, When and How

Unlike scientific research, which consists of having trained persons gather data over a period of time in compliance with a research protocol, data gathered by emergency networks can be collected randomly throughout the year and may sometimes originate from areas that are unavailable to researchers. Although data gathered in this way does not have the same reliability as data collected by scientific investigators, its validity can be enhanced with photos and videos, thus making is useful to a limited extent.

For instance, the implementation of emergency networks in the St. Lawrence Estuary and Gulf has generated a great deal of information on marine mammal strandings, entanglements and collisions. By raising the marine industry's awareness of these issues, it is also possible to improve current knowledge about collision numbers and locations.

Raising Awareness Within the Public and Among Mariners

Ideally, every shipping company should train its crews to implement procedures to prevent collisions and react appropriately

Souffleurs d'Écume

In France, a group called Souffleurs d'Écume offers training to mariners frequenting the Mediterranean Sea.

when collisions do occur. Such training would also help identify the whale species encountered and thus improve the reliability of data on this subject.

Proposed Measures for Dealing with Collisions

Large commercial vessels transit defined corridors of the Northwest Atlantic throughout the year. The crews on these ships can therefore play a key role in identifying rare species and individuals that are outside their normal range. Learning to identify such species and being familiar with their normal range are two concrete ways in which mariners can help gather data that is extremely valuable to the scientific community. The numbers to call to report a species observed in a given area are provided on the following page and can also be found on the back cover of this guide.

Marine Mammals in Distress

Reporting marine mammals in distress and conducting necropsies of carcasses provides valuable information on the biology, ecology and health of the species involved. It is important to remember that incidents involving cetaceans sometimes seriously affect populations that are already endangered (such as the Blue whale, the North Atlantic Right whale and the Northern bottlenose whale). Prompt and effective action is essential in helping animals in distress. You will find listed below three networks that can be contacted to report a collision, or an observation of an animal in distress or a drifting carcass:

Québec
Réseau québécois d'urgences pour
les mammifères marins
1 877 722-5346

Nova Scotia, New Brunswick and Prince Edward Island (Maritimes)
Marine Animal Response Society
1 866 567-6277

Newfoundland and Labrador
Whale Release and Strandings
1 888 895-3003

Souffleurs d'Écume

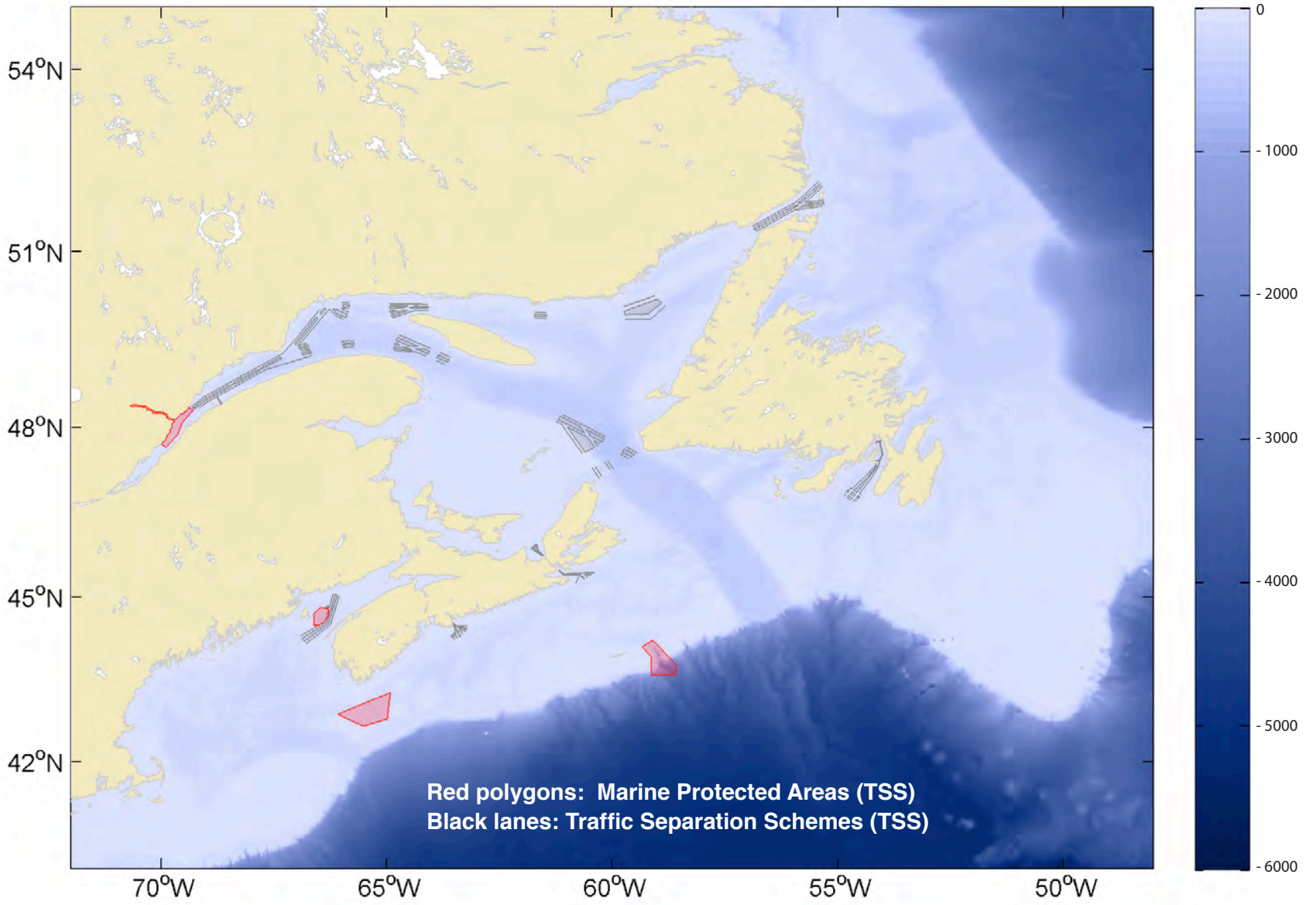
Caution

The maps on the following pages provide data on the presence of cetacean species in the various areas covered by the project, and on specific areas where greater vigilance is required. However, these maps should be used and interpreted with the following cautionary notes in mind:

1. The maps do not contain all of the collated data that exists on the presence of cetaceans in the area (as some such data was not made available to us).
2. The fact that there is no information on the presence of cetaceans for some areas and some periods of the year should not be misinterpreted as meaning that there are no cetaceans in those areas and/or periods.
3. The maps are based on information contained in a number of databases, each of which collects data in a different way. Although our analysis takes this into account, this does not necessarily mean that all of the data has been standardized.
4. The maps were not produced on the basis of any risk analysis exercise. Areas requiring greater vigilance were identified by superimposing data regarding cetacean distribution onto data regarding the passage of commercial shipping.

For more information on the methodology used to produce the maps, please contact the Réseau d'observation de mammifières marins at ***info@romm.ca***.

Map of the Northwest Atlantic



Map 1: Bathymetry of the area covered by this project.

The Laurentian Channel extends from the St. Lawrence River to the edge of the continental shelf; it is easy to see given its greater depth. Red polygons mark the location of Marine Protected Areas while black lanes mark Traffic Separation Schemes (TSS).

Maps of Sectors Frequented by Mariners

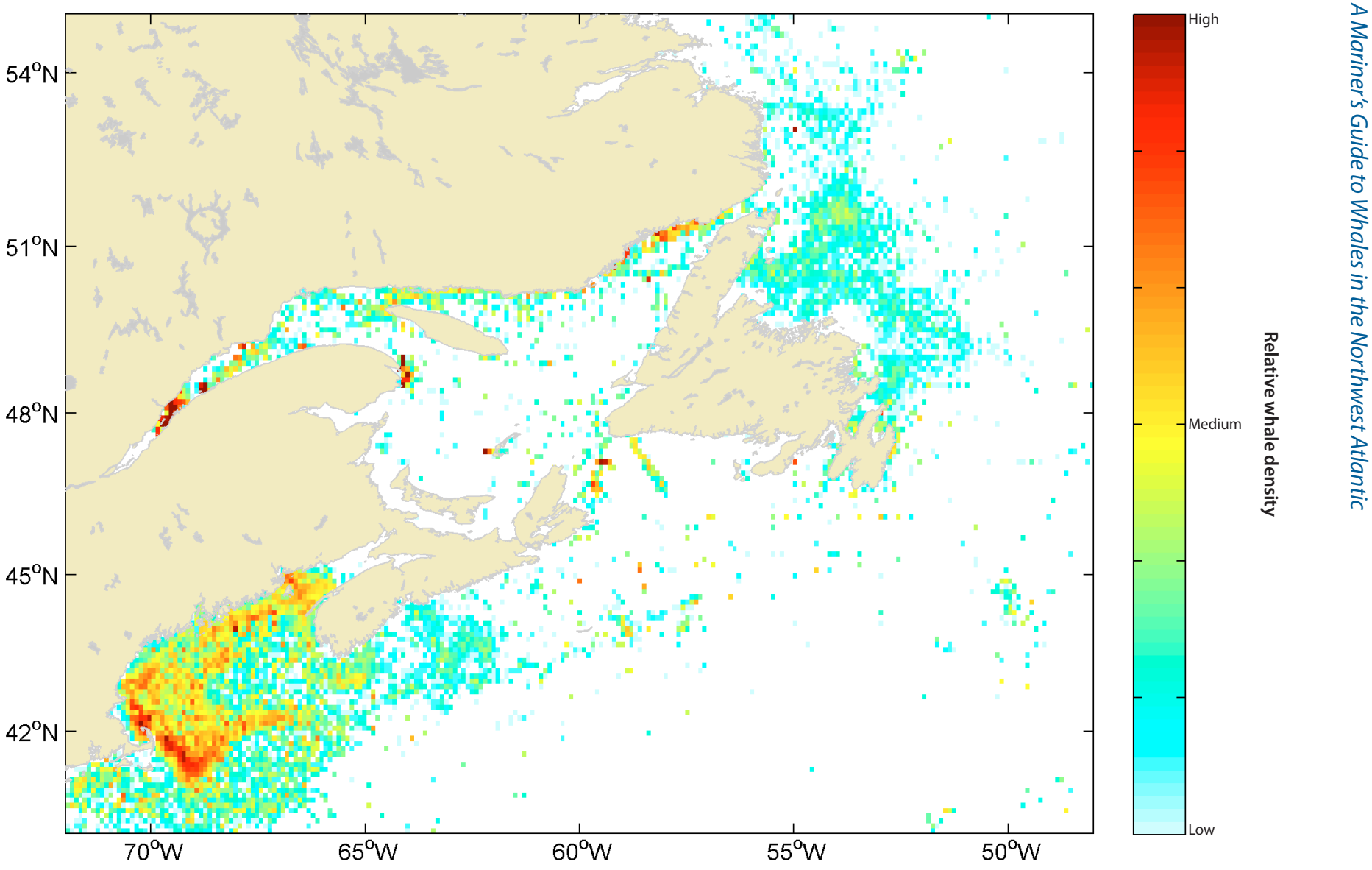
This section of the guide shows the Northwest Atlantic area divided into six sectors that are particularly travelled by the shipping industry. The maps show the areas where cetaceans are most likely to be encountered and where interactions are most probable between April and October. Because data collection efforts are smaller during the winter, it was more difficult to evaluate the probability of interactions for the November to March period. Information about the species most likely to be encountered is provided in the map legends and on the cetacean distribution maps.

The maps showing the probability of an encounter were created by superimposing the cetacean distribution maps (map 2) over the shipping density maps (map 3). This produced maps showing areas where greater vigilance is required in order to prevent collisions (map 4). No analysis of collision risks was conducted to describe the collision risk associated with the different sectors.

The sectors presented in this section are:

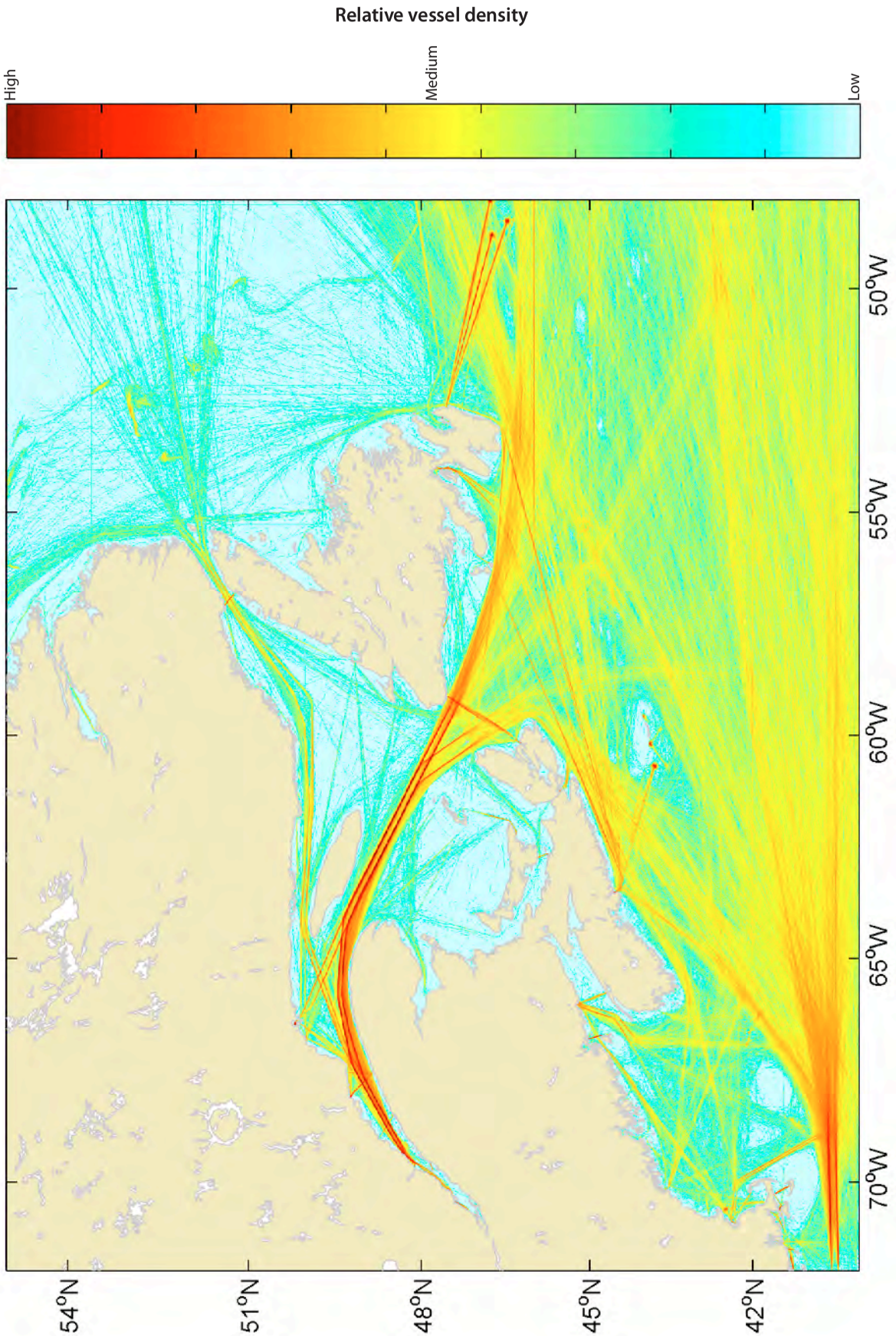
1. **St. Lawrence Estuary**
2. **Gulf of St. Lawrence**
3. **Strait of Belle Isle**
4. **Cabot Strait**
5. **Nova Scotia Coast**
6. **Gulf of Maine and Bay of Fundy**

Hilary Moors-Murphy

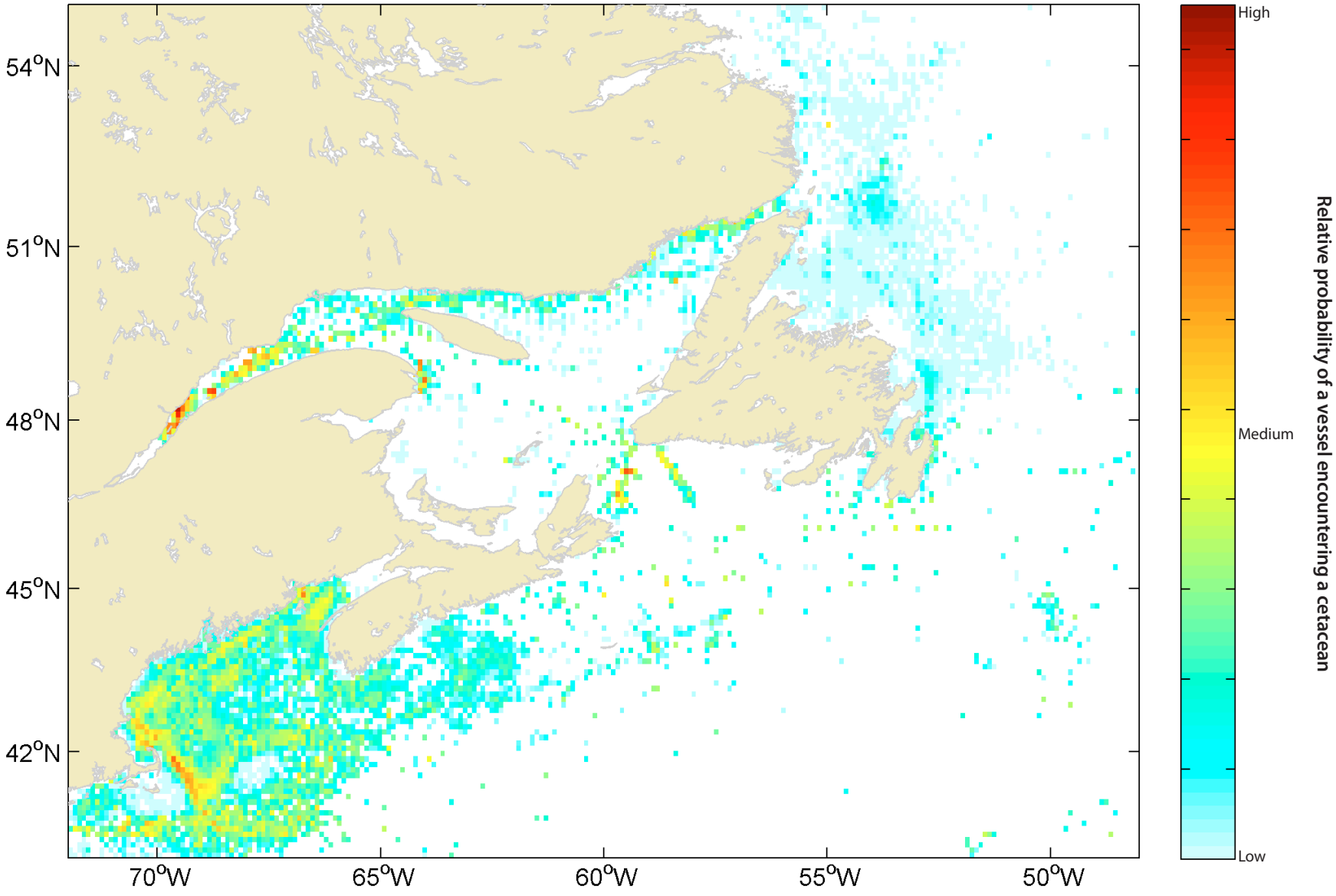


Map 2: Overview of the density of several cetacean species in the Northwest Atlantic.

Map obtained using distribution data from various sources, 80% of which was collected between April and October (no data available for areas in white).



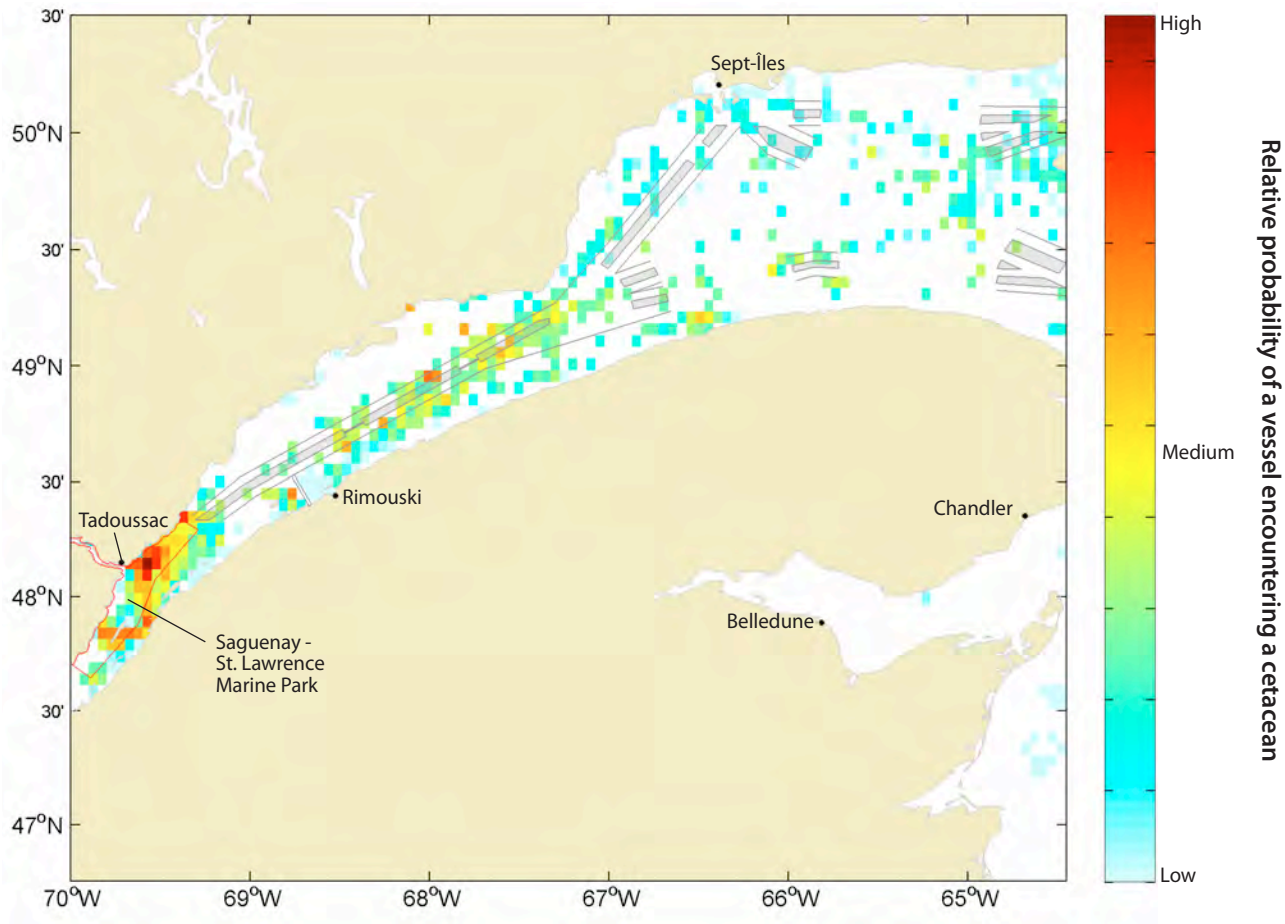
Map 3: Overview of vessel density in the Northwest Atlantic.



Map 4: Overview of the risk of a vessel encountering a cetacean (all species) in the Northwest Atlantic.

Greater vigilance is required in areas marked in orange and red. Approximately 80% of the cetacean distribution data was collected from April to October (no data available for areas in white).

Sector 1: St. Lawrence Estuary



Map 5: Probability of a vessel encountering a cetacean in the St. Lawrence Estuary sector.

Map based on whale and vessel data obtained, 80% of which was gathered from April to October (no data available for areas in white).

Not suitable for navigation. Please refer to CHS charts for navigation purposes.

The Saguenay – St. Lawrence Marine Park, occupying 1,245 square kilometres, lies in the western portion of the Estuary. Special regulations – notably a 25-knot speed limit – are in effect in this marine protected area and must be respected at all times. In addition, more restrictive speed limits may be applied in certain situations[1]. Collision incidents must be reported to a park warden at 1 866 508-9888 and cruise operators must obtain licences to conduct their activities.

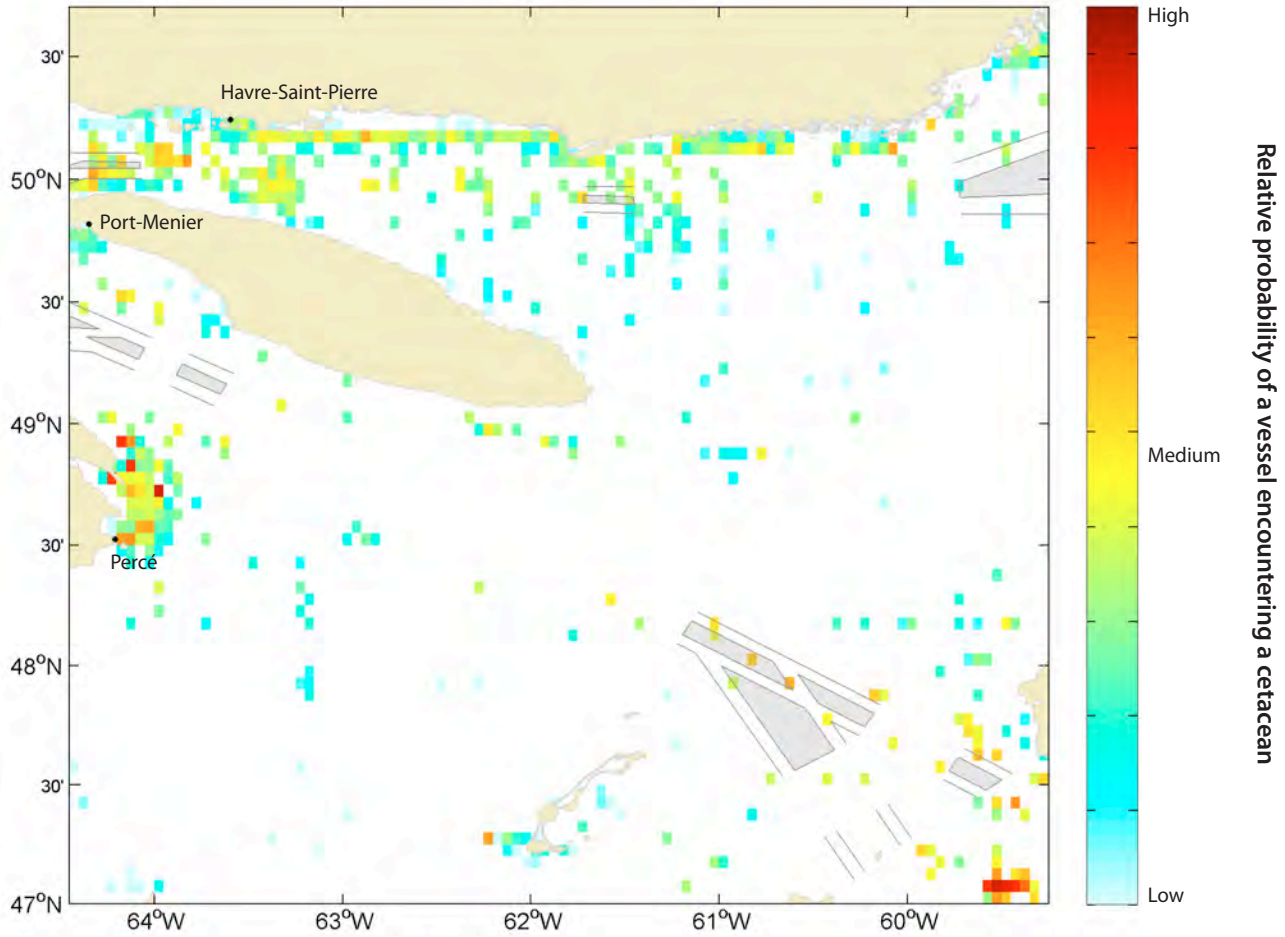
In the upstream portion of this sector, the Groupe de Travail sur le Transport Maritime et la Protection des Mammifères Marins (G2T3M) was formed in 2011, with a view to identifying measures to reduce the risk of collisions with marine mammals. Specific voluntary measures in this respect are now under development.

The main cetacean species most likely to be encountered here are:

- **The St. Lawrence Estuary Beluga whale**
- **The Blue whale**
- **The Fin whale**
- **The Humpback whale**
- **The Minke whale**
- **The Harbour porpoise**

1. For more information about this law, please consult http://laws-lois.justice.gc.ca/eng/

Sector 2: Gulf of St. Lawrence



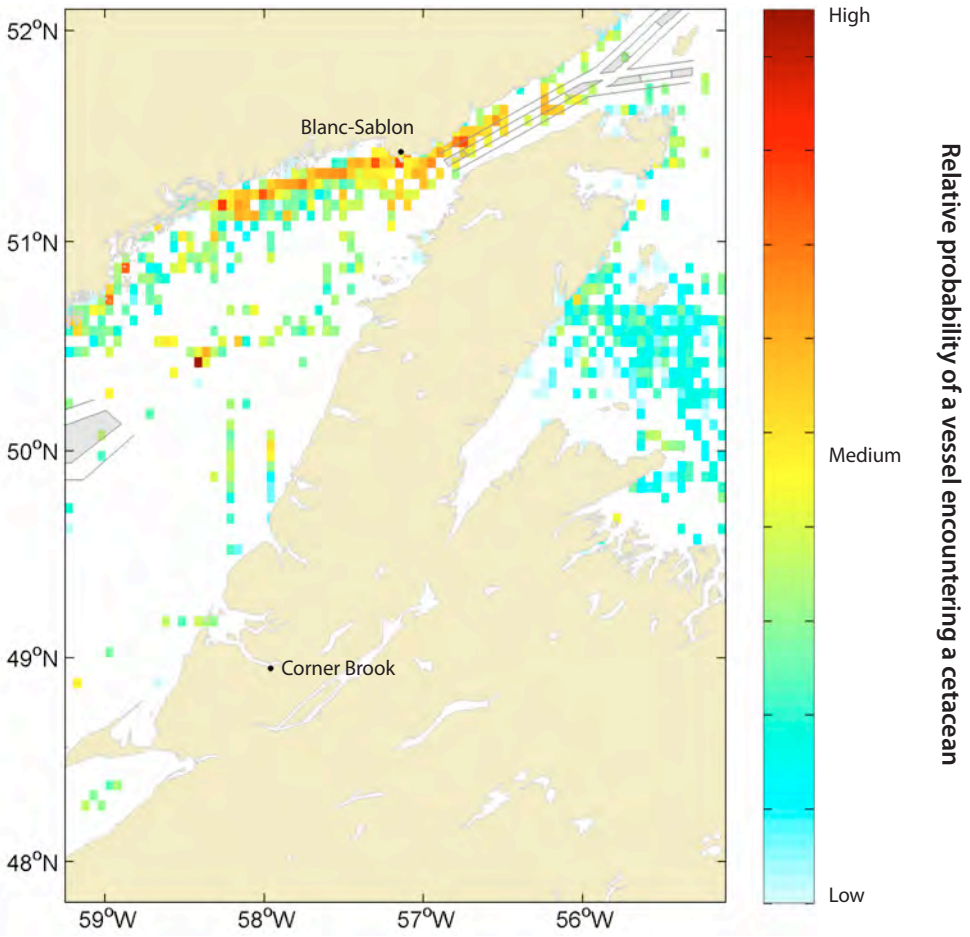
Map 6: Probability of a vessel encountering a cetacean in the Gulf of St. Lawrence sector.
Map based on whale and vessel data obtained, 80% of which was gathered from April to October (no data available for areas in white).
Not suitable for navigation. Please refer to CHS charts for navigation purposes

Anticosti Island and the Magdalen Islands lie in this portion of the territory. Very little is currently known about cetacean presence in this sector, regardless of the season, which explains the many white areas on the map. One should not, however, conclude that there are no cetaceans here.

The main cetacean species most likely to be encountered in this area are:

- **The Blue whale**
- **The Fin whale**
- **The Humpback whale**
- **The Minke whale**
- **The Harbour porpoise**
- **The Atlantic White-Sided dolphin and the White-Beaked dolphin**

Sector 3: Strait of Belle Isle



Map 7: Probability of a vessel encountering a cetacean in the Strait of Belle Isle.

Map based on whale and vessel data obtained, 80% of which was gathered from April to October (no data available for areas in white).

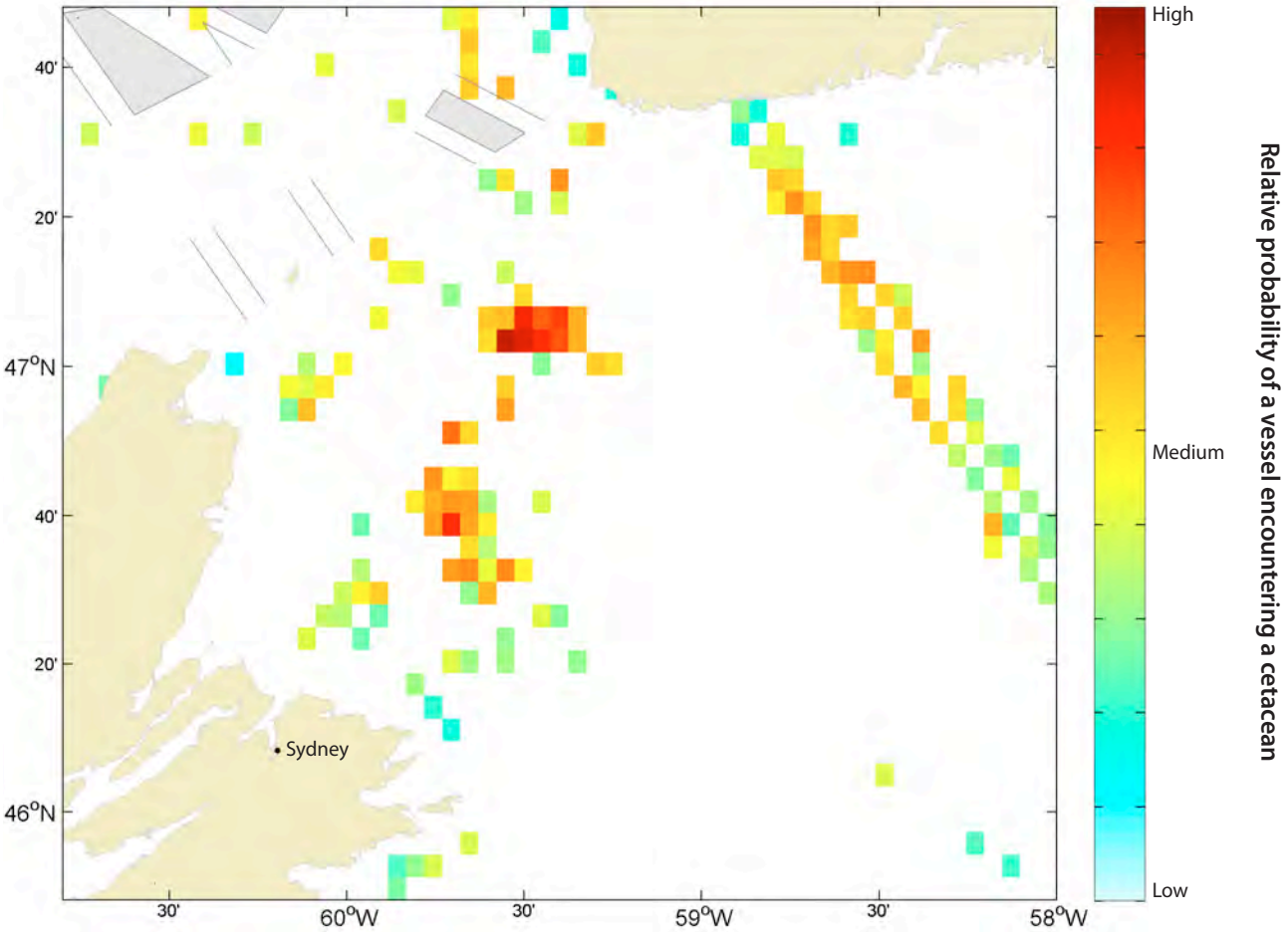
Not suitable for navigation. Please refer to CHS charts for navigation purposes.

This portion of the territory is located where Québec and Labrador meet, with Newfoundland on the opposite side of the strait. A key shipping gateway to the St. Lawrence, this strait is also visited by many cetacean species.

The main cetacean species most likely to be encountered here are:

- **The Blue whale**
- **The Fin whale**
- **The Humpback whale**
- **The Minke whale**
- **The Harbour porpoise**
- **The Atlantic White-Sided dolphin and the White-Beaked dolphin**

Sector 4: Cabot Strait



Map 8: Probability of a vessel encountering a cetacean in the Cabot Strait sector.

Map based on whale and vessel data obtained, 80% of which was gathered from April to October (no data available for areas in white).

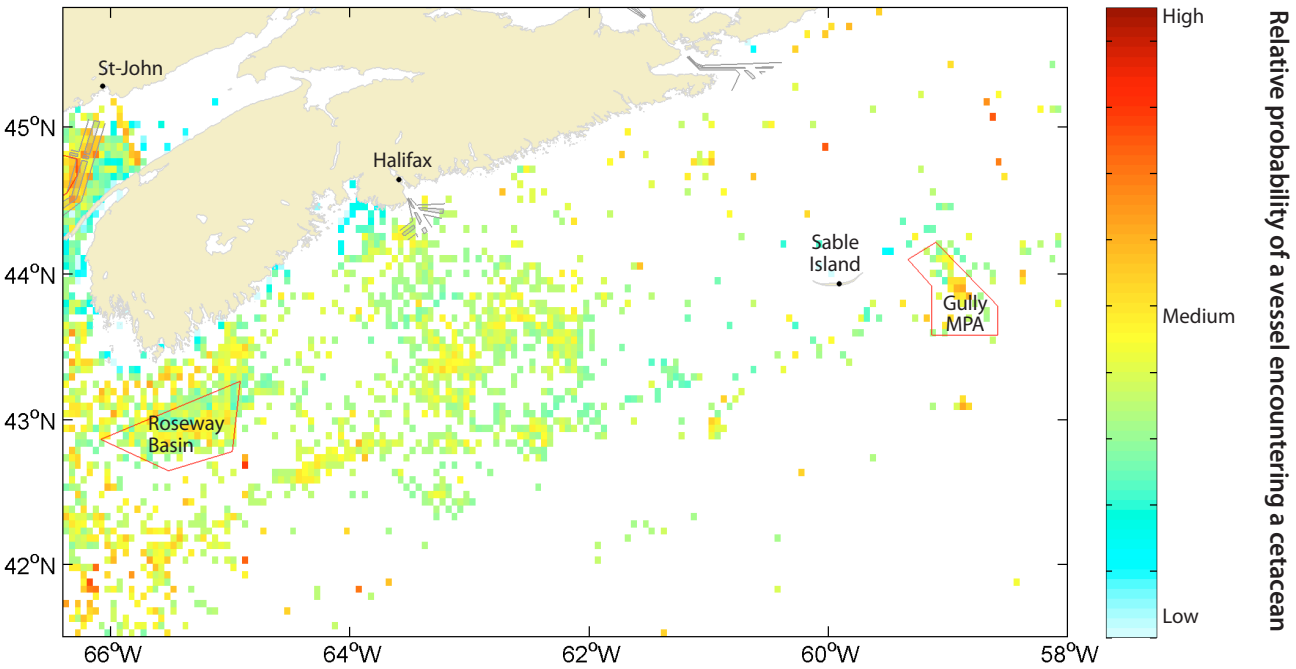
Not suitable for navigation. Please refer to CHS charts for navigation purposes.

This portion of the territory lies between Nova Scotia and Newfoundland. A key gateway for ships entering the Gulf of St. Lawrence, this strait is also visited by numerous cetacean species.

The main cetacean species most likely to be encountered here are:

- **The Fin whale**
- **The Minke whale**
- **The Harbour porpoise**
- **The Long-Finned Pilot whale**
- **The Atlantic White-Sided dolphin and the White-Beaked dolphin**

Sector 5: Nova Scotia Coast



Map 9: Probability of a vessel encountering a cetacean along the Nova Scotia coast.

Map based on whale and vessel data obtained, 80% of which was gathered from April to October (no data available for areas in white).

Not suitable for navigation. Please refer to CHS charts for navigation purposes.

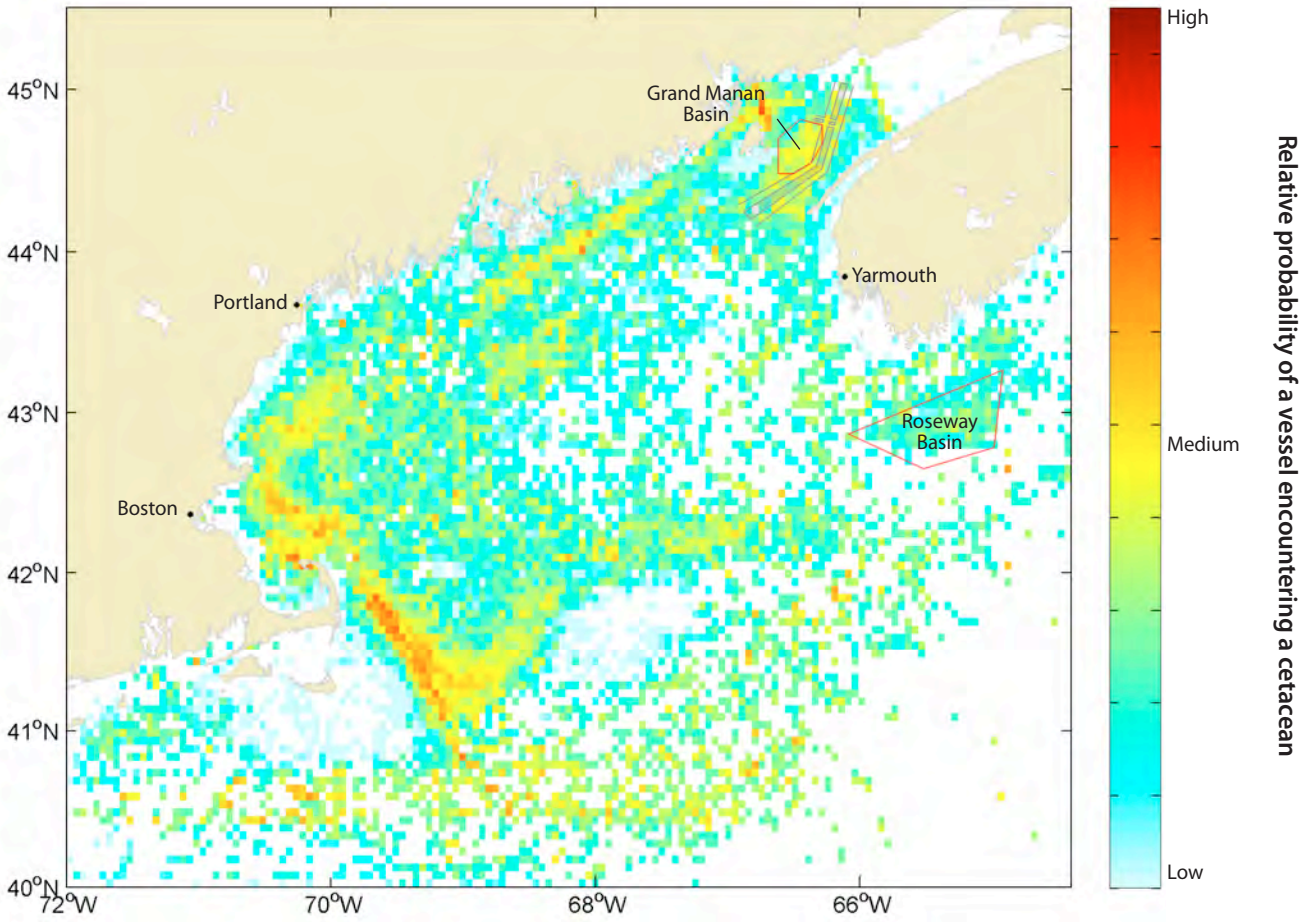
The Nova Scotia coast, towards Newfoundland, is an extension of the Great Circle Route that originates in New York. This zone becomes busy with commercial shipping not far from the Bay of Fundy. This sector of the territory also includes the Roseway Basin in the area designated as a "Area to be Avoided" by the International Maritime Organisation (IMO), the Gully Marine Protection Area, and the Shortland and Haldimand Canyons. Among the guidelines that apply to this area are the following:

In order to significantly reduce the risk of collisions between ships and North Atlantic Right whales, it is recommended that ships of 300 gross tonnes or more avoid these areas. If a ship has no choice but to traverse these areas, it must reduce its speed to no more than 10 knots when practicable, stand a watch and modify its trajectory to avoid cetaceans. Mariners should not assume that the whales will move out of the way on their own.

The main cetacean species most likely to be encountered here are:

- **The Fin whale**
- **The North Atlantic Right whale**
- **The Humpback whale**
- **The Minke whale**
- **The Sperm whale**
- **The Harbour porpoise**
- **The Northern bottlenose whale**

Sector 6: Gulf of Maine and Bay of Fundy



Map 10: Probability of a vessel encountering a cetacean in the Gulf of Maine and the Bay of Fundy.
Map based on whale and vessel data obtained, 80% of which was gathered from April to October (no data available for areas in white).
Not suitable for navigation. Please refer to CHS charts for navigation purposes.

The Gulf of Maine is well known for the many conservation efforts that have been deployed in recent years to protect its Right whale population. Fisheries and Oceans Canada asks ships to avoid the Bay of Fundy area if possible. A small section of the Grand Manan Basin habitat overlaps the traffic separation scheme in the Bay of Fundy, as a result of which special precautions need to be taken. If a ship has no choice but to traverse this area, it must reduce its speed to no more than 10 knots when practicable, stand a watch and modify its trajectory to avoid cetaceans. Mariners should not assume that the whales will move out of the way on their own.

The main cetacean species most likely to be encountered here are:

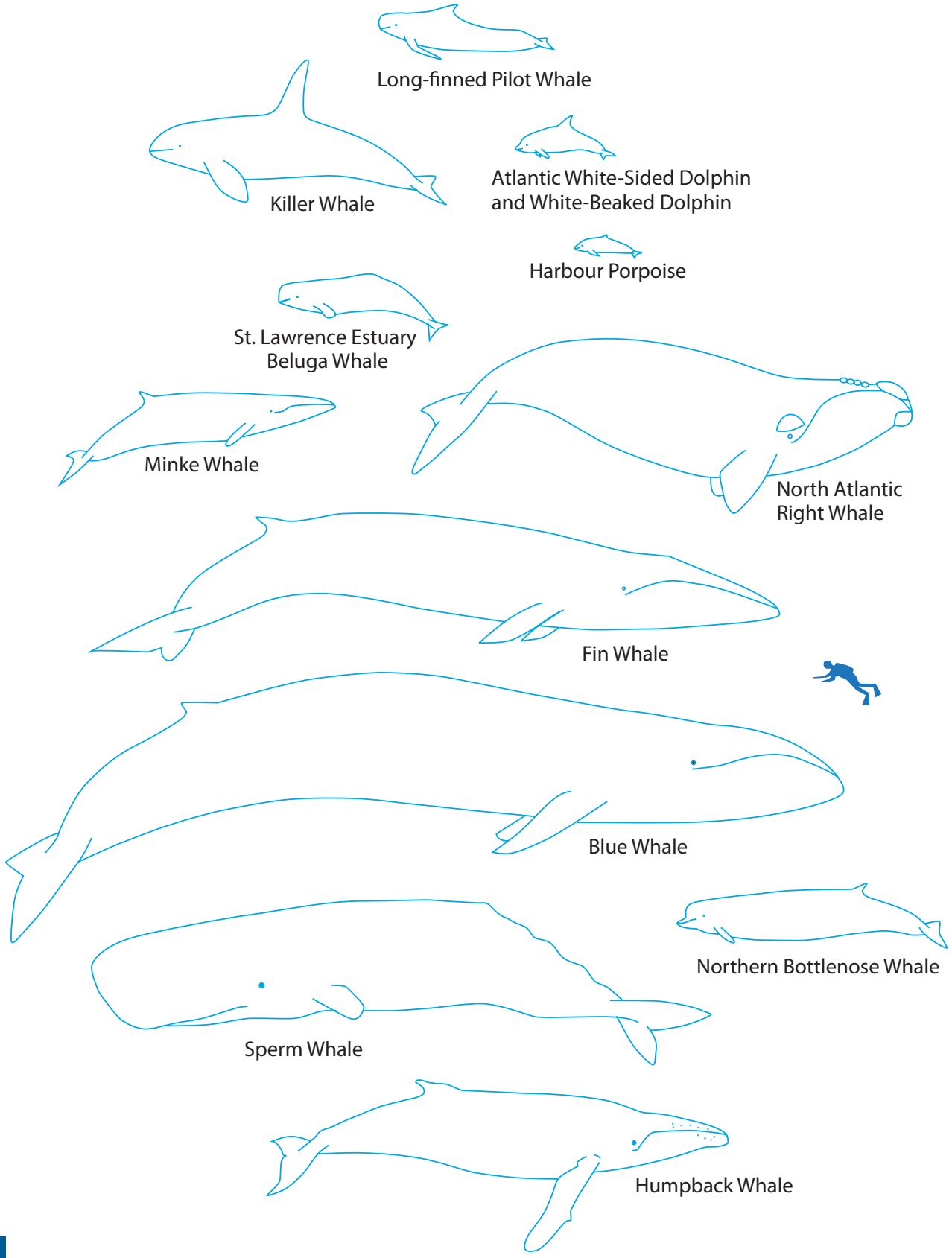
- **The North Atlantic Right whale**
- **The Fin whale**
- **The Humpback whale**
- **The Minke whale**
- **The Sperm whale**
- **The Harbour porpoise**
- **The Atlantic White-Sided dolphin and the White-Beaked dolphin**

Marine Species

This section of the guide offers information on the cetacean species that frequent the Northwest Atlantic, as well as identification tools such as photos, descriptions of physical traits, and descriptions of behavioural characteristics. This information is provided with a view to helping ships' crews identify these animals as accurately possible. Each of the species appearing in this section is described according to the information grid below:

- **English name**
- **French name**
- **Latin name:** The name used to universally identify a given species.
- **Vernacular name(s):** A commonly used named to designate a species.
- **Population:** A term that typically identifies a specific group of individuals of a single species based on their geographic location.
- **Status:** Indicates a species' or population's level of vulnerability determined as a function of various factors and designated by the Committee on the Status of Endangered Wildlife in Canada (www.cosewic.gc.ca).
- **Vulnerability of the species:** Provides the reasons why a species is particularly susceptible to collisions.
- **Physical description:** Includes the main physical traits that serve to identify a species. Photos are provided to aid in recognition. The species' temporal distribution in the Northwest Atlantic is indicated when known.
- **Behaviour:** Provides key behavioral characteristics of each species, with a view to facilitating identification.

Relative sizes of the 13 different species of whales frequenting the Northwest Atlantic



Cetaceans

Baleen Whales

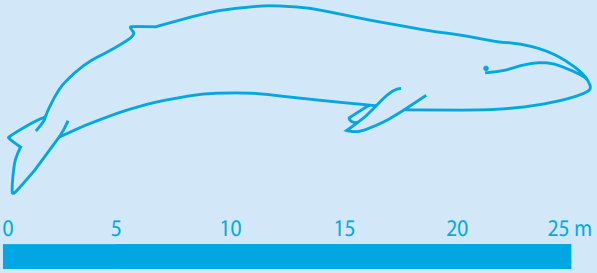
Baleen whales, also known as mysticeti, do not have any teeth. Instead, the adult's mouth has baleens, or horny plates that hang from its upper jaw, which it uses as a sieve when feeding. Baleen whales, which are amongst the planet's largest animals, feed primarily on small organisms like zooplankton (crustaceans such as krill and copepods) and small fish (capelin, herring and sand lance). A baleen whale has two orifices, called blowholes, which are located on the top of its head and through which it exhales. The species in this group are generally larger than toothed cetacean species.

Baleen whales frequent the Northwest Atlantic to feed, primarily from April to October. They have been observed to feed at the surface, which can increase the risk of collision.

Joël Detcheverry, SPM Fragfiles

A Humpback whale shows its baleens as it feeds

Stéphanie-Carole Pieddesaux, ROMM



Blue Whale

The Blue whale is the largest animal that has ever lived either on land or in the sea. Even the largest dinosaur did not equal its impressive size.

Vulnerability of the species

Before the 1960s, commercial whaling had eliminated nearly 75% of the Blue whale population. Although the number of Blue whales in the Northwest Atlantic population is unknown, it is estimated that there are probably fewer than 250 mature individuals left.

Physical description

- Spotted grey-blue body
- Small, triangular dorsal fin, located in the final quarter of the body

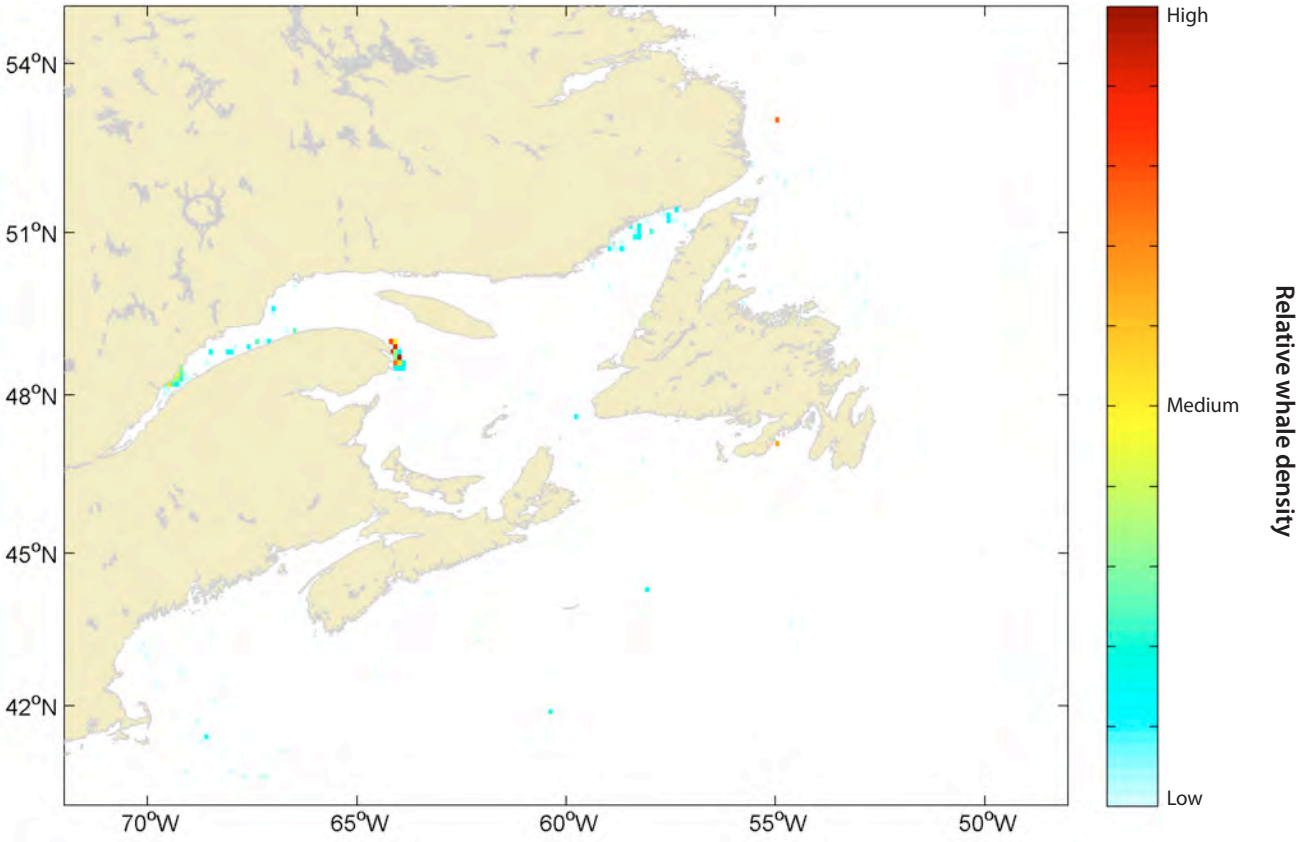
Behaviour

- Sometimes shows its tail as it dives

English name:	**Blue whale**
French name:	**Rorqual bleu**
Latin name:	***Balaenoptera musculus***
Vernacular name:	**Blue whale**
Population:	**Northwest Atlantic**
Status:	**Endangered**

About 25% of the Blue whales frequenting the St. Lawrence have injuries or scars, which are possibly the result of contact with ships (3). This would stem from their greater presence in areas which are crossed by busy shipping lanes, such as the St. Lawrence Estuary. The ability of Blue whales to spot and avoid ships has yet to be determined. Given their small numbers in the Northwest Atlantic, the loss of a few individuals per year can be a major obstacle to this population's recovery (2).

Stéphanie-Carole Pieddesaux, ROMM



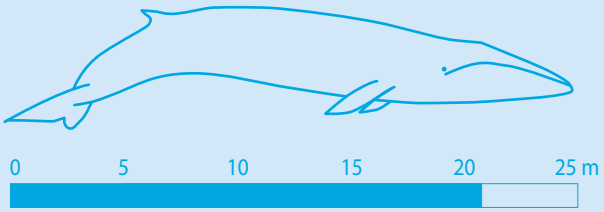
Map 11: Overview of areas in the Northwest Atlantic visited by Blue whales.

Map based on cetacean distribution data, 80% of which was gathered from April to October (no data available for areas in white).

The Northwest Atlantic population of Blue whales is generally present in the waters along Canada's east coast; i.e. in the northern Gulf of St. Lawrence, off Nova Scotia and Newfoundland and in the Davis Strait. They are also present between Baffin Island and Greenland. They generally migrate south for the winter but some can stay at our latitudes year round (31).

Stéphanie-Carole Pieddesaux, ROMM

Souffleurs d'Écume



Fin Whale

The world's second largest marine mammal, the Fin whale differs from the other large cetaceans by virtue of its speed. In fact, it is sometimes called the "greyhound of the sea".

Vulnerability of the species

Commercial whaling significantly reduced the size of the Atlantic Fin whale population throughout much of the 20th century. Although the species has not been hunted in Canada since 1971, its current numbers in comparison to historical stocks are uncertain. Several threats affect the Fin whale today, the most significant of which is noise pollution caused by shipping, followed by seismic exploration, military sonar, and industrial development.

Physical description

- Dark back, varying from grey to dark brown, almost black
- Relatively small dorsal fin of variable shape, located in the second third of the body

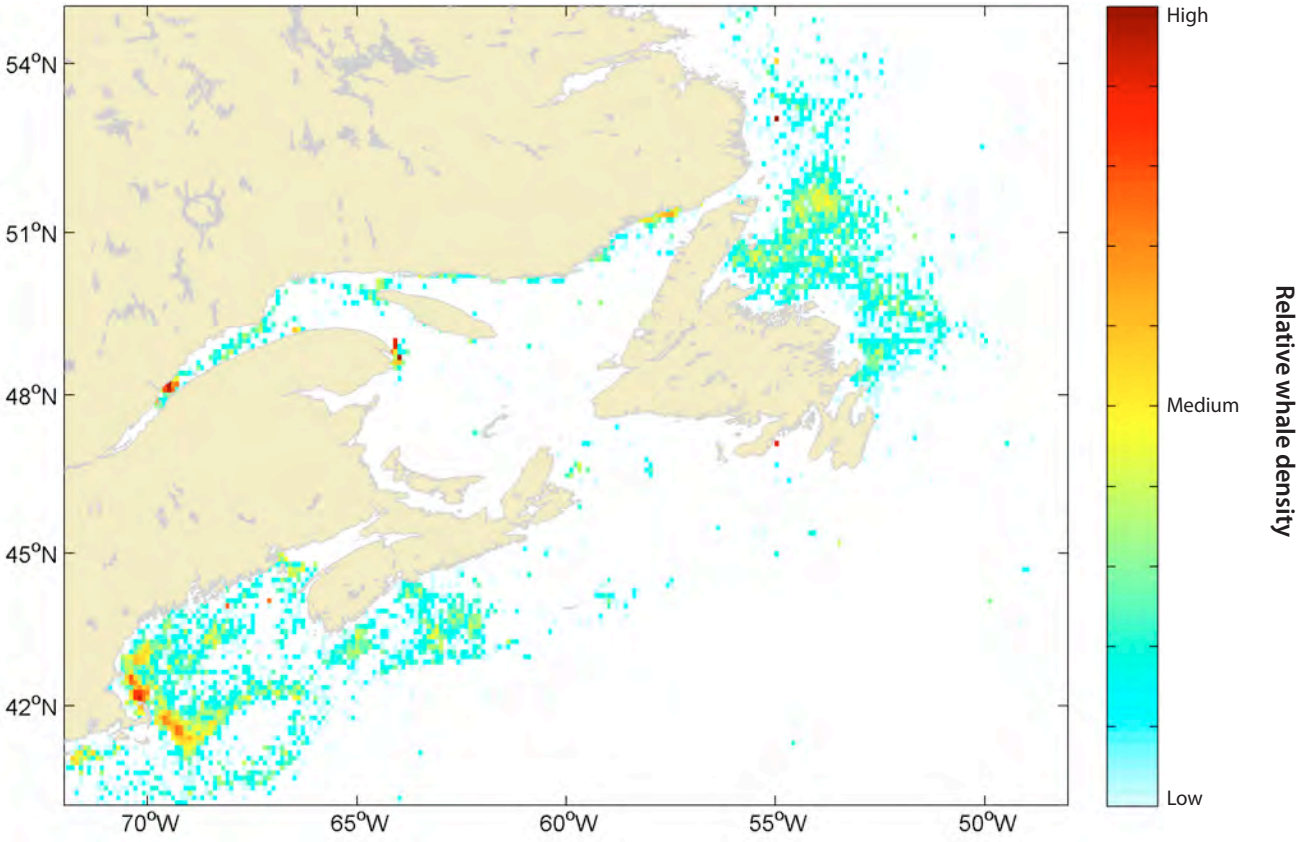
Behaviour

- Rarely shows its tail as it dives

English name:	**Fin whale**
French name:	**Rorqual commun**
Latin name:	***Balaenoptera physalus***
Vernacular name:	**Finwhale, razorback**
Population:	**Atlantic**
Status:	**Special concern**

Collisions with ships are one of the threats facing this species. This being said, individual ship strikes do not appear to have a significant impact on the population overall, as there are quite a few individuals in the various Fin whale populations around the world. Studies compiled by the International Whaling Commission (IWC) seem to indicate that the Fin whale is the most regularly reported species in terms of collisions with vessels around the world (followed closely by the Humpback whale, Right whale and Sperm whale) (28).

Souffleurs d'Écume



Map 12: Overview of areas in the Northwest Atlantic visited by Fin whales.

Map based on cetacean distribution data, 80% of which was gathered from April to October (no data available for areas in white).

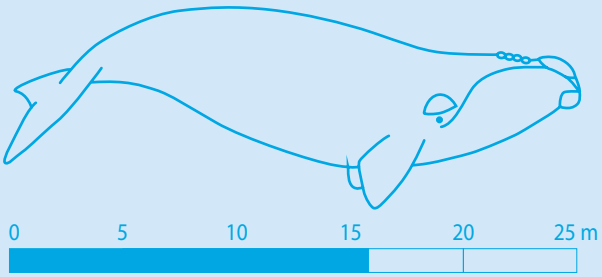
The Fin whale is a regular seasonal resident of the Northwest Atlantic Ocean. It can be seen along the coast and far out at sea. In the summer, it is present in areas where there are concentrations of krill and fish, such as the ocean fronts off Newfoundland, areas of upwelling cold water near Tadoussac (Québec) and turbulent areas in the Bay of Fundy (31).

Jean-Pierre Sylvestre, ORCA

Sandra Gagné

Sonia Giroux

Korinne Leblanc, ROMM



North Atlantic Right Whale

The North Atlantic Right whale is the world's most endangered large whale and has an estimated world population of only 400 individuals. There are no other populations of this species in the world. Stocky, slow and not at all timid when ships approach, this species is fascinating to observe and sometimes performs stunning acrobatic feats.

Vulnerability of the species

The North Atlantic Right whale is present only in the North Atlantic. The population has been greatly reduced by whaling and there are only between 220 and 240 mature individuals left today. The species' high recorded mortality rate is due to ship strikes and entanglement in fishing gear.

Physical description

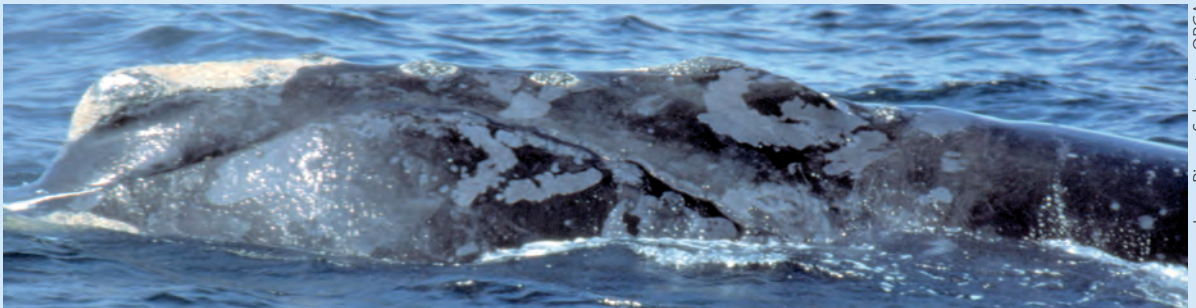
- Wide back, smooth and black, spotted with brown
- No dorsal fin or ventral pleats
- V-shaped spout

Behaviour

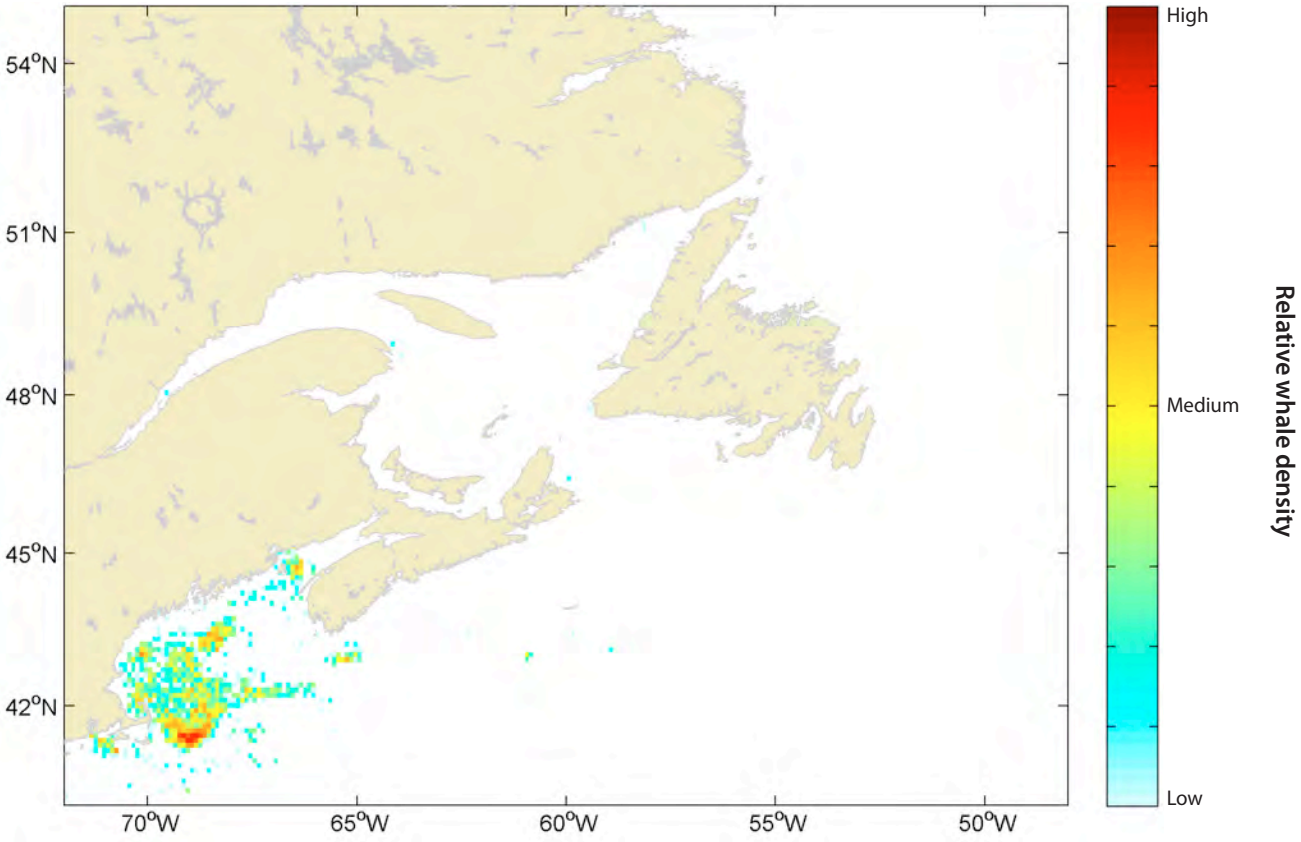
- Spends much time at the surface and moves very slowly

English name:	**North Atlantic Right whale**
French name:	**Baleine noire**
Latin name:	***Eubalaena glacialis***
Vernacular name:	**Black Right whale, Northern Right whale, Right whale**
Population :	**North Atlantic**
Status:	**Endangered**

The North Atlantic Right whale shows very low responsiveness to ships. This, combined with its slowness and great floatability, leads to many cases of mortality. Since the 1970s, ship strikes have been recognized as a principal cause of mortality in North Atlantic Right whales (24; 14; and 18). Indeed, 75 carcasses have been reported since then, of which at least 28 belonged to individuals that died following a collision with a ship (12). In addition to direct mortality, this data shows that about 7% of the individuals in the population have "serious injuries" to their back or caudal peduncle caused by ship propellers (4). Most of the areas in the western North Atlantic that are highly frequented by Right whales are located within or along the edges of the great shipping lanes leading to ports in the eastern United States and Canada (13).



Jean-Pierre Sylvestre, ORCA



Map 13: Overview of areas in the Northwest Atlantic visited by Right whales.

Map based on cetacean distribution data, 80% of which was gathered from April to October (no data available for areas in white).

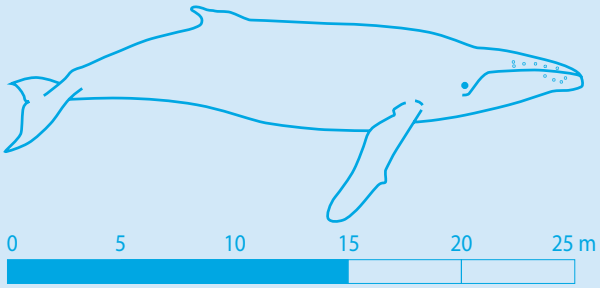
Right whales are regularly observed in the Bay of Fundy and on the western Scotian Shelf. They have also been spotted off the coasts of Nova Scotia, Newfoundland and Labrador. Both the Roseway Basin and the Fundy Basin have been designated as critical habitats for the North Atlantic Right whale (31).

Jean-Pierre Sylvestre, ORCA

Suzanne Matter, ROMM

Stéphanie-Carole Pieddesaux, ROMM

Louis Rhéaume



Humpback Whale

The Humpback whale is a charismatic species. It is recognisable by its prowess above and below the surface of the water, as well as its vocalisations and its large, slim pectoral fins.

Vulnerability of the species

Although whaling has significantly reduced its numbers, the Humpback whale population has recovered well. The main threats it faces include entanglement in fishing gear and ship strikes. However, the species does not appear to be unduly threatened by current or anticipated levels of human activity.

Physical description

- Dark grey or black back; the undersides of its fins are white, spotted with black
- Small dorsal fin perched on a hump, hence its name

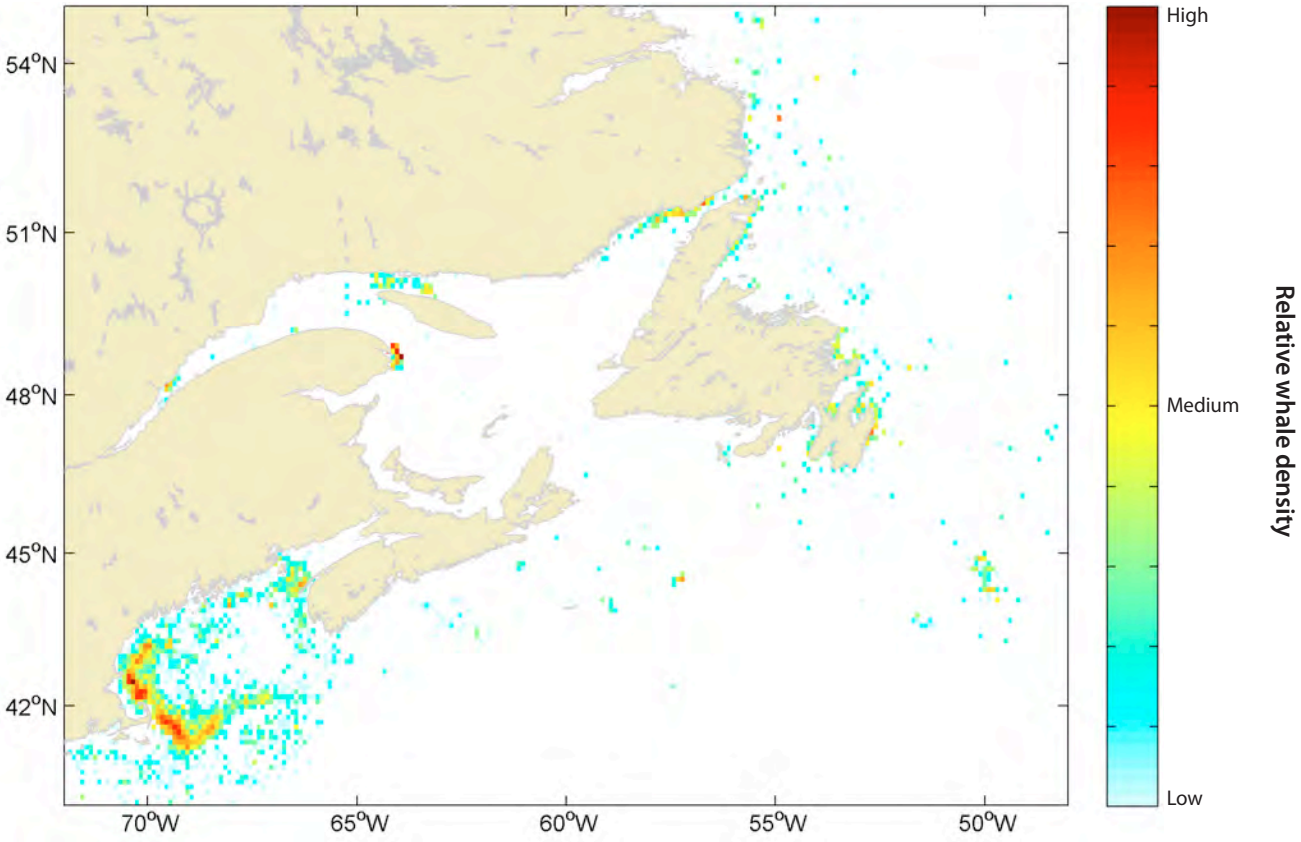
Behaviour

- Often shows its very characteristic tail as it dives

English name:	**Humpback whale**
French name:	**Rorqual à bosse**
Latin name:	***Megaptera novaeangliae***
Vernacular name:	**Humpback**
Population :	**Western North Atlantic**
Status:	**Not at risk**

Some individual Humpback whales can be very curious about vessels. According to the International Whaling Commission, the Humpback whale is the second most often reported species involved in collisions at sea throughout the world (28). Canada currently has little data in this respect.

Yvan L'Heureux



Map 14: Overview of areas in the Northwest Atlantic visited by Humpback whales.

Map based on cetacean distribution data, 80% of which was gathered from April to October (no data available for areas in white).

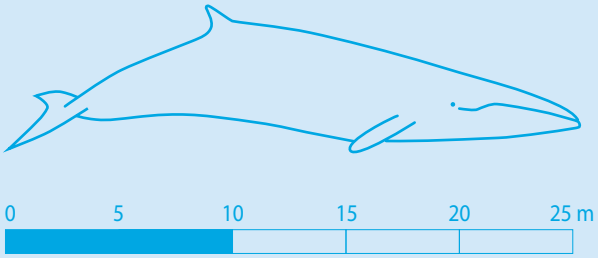
The Humpback whale is a regular summer season resident in the Northwest Atlantic Ocean. It can be seen at its feeding grounds in the Gulf of St. Lawrence, the Gulf of Maine, the Scotian Shelf, Newfoundland and Labrador and southwest of Greenland (31).

Stéphanie-Carole Pieddesaux, ROMM

Yvan L'Heureux

Mélanie Paquet

Marie-Claude Thériault



Minke Whale

The Minke whale is the smallest baleen whale to ply the waters of the world's oceans. It is recognisable for its agility, speed and typical feeding behaviour, during which it can leap high out of the water, exposing as much as half of its body.

Vulnerability of the species

The main threats facing the Minke whale are being caught in fishing gear and being struck by ships. However, given the species' abundance, these threats are not enough to pose a risk of endangerment.

Physical description

- Dark grey, black or brown back with a distinctive white spot on each of its pectoral fins
- Relatively large hook-shaped dorsal fin

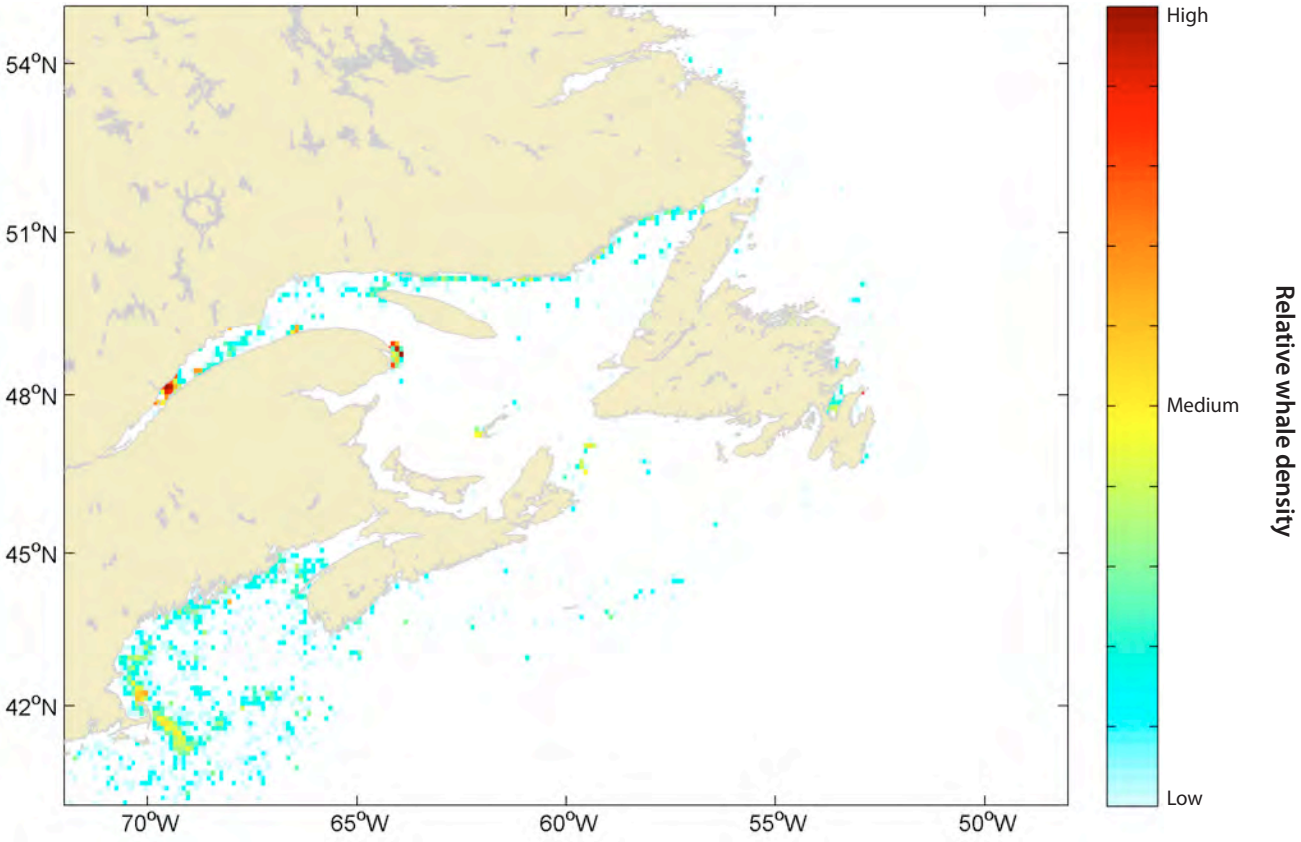
Behaviour

- Swift, very active whale
- Pronounced arcing of the back as it dives without showing its tail

English name:	**Minke whale**
French name:	**Petit rorqual**
Latin name:	***Balaenoptera acutorostrata***
Vernacular name:	**Lesser Rorqual**
Population:	**North Atlantic**
Status :	**Not at risk**

The coastal habits of the Minke whale make it vulnerable to ship strikes (3). Numerous cases of collisions between ships and Minke whales have been reported along the east coast of the United States, but the impact of these collisions on the population remains unknown (29).

Marie-Claude Thériault



Map 15: Overview of areas in the Northwest Atlantic visited by Minke whales.
Map based on cetacean distribution data, 80% of which was gathered from April to October (no data available for areas in white).

The Minke whale is a regular seasonal resident throughout the area from March to December.

Marie-Claude Thériault

Jean-Pierre Sylvestre, ORCA

A group of Sperm whales

Groupe de recherche sur les cétacés (cetaces.org)

Toothed Cetaceans

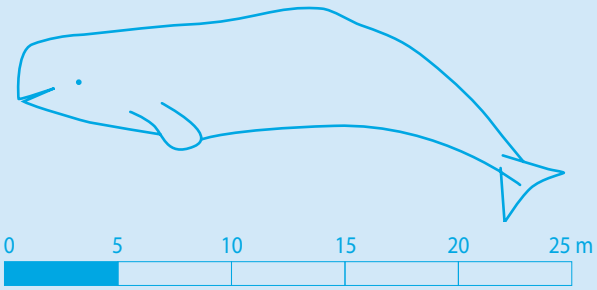
Toothed cetaceans, also known as odontoceti, bear this name because of their mouthful of identical conical teeth. They swallow their food without chewing and feed on a great variety of prey which they capture using a host of hunting techniques. A toothed cetacean has only one blowhole on the top of its head.

In addition to the toothed cetaceans that are described on the following pages, the leather back turtle is also listed in this section. This species is considered vulnerable to ship strikes because it spends a great deal of time at the surface of the water.

Jean-Pierre Sylvestre, ORCA

A Killer whale shows its teeth

Jean-Pierre Sylvestre, ORCA



St. Lawrence Estuary Beluga Whale

The Beluga whale is easily recognisable by its white colouring. This small toothed cetacean is also known as the sea canary because of its wide-ranging vocal repertory. This Arctic whale always seems to have a smile on its face.

Vulnerability of the St. Lawrence population

The St. Lawrence Estuary's Beluga whale population was nearly decimated by whaling. Although such activity ceased in 1979, the population still shows no signs of recovery and is therefore considered at risk. Today, the main threats hindering the species' recovery are pollution, dwindling food resources, disturbance by humans, and habitat degradation.

Physical description

- Adult body entirely white; newborns are brown, turning grey-blue by the time they reach 4 to 6 years of age.
- No dorsal fin; replaced by a dorsal ridge

Behaviour

- Gregarious animal that lives in pairs, small groups or large pods

English name:	**Beluga whale**
French name:	**Béluga du Saint-Laurent**
Latin name:	***Delphinapterus leucas***
Vernacular name:	**Beluga, Sea Canary, White Whale**
Population :	**St. Lawrence Estuary**
Status:	**Threatened**

Several St. Lawrence Estuary Beluga whales bear injuries and scars, some of which are likely to have been caused by ship strikes (19). These marks are quite useful in telling individual whales apart when studying photos for identification purposes. Although cases involving beluga mortality appear to be fairly rare (26), increased marine traffic in some sectors of the estuary, combined with an expanding whale-watching industry, may lead to a rise in the number of collisions between Beluga whales and ships (26). Young individuals are most at risk of collision because they spend more time at the surface. Also, it has been shown that young Beluga whales tend to interact more with vessels, which further increases their collision risk (15).

Marie-Claude Thériault

Map 16: Overview of areas in the Northwest Atlantic visited by Beluga whales.

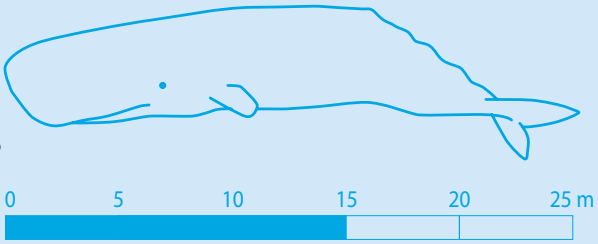
Map based on cetacean distribution data, 80% of which was gathered from April to October (no data available for areas in white).

The Beluga whale is a permanent resident of the St. Lawrence Estuary. Observations of this species elsewhere in the territory are rare and sporadic.

Marie-Claude Thériault

Sonia Giroux, ROMM

Groupe de recherche sur les cétacés (cetacés.org)



Sperm Whale

A well-known whale of *Moby Dick* fame, the Sperm whale is the largest of the toothed cetaceans. It is one of the species with the best diving record, in terms of both depth and duration.

Vulnerability of the species

The Sperm whale was a choice target for whalers. However, far from being seriously affected by the whale hunt, it is today one of the world's most abundant whale species.

Physical description

- Dark grey or brown body
- Large-block-shaped head which takes up more than one third of the total length of its body
- No dorsal fin, but the rear portion of the back has a series of bumpy ridges
- The spout sprays forwards and to the left at an angle

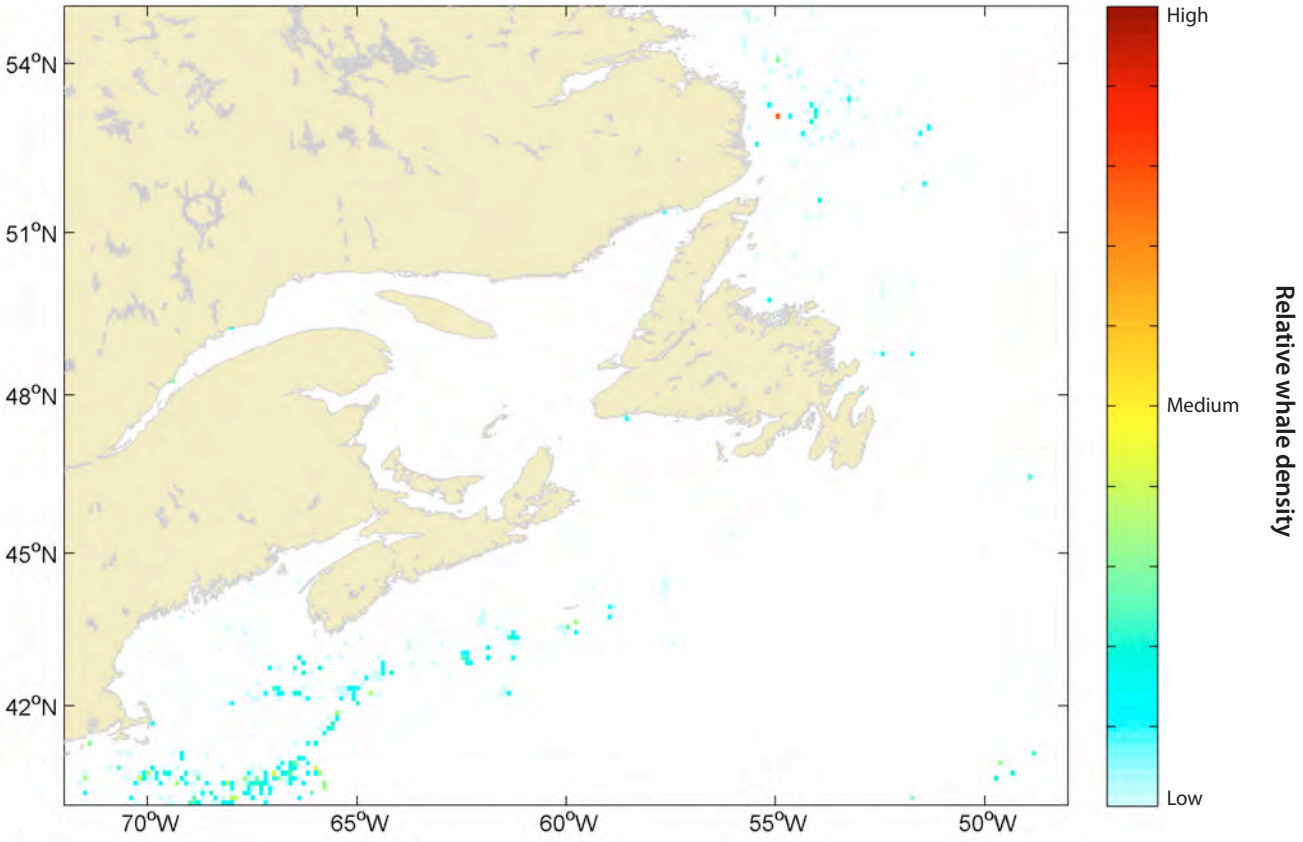
Behaviour

- Usually shows it tail as it dives
- Spends most of its time underwater, looking for food

English name:	**Sperm whale**
French name:	**Cachalot macrocéphale**
Latin name:	***Physeter macrocephalus***
Vernacular name:	**Cachelot, Pot Whale, Spermacet Whale**
Population :	**North Atlantic**
Status:	**Not at risk**

Although collision data from throughout the world indicates that the Sperm whale is the toothed cetacean that is most affected by ship strikes, this has not had a sufficiently adverse impact to put the species in the endangered category. It is interesting to note that Sperm whales spend about 16% of their time at the surface, compared to 29%, for instance, in the case of Fin whales. However, when Sperm whales do surface, it is not uncommon for them to remain immobile for as long as 9 minutes, making them highly vulnerable to ship strikes (7).

Groupe de recherche sur les cétacés (cetacés.org)



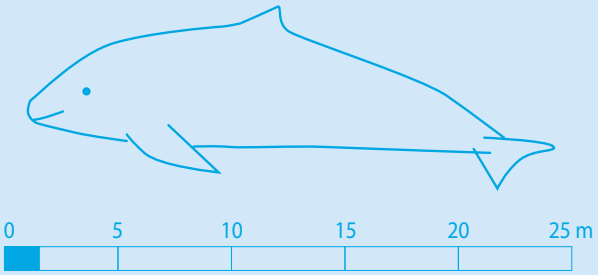
Map 17: Overview of areas in the Northwest Atlantic visited by Sperm whales.

Map based on cetacean distribution data, 80% of which was gathered from April to October (no data available for areas in white).

Sperm whales are occasionally sighted during the summer (between May and October) in the St. Lawrence Estuary and Gulf. Most of the individuals observed have been seen in the Gulf of Maine and off Newfoundland and Labrador.

Groupe de recherche sur les cétacés (cetaces.org)

Charlie Phillips



Harbour Porpoise

The Harbour porpoise is the smallest cetacean species living in our waters. Quick and stealthy, it is hard to spot in wavy conditions.

Vulnerability of the species

Being accidentally caught in fishing gear is the main threat facing the Harbour porpoise. Although the population remains abundant, it is still considered to be of special concern because of its particular sensitivity to this threat. Other threats include habitat degradation and fear-related extinction due to the use of acoustical survey devices by commercial mariculturers.

Physical description

- Black back, greyish sides and white belly
- Large triangular dorsal fin located midway along the back

Comportement

- Generally lives alone, in pairs or in very small groups of 5 to 6 individuals
- Swims very quickly, appears to roll along the surface

English name:	**Harbour porpoise**
French name:	**Marsouin commun**
Latin name:	***Phocoena phocoena***
Vernacular names:	**Herring hog, sea pig, common porpoise**
Population :	**Northwest Atlantic**
Status:	**Special concern**

There is no literature on collisions between Harbour porpoises and ships. The animal moves quickly and is rather timid, showing little interest in ships. Consequently, it is likely not very vulnerable to this risk.

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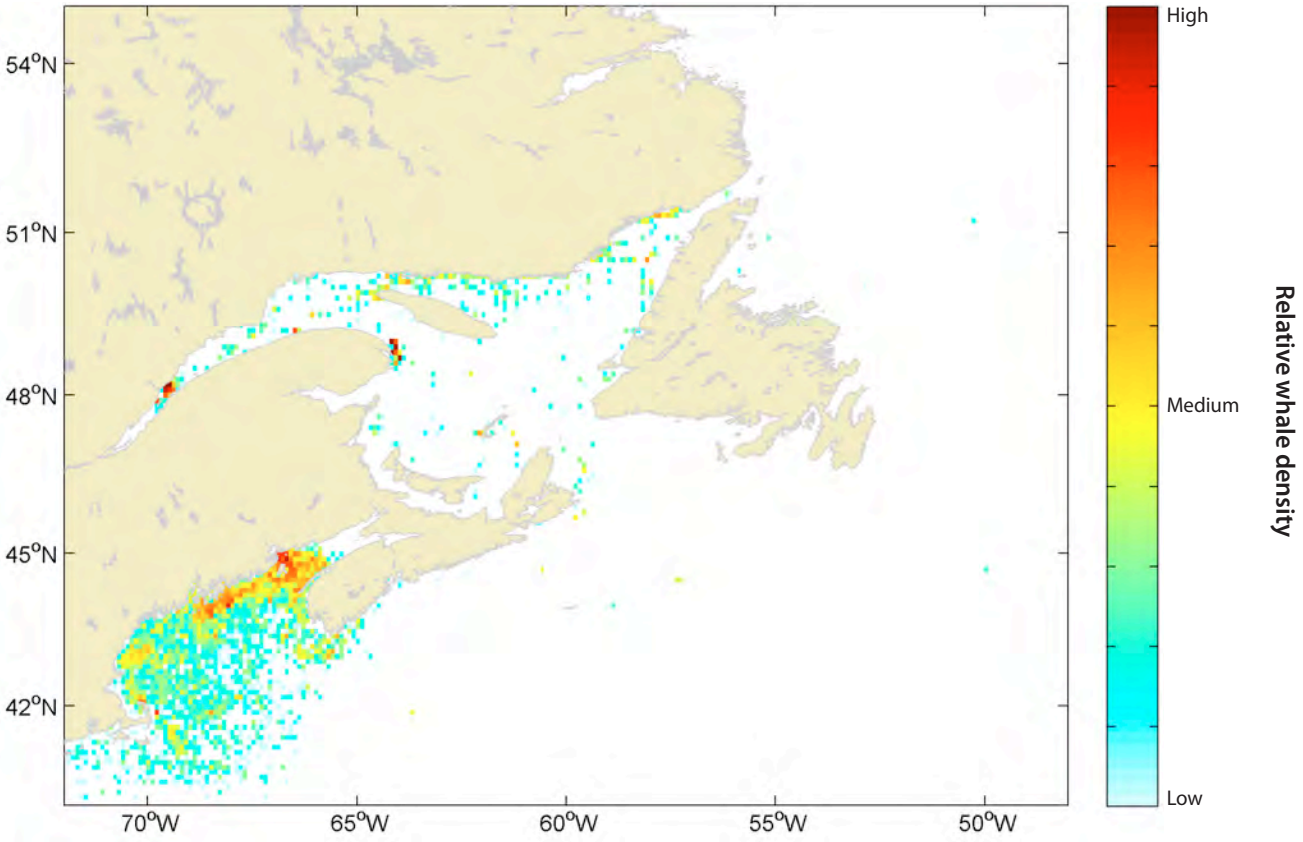

Map 18: Overview of areas in the Northwest Atlantic visited by Harbour porpoises

Map based on cetacean distribution data, 80% of which was gathered from April to October (no data available for areas in white).

The Harbour porpoise's range in the Northwest Atlantic stretches from the northern portion of the Bay of Fundy to northern Labrador. There are three distinct populations: one around Newfoundland and Labrador, one in the St. Lawrence Estuary and Gulf, and another in the Bay of Fundy and Gulf of Maine. These groups regularly descend to U.S. waters and then return to Canada (31).

Charlie Phillips

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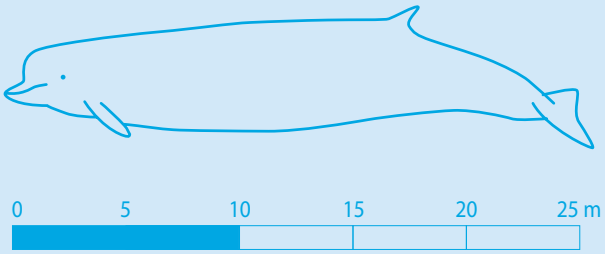
Yvan L'Heureux

Hilary Moors-Murphy



Northern Bottlenose Whale

Represented by a small population living off Nova Scotia throughout the year, the Northern bottlenose whale holds diving records for both the amount of time spent underwater and the depths reached.

Vulnerability of the species

Given its great vulnerability, the population of Northern bottlenose whales in the Scotian Shelf is well studied. Commercial whaling has been the main reason for the species' decline, and the population today has no more than 93 mature individuals. The species is very vulnerable to entanglement in fishing gear and to oil prospecting and extraction activities (due mainly to the noise pollution generated by seismic surveys).

Physical description

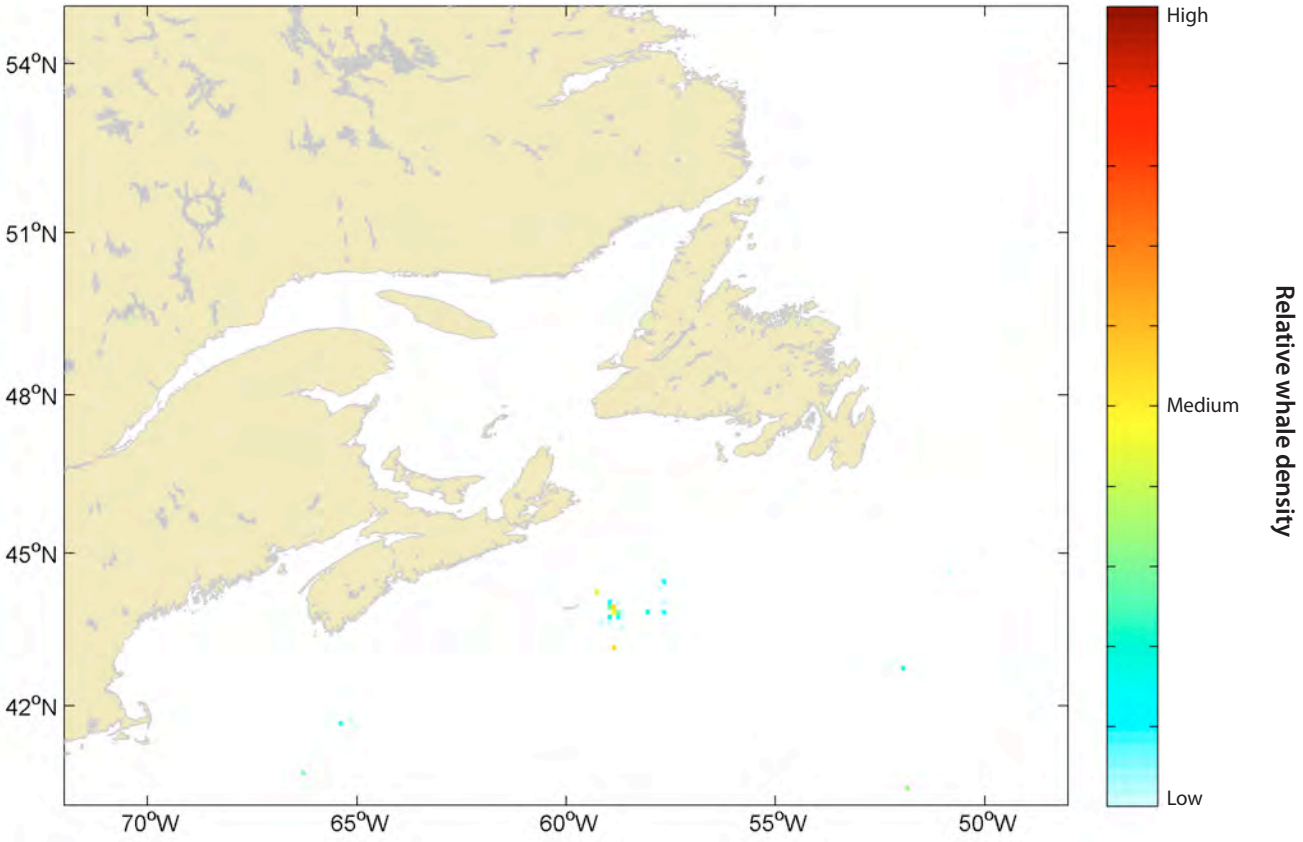
- Dark cinnamon-brown back
- Bulbous forehead and distinctive beak
- Small hook-shaped dorsal fin

Behaviour

- Rather curious in nature
- Rarely displays its tail as it dives

English name:	**Northern bottlenose whale**
French name:	**Baleine à bec commune**
Latin name:	***Hyperoodon ampullatus***
Vernacular names:	**Northern Bottle-nosed Whale, Northern Bottlenose Whale, North Atlantic Bottle-nosed Whale**
Population:	**Scotian Shelf**
Status:	**Endangered**

Although ship strikes are not the main threat that this population faces, they are one of the factors that hinder its recovery. Northern bottlenose whales can sometimes be curious about ships, and may approach vessels and even circle them when they are at a standstill. There is currently very little information available about possible interactions between Northern bottlenose whales and commercial ships. As no cases of collisions have been reported in Atlantic Canadian waters, individuals of this species are likely able to avoid most ships. However, because these animals live far out at sea, the carcasses of whales that have been mortally wounded in collisions are unlikely to be found. Therefore, there does exist a potential risk that cannot be ignored. There have also been observations of individuals bearing scars that could have been caused by ship collisions (10).



Map 19: Overview of areas in the Northwest Atlantic visited by Northern bottlenose whales.
Map based on cetacean distribution data, 80% of which was gathered from April to October (no data available for areas in white).

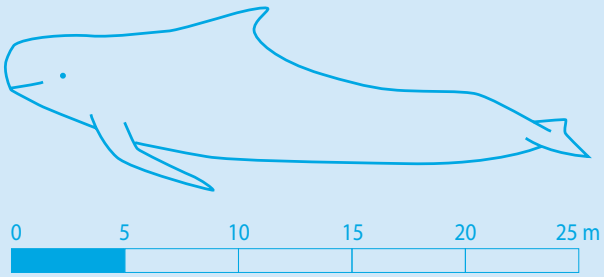
This species lives about 200 km off the shore of Nova Scotia, and frequents Sable Island Gully, a deep underwater canyon, as well as the Shortland and Haldimand submarine canyons. It is very rarely observed elsewhere in the area.

Hal Whitehead Lab

Hilary Moors-Murphy

Hilary Moors-Murphy

Joël Detcheverry, SPM Fragfiles



Long-Finned Pilot Whale

Physically similar to the Beluga, but black rather than white, the Long-Finned Pilot whale is a small gregarious cetacean that lives in large pods. In fact, it is known for its many mass strandings, which often receive a great deal of media attention.

English name:	**Long-Finned Pilot whale**
French name:	**Globicéphale noir**
Latin name:	***Globicephala melas***
Vernacular name:	**Pilot Whale**
Population :	**North Atlantic**
Status:	**Not at risk**

Vulnerability of the species

Whaling in the early years of the last century caused the population of Long-Finned Pilot whales frequenting Canadian waters to fall in numbers. Today, being caught in fishing gear, pollution, and dwindling food resources slow its recovery. However, there is currently nothing that threatens this population enough for it to be considered at risk.

There is currently little information about possible interactions between the Long-Finned Pilot whale and commercial shipping. It is a fairly quick species that can reach swimming speeds of 35 km/h. Moreover, this species is known for not approaching vessels and not interacting with bow waves or wakes, so it is probably not at great risk of collision.

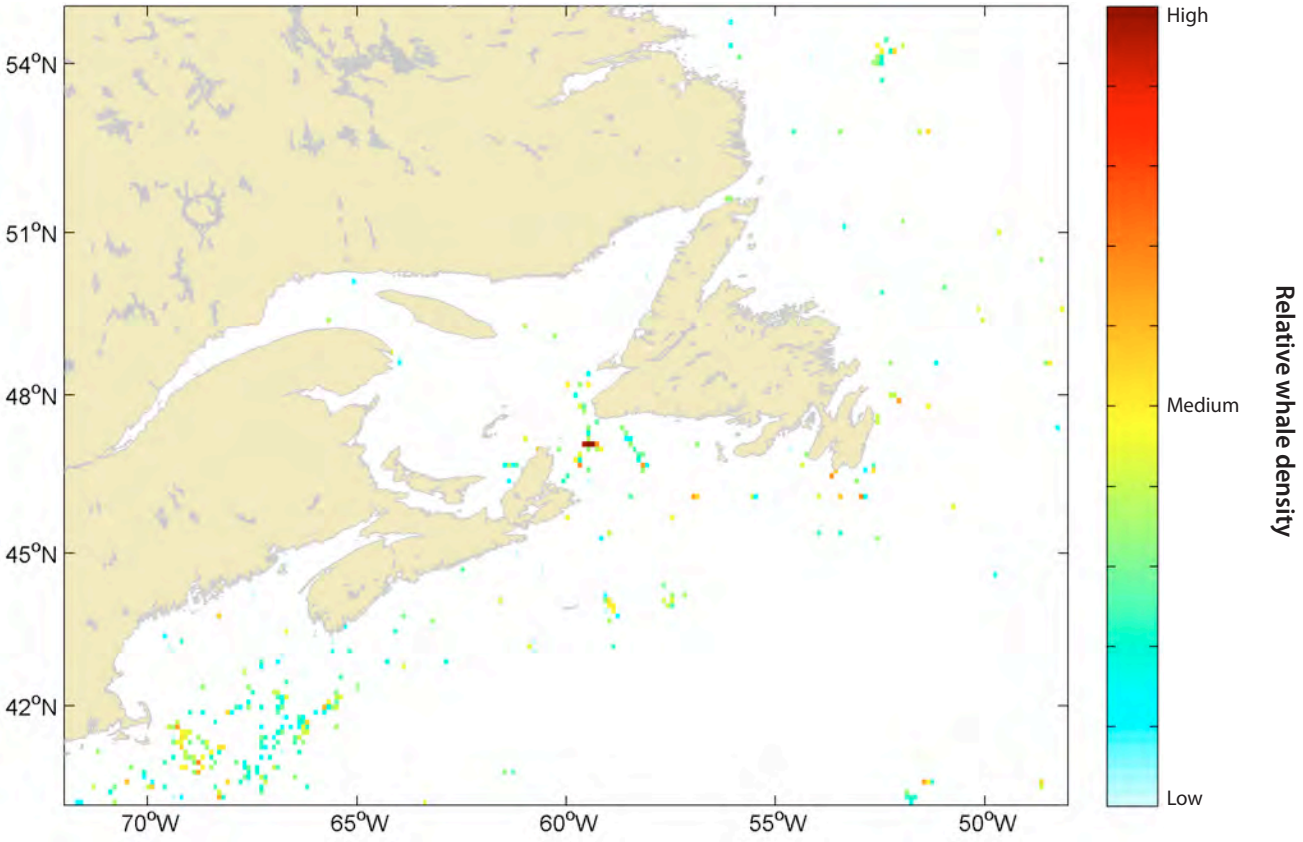
Physical description

- Bulbous forehead, without a distinctive beak
- Back completely black or dark brown, with a black or light grey saddle behind the dorsal fin
- Hook-shaped dorsal fin located towards the front of the body

Behaviour

- Swims with a series of leaps forward, much like dolphins do
- Rests regularly, remaining immobile at the surface of the water

Hilary Moors-Murphy



Map 20: Overview of areas in the Northwest Atlantic visited by Long-Finned Pilot whales

Map based on cetacean distribution data, 80% of which was gathered from April to October (no data available for areas in white).

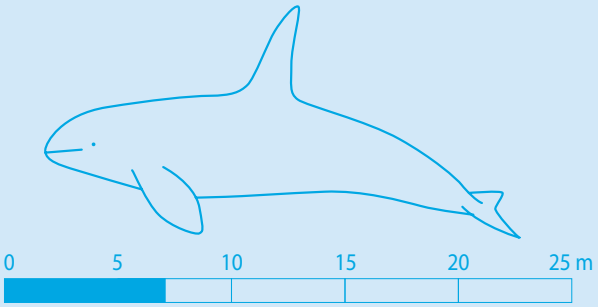
The North Atlantic Long-Finned Pilot whale is a summer resident in the southern portion of the Gulf of St. Lawrence, along the Gaspé Peninsula, in the Cabot Strait and along the east coast of Newfoundland. It very rarely visits the St. Lawrence Estuary.

Hilary Moors-Murphy

Hilary Moors-Murphy

Hilary Moors-Murphy

Joël Detcheverry, SPM Fragfiles



Killer Whale

The Killer whale is the largest representative of the dolphin family. Starring in movies and aquarium shows, it is present in every ocean in both hemispheres from the Equator to polar pack ice.

Vulnerability of the species

The threats facing the Killer whale in the Northwest Atlantic and Eastern Arctic include hunting off of Greenland, acoustic and physical disturbances, and contaminants. The population's small size, as well as its life cycle and social characteristics, are among the reasons for its inclusion on the Government of Canada's list of species at risk.

Physical description

- Black back with a white spot behind the eye and a light grey crescent-shaped saddle behind the dorsal fin
- Triangular dorsal fin, pointed and very tall in adult male

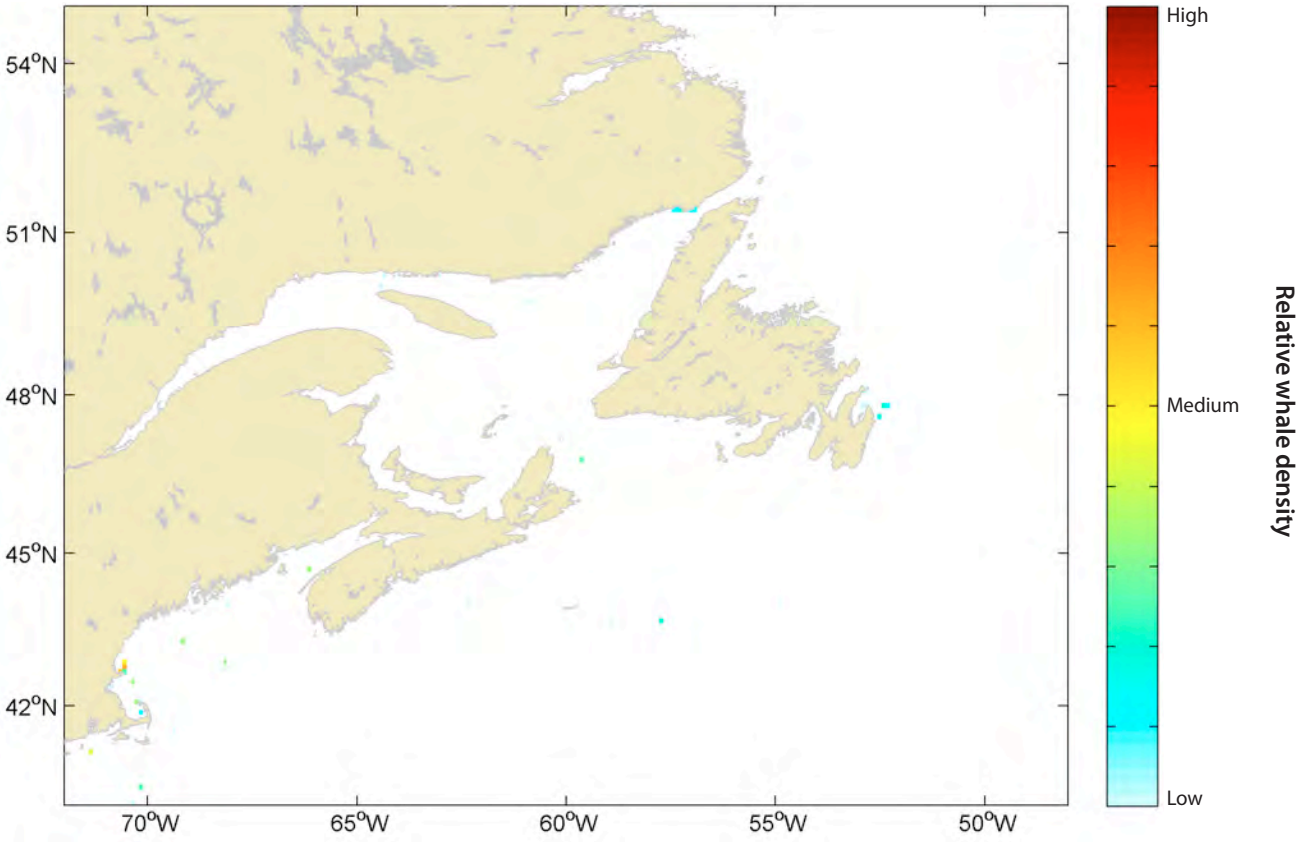
Behaviour

- Relatively fast, sustained swimming speed of up to 45 km/h

English name:	**Killer whale**
French name:	**Épaulard**
Latin name:	***Orcinus orca***
Vernacular name:	**Orca**
Population :	**Northwest Atlantic and eastern Arctic**
Status:	**Special concern**

Although the Killer whale frequents the same areas as shipping, the literature consulted does not show this species to be particularly at risk of ship strikes. Historically, there have been few recorded collisions between Killer whales and ships. However, from 2003 to 2007, six collisions were reported in British Columbia, three of which were fatal to resident Killer whales (23). Injuries have also been observed, indicating that collisions with individuals in the population do occur at sea. However, it remains unclear how serious this threat may be (23).

Joël Detcheverry, SPM Fragfiles



Map 21: Overview of areas in the Northwest Atlantic visited by Killer whales.

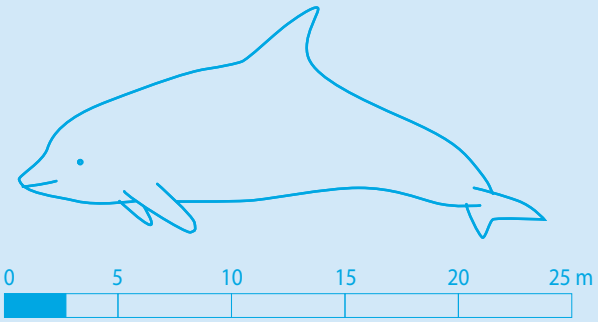
Map based on cetacean distribution data, 80% of which was gathered from April to October (no data available for areas in white).

In the past, large numbers of Killer whales were seen in the St. Lawrence Estuary and Gulf. Today, however, they are observed mainly in the coastal waters of Newfoundland and Labrador, particularly in the Strait of Belle Isle, and rarely visit the St. Lawrence Estuary and Gulf. A small group lives near the French island group of Saint Pierre and Miquelon, 25 kilometres from the coast of Newfoundland (31).

Jean-Pierre Sylvestre, ORCA

Joël Detcheverry, SPM Fragʼiles

Joël Detcheverry, SPM Fragfiles



Atlantic White-Sided Dolphin and White-Beaked Dolphin

The St. Lawrence harbours two dolphin species as seasonal residents - the Atlantic White-Sided dolphin and the White-Beaked dolphin. Close cousins, these two species are similar in both physical and behavioural characteristics, but do have slight differences that serve to tell them apart.

Vulnerability of the species

Being accidentally caught in fishing gear is the main threat for these two species. However, their current population numbers are high enough to keep them from being at risk.

Physical description

- Black back, white belly. The White-Sided dolphin has a white strip and corn-yellow spot under its dorsal fin towards the back of the body. The White-Beaked dolphin has a white nose and a greyish-white strip along the sides.
- Large, hook-shaped dorsal fin

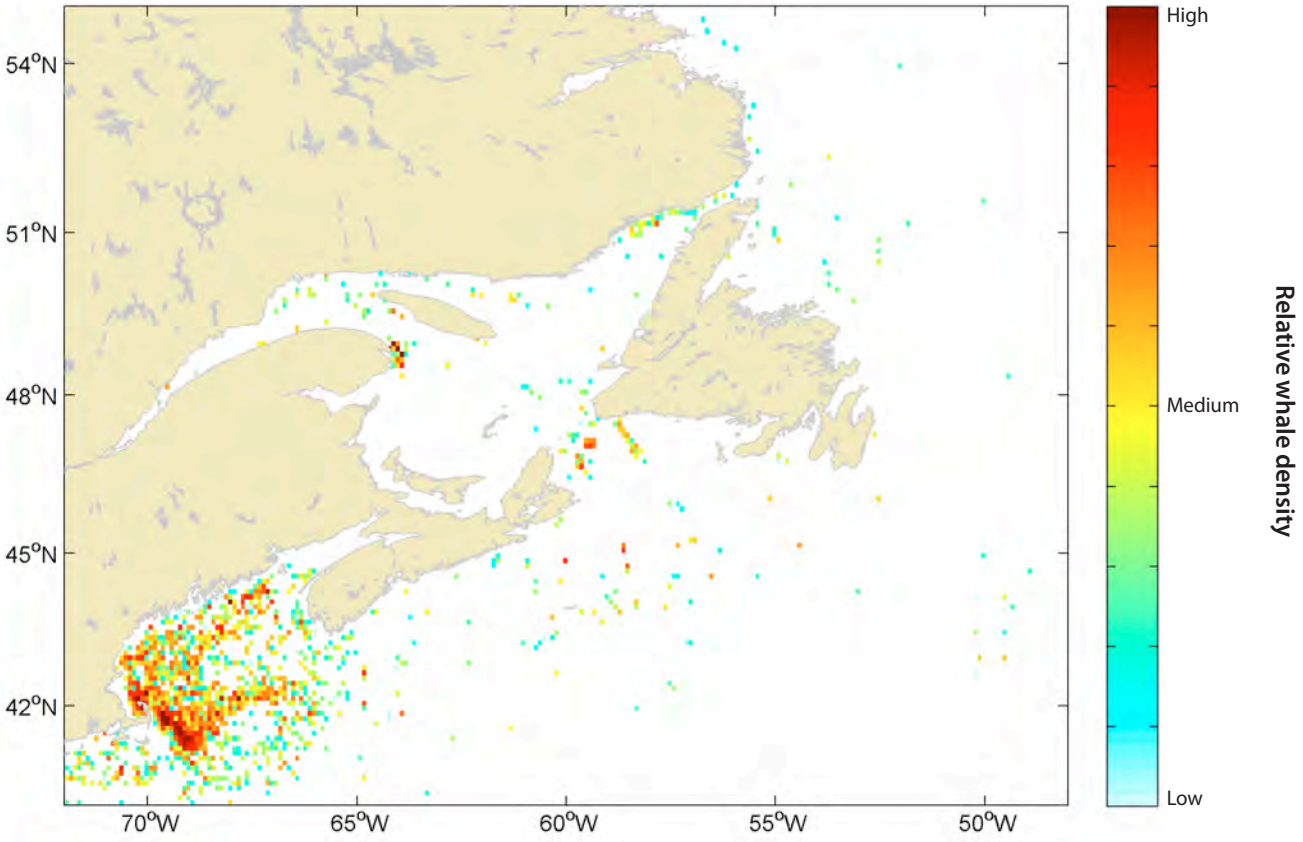
Behaviour

- Live in pods of a few to several hundred individuals
- Often jump out of the water while swimming, often revealing the entire body

English name:	**Atlantic White-Sided dolphin | White-Beaked dolphin**
French name:	**Dauphin à flancs blancs | Dauphin à nez blanc**
Latin name:	***Lagenorhynchus acutus* | *Lagenorhynchus albirostris***
Vernacular name:	**None**
Population :	**Atlantic**
Status:	**Not at risk**

The literature consulted did not show either the White-Sided dolphin or the White-Beaked dolphin to be particularly at risk of ship strikes, despite the fact that they share the same areas and sometimes seek to approach small vessels. They are agile and swim rapidly, which could explain why their exposure to the risk of collisions is slight.

Hal Whitehead Lab



Map 22: Overview of areas in the Northwest Atlantic visited by the Atlantic White-Sided dolphin and the White-Beaked dolphin.

Map based on cetacean distribution data, 80% of which was gathered from April to October (no data available for areas in white).

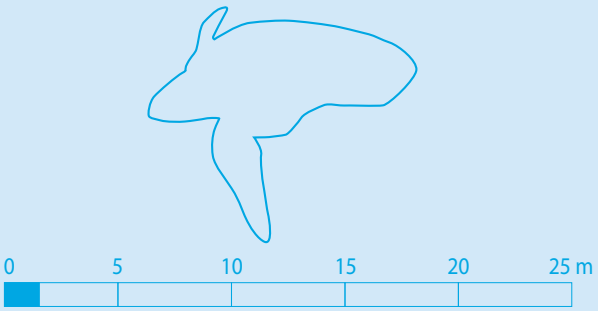
These two dolphin species are seasonal residents and are regularly observed in the Gulf of St. Lawrence from spring to fall, particularly near the Lower North Shore and Gaspé Peninsula. They are markedly abundant in the Gulf of Maine and Cabot Strait.

Claude Nozères

Stéphanie-Carole Pieddesaux, ROMM

Joël Detcheverry, SPM Fragîles

Sophie Bédel, Kap Natirel



Leatherback Turtle

The Leatherback turtle is the planet's largest turtle species. Feeding primarily on jellyfish and plankton, it travels as far north as our higher latitudes in the wake of large concentrations of prey.

English name:	**Leatherback turtle**
French name:	**Tortue luth**
Latin name:	***Dermochelys coriacea***
Nom vernaculaire :	**None**
Population :	**Atlantic**
Status:	**Endangered**

Vulnerability of the species

The main threats affecting Leatherback turtles include entanglement in fishing gear, collisions with ships, and pollution (for example, they sometimes mistake plastic bags and balloons as jellyfish).

No collisions in Atlantic Canadian waters have been reported to date. However, reports have been recorded in the United States, suggesting that cases may also occur in Canadian waters (8). The Leatherback turtle sometimes adopts the behaviour of drifting on the water where it feeds for long periods of time, making it vulnerable to ship strikes.

Physical description

- Drop-shaped shell ending in a point and covered in navy blue or white-spotted black leather
- Seven lengthwise ridges on the shell
- Pink spot on the top of the head

Behaviour

- Can dive very deep, as far down as 1,000 metres, and remain under water for more than an hour
- Very abundant in Atlantic Canadian waters from July to late October with a more marked presence off the coast of Nova Scotia, in the southern Gulf of St. Lawrence and along the south coast of Newfoundland; rare and sporadic observations in the St. Lawrence Estuary.

Sophie Bédel, Kap Natirel

** Given the lack of data about the Leatherback turtle's distribution in the Northwest Atlantic, no map has been provided.

In Canada, the Leatherback turtle is present off the coasts of Nova Scotia, Newfoundland and Labrador, New Brunswick and Prince Edward Island. Research shows that it is present in greater numbers in Atlantic Canadian waters from July to late October, with the highest densities occurring on the Scotian Shelf and Slope, in the southern Gulf of St. Lawrence and along the south coast of Newfoundland (31).

Joël Detcheverry, SPM Fragîles

Sophie Bédel, Kap Natirel

Louis Rhéaume

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This guide would not be what it is without the many spectacular photographs it contains. We would therefore be remiss if we did not extend our thanks to everyone who helped illustrate this document in such an impressive manner.

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This guide was developed for mariners sailing in the Northwest Atlantic Ocean. It provides information on the presence of several cetacean species and encourages mariners to pay particular attention in areas where greater vigilance is desirable.

It includes information on:

- areas where whales and ships can intersect (which is presented in a map format),
- factors that increase the risk of collisions,
- measures that can be used to keep collisions to a minimum,
- maps of the Northwest Atlantic.

In addition, it provides information on the different cetacean species that are present in the area, and clearly indicates which species a vessel is most likely to encounter. Some species are particularly affected by collisions because of their endangered status and their distribution.

We still have much to learn in order to gain a truly accurate picture of the problem as it exists in the Northwest Atlantic region. Whales do not recognize borders, and it is therefore important to be vigilant to their presence. It is also crucial to maintain a record of collisions by declaring all such incidents to the marine mammal emergency network that is active in the area involved.

To declare any incident involving a whale

Québec
1 877 722-5346

Nova Scotia, New Brunswick and Prince Edward Island
1 866 567-6277

Newfoundland and Labrador
1 888 895-3003

Shipping Federation of Canada

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