State of Maine Department of Marine Resources
Division of Marine Mammal Research

Monthly Survey Program Report
January 2025

North Atlantic right whale (*Eubalaena glacialis*) #3842 on 19 January 2025, S. Leiter, NMFS Permit No.27858

Introduction

The primary goal of the Division of Marine Mammal Research Survey Program is to collect spatial and temporal distribution data for North Atlantic right whales in the Gulf of Maine (GOM) to determine distribution patterns and contribute to ongoing population monitoring efforts. Data for all large marine species (marine mammals, sea turtles and fishes) is collected, prioritizing right whales and other endangered large whales and sea turtles. Surveys conduct distance sampling along predetermined transects (i.e. track lines) to ensure that observational data can be used in species density and abundance estimates.

Since July of 2024 the Marine Mammal Survey Program has conducted aerial surveys with Contractors Azura Consulting LLC, who subcontract Aspen Helicopters Inc. for aviation services. Aerial surveys will be conducted 5-6 days per month, as weather allows. Azura also provides a NMFS Research Permit (#27066) for ME DMR aerial surveys and Mammal Observers for vessel surveys. Vessel surveys are conducted in inshore waters inside of 30 nm approximately 4 days per month. Additional sampling transects are conducted periodically offshore in conjunction with PAM operations. Both survey platforms (aerial and vessel) are utilized year-round.

Program Updates

In January, the Survey Program conducted two separate expeditions with Maine Marine Patrol to Jeffery's Ledge in an effort to monitor the North Atlantic right whale aggregation that was originally detected by an aerial survey conducted by the New England Aquarium (NEAq) on January 12th. The NEAq also continued to monitor the aggregation via aerial surveys throughout the month.

The Survey Program will complete and distribute an Annual Program Report for 2024 in February.

Methods

Aerial Surveys

Surveys are conducted from a fixed-wing twin engine Partenavia (*AHF8VA*) at an altitude of 1000 ft and a ground speed of 100 knots along 50 different predetermined transects spaced at 4 nm apart along the Maine coastline. These transects are also flown by the New England Aquarium and the NOAA Northeast Fisheries Science Center, and coordination between organizations for maximum survey coverage of the GOM is ongoing. They utilize a team of two observers with one positioned on either side of the aircraft.

Vessel Surveys

Vessel surveys are conducted aboard the M/V Acadia Explorer (Bar Harbor Whale Watch Co.) along predetermined transects inside 30 nm from the shore in the GOM. Effort and sightings data are recorded using Mysticetus LLC software by a team of 5 marine mammal observers from ME DMR and Azura Consulting LLC. Observations were collected by three observers, two stationed with Fujinon 5x70 binoculars with reticles on either side of the top deck and one recording data.

Effort Data Collection

While on watch, observers record effort type (i.e. 'transit', 'on track', etc.) and track events (i.e. 'start track', 'end track, 'break track', 'resume track') when the aircraft or vessel deviates from transects to approach sightings of marine mammals or (vessel only) to avoid fishing vessels or fishing gear. Weather variables recorded by observers include general weather, cloud cover, visibility distance in nautical miles, Beaufort sea state, glare severity and position, swell height, windspeed and wind direction.

Sighting Data Collection

Sightings of marine species are recorded when detected, regardless of leg type or effort status. For each sighting, variables for species, range (by reticle calculation when possible), relative bearing, absolute bearing, count, confidence, ID reliability, number of calves and behaviors are recorded. Sightings are identified to the

highest taxonomic specification possible, and when distance or other constraints (such as lack of resighting) does not allow animals to be identified to species, the species category (i.e. "unidentified delphinid") at the highest taxonomic precision possible is indicated. ID reliability is used to indicate the reliability of a species identification. Confidence is used as a +/- interval when the exact number of animals cannot be clearly determined.

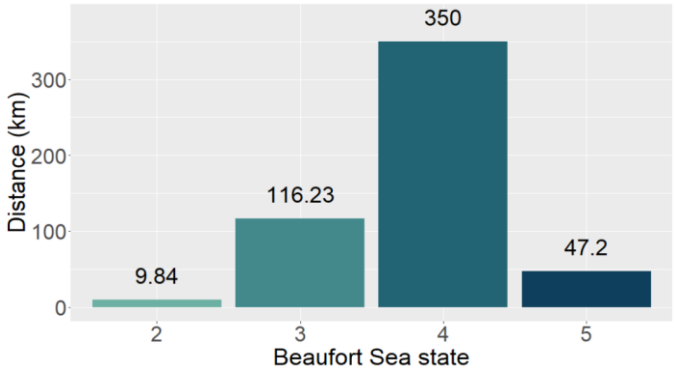
The aircraft or vessel will deviate from transect lines to confirm species identification for large whales or to collect photographs of North Atlantic right whales for individual identification in the case that these sightings are detected.

Results

Aerial Survey Effort

One aerial survey was conducted on January 6th, and was comprised of 6 complete transect lines and 6 partial transect lines covering a total of 523.3 km (282.6 nm) (Figure 3). The weather was clear, and the Beaufort sea state ranged from 2-5, with the majority of effort conducted in sea state 4. Distance (km) is summarized by Beaufort sea state for transect line effort (transits and circling excluded) in Figure 1.

Figure 1. Vessel survey effort in kilometers by Beaufort sea state for transect effort conducted in January 2025



Aerial Survey Sightings

A total of 2 sightings of 7 marine mammals were recorded during the aerial survey conducted in January. (Table 1, Figure 3). The survey detected one sighting of 6 unidentified dolphins and one sighting of a single unidentified seal.

Table 1. Marine mammal species sighted and total number during the January 2025 aerial survey window

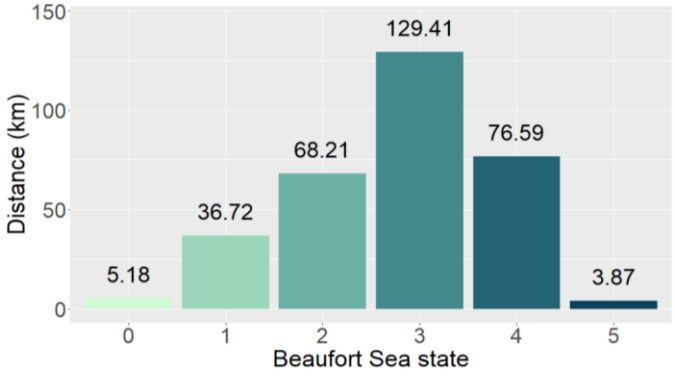
Species	Sightings	Total Number	Conf.
Unidentified dolphin or porpoise	1	6	+/- 2
Unidentified seal	1	1	+/- 0
Monthly Total	***2***	*7*	***+/- 2***

Vessel Survey Effort

Vessel surveys inside 30 nm from shore were conducted over four days on January 11th, 13th, 22nd, and 24th (Figure 4). Surveys ranged from Southern to Downeast Maine, and covered 320.0 km (172.8 nm) of standardized transect. The weather was clear, and Beaufort sea state ranged from 0-5 during survey transects, and the majority of transects were conducted in sea state 3. This is summarized by distance (km) for standardized effort (transits excluded) below in Figure 2.

Additional sighting-directed observation efforts were conducted near Jeffery's Ledge and Jeffery's Basin during two days on January 19th and 25th (Appendix A). Photographs were only taken to confirm species identification during these two expeditions, and opportunistically for photo-ID.

Figure 2. Total vessel survey effort in kilometers by Beaufort sea state for transect effort conducted in January 2025



Vessel Survey Sightings

A total of 12 sightings of 35 marine mammals were detected during the December vessel surveys. (Table 2, Figure 4). Vessel surveys detected a humpback whale, common dolphins, harbor porpoise, unidentified dolphins and harbor seals.

Table 2. Species sighted and total number of animals detected during the January 2025 vessel surveys

Species	Sightings	Total Number	Conf.
Humpback whale	1	1	+/- 0
Common dolphin	1	20	+/- 5
Harbor porpoise	5	8	+/- 1
Unidentified dolphin or porpoise	2	3	+/- 0
Harbor seal	3	3	+/- 0
Monthly Total	***12***	***35***	***+/- 6***

During sighting-directed surveys with Maine Marine Patrol, detections of North Atlantic right whales, humpback whales, sei whales, fin whales, and common dolphins were recorded. See the expedition reports in Appendix A for more sighting details. There were 19 right whales sighed on January 19th and 8 right whales sighted on January 25th. The total number of right whales sighted on the January 19th survey has been updated to 22 (from 19), based on preliminary review of photographic data collected during the expedition. Sighting details for North Atlantic right whales are included in the reports in Appendix A.

Summary

The Marine Mammal Survey Program conducted one aerial survey and four vessel surveys in January 2025. Survey efforts combat the challenge of weather during the winter months, and though the vessel was able to complete almost the typical monthly mileage goal, the aircraft was only able to survey for a single day during the aerial survey window. The combined transect distance from both survey platforms was 843.3 km.
Marine mammal sightings were not abundant from either the plane (n = 2) or the vessel (n = 12), as is characteristic during winter in the Gulf of Maine. High sea state (4) during the aerial survey effort may have played a role in the lack of detections. However, a great number of marine mammals were sighted during the two opportunistic efforts to Jefferey's Ledge / Jeffery's Basin during expeditions with Maine Marine Patrol designed to investigate the aggregation of North Atlantic right whales in the area. This area is outside of the defined inshore vessel survey area, and there were no detections of right whales during the January 6th aerial survey. For context, the aggregation was originally detected by an aerial survey conducted by the New England Aquarium on January 12th. The Survey Program will continue efforts to monitor the aggregation of North Atlantic right whales in southern Maine as weather and survey schedule allows over the coming weeks.

Figure 3. Aerial survey transect lines depicted by survey date and marine mammals detected during the January 2025 aerial surveys

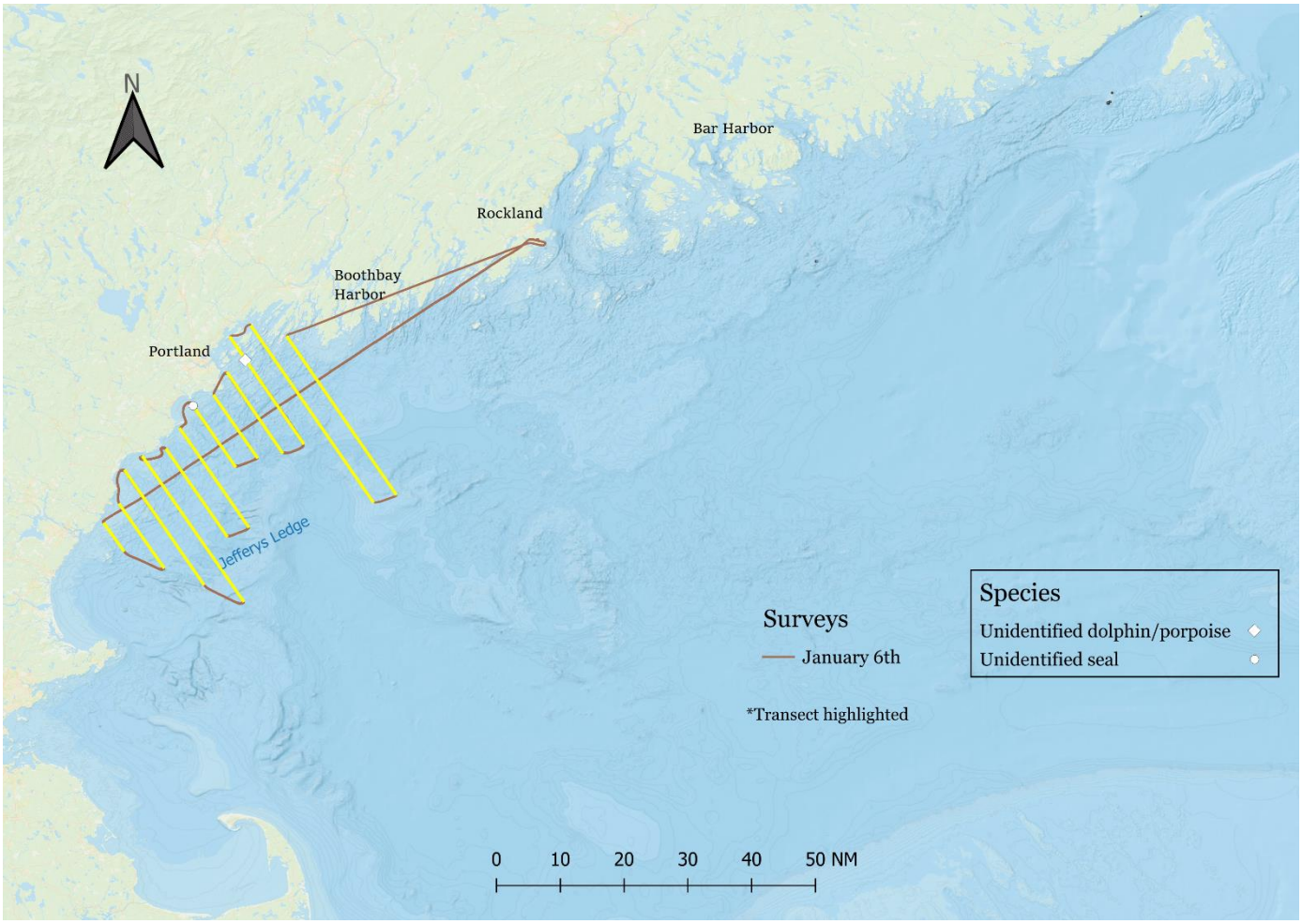
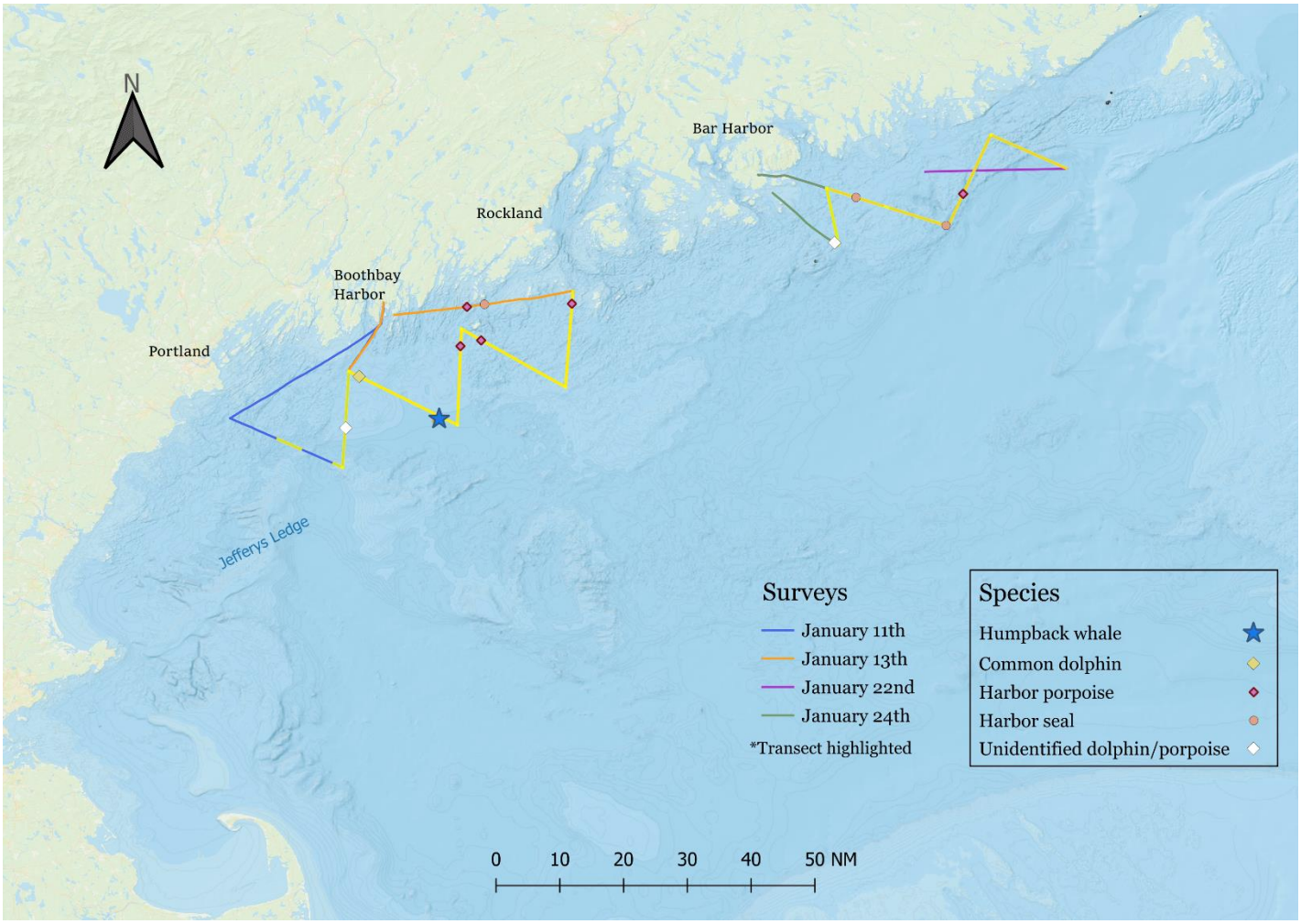


Figure 4. Vessel survey transect lines depicted by survey date and marine mammals detected during the January 2025 vessel surveys



Acknowledgements

The Maine Department of Marine Resources Division of Marine Mammal Research Survey Team would like to acknowledge the team of skilled observers provided by Azura Consulting LLC for both aerial and vessel surveys, the pilots of Aspen Helicopters LLC., and Captain Matt McFarland and the crew of Bar Harbor Whale Watch Company, as well as Maine Marine Patrol for their provision of a research platform and commitment to cautious vessel operation around protected species.

Appendix A. Sighting Directed Survey Reports: January 2025

Maine Department of Marine Resources
Division of Marine Mammal Research
Right Whale Response Survey Report

19 January 2025

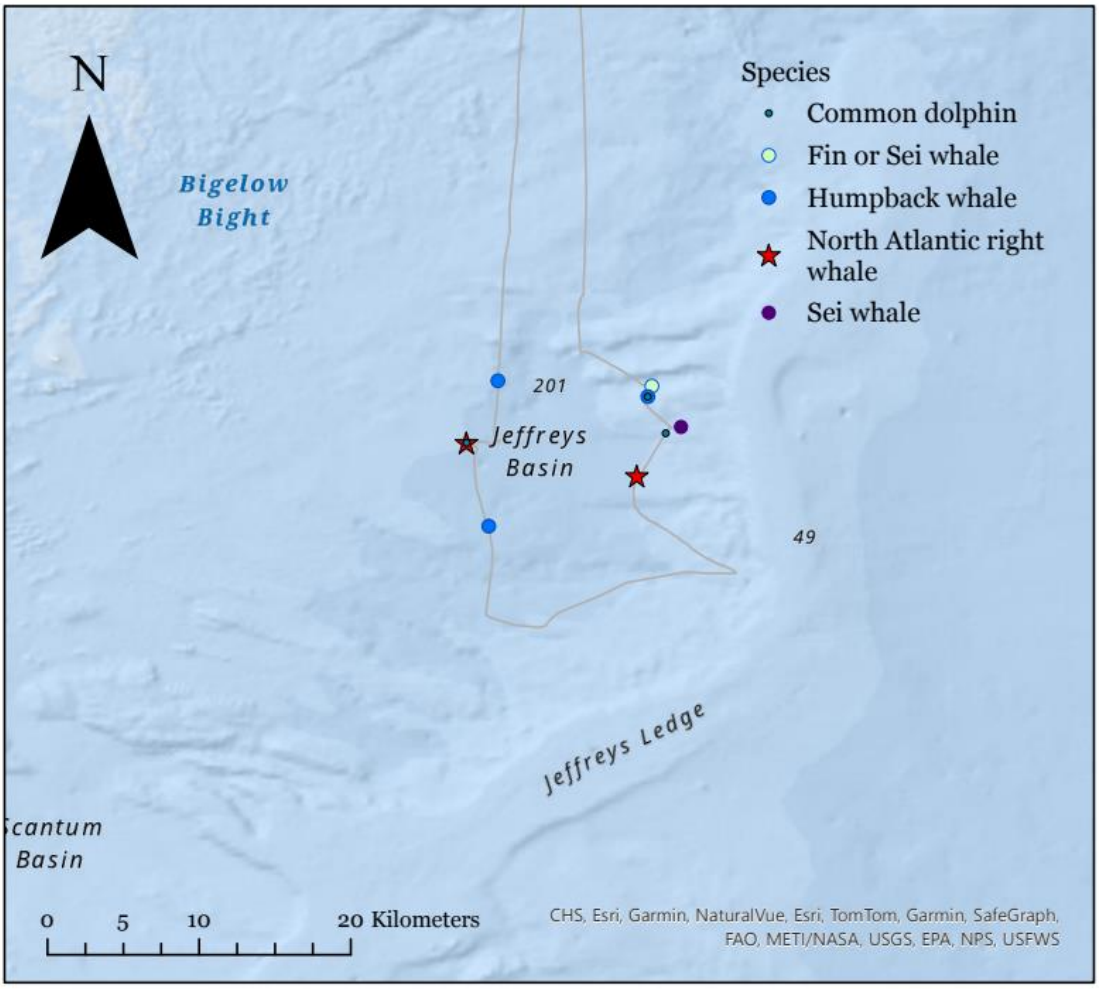
On Sunday, January 19, 2025, the Maine Department of Marine Resources Division of Marine Mammal Research (NMFS Permit No. 27858) conducted a response survey to Jeffery's Ledge to investigate the recent North Atlantic right whale aggregation with Maine Marine Patrol.
The goal of this survey was to provide surveillance of right whale activity and provide an updated position of the aggregation for future research efforts and monitoring. With this goal in mind, animals were not approached at close range, and photographs were only collected to confirm species identification and lack of entanglement, and only opportunistically for individual identification.
The weather was clear, and Beaufort sea state ranged from 3-5. A single North Atlantic right whale was located on the western side of Jeffery's Ledge, and a widely dispersed group of approximately 18 right whales was detected to the Northwest of the last known location of the large aggregation documented by the New England Aquarium on 16 January 2025. This larger group of whales was located in deeper water (>500 feet) and there was no fishing gear present within several miles of the location. Behaviors observed included diving, body-to-body contact, rolling and milling.

Table 1. Species Sighted

Species	Total Number
Sei Whale	1
Humpback Whale	44
Fin or Sei Whale	2
North Atlantic Right Whale	19
Common Dolphin	27

Table 2. Right Whale Sighting Details

Date	Time EST	Latitude	Longitude	Number	Calves	Behavior
01/19/2025	11:21:18	43.05096	-70.13096	1		
01/19/2025	13:56:11	43.07064	-70.23191	18		


N
Bigelow Bight
Species
Common dolphin
Fin or Sei whale
Humpback whale
North Atlantic right whale
Sei whale
201
Jeffreys Basin
49
Jeffreys Ledge
Scantum Basin
0 5 10 20 Kilometers
CHS, Esri, Garmin, NaturalVue, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS, USFWS

Maine Department of Marine Resources
Division of Marine Mammal Research
Right Whale Response Survey Report

25 January 2025

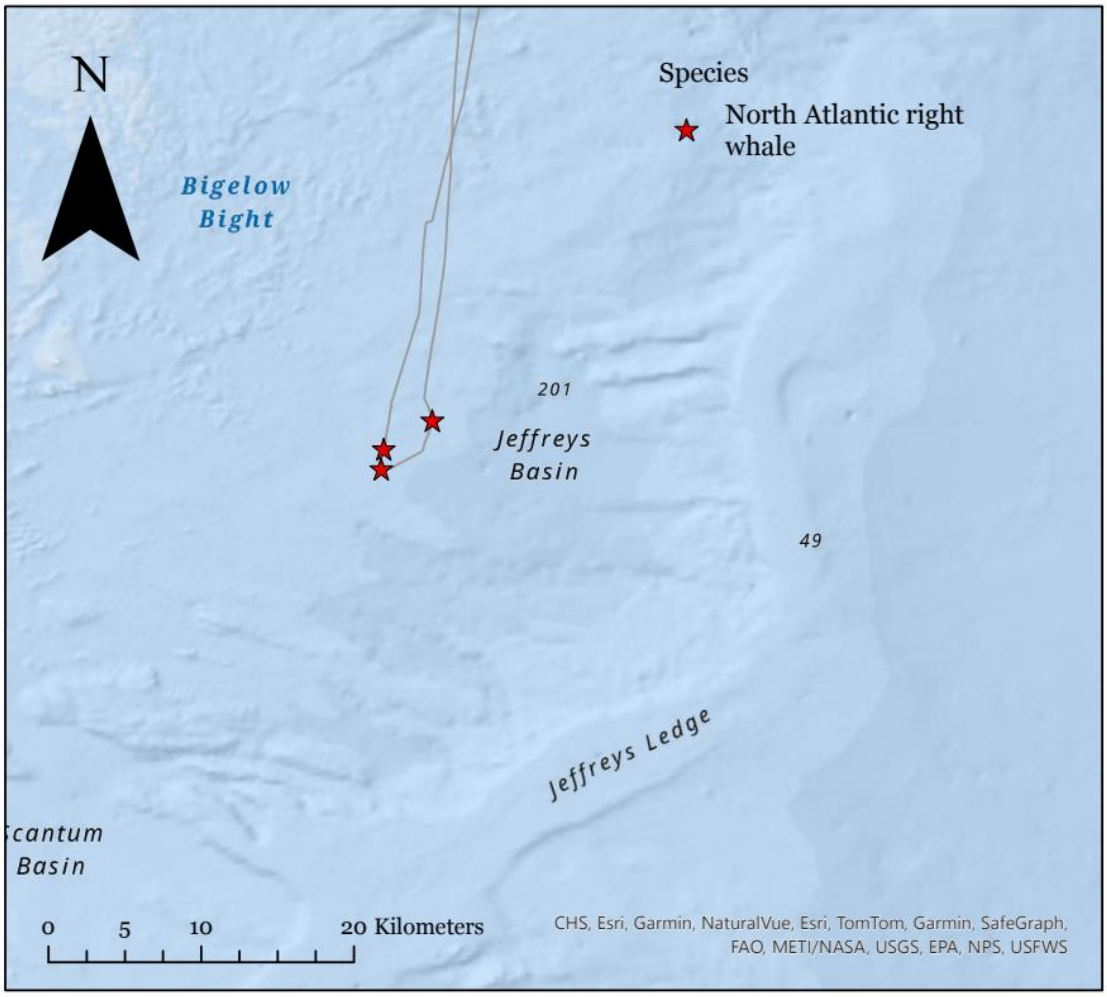
On Saturday, January 25, 2025, the Maine Department of Marine Resources Division of Marine Mammal Research (NMFS Permit No. 27858) conducted a second response survey to Jeffery's Ledge to investigate the recent North Atlantic right whale aggregation with Maine Marine Patrol.
This survey is part of a continued response by ME DMR to monitor the aggregation. Animals were not approached at close range, and photographs were only collected to confirm species identification and lack of entanglement, and only opportunistically for individual identification.
The weather was clear, and Beaufort sea state ranged from 2-5. Three sightings of North Atlantic right whales were recorded. Following these initial detections, further survey efforts were aborted due to high sea state.

Table 1. Species Sighted

Species	Total Number
North Atlantic Right Whale	8

Table 2. Right Whale Sighting Details

Date	Time EST	Latitude	Longitude	Number	Calves	Behavior
01/25/2025	10:31:52	43.06895	-70.28282	3		
01/25/2025	10:44:56	43.05723	-70.28428	4		
01/25/2025	11:33:59	43.08577	-70.25425	1		


N
Species
North Atlantic right whale
Bigelow Bight
201
Jeffreys Basin
49
Jeffreys Ledge
Scantum Basin
0 5 10 20 Kilometers
CHS, Esri, Garmin, NaturalVue, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS, USFWS