



Northeast Fisheries Science Center Reference Document 22-12

NOAA Right Whale Mark-Recapture Surveys in the Gulf of St. Lawrence, Canada November 2021

August 2022



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Northeast Fisheries Science Center (NEFSC)

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The NOAA Northeast Fisheries Science Center (NEFSC) conducted 7 aerial surveys for North Atlantic right whales in the southern Gulf of St. Lawrence between November 3 and 15, 2021, with the following objectives:

- Photo identification of individual right whales for mark-resight-recapture (MRR) population and residency estimates.
- Documentation of the seasonal departure of right whales from the Gulf of St. Lawrence.
- Determination of whether different individual right whales are using the Gulf of St. Lawrence in late autumn.
- Documentation of right whale health and injury.
- Scientific collaboration between National Oceanic and Atmospheric Administration (NOAA) and Fisheries and Oceans Canada (DFO) on right whales.

Two of the 7 flights covered areas where right whales had been sighted previously in the season; however, no right whales were detected during these flights. Five of the 7 flights were directed to an aggregation of recently sighted right whales to maximize photographic captures of individuals for MRR analyses (Crowe et al. 2021). A total 32.3 flight hours resulted in 33 right whale sightings of 25 unique individuals, including 2 of the 20 calves born in 2021 and 2 of the 10 calves born in 2020 (preliminary identification results). Three right whales that are currently being monitored following injuries were photographed to further document changes to their injuries and health. No entangled or dead right whales were detected by the NEFSC surveys during this period. During the flight on November 8, 2021, an oil slick and associated group of birds was detected, possibly indicating a dead marine mammal subsurface, but this was not confirmed.

All photographs of individual right whales were submitted to the [North Atlantic Right Whale Catalog](#), and all survey data were submitted to the [North Atlantic Right Whale Consortium Sightings Database](#). Survey data (and photographs) were submitted with this report to DFO at the Ocean Monitoring and Observation Section in Dartmouth, Nova Scotia.

FIGURES

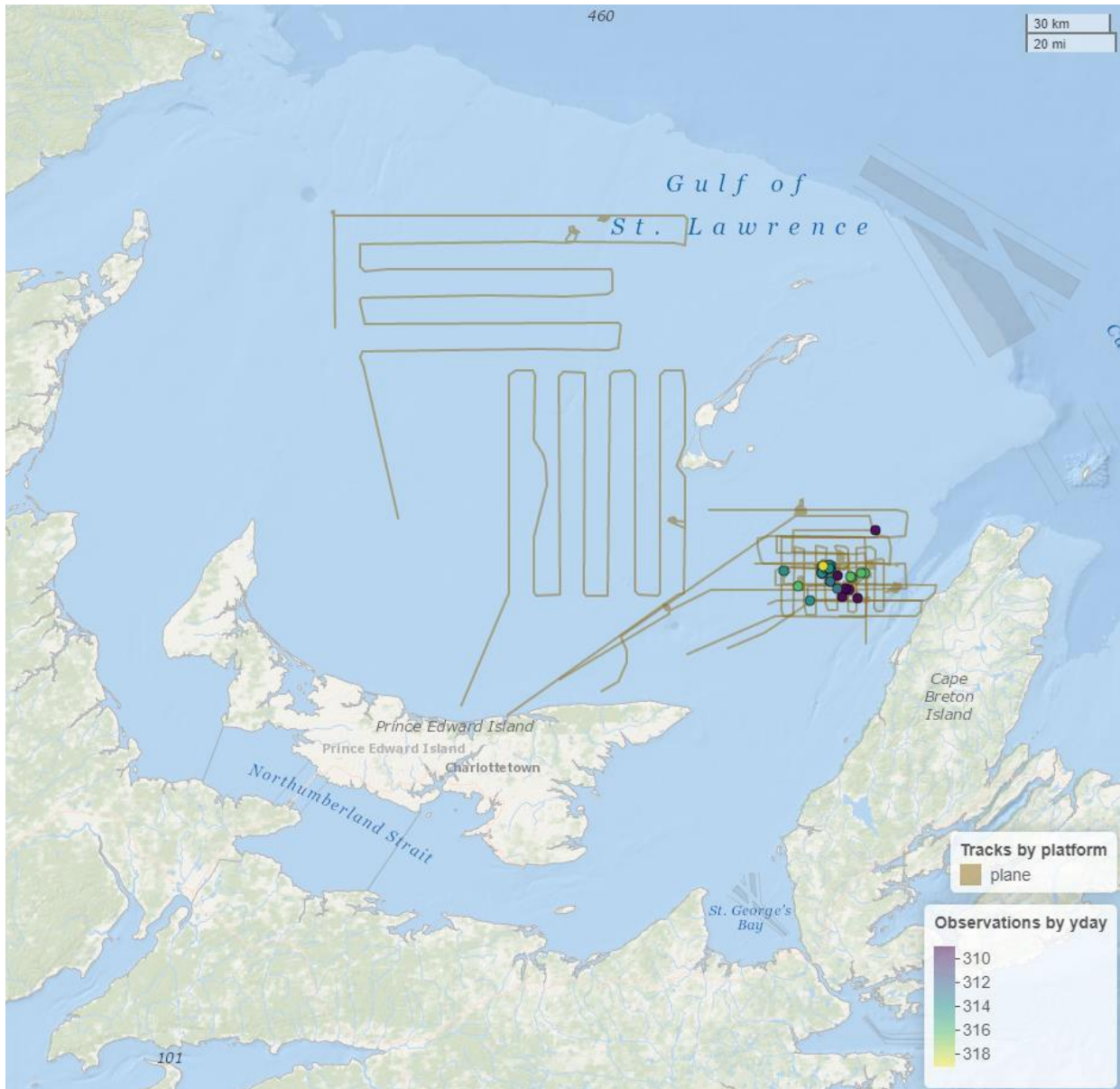


Figure 1. Northeast Fisheries Science Center (NEFSC) survey effort and right whale sightings between November 3 and 15, 2021. Right whale sightings are colored coded by day of the year.

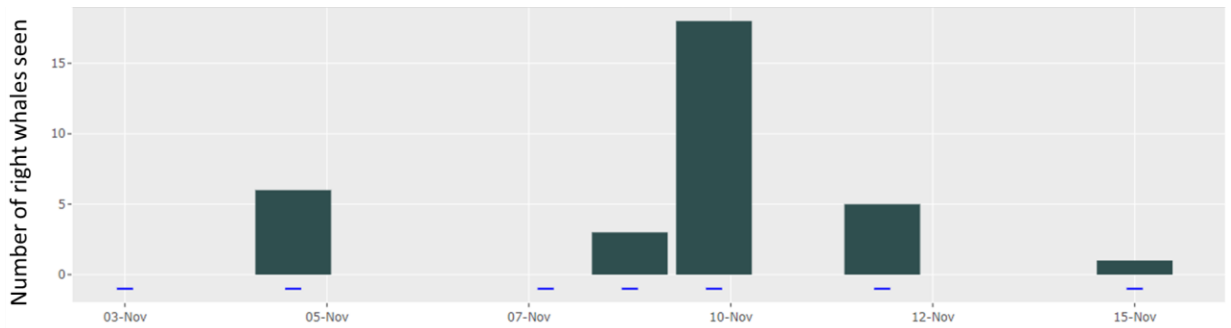


Figure 2. Survey period and number of right whales sighted by the Northeast Fisheries Science Center (NEFSC) between November 3 and 15, 2021. Horizontal blue lines along the X-axis indicate days with flights; dark vertical lines represent the number of unique right whales sighted each day.

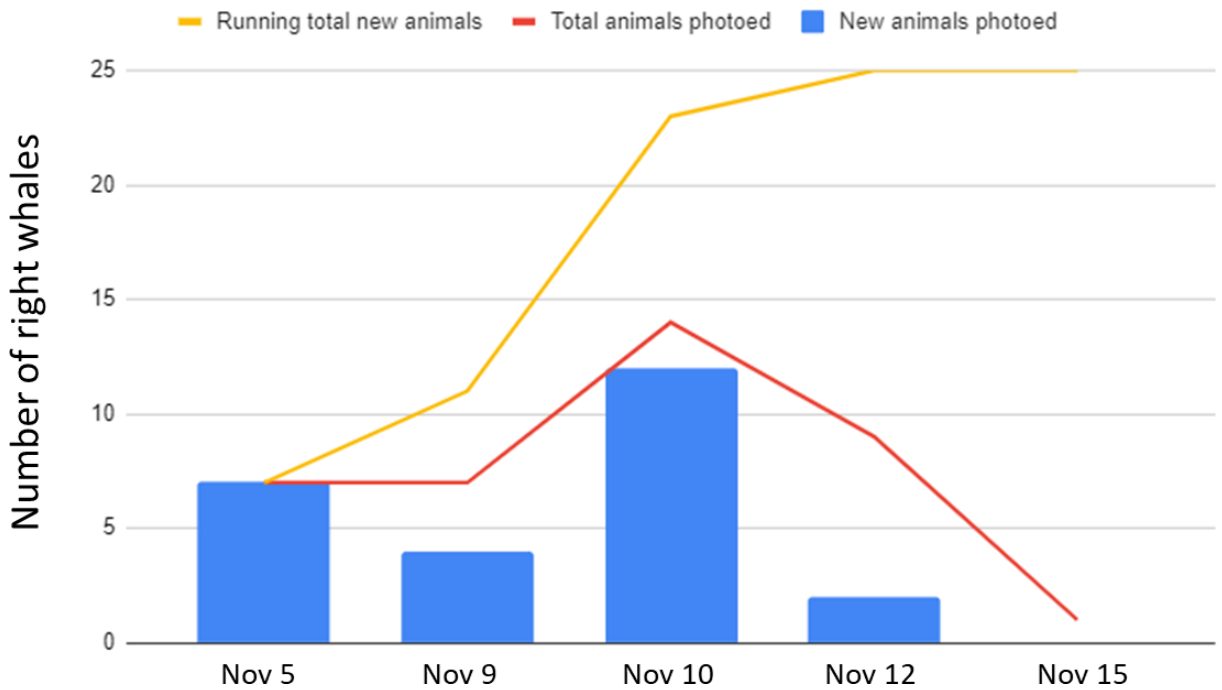


Figure 3. Number of unique right whales photographed on the Northeast Fisheries Science Center (NEFSC) right whale surveys between November 3 and 15, 2021. The gold line is the cumulative total of unique right whales photographed over the period; the red line is the number of unique right whales photographed on each flight; and blue bars are the number of individuals photographed for the first time during the time period.

REFERENCES

Crowe LM, Brown MW, Corkeron PJ, Hamilton PK, Ramp C, Ratelle S, Vanderlaan ASM, Cole TVN. 2021. In plane sight: a mark- recapture analysis of North Atlantic right whales in the Gulf of St. Lawrence. *Endanger Species Res.* 46:227-251. Accessible at: <https://doi.org/10.3354/esr01156>

APPENDIX

Summary of the Northeast Fisheries Science Center (NEFSC) survey effort and right whale sightings between November 3 and 15, 2021.

<i>Date</i>	<i>Survey area</i>	<i>Egs</i>	<i>Comments</i>
11/03/2021	Gulf of St. Lawrence	0	Surveyed in mostly good to excellent conditions. Camera, sightings laptop, and GPS set to Atlantic Time. Surveyed this area rather than off the northern end of Cape Breton because the forecast was calling for lower visibility in that area. The DFO Cessna said conditions were mostly very good but had to dodge some showers there.
11/05/2021	Gulf of St. Lawrence	8	Surveyed in good to excellent conditions. Camera, sightings laptop, and GPS set to Atlantic Time. Deployed 1 sonobuoy.
11/08/2021	Gulf of St. Lawrence	0	Surveyed in moderate to excellent conditions. Camera, sightings laptop, and GPS set to Atlantic Standard Time today. Surveyed this area to cover locations where some sightings have been in autumn in past years and to avoid DFO Cessna. Did not go to Shediac Valley (main aggregation area) as the acoustic buoy there had no acoustic detections for several weeks. At the end of the flight, we found an oil slick that had an associated group of birds and was likely a dead marine mammal subsurface. We reported this sighting to DFO.
11/09/2021	Gulf of St. Lawrence	8	Surveyed in mostly good to excellent conditions. Camera, sightings laptop, and GPS set to Atlantic Standard Time. Deployed 1 sonobuoy. Cut survey short due to increasing sea state.
11/10/2021	Gulf of St. Lawrence	21	Surveyed in excellent conditions. Camera, sightings laptop, and GPS set to Atlantic Standard Time. Returning to the aggregation area for photocapture.

11/12/2021	Gulf of St. Lawrence	10	Surveyed in moderate to excellent conditions. Camera, sightings laptop, and GPS set to Atlantic Standard Time. Deployed 1 sonobuoy.
11/15/2021	Gulf of St. Lawrence	1	Surveyed in good to moderate conditions. Survey cut short to return to the airport before poor weather. Camera, sightings laptop, and GPS set to Atlantic Standard Time.

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