

North Brother Island, Nova Scotia - Tern Colony Report - 2025

Ted D'Eon, Alix d'Entremont, Kathleen MacAulay – Island stewards; Julie McKnight, Jen Rock – ECCC-CWS; Luc Bilodeau, Shawn Craik, Daphnée Ouellet– Université Sainte-Anne; Alexis Saulnier – Acadia University; Nova Scotia Department of Natural Resources and Renewables

Tern Census

The annual tern nest census for North Brother Island was conducted by five observers on June 10th, 2025. The team surveyed all suitable tern nesting habitat by making systematic sweeps through the colony. We placed a piece of wooden craft stick in each nest upon its discovery to avoid counting individual nests more than once. In Table 1, we report nest totals for COTE, ARTE, and ROST determined during the nest survey and year-end nest total for ROST.

A total of 587 tern nests were counted during the census (including year-end count for ROST), which is 150 nests lower than in 2024. Differences in tern nest numbers between the two years are partially attributed to about 100 fewer COTE nests in 2025. We had a year-end total of 76 ROST nests, the highest nest count for this species on North Brother Island in the last twenty years, and which continues the recent long-term recovery trend for the island.

First eggs for COTE were laid between May 15–17, while ARTE and ROST laid their first eggs between May 17–21, consistent with prior nesting phenology.

Table 1. Number of tern nests found during the annual nest survey on North Brother Island from 2020-2025. The survey is conducted during peak tern nesting.

Year	COTE	ARTE	ROST	LETE
2020	664		49 ¹	-
2021	771	65	46 (year end: 51)	-
2022	855	134	43 (year end: 50)	-
2023	587	38	51 (year end: 61 ²)	-
2024	595	61	63 (year end 68 ³)	-
2025	480	31	68 (year end 76)	-

¹ The count of 49 nests includes a nest attended by a hybrid COTE x ROST pair

² The count of 61 nests includes a nest attended by a hybrid COTE x ROST pair

³ The count of 68 nests includes a nest attended by a hybrid COTE x ROST pair

Productivity

Fledging success is not measured on North Brother Island. Please see Table 2 for comparisons of mean clutch sizes and hatching success for each of the three tern species across 2020-2025.

Table 2. Reproductive parameters for Common, Arctic, and Roseate terns on North Brother Island from 2020-2025.

Species	Year	Clutch size	Hatching success	Fledging success	Nests monitored
COTE	2020	-	-	-	-
	2021	2.52	0.94	-	25
	2022	2.40	0.79	-	30
	2023	2.47	0.46	-	30
	2024	2.39	0.74	-	30
	2025	1.95	0.64	-	30
ARTE	2020	-	-	-	-
	2021	2.00	0.78	-	23
	2022	2.00	0.75	-	30
	2023	1.76	0.08	-	37
	2024	1.90	0.66	-	31
	2025	1.48	0.60	-	30
ROST	2020	1.30	0.86	-	49
	2021	1.67	0.92	-	51
	2022	1.61	0.94	-	50
	2023	1.43	0.63	-	61
	2024	1.54	0.86	-	68
	2025	1.33	0.77	-	76

Tern provisioning (diet)

Tern monitoring activities on North Brother Island include assessing the diets of tern chicks and adults (mate feeding). Diet data are obtained from a combination of photography, observations (from a blind) of adult terns carrying food, videos from cameras placed adjacent to ROST nest boxes, and sampling for eDNA. During 2025, herring was the most common identified prey item observed being carried by all three species of terns (see Table 3 for data from observations conducted from the blind).

Table 3. Principal prey items (percent) in tern diet (deliveries to chicks and mates) on North Brother Island in 2025. Data are from 697 observations conducted from a blind centrally located in the colony.

Prey item	COTE	ROST	ARTE
Herring	45.3%	76.8%	30.8%
Hake	5.0%	0%	0%
Sand Lance	8.6%	6.1%	7.7%

Predator Activities and Control Efforts

No gulls nested on North Brother Island this year. During the early egg-laying period, we observed some mortality of adult ROST and COTE in the colony. Seven predated adult ROST

and one adult COTE were collected and sent to the Canadian Wildlife Health Cooperative laboratory in Charlottetown, PEI. Predation (perhaps by a rat or mink?) was confirmed as the cause of death. A series of mammal traps and camera traps were set up in the colony, though these efforts were unsuccessful in trapping a predator. Avian predation included Northern Harrier (two chicks), Peregrine Falcon (at least two adult terns), and Great Black-backed Gull (two chicks).

Common Eiders

Nine Common Eider nests were found and monitored throughout the breeding season. Three eider nests were confirmed to have hatched at least one duckling.

Other Notes: monitoring and research

Tern monitoring in the Lobster Bay also includes:

- Observations of foraging ROST at key foraging sites. We collect data on biophysical attributes of foraging habitat and note potential threats to foraging terns and their habitat. This work is led by Alix d'Entremont and Kathleen MacAulay.
- Surveys of islands for tern nesting. This work is led by Alix d'Entremont.
- Ten ROSTs and eight COTEs were fitted with GPS tags. One ROST previously tagged in Brazil was recaptured. An MSc study led by Alexis Saulnier continues to focus on diet and foraging behaviour of ROST, COTE, and ARTE on North Brother Island.