



# 2021 SEASON ACTIVITY REPORT

© Transport Desgagnés

# MARINE INDUSTRY ENGAGEMENT FOR WHALE DATA COLLECTION

Canadian East Coast Sector

Prepared by :



In collaboration with :



WWF® and ©1986 Panda Symbol are owned by WWF. All rights reserved.

## ABOUT

The protection of marine mammals in the St. Lawrence Estuary and Gulf as well as the Northwest Atlantic is a current issue that affects a large number of users. Of all these users, the maritime industry is a key category. Ship operators, whether regional, national or international, make frequent use of the shipping lanes in this region. They are on the front lines to collect observation data and take measures to reduce the impacts of commercial shipping on whales. The MMON teamed up with Green Marine in 2016 and with World Wildlife Fund Canada (WWF-Canada) in 2019 to develop a vast data collection program adapted to the reality of ship operators. The response exceeded our expectations: currently, about a dozen different companies with a combined fleet of over 60 ships are participating in the data collection program.

This report presents an overview of activities conducted between April 1, 2019 to March 31, 2022 as part of this program, which is helping to provide valuable information on the presence of whales in key shipping lanes and to train mariners in whale identification and whale conservation. Thanks to their participation in data collection efforts, ship operators that are members of Green Marine, a voluntary environmental certification program, can fulfil the Level 3 criterion of the Underwater Noise performance indicator. The overall objective of this indicator is to lower underwater noise levels produced by operating ships in order to reduce their impact on marine mammals. The project is an initiative of the MMON and is being carried out in collaboration with WWF-Canada, the St. Lawrence Global Observatory (SLGO) and Green Marine.

Blue whale  
© A. Sinclair, MMON

This initiative is made possible in part thanks to funding received under *Fisheries and Oceans Canada's Habitat Stewardship Program (HSP) for Species at Risk*.



Fisheries and Oceans  
Canada

Pêches et Océans  
Canada

# TABLE OF CONTENTS



<b>ABOUT</b> .....	<b>p. 2</b>
<b>TABLE OF CONTENTS</b> .....	<b>p. 3</b>
<b>PART 1 – MMON Activity Report</b> .....	<b>p. 4</b>
<b>PART 2 – Summary of Data Collection Program, 2019-2022</b> .....	<b>p. 8</b>
<b>PART 3 – Summary of Whale Observations, 2021</b> .....	<b>p.12</b>
<b>CONCLUSION</b> .....	<b>p.18</b>

## PART 1 • MMON ACTIVITY REPORT



© Transport Desgagnés

### PROJECT HISTORY

Tailored to the needs of ship operators, the whale data collection and training program debuted in 2015 with the involvement of the Desgagnés fleet and the Canada Steamship Lines vessel *Salarium*. Funding received under Fisheries and Oceans Canada's *Habitat Stewardship Program* (HSP) for Species at Risk made it possible to expand this program to include other companies and develop training tools suited to the multiple realities of its participants. By the end of this four-year pilot project (2015-2018), approximately 3,475 data had been collected by a fleet of some thirty active ships operated by seven different companies. HSP funding was renewed for an additional 3-year period, which began on April 1, 2019 and ended on March 31, 2022. This funding was used to maintain and further expand the data collection program as well as training, data management and data visualization tools to optimize the maritime industry's involvement and update the reference work entitled *A Mariner's Guide to Whales in the Northwest Atlantic* (hereafter referred to as the *Mariner's Guide*), the first edition of which was produced in 2014 by the MMON, the Shipping Federation of Canada, and Dalhousie University. The following activity report describes how work has progressed in Phase II of the program.

### GENERAL COORDINATION

In order to ensure that the developed initiatives convey the right conservation messages while at the same time being properly adapted to the reality of the maritime industry, a working committee co-directed by the MMON and WWF-Canada was established. This committee was made up of representatives of government agencies, conservation organizations and the maritime industry. In order to facilitate work progress, four sub-committees were created and met regularly over the past three years to focus more specifically on certain elements of the project. In 2021-2022, the communications sub-committee was particularly active in raising awareness of the new online portal for ship operators on the [Navigating Whale Habitat website](#) as well as the various tools featured on this site.



WWF® and ©1986 Panda Symbol are owned by WWF. All rights reserved.

## A COMPREHENSIVE TOOLBOX FOR SHIP OPERATORS

One of the issues raised by the maritime industry early in the project was where to find and how to consult information on whale conservation as it relates to this sector. Likewise, one of the program's deliverables was to create a neutral web-based platform that would serve as a new reference for issues relating to navigating whale habitat in eastern Canadian waters. The online platform is divided into three portals: the first one for recreational boaters, the second one for ship operators, while the third and most recently launched portal is geared toward the fishing community. On their dedicated portal, ship operators can find key messages from organizations and ministries responsible for whale conservation as well as a number of tools developed under the program.

Designed by the SLGO, the *Navigating Whale Habitat* website has been online since spring 2020 at [navigatingwhales.ca](https://navigatingwhales.ca). It was officially launched along with all the finalized elements of its toolbox in May 2021. The new tools developed over the last three years under Phase II of the program and featured in the shipowner's portal are described in the sections below.

## A NEW DATA ENTRY AND VISUALIZATION TOOL

One of the project's most significant achievements was the creation and launch of a new whale observation **data entry** and **visualization tool** that is available on the online platform. This tool aims to optimize the collection and subsequent management of data by ship operators, other categories of users of the St. Lawrence as well as ordinary citizens. All data collected by ship operators, notably those of 2021, were added to the visualization portal. In 2021-2022, trainings were provided to some of the program members on how to use the online data entry tool. Positive feedback was received with regard to the user-friendliness of the tool.



Navigating  
Whale  
Habitat

**SLGO**.ca  
St. Lawrence  
Global Observatory

Web platform  
© MMON

### Welcome to the marine mammal observation entry tool

To submit a citizen observation, click on **Submit an observation**.

If you are an MMON observer member, click on **Log In**. To view the complete methodology, [click here](#).

**CITIZEN OBSERVATION**

Submit an observation

**OBSERVER MEMBER** ⓘ

Log In



Beluga whale in the St. Lawrence © A. Savoie, MMON



Observation officer © S. Giroux, MMON

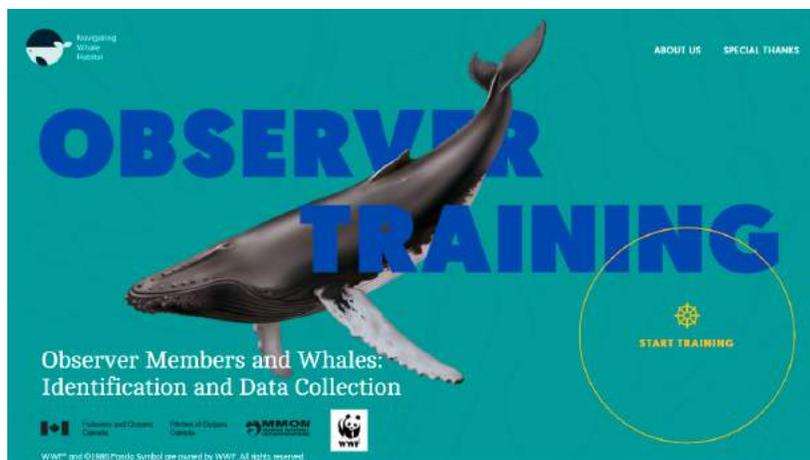
The marine mammal observation entry tool was developed by the Marine Mammal Observation Network, the St. Lawrence Global Observatory, the WWF-Canada, in collaboration with Parks Canada.

For questions, please contact MMON at [info@romm.ca](mailto:info@romm.ca). You can consult SLGO's [privacy policy](#) for the management of your personal data.

## ONLINE TRAINING

In Phase I of the project, biologists offered only in-person training to crew members of participating ships (e.g. presentations as part of seminars, on-board or dockside crew training). In light of the industry's growing interest in participating in the project and in an effort to promote continuous learning within companies, Phase II saw the development of a bilingual self-training tool on whale identification and data collection. A certificate is issued to participants who successfully complete the training, i.e. those who score at least 70% on the final

evaluation. The training is now being offered in two versions, either online at [observers.navigatingwhales.ca](https://observers.navigatingwhales.ca) or available for **download** and installation on an offline browser. The training is also available in a 'packaged' format that can be integrated with other learning systems already in use by ship operators directly on board their vessels (e.g. learning management system, LMS). To receive the latter version, please email the MMON at [info@romm.ca](mailto:info@romm.ca).



Screenshot of the training tool © MMON



Example of a certificate © MMON

## A MARINER'S GUIDE TO WHALES IN THE NORTHWEST ATLANTIC UPDATED

In 2014, the MMON and the Shipping Federation of Canada teamed up to produce a guide for mariners frequenting the waters of 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 features information on the issue of collisions as well as fact sheets and range maps for whale species present in the region. Highly popular, this initial guide inspired the creation of similar works in the Arctic and the Canadian west coast.

Five years later, an update was needed to incorporate newly acquired knowledge on the distribution of certain cetaceans, notably the North Atlantic right whale in the Gulf of St. Lawrence, as well as to update areas warranting extra caution and the measures implemented to minimize the risks of collision between ships and whales. Additionally, the issue

of underwater noise is also addressed in this new edition, given that ship strikes and underwater noise are two factors hampering the recovery of numerous cetacean species at risk such as the St. Lawrence beluga and the blue whale. Co-produced by the MMON, WWF-Canada and the Shipping Federation of Canada, this second edition features computer graphics illustrating the topics covered as well as data collected by the maritime industry since 2015 and a number of other recent data sets from government and research organizations. The **English** and **French** versions of this new edition can now be downloaded in PDF format on the **[Navigating Whale Habitat website](#)**. Furthermore, 3,000 copies of the English version have been printed and partly distributed to ship operators over the course of the fiscal year 2021-2022. To receive one or more complimentary copies of the guide, kindly send an email to **[info@romm.ca](mailto:info@romm.ca)**.

# A MARINER'S GUIDE TO WHALES IN THE NORTHWEST ATLANTIC

2<sup>ND</sup> EDITION



## COMMUNICATION ACTIVITIES

In the winter of 2020-2021, a working sub-committee was formed to develop a communication plan to facilitate the official launch of the new web-based platform [navigatingwhales.ca](https://navigatingwhales.ca) and distribute the tool kit to ship operators in May 2021, just before the peak shipping season. Under this plan, a number of communication activities were implemented in the 2021-2022 fiscal year to encourage other maritime companies to participate in the data collection program and undergo training on whale identification and conservation. Several outreach activities have been carried out, including a [promotional video](#) on the project posted on social media, a [press release](#), and participation in GreenTech 2021, Green Marine's virtual environmental conference held last June. Further outreach was carried out on social media in October 2021.

A series of virtual one-to-one presentations also took place with the environmental directors or heads of the data collection program from each participating company from March to May 2021 in an effort to provide them with a 'sneak preview' of the new tools contained in the training and data collection kit. The objective was also to encourage members to continue their involvement in the program and validate planned improvements.

The MMON also participated in the General Shipping Knowledge training session held on November 29, 2021 at the Institut maritime du Québec (IMQ) in Rimouski. At this event, copies of the *Mariner's Guide* were distributed to both participants and members of IMQ's management. The director of this establishment was delighted to receive copies for subsequent distribution to her students (i.e. the next generation of mariners) to educate them on the presence of whales even before they ever take the helm of a ship.

The MMON also presented the mariners' tool kit to port authorities of the Société portuaire du Bas-Saint-Laurent et de la Gaspésie (ports of Gros-Cacouna, Rimouski, Matane and Gaspé) in April 2022. The said authorities received copies of the *Mariner's Guide* to distribute to navigators wishing to learn more about the cetacean species they are most likely to encounter in their sectors of activity.

Three newsletters were also produced and sent to companies participating in the data collection program in 2021-2022 to keep them abreast of the most recent developments and news regarding whales.

### Future outlook:

- Training of different members on how to use the online tool kit (ongoing);
- Distribution of the *Mariner's Guide* to international cruise lines that plan to resume service in 2022 after a two-year hiatus due to the pandemic (summer 2022);
- Ongoing distribution of seasonal newsletters in order to encourage members to continue contributing to the data collection program;
- Development of an offline data entry tool to ensure the data collection project can be sustained for years to come.

**WHALES STILL PRESENT IN THE ST. LAWRENCE**

Since the start of the new year, whale sightings have given way to observations of harbour seals and harp seals in the Gaspé Peninsula. In fact, harp seals migrate to the Gulf of St. Lawrence in winter to give birth to their pups on the pack ice between February and mid-March. Nevertheless, it is not unusual to see whales in ice-free parts of the St. Lawrence. While most cetaceans migrate in fall for reproduction, some individuals (often immatures) stay behind to take advantage of the abundant year-round food supplies in the St. Lawrence and stock up on their fat reserves. Likewise, [Whales Online](#) collaborators have observed a small group of humpbacks in late January off the coast of Franquefin in Quebec's Côte-Nord region.

Stay alert and please, continue to send in your whale sightings throughout the winter! These data are invaluable and extremely useful for completing existing databases.

**MMON**  
MARINE MAMMAL OBSERVATION NETWORK

MMON is a non-profit organization dedicated to the protection of whales and seals of the St. Lawrence.

Observation Network [mmon.ca/en/](https://mmon.ca/en/)  
[info@mmon.ca](mailto:info@mmon.ca)

**MARINE MAMMAL PROJECTS MOVE FORWARD**

The Marine Mammal Observation Network (MMON) is currently working on compiling whale observation data reported by members of the maritime industry in 2021 in order to produce individual summaries of each participating company as well as a general summary for the project at large. To help us complete this task, we are requesting that you email us ([ahler@mmon.ca](mailto:ahler@mmon.ca)) at your earliest convenience all observations collected by the crews of your participating vessels. Moreover, MMON is presently brainstorming on how to encourage data collection using tools made available on the website [navigatingwhales.ca](https://navigatingwhales.ca). It is recalled that this site hosts a portal specifically dedicated to the maritime industry. This portal contains a wealth of information for ship operators that regularly find themselves sailing in whale habitat. For example, it features *A Mariner's Guide to Whales in the Northwest Atlantic*, a *Marine mammal identification training program*, in addition to *online data collection and visualization tools* developed by the St. Lawrence Global Observatory (SLGO).

In conclusion, it should be noted that *A Guide to Whales in the Northwest Atlantic* was printed in large quantities and you may order multiple copies by writing to [sagca@mmon.ca](mailto:sagca@mmon.ca). This initiative is made possible in part thanks to funding received under Fisheries and Oceans Canada's Habitat Stewardship Program (HSP) for Species at Risk.

**A MARINER'S GUIDE TO WHALES IN THE NORTHWEST ATLANTIC**

**GOOD NEWS FOR NORTH ATLANTIC RIGHT WHALES IN 2021**

For the second year in a row, not a single right whale mortality was recorded in Canadian waters in 2021. The measures implemented by Fisheries and Oceans Canada and Transport Canada therefore seem to be proving effective in curbing mortality caused by human activities. It should be noted that only one fishing gear entanglement was reported in 2021, the first since 2019. The animal managed to shed some of the gear on its own. The right whale population is currently estimated at 336 individuals, compared to 500 in the early 2000s. Each birth therefore offers a glimmer of hope for the survival of this endangered species. On February 10, the fourteenth calf to date this season was born off Cumberland Island, Georgia. Since the calving period runs from November to late February, additional newborns may still be observed.

© Anim1750... Flickr... NOAA Photo Library (cropped)

Fishes of Océans Canada  
In collaboration with WWF

WWF and © 1992 Pacific Science Center  
Covered by WWF-AI rights reserved

## PART 2 • SUMMARY OF DATA COLLECTION PROGRAM, 2019-2022

### HIGHLIGHTS OF PHASE II (2019-2022)

- In Phase II of the program, five new participating members were recruited, joining the seven pioneers of Phase I, namely Desgagnés, CSL, Fednav, Oceanex, Algoma, Société des traversiers du Québec and Compagnie de navigation des Basques. It should be noted that the latter member, after having suspended its operations in 2020 due to the pandemic, resumed service in 2021 and now submits data using the online data entry tool. The new members are Baffinland, NEAS, CTMA, Marine Atlantic and a few marine pilots of the Corporation des pilotes du Bas Saint-Laurent, which joined the MMON as an observer member in late spring 2021. There is now a total of 12 companies operating a fleet of over 60 vessels taking part in the data collection program.
- The MMON and WWF-Canada have standardized the whale observation data collection protocol so that all program members enter their information in the same manner, i.e. using the input fields of the new online tool. Also worth mentioning is the addition of two new variables that serve to pinpoint whale positions (distance between observer and animal and angle) rather than just the ship's position. This information will facilitate broader use of the data for scientific purposes.
- The **English** and French versions of the new protocol can be downloaded in PDF format on the *Navigating Whale Habitat* website. The same goes for the new version of the data grid available in Excel format.



## PORTRAIT DES COMPAGNIES MARITIMES PARTICIPANTES

	LOGO	DESCRIPTION	NUMBER OF PARTICIPATING SHIPS	AREA COVERED	FUTURE PROSPECTS
Société des traversiers du Québec		STQ is a Crown corporation that provides ferry services on the St. Lawrence.	2 ships (Matane–Baie-Comeau–Godbout and L’Isle-aux-Coudres–Saint-Joseph-de-la-Rive ferry crossings) and 2 ferry terminals (Godbout and Saint-Joseph-de-La-Rive)	Estuary and Gulf of St. Lawrence	<p>Addition of the Baie-Comeau ferry terminal and a new vessel for L’Isle-aux-Coudres (<i>NM Svanoy</i>)</p> <p>Participation of the Baie-Sainte-Catherine – Tadoussac ferry</p>
Compagnie de navigation des Basques		CNB is a private company that operates the ferry between Trois-Pistoles and Les Escoumins.	1 ship ( <i>Héritage 1</i> )	St. Lawrence Estuary	Encourage data collection directly with the online tool
Groupe Desgagnés		Groupe Desgagnés operates a fleet of approximately twenty ships (liquid bulk, chemicals and dry bulk).	10 to 15 ships a year	St. Lawrence Seaway, Maritime Provinces, Arctic and international	Continued data collection
Canada Steamship Lines		CSL operates a fleet of approximately 20 ships, mainly bulk freighters.	1 ship ( <i>Baie St. Paul</i> )	St. Lawrence Seaway	Addition of ship <i>Le Huron</i>
Fednav		Fednav specializes in the transport of solid and liquid bulk by means of bulk carriers, tankers (including oil tankers) and cement freighters	2 ships ( <i>Arctic</i> and <i>Umiak I</i> )	St. Lawrence Seaway and Arctic	Encourage renewed participation
Oceanex		Oceanex offers shipping to Newfoundland and Labrador from the rest of North America.	3 ships ( <i>Sanderling</i> , <i>Avalon</i> and <i>Connaigra</i> )	Gulf of St. Lawrence	Encourage increased participation

	LOGO	DESCRIPTION	NUMBER OF PARTICIPATING SHIPS	AREA COVERED	FUTURE PROSPECTS
Algoma		Algoma Central Corporation owns and operates a fleet of over 20 dry and liquid bulk carriers.	22 ships involved, including 7 actively involved in data collection	St. Lawrence Seaway, US east coast, Canadian and US west coasts	Encourage increased participation
Marine Atlantique		Marine Atlantic offers a ferry service between Nova Scotia and Newfoundland & Labrador	4 ships ( <i>Leif Ericson, Highlanders, Vision and Blue Puttees</i> )	Gulf of St. Lawrence, between Nova Scotia and Newfoundland & Labrador	Encourage data collection directly with the online tool
CTMA		CTMA is a maritime company offering cruises on the St. Lawrence and a ferry service between the Magdalen Islands and the Quebec coast	1 ship involved ( <i>CTMA Vacancier 2</i> )	Estuary and Gulf of St. Lawrence	Addition of <i>CTMA Traversier</i>
Baffinland		Baffinland Iron Mines Corporation is a Canadian mining company that extracts iron ore at the Mary Rive operation and subcontracts various ship owners and operators to transport this ore.	7 subcontracted ships selected	Eastern Arctic	Continued data collection
NEAS		NEAS specializes in the shipping of products, supplies and foodstuffs to remote regions of the eastern and western Arctic.	5 ships ( <i>Aujaq, Nunalik, Qumatik, Mitiq and Sinaa</i> )	Eastern Arctic	Continued data collection
Corporation des pilotes du Bas Saint-Laurent		This company plays a critical role in shipping safety on the St. Lawrence River between Les Escoumins and Québec City, as well as on the Saguenay River, by assigning specially trained marine pilots to accompany vessels passing through this sector.	3 participating marine pilots	St. Lawrence River between Les Escoumins and port of Québec City	Encourage participation of marine pilots

## PART 3 • SUMMARY OF WHALE OBSERVATIONS, 2021

### A GREAT EFFORT IN DATA COLLECTION

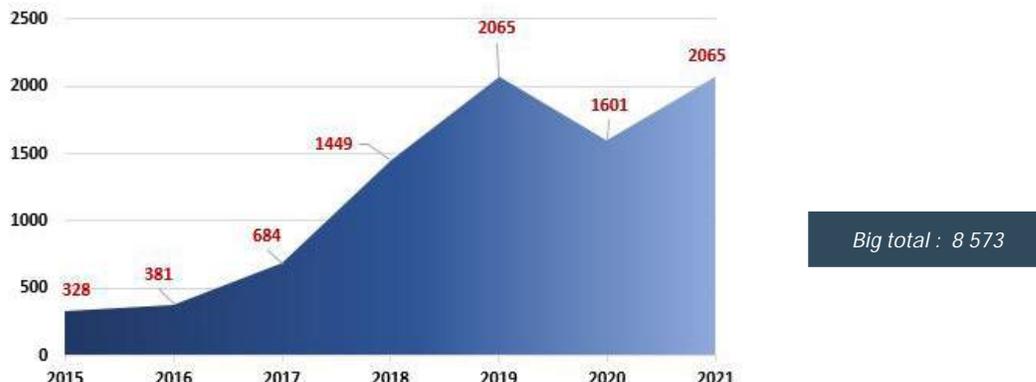


FIGURE 1. EVOLUTION OF OBSERVATIONS COLLECTED BY SHIP OPERATORS AND FERRY TERMINALS SINCE START OF PROJECT, 2015-2021

After sparking a decline in participation rates in 2020, the impact of the pandemic was less acute in 2021 and a rebound was observed in terms of the quantity of data collected. A total of 2,065 observation data were collected: 1,977 by the crews of participating companies that were active (11/12; 91.7%), plus 88 sightings collected from the two ferry terminals involved in the program, namely Godbout and L’Isle-aux-Coudres (see page 17). Fednav was the only company that did not participate in data collection.

As illustrated in Figure 1, the collection effort in 2021 increased by 22.5% compared to 2020. Also

noteworthy is the addition of a few marine pilots from the Corporation des pilotes du Bas Saint-Laurent to the other participating ship operators. Groupe Desgagnés accounted for approximately 38.6% of all marine mammal observations in 2021 (764/1,977), followed by Marine Atlantic (353/1,977; 17.8%). A total of 7.4% of observations came from the L’Isle-aux-Coudres – Saint-Joseph-de-La-Rive ferry (147/1,977), 6.2% from Oceanex (123/1,977), 6.1% from NEAS (121/1,977) and 5.9% from the Matane – Baie-Comeau – Godbout ferry (116/1,977). Other ship operators accounted for anywhere between 1.1 and 4.6%.

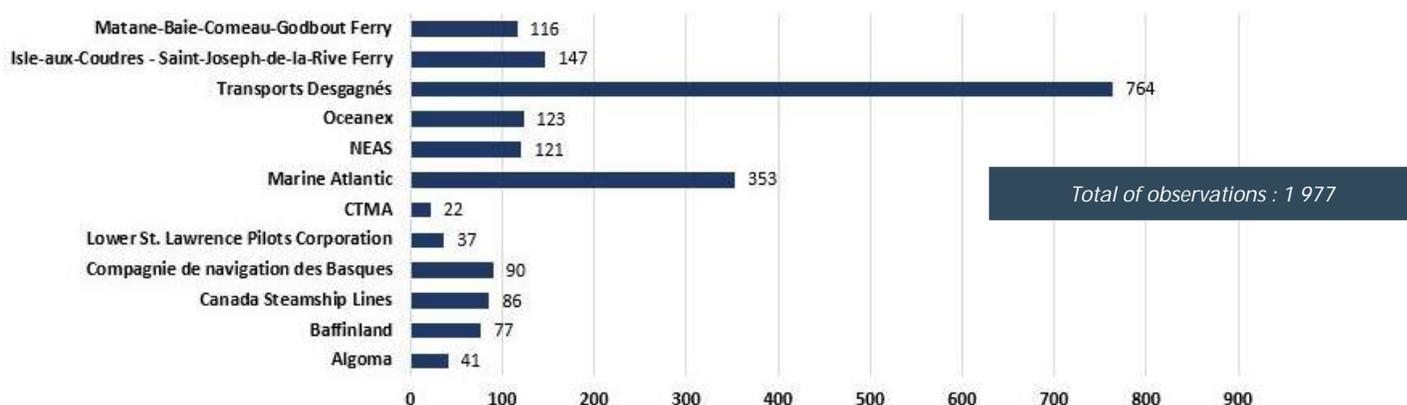


FIGURE 2. . NUMBER OF OBSERVATIONS PER MARITIME COMPANY (EXCLUDING FERRY TERMINALS), 2021

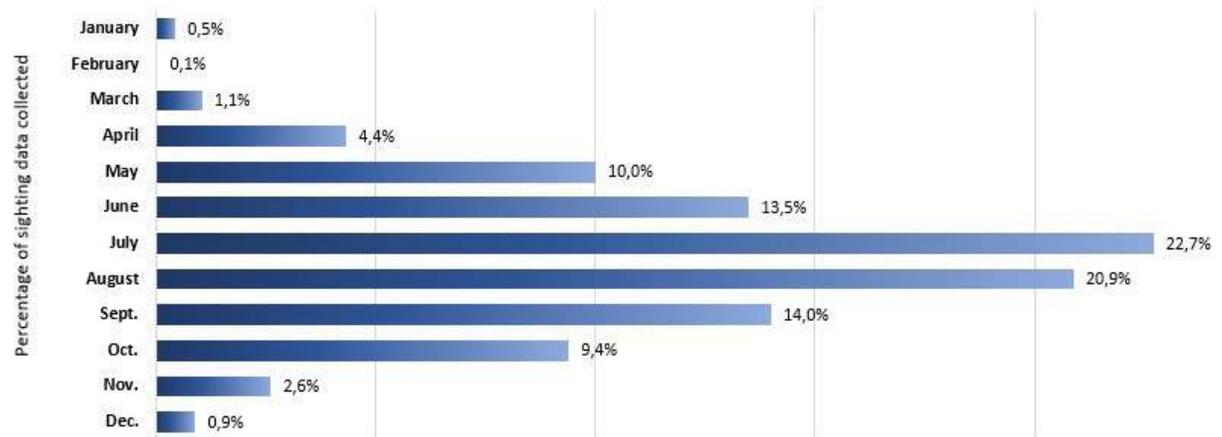
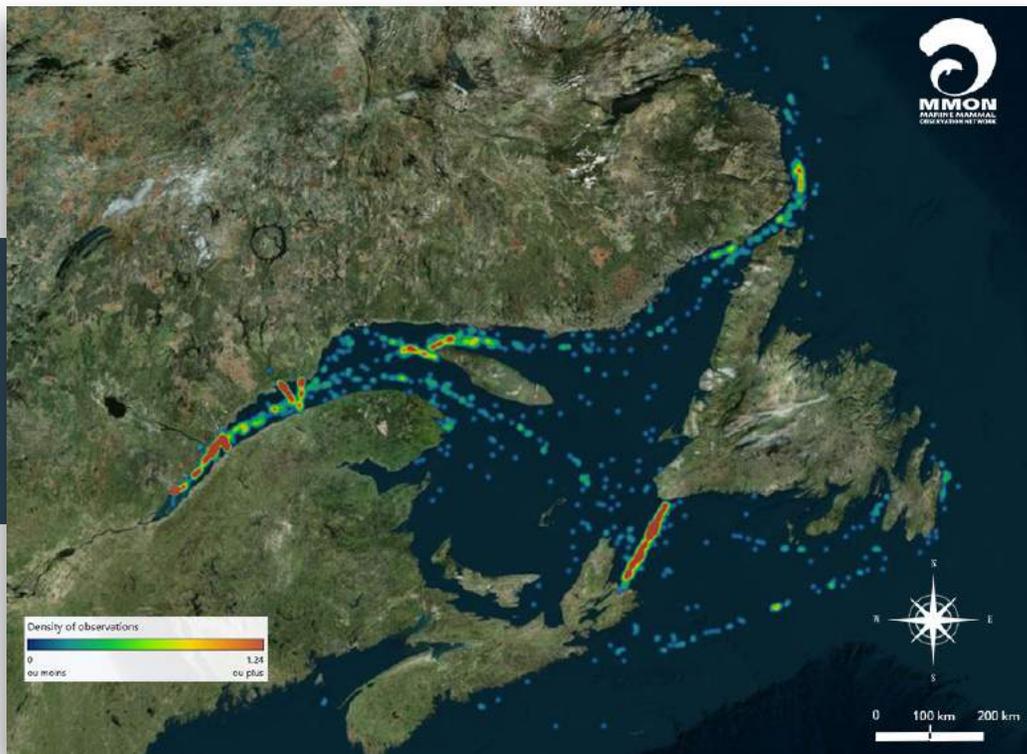


FIGURE 3. MONTHLY BREAKDOWN OF OBSERVATIONS COLLECTED BY SHIPS (EXCLUDING FERRY TERMINALS) UNDER PROJECT, 2021

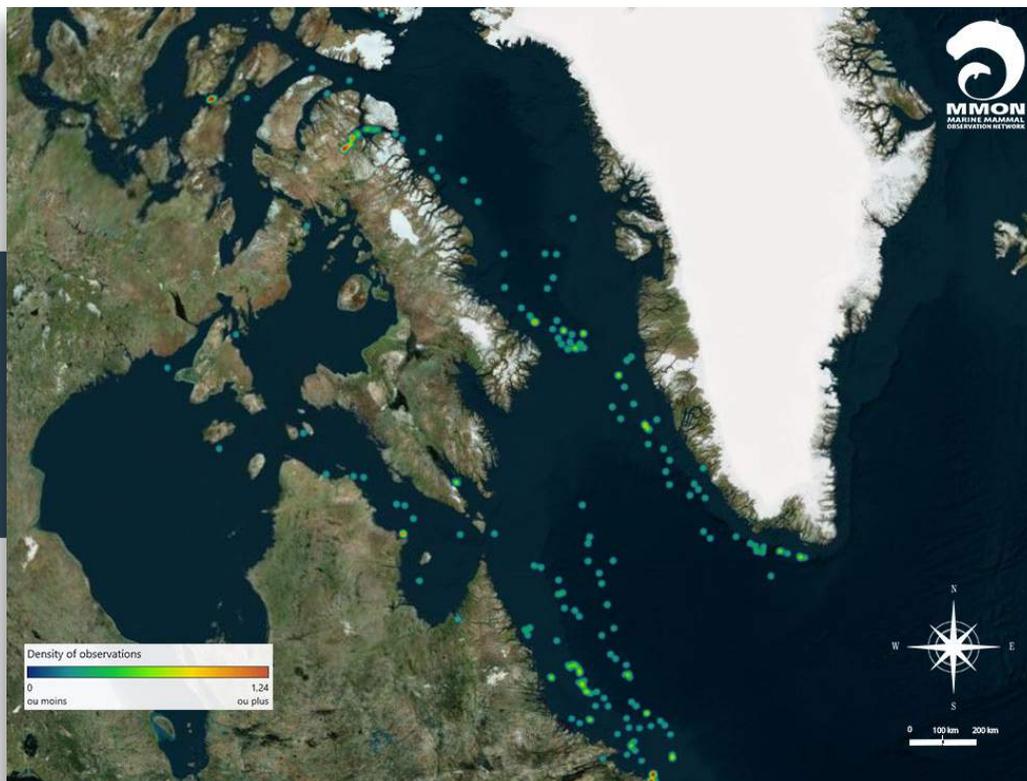
In 2021, the majority of observations collected by companies that remained active – excluding those from ferry terminals – were made in the height of the shipping season, i.e. May to September (81.1%; 1,604/1,977), with peaks in July (22.7%; 449/1,977) and August (20.9%; 413/1,977) (Figure 3). A total of 5.9% of observations were made prior to the start of the high season, i.e. January to April (117/1,977) and 12.9% thereafter, i.e. October to December (256/1,977). Though fewer in number, data collected outside the summer months are still valuable due to the fact that these periods are not monitored as heavily by scientists. They provide important information on the presence of certain whale species within the covered area, notably in winter. Outside the high season (October to April), data collection effort was greater in 2020 and 2021 than it was in 2019.

## VAST COVERAGE AREA

MAP 1. WHALE OBSERVATION DENSITY IN MAIN SHIPPING CHANNELS OF PARTICIPATING COMPANIES, 2021 (CANADIAN EAST COAST)



MAP 2. WHALE OBSERVATION DENSITY IN MAIN SHIPPING CHANNELS OF PARTICIPATING COMPANIES, 2021 (ARCTIC REGION)



Data collected by ship operators contribute to a better understanding of whale distribution patterns in major commercial waterways. These data are used to refine current knowledge to support whale conservation in the Northwest Atlantic, including the Estuary and Gulf of St. Lawrence and extending northward to the Arctic (Maps 1 and 2). For the 2021 season, a substantial majority of the area was covered. More precisely:

- The Lower Estuary enjoys heavy coverage beginning near L'Isle-aux-Coudres, as does the entire Gulf of St. Lawrence and extending to the Bay of Fundy.
- Quebec's Côte-Nord region, the Newfoundland & Labrador coasts and the ocean trench east of Nova Scotia and the island of Newfoundland are also well represented in 2021.

- Thanks to Marine Atlantic, which joined the data collection program in 2019, the shipping lane between Newfoundland and Nova Scotia is now well covered.
- Though still sparse, data collection is improving in the Arctic thanks to the participation of NEAS and Baffinland, whose observations are concentrated along the east coast of Newfoundland up to Ungava Bay, Hudson Strait, Baffin Bay, northern Hudson Bay, Eclipse Sound / Bylot Island, and the Gulf of Boothia / south of King William Island.
- A few data were reported from the southern parts of the Nova Scotian trench.



## PRECIOUS DATA ON WHALE DISTRIBUTION PATTERNS

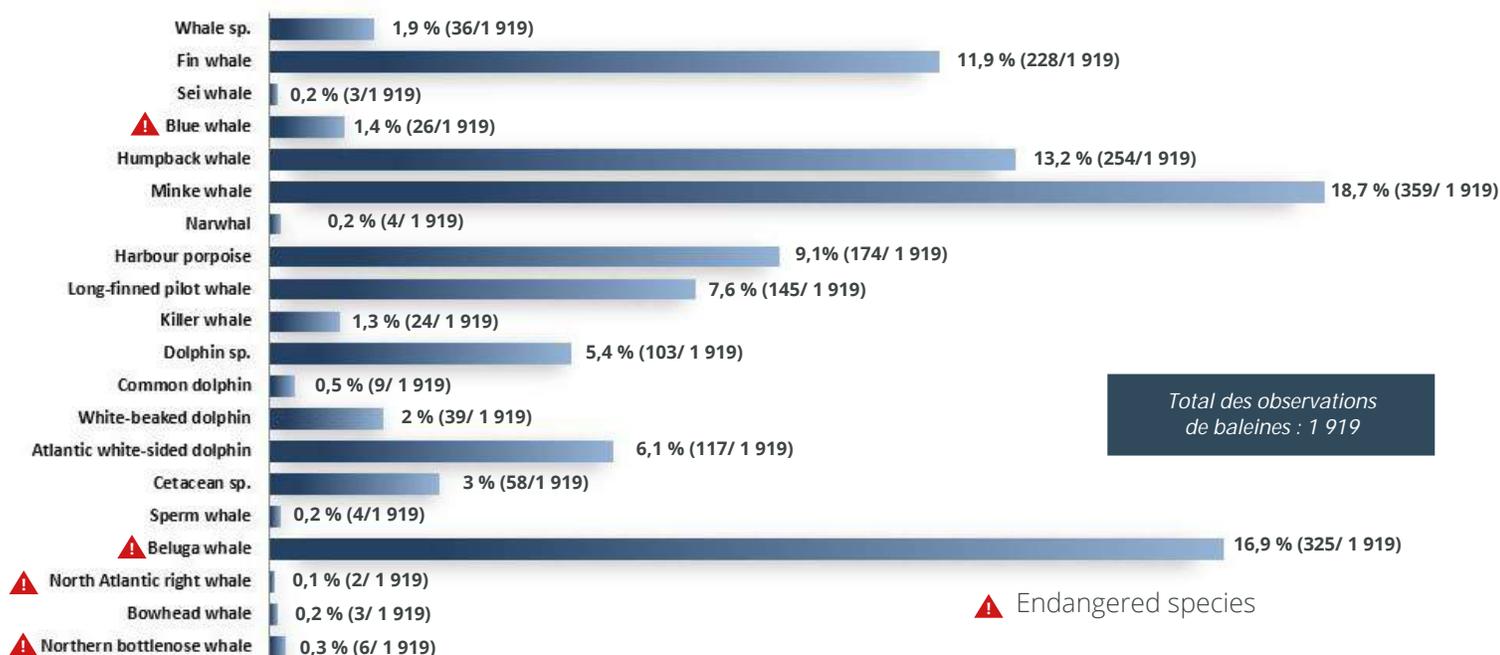


FIGURE 4. SPECIES BREAKDOWN OF COLLECTED OBSERVATION DATA, 2021

As illustrated in Figure 4, the most commonly observed species in 2021 was the minke whale, which represented 18.7% of all whale sightings (359/1,919), closely followed by the endangered beluga whale (16.9%; 325/1,919), and then the humpback whale (13.2%; 254/1,919) and fin whale (11.9%; 228/1,919), the latter being a species of special concern.

New knowledge on endangered species is particularly valuable to support the establishment of protection measures that pertain to these species. As was the case in 2020, in addition to beluga sightings, there were a few observation data pertaining to blue whales (1.9%; 36/1,919), North Atlantic right whales (0.1%; 2/1,919) and bottlenose whales (0.2%; 3/1,919). The proportions observed in 2021 are similar to those of 2020.

More rarely reported species, including the walrus and polar bear in arctic waters, as well as the basking shark, leatherback sea turtle and bluefin tuna, were also recorded in 2021 (Figure 5, page 17). Moreover,

a greater diversity of pinnipeds was noted compared to 2020 with reports of bearded seals, ringed seals, harbour seals and harp seals (65.6%; 38/1,601). These other marine animals accounted for a total of 58 observations out of the 1,977 collected in 2021 by ship operators.

Approximately 10.3% of data concerned dolphins, porpoises or cetaceans that could not be identified with certainty by seafaring personnel (197/1,919, Figure 4). The online training tool allows crews to hone their identification skills of whales found in the region covered by the data collection program. We encourage all participants to complete this training, which is available at [observers.navigatingwhales.ca](https://observers.navigatingwhales.ca).



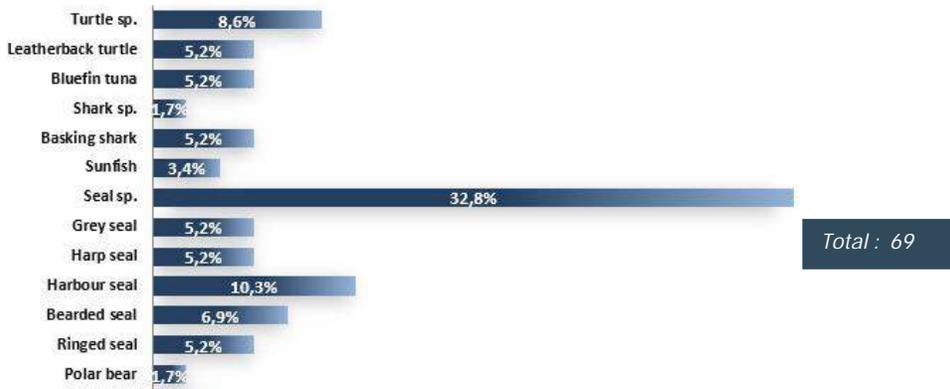


FIGURE 5. NUMBER OF OBSERVATION DATA FOR NON-CETACEAN SPECIES, 2021

### SUSTAINED DATA COLLECTION EFFORT BY FERRY TERMINALS

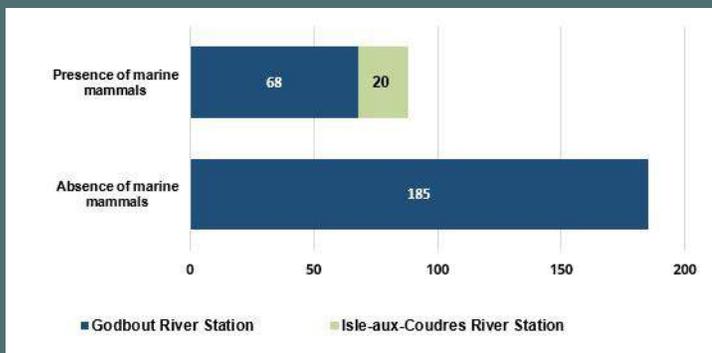
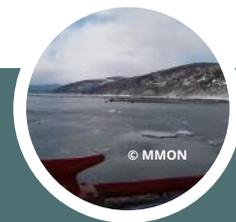


FIGURE 6. NUMBER OF OBSERVATION DATA COLLECTED BY FERRY TERMINALS, 2021

The Godbout and L’Isle-aux-Coudres ferry terminals continued their participation in the data collection program while following a protocol specifically designed for land-based observations. In 2021, the L’Isle-aux-Coudres ferry terminal collected observation data only if and when marine mammals were present. The corresponding collection effort can therefore not be quantified. Moreover, the Saint-Joseph-de-la-Rive ferry terminal did not participate in data collection this year.

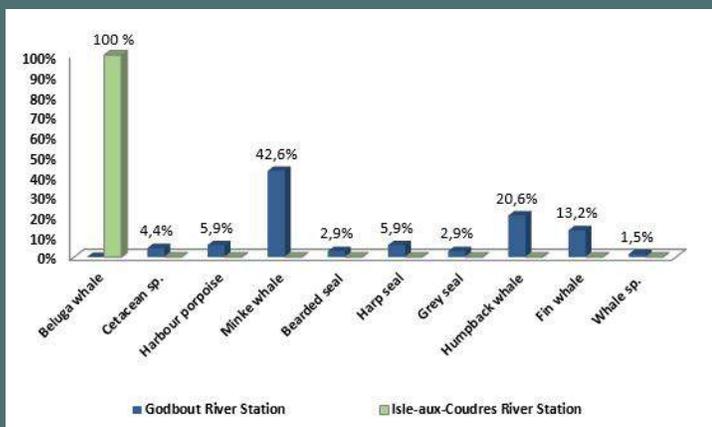


FIGURE 7. SPECIES BREAKDOWN OF OBSERVATION DATA COLLECTED BY FERRY TERMINALS, 2021

The data collection effort was comparable to that of 2020. For the ferry terminal in Godbout, 73.1% of observation sessions did not result in any marine mammal sightings (185/253). For long-term monitoring purposes, a datum indicating an absence of marine mammals in a given sector and in a given month of the year is every bit as valuable as one that portrays their presence. A total of 88 additional observations were recorded between January and November 2021.

As illustrated in Figure 7, the species most frequently observed at the Godbout ferry terminal in the Côte-Nord region was the minke whale (42.6%; 29/68), followed by the humpback whale (20.6%; 14/68) and the fin whale (13.2%; 9/68). It should be pointed out that 11.8% of observations in this sector were of various species of seals.

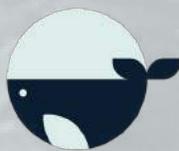
As for the L’Isle-aux-Coudres ferry terminal, 100% of the observations concerned belugas (20/20). These data are of great importance to understand how this endangered species uses this sector, since the latter represents the western limit of the species’ range, where few data are available.

## CONCLUSION

In 2021, eleven out of the twelve companies involved in the program continued and/or enhanced their data collection efforts compared to the start of the pandemic. With 2,065 additional data in 2021, including 1,977 from ship crews and 88 from the staff of two ferry terminals, a grand total of 8,573 marine mammal observations have now been collected since 2015, the first year of the data collection project for the maritime industry. Effort increased by 22.5% in 2021 compared to 2020, when the unique context of the pandemic created a number of logistical challenges for certain companies.

Every year, the maritime industry provides essential information to research organizations to help them better understand the geographic distribution and abundance of the St. Lawrence's various whale species, particularly in regions and months of the year that are less monitored by scientists. This knowledge is added to scientific databases that are used to guide whale conservation efforts, notably the recovery of species at risk. It is widely agreed that data collected by the crews of participating companies represent a gold mine of additional information that can be exploited by research teams. Hopefully, these additional data will help fill knowledge gaps and enhance our understanding of whales' migratory movements. In these times of evolving water and air masses triggered by climate change and resulting in shifts in the feeding grounds and in turn the movement patterns of whales, these data are all the more important to better understand the conditions of a healthy coexistence between cetaceans and the activities of the maritime industry.

The data can be viewed by visiting the visualization tool on the platform [navigatingwhales.ca](https://navigatingwhales.ca).



Navigating  
Whale  
Habitat