

# **Gulf of Maine Seabird Working Group (GOMSWG) 41<sup>th</sup> Annual Summer Meeting Report**

**Meeting held in-person and virtually at Hog Island Audubon Camp, Bremen, ME, on  
August 15, 2025**

Visit the website: [gomswg.org](http://gomswg.org)

## Table of Contents

<b>Introduction .....</b>	<b>4</b>
<b>Island and Site Reports .....</b>	<b>5</b>
<b>Canada .....</b>	<b>5</b>
<b>North Brother Island, Nova Scotia.....</b>	<b>5</b>
<b>Machias Seal Island .....</b>	<b>7</b>
<b>Maine .....</b>	<b>10</b>
<b>Petit Manan Island.....</b>	<b>10</b>
<b>Ship Island.....</b>	<b>14</b>
<b>Seal Island.....</b>	<b>16</b>
<b>Matinicus Rock.....</b>	<b>19</b>
<b>Metinic Island.....</b>	<b>22</b>
<b>Eastern Egg Rock.....</b>	<b>25</b>
<b>Pond Island .....</b>	<b>28</b>
<b>Jenny Island.....</b>	<b>30</b>
<b>Outer Green Island .....</b>	<b>32</b>
<b>Stratton Island.....</b>	<b>34</b>
<b>New Hampshire.....</b>	<b>37</b>
<b>White and Seavey islands .....</b>	<b>37</b>
<b>Other Isles of Shoals islands.....</b>	<b>40</b>
<b>Massachusetts .....</b>	<b>41</b>
<b>Minimoy Island .....</b>	<b>41</b>
<b>North Monomoy Island .....</b>	<b>42</b>
<b>South Monomoy Island.....</b>	<b>43</b>
<b>2025 Maine State Synopsis of Nesting Least Terns .....</b>	<b>46</b>
<b>Wells Beach, Wells .....</b>	<b>47</b>
<b>Laudholm Farm Beach, Wells .....</b>	<b>47</b>
<b>Crescent Surf Beach, Kennebunk .....</b>	<b>48</b>
<b>Parsons Beach, Kennebunk.....</b>	<b>48</b>
<b>Goose Rocks Beach, Kennebunkport.....</b>	<b>49</b>
<b>Stratton Island.....</b>	<b>49</b>
<b>Western Beach, Scarborough .....</b>	<b>50</b>
<b>Higgins Beach, Scarborough.....</b>	<b>50</b>
<b>Breakwater Beach, Ram Island Farm, Cape Elizabeth .....</b>	<b>51</b>

<b>Seawall Beach, Phippsburg .....</b>	<b>51</b>
<b>Reid State Park, Georgetown.....</b>	<b>51</b>
<b>Presentations .....</b>	<b>52</b>

## **Introduction**

The Gulf of Maine Seabird Working Group (GOMSWG) is a collaborative effort among state and federal agencies, universities, non-governmental organizations, and private citizens that have been working to monitor, manage, and restore populations of colonial nesting seabirds in the Gulf of Maine for 41 years. Despite this combined effort, many seabird populations still face significant threats and challenges from predators, declining availability of prey species, climate change, sea level rise, human disturbance, invasive species, and threats during migration. Many of the management agencies are also facing declining budgets that challenge our ability to manage the colonies. It is through our combined effort and sharing of knowledge that seabirds stand the best chance of overcoming the challenges they now face. Meeting activities included summaries of island activities, reported in geographical order from Canada south to Massachusetts, and a series of short research presentations in the afternoon. A table with 2025 GOMSWG census results will be distributed concurrently with this report and/or made available at the GOMSWG website ([gomswg.org](http://gomswg.org)).

## Island and Site Reports

### Canada

#### North Brother Island, Nova Scotia

*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 10<sup>th</sup>, 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 <sup>1</sup>	-
2021	771	65	46 (year end: 51)	-
2022	855	134	43 (year end: 50)	-
2023	587	38	51 (year end: 61 <sup>2</sup> )	-
2024	595	61	63 (year end 68 <sup>3</sup> )	-
<b>2025</b>	<b>480</b>	<b>31</b>	<b>68 (year end 76)</b>	-

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

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

<sup>3</sup> 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
	<b>2025</b>	<b>1.95</b>	<b>0.64</b>	-	<b>30</b>
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
	<b>2025</b>	<b>1.48</b>	<b>0.60</b>	-	<b>30</b>
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
	<b>2025</b>	<b>1.33</b>	<b>0.77</b>	-	<b>76</b>

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.

Machias Seal Island

*Daniel Oliker, MSc student and Island Supervisor; Maddy Talpt, MSc student and field technician, and Clare Taylor, field technician*

Tern Census

No formal tern census was conducted in 2025.

**Table 1. Estimated Number of Tern Nests on MSI (formal census in 2014, 2018, and 2024).**

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
175	75	50	90	187	150	175	300	476	500	0
2021	2022	2023	2024	2025						
-	116	-	247	-						

Productivity

Terns were observed flying around MSI when the crew arrived on May 12<sup>th</sup>, 2025. The first egg was laid May 30<sup>th</sup> and mean egg laying occurred June 9<sup>th</sup>, 2025. A total of 86 eggs were laid in 62 nests, average clutch size was 1.39. Tern behaviour was very strange, with very little aggression and most eggs being abandoned or adults simply flying away when a gull approached (82 eggs – all the did not hatch – were depredated either at time of abandonment or after). Only 4 eggs hatched and none of those chicks survived to 15 days.

**Table 2. Breeding parameters as means  $\pm$ SD for Common, Arctic, and Roseate terns on Machias Seal Island in 2025.**

Species	Clutch Size	Hatching Success	Fledging Success	Nests Monitored
COTE	NA	NA	NA	NA
ARTE	1.39 $\pm$ 0.55	0.00 $\pm$ 0.21	0.00	86
ROST	NA	NA	NA	NA

### Tern Provisioning

We completed zero hours of ARTE chick provisioning observations as no chicks survived into the provisioning period.

### Predator Activities and Control Efforts

Non-lethal gull control continued in 2025, using paintball guns to deter individuals actively hunting and kleptoparasiting terns and alcids in the colony. A total of 4 HERG were killed by our nuisance wildlife control officer on June 26<sup>th</sup>. A total of one HERG nest was found on MSI this season and three eggs were destroyed via the shake and poke method. Zero LAGU nests were found on MSI this year, one or two individuals were often observed flying around MSI between June 3<sup>rd</sup> and July 2<sup>nd</sup>.

Gull Rock, an adjacent island with a persistent breeding colony of HERG and GBBG, was visited once this season: June 4<sup>th</sup>. A total of 15 gull nests (13 HERG and 2 GBBG), were found and 32 eggs destroyed by shaking and poking.

### Common Eiders

Counts were conducted weekly starting May 16<sup>th</sup>. Our highest count was a total of 240 individuals (131 males, 109 females, and 0 ducklings) on May 24<sup>th</sup>. Our highest count of ducklings occurred on June 27<sup>th</sup> with 43 ducklings counted.

### Alcids: Atlantic Puffin

A formal census was completed on June 12<sup>th</sup> with an estimated total of 8657 ATPU pair nesting on MSI. We note that the timing of the census was a bit late in incubation (some eggs had already started to hatch), some nesting pair that lost their egg would not be included. In our productivity burrows, 14% of the eggs that had been laid were missing by June 12<sup>th</sup>, thus our estimated total is likely underestimated by at least 14%.

A total of 123 burrows were monitored for productivity this season. In total 29 eggs went missing, 5 eggs were found dead, and 89 hatched (73% hatch success). Of the hatched chicks 26 went missing, 13 were found dead, and 48 fledged (55% fledge success). Linear growth rate this season was 7.58 g/day for mass and 2.45 mm/day for wing chord, similar to our long-term averages. A total of 48 productivity chicks were banded, 46 received field readable bands, leaving 2 chicks with a BBL only. An additional 428 chicks were banded from non-productivity burrows.

A total of 155.38 hours of ATPU chick provisioning stints were conducted. Food was overall high-quality particularly later in the season, comprising primarily of Sandlance (56%), Herring (21%), and Haddock (15%).

Alcids: Razorbills

A census was completed on June 12<sup>th</sup> with an estimated total of 2700 RAZO pair nesting on MSI. The timing of our census was late for Razorbills, many had already begun hatching. In our productivity burrows, 37% of the eggs that were missing, were already noted as missing by June 12<sup>th</sup>. Thus, our estimated total of nesting RAZO is likely underestimated by at least 37%.

A total of 101 burrows were monitored for productivity this season. In total 35 eggs went missing or were found dead, and 61 hatched (62% hatch success). Of the hatched chicks 7 went missing, 7 were found dead, and 47 fledged (77% fledge success). Linear growth rate this season was 3.42 g/day for mass and 2.55 mm/day for wing chord, which is close to our long-term averages. A total of 36 productivity chicks were banded; an additional 114 chicks were banded from non-productivity burrows.

A total of 83.10 hours of RAZO chick provisioning stints were conducted. Food was high-quality and rich throughout the season, comprising primarily of Sandlance (55%) and Herring (34%).

Alcids: Common Murre

A minimum count of 1137 active nests were estimated (362 eggs, 775 chicks) on June 23, 2025. A total of 250 chicks were banded this year and a total of 79.97 hours of COMU chick provisioning stints were conducted with diet consisting mainly of Herring (72%).

**Table 4. Breeding parameters for Atlantic Puffins and Razorbills on Machias Seal Island in 2025.**

	<i>n</i>	Mean Lay	Mean Hatch	Burrow Occupancy	Hatching Success (hatch/active nest)	Nest Success (fledge/active nest)	Linear Growth Rate (mass)
<b>ATP U</b>	123	May 6, 2025	June 15, 2025	0.98	0.73	0.40	7.58
<b>RAZO</b>	101	May 6, 2025	June 10, 2025	0.99	0.62	0.48	3.42

**Table 5. Principal prey items (percent by biomass) in alcid chick diet on Machias Seal Island in 2025; *n* is the total number of prey items identified during chick provisioning feeding watches.**

Prey Item	ATPU	COMU	RAZO
<i>n</i>	3397	428	670
Euphausid	0.01	0.00	0.00
<b>Hake</b>	0.03	0.05	0.06
<b>Herring</b>	<b>0.21</b>	<b>0.72</b>	<b>0.34</b>
<b>Haddock</b>	<b>0.15</b>	0.02	0.01
Pollock	0.00	0.02	0.03
Larval fish	0.01	0.00	0.00
Rock eel	0.00	0.06	0.00

Squid	0.02	0.01	0.00
<b>Sandlance</b>	<b>0.56</b>	0.01	<b>0.55</b>
Butterfish	0.03	0.08	0.00
Other	0.00	0.04	0.00
Gadoid	0.00	0.00	0.00
Stickleback	0.00	0.00	0.00

## Maine

### Petit Manan Island

*Aurora Kuczek: Island Supervisor – Maine Coastal Islands NWR, USFWS*

*Dr. Natasha Gownaris- Researcher from Gettysburg College*

*Maeve Mullin, Lexi Berkey, Scott Vakiener - Island Technicians*

### Tern Census

During the Gulf of Maine Seabird Working Group (GOMSWG) census on June 16, 2025, a total of 767 active tern nests were counted. We applied a Lincoln Index correction factor of 1.059 to this value and added our 57 productivity plot nests for an estimated total of 870 pairs of terns on Petit Manan Island (PMI). This is an 16.4% decrease from 2024 (1,040 pairs). During peak incubation prior to the census, 241 individual nests were identified to species to calculate species ratios of interior habitats, noting that common tern (COTE) dominated shorelines and mixed Arctic tern (ARTE/COTE) interior habitats were each uniquely calculated. We estimated 357 ARTE pairs and 511 COTE pairs nested on PMI, with a colony-wide ratio of 41.1% ARTE and 58.9% COTE. Additionally, 18 common eider (COEI) and 1 laughing gull (LAGU) nest were documented during the census. The historic nesting area for LAGU was surveyed before and after the census, conducting regular island wide nest sweeps until the end of the season. Over the course of the season, 17 LAGU nests were discovered and destroyed.

**Table 1. Number of nests found on Petit Manan Island during the GOMSWG census window from 2021-2025.**

Species	2021	2022	2023	2024	2025
COTE	872	752	518	722	511
ARTE	461	447	275	318	357
LAGU	820	3	2	6	17
COEI	36	24	7	7	18

## Tern Productivity

We documented the first eggs for COTE on 30 May and ARTE on 1 June. This was about five days later than average. Clutch sizes for both species were average compared to the 5-year mean (Table 2). Within productivity plots, hatch success for COTE was 60% and 60.3% for ARTE. Both species had higher average productivity than the 5-year mean (Table 2).

**Table 2. Tern productivity summary for Petit Manan Island from 2021-2025.**

<b>YEAR</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>AVG</b>
<b>COTE</b>						
# of Nests	42	36	36	25	21	32
Mean Clutch Size	1.79	1.86	1.89	2.04	1.90	1.90
Hatch Success (%)	50.7	71.6	64.1	74.5	60	64.2
Fledge Success (%)	13.2	60.4	45.4	55	70.8	50.0
Productivity	0.12	0.81	0.56	0.84	0.81	0.63
<b>ARTE</b>						
# of Nests	43	60	56	37	43	48
Clutch Size	1.72	1.65	1.48	1.73	1.70	1.65
Hatch Success (%)	74.3	61.6	36.1	75.0	60.3	61.5
Fledge Success (%)	12.7	54.1	63.3	70.8	59.1	52
Productivity	0.16	0.55	0.34	0.92	0.60	0.51

## Tern Provisioning

Provisioning observations were conducted on 16 ARTE and 17 COTE nests for a total of 406 observation hours (230 ARTE/ 176 COTE) with 345 prey deliveries (199 ARTE/ 146 COTE). Dominant prey items for both species were Atlantic herring, butterfish, and hake (Table 3). This was the highest percentage of butterfish observed in COTE and ARTE diet in the past five years. Herring was also above average for the past several years, especially for COTE. Diet was not consistent during the chick rearing period with some declines and periods of no observed feedings during provisioning watches. On average, ARTE adults delivered 0.87 prey items per nest per hour while COTE delivered 0.83 items per nest per hour. This is the lowest ARTE feed rate observed since 2020, however they fed their chicks significantly fewer invertebrates this season. No stickleback or larval fish were observed in COTE diets this year.

**Table 3. Principal prey items (%) in tern chick diets on Petit Manan Island in 2025.**

<b>Species</b>	<b>ARTE</b>	<b>COTE</b>
Atlantic Herring	29.6	30.8
Sandlance	2.5	5.5
Invertebrates	2.8	1.5
Hake	17.6	17.1
Unknown Fish	14.6	10.3
Larval Fish	1.0	-
Unknown	7.5	2.7
Butterfish	10.6	23.3
Hake or Herring	3.0	0.7
Pollock	1.0	4.1
Stickleback	1.0	-

### Alcids

Our individual high counts for alcids were: 210 Atlantic puffins (June 22), 311 black guillemots (May 21), 22 razorbills (June 6), and 8 common murre (June 5).

We located 82 active Atlantic puffin (ATPU) burrows. We confirmed the hatching success (83%) for 46 of those burrows and considered at least 26 chicks to have fledged. The majority of ATPU diet consisted of sandlance (23.5%), butterfish (14.3%), and pollock (10.2%). This was the highest percentage of butterfish observed in puffin diet for the past decade. Diet composition was consistent throughout the season. We located five active razorbill (RAZO) burrows. Only one chick hatched but it died shortly after hatching, resulting in a complete failure of RAZO on PMI in 2025.

We located 94 black guillemot (BLGU) burrows, the highest number of burrows discovered since 2016. We monitored 46 nests around the perimeter of the island and along the wooden boardwalk. Productivity for BLGU was 0.89 chicks/pair. Common murre were regularly observed on the rocky point beneath the lighthouse and on occasion we observed prospecting and courtship behavior. However, there was no evidence of any known breeding attempts in 2025.

**Table 4. Active alcid nests and reproductive success at PMI, 2025.**

<b>Species</b>	<b>Burrows Monitored</b>	<b>Hatch Success</b>	<b>Productivity</b>
ATPU	48	83%	0.50
RAZO	3	33%	0.00
BLGU	46	80%	0.89

### Storm-petrels

We located and flagged Leach's storm-petrel (LHSP) burrows early in the season while vegetation was short. We returned to the burrows in late June and used burrow-scope cameras and an audio-playback to determine occupancy of incubating adults. We monitored a subset of

44 burrows that were easily grubbed or scoped. These burrows were permanently marked with metal tags for future monitoring. We determined that 40 burrows had eggs, and we later found 29 chicks for an estimated hatching rate of 72.5%.

### Predator Control

Avian predators were discouraged from roosting or perching on the island throughout the season by using pyrotechnics, bird spikes, an Agri-laser, and human presence. Although laughing gulls (LAGU) were the most frequently observed potential predator, we only documented 20 interactions with the tern colony. Peregrine falcons (PEFA) were observed on 15 days this season. PEFA were first observed on May 14<sup>th</sup>, and we observed a minimum of 27 predation attempts. We observed two tern feather piles, a dead COTE adult, a COEI feather pile, and 10 predated COTE nests on the shoreline. Herring gull (HERG) were observed regularly throughout the season with 158 visits. We did not observe any predation events by gulls.

We continued the LAGU control from the previous season to prevent reestablishment. We lethally removed two LAGU to display as predator deterrents. We discovered three nests after the GOMSWG census, and by the end of the season, we had found 17 nests. We did not lethally remove any other species of gull.

### Other Research

*Fecal Sampling:* In partnership with researchers at Cornell University and Gettysburg College, fecal samples were collected for diet composition analysis. A total of 87 samples were collected from COTE, ARTE, and ATPU to be used to compare diets of chicks to adults and among species.

*Stable Isotope/Blood Sampling:* In partnership with Dr. Natasha Gownaris (Gettysburg College), blood samples were collected from chicks for stable isotope analysis (Table 5). We also collected 68 dropped fish samples throughout the season. We also collected 75 eggshell samples from ARTE, COTE, ATPU, BLGU, and RAZO for further analysis.

**Table 5. Blood sampling effort at PMI, 2025**

	<b>ATPU</b>	<b>BLGU</b>	<b>ARTE</b>	<b>COTE</b>
Total Samples	14	16	19	20

*Tern GPS Tagging:* In partnership with Natasha Gownaris (Gettysburg College), GPS tags were deployed on COTE, ARTE, ATPU, and BLGU. Leg loop harnesses were used for tern species, while suturing was used to attach tags for ATPU and BLGU. Both tern species and black guillemots had lower productivity than the colony average (Table 6). Two tagged ARTE abandoned shortly after tagging as well as one BLGU nest. Two tagged ATPU nests had not yet fledged when the crew left the island. This is the first time BLGU were tagged with GPS units in the Gulf of Maine.

**Table 6. Tagging effort and productivity at PMI, 2025**

Species	# nest	Hatch Success	Fledge Success	Productivity
COTE	10	65%	46%%	0.60
ARTE	8	40%	67%	0.50
ATPU	9	100%	78%	0.78
BLGU	3	83%	60%	0.60

**Ship Island**

*Taylor Peltier, Island Supervisor and Samantha Bryn, Island Intern - USFWS*

**Tern Census**

We conducted the 2025 GOMSWG census on Ship Island on June 17<sup>th</sup>. The unadjusted count of common tern nests was 1,580, accounting for a Lincoln Index of 1.046 and nests in productivity plots, we calculated a total of 1,705 nests. This represents a 23% increase in nests compared to 2024.

**Table 1. Number of tern nests on Ship Island from 2021-2025.**

Year	COTE
2021	426
2022	936
2023	1,392
2024	1,387
2025	1,705

**Tern Productivity**

We monitored 86 nests in ten productivity plots. Average clutch size was 1.93 eggs per pair, hatch success was 81.9%, fledge success was 42.6%, and productivity was 0.67 chicks per pair. We had 78 chicks die or go missing in our plots. Most chick deaths occurred from 6/29-7/3 during periods of heavy rain and fog, though we suspect many of these deaths were the result of an unknown illness which became fatal in times of poor weather or food scarcity.

**Table 2. Reproductive success for common terns on Ship Island from 2021-2025.**

Year	Nests monitored	Clutch size	Hatching success	Productivity
2021	45	1.61	66.2%	0.94
2022	60	2.52	79.3%	1.80
2023	64	2.63	86.3%	1.50
2024	69	2.07	76.0%	0.78
2025	86	1.93	81.9%	0.67

### Tern Provisioning

We included 17 nests in our provisioning study (though we began including feedings from additional unknown nests in mid-July) and observed the nests for 339 hours. We observed 480 feedings with a rate of 1.41 average feeds/nest/hour. Most of the tern chick diet was comprised of Atlantic herring (54.4%) followed by unknown fish (22.3%), unknown prey (7.9%), and fish scraps (4.2%).

Table 3. Principal prey items (percent) in tern chick diet on Ship Island in 2025 (n=480).

<b>Prey item</b>	<b>COTE</b>
Herring	54.4%
Unknown Fish	22.3%
Unknown	7.9%
Fish Scraps	4.2%
Pollock	2.7%
Sandlance	2.1%
Butterfish	1.3%
Insect	1.3%
Euphausiid	1.0%
Unknown Invert	1.0%
Other	1.8%

### Predator Activities and Control Efforts

One great black-backed gull was removed from the island this year. A few herring and great black-backed gulls predated common tern chicks throughout the month of July. We continued to harass gulls throughout the season and displayed multiple dead gulls along the beach. The terns aggressively mobbed any predator that entered the colony. We observed peregrine falcons 24 times this season and witnessed them take nine terns. We attributed an additional 17 predated terns found throughout the season to peregrine activity. American kestrels attempted to predate adults on two occasions but were unsuccessful. One northern harrier was observed during the season, but it made no attempts to predate terns.

We observed bald eagles flying over Ship Island on 27 occasions, with a handful of landings on the island. Two eagles were observed sitting on the northwest tip of Trumpet Island for the entire length of nearly every day of the season. The eagles primarily preyed on gulls nesting on Trumpet Island, and we did not observe any predation attempts on the terns. On the 19<sup>th</sup> of July we discovered and witnessed evidence of a mink on Ship Island, locating around 30 predated adult and fledgling terns with wounds to the neck and head. Refuge staff assisted us with setting 17 traps around the island, which we continued to check and reset until they were removed on August 6<sup>th</sup>. No mink or bycatch were caught in any of the traps, nor did we observe evidence of mink presence on the island after the initial incident. We did not observe any owl visitation this year.

### Other Species

We observed 53 species of birds on or around Ship Island in 2025. In addition to common terns, breeding was confirmed for three species of passerines, two species of waterfowl, and two shorebirds. We estimated 3-5 song sparrow, 5-10 savannah sparrow, 1 yellow warbler, 4-5 mallard, 2 Canada geese, and 6-8 spotted sandpiper pairs nested on Ship Island this year. We also suspected a pair of Nelson's sparrows may have initiated nesting and were unsuccessful due to their behavior and length of stay. One Canada goose nest appeared to have hatched prior our arrival and a second nest was destroyed on May 15<sup>th</sup>. This was the second year that a pair of American oystercatchers nested on Ship Island. Three of their two eggs hatched, but neither chick survived.

Common eiders were frequently observed on Trumpet Island, East Barge, and the waters surrounding Ship Island. We observed our first eider crèche on June 8<sup>th</sup>, and the last crèche was observed on July 31<sup>st</sup>. We observed ducklings in age classes 1a, 1b, and 1c. We did not observe any successful predation attempts on eiders or their ducklings.

#### Other Notes

Refuge staff was unable to mow the vegetation on Ship Island prior to the start of the season, though efforts were made to remove woody stalks in gravel plots and along the shore to encourage terns to nest in the interior of the island. Refuge staff and island technicians spent significant time hand pulling invasive plants (i.e. garlic mustard, nightshade, common burdock, wild radish, tall mustard, hedge mustard) this season. Vegetation growth proved to be a significant management issue this season, causing nest abandonment in inland areas of the colony that were not continuously weeded. Ragweed was the primary vegetation that grew up in the gravel plots and further-inland portions of the colony and significant effort went into its management and removal throughout the season. The gravel plots were cleared again at the end of the season in the hopes of reducing the seedbank for next year.

In collaboration with National Audubon Society and Gettysburg College, the Refuge deployed 8 GPS tags on common terns to monitor spatial movements relative to chick provisioning. Data was transmitted to a base station and uploaded from Jun 17<sup>th</sup> through August 6<sup>th</sup>.

We collected 80 fecal samples from common terns to identify the diet of chicks and adults: 20 adults during incubation plus 20 adults and 40 chicks during chick rearing. The Refuge is working with Cornell University to conduct the DNA analysis of fecal samples to determine diet composition.

#### Seal Island

*Coco Faber, Island Supervisor – National Audubon Society Seabird Institute*

#### Tern Census

The 2025 Gulf of Maine Seabird Working Group (GOMSWG) tern census was conducted on June 15. As not all areas of the tern colony are cleared to walk through, a partial direct count of the colony was conducted across 14 grid squares within Area 1. A Lincoln Index of 1.058 was applied to the direct count, and an extrapolated total was derived from this number. We calculated a combined total of 1,203 Arctic and Common Tern nests. This is a decrease of 42 nests from 2024, and the lowest combined census count since 1995. A species ratio was

determined by identifying a sub-sample of nests to species, then used to calculate an estimated count of 785 Common and 418 Arctic Tern nests. The number of Common Tern nests increased slightly from 2024, and the number of Arctic Tern nests decreased (Table 1).

**Table 1. Adjusted number of tern nests found on Seal Island NWR from 2021-2025.**

Year	COTE	ARTE
2021	1,422	659
2022	1,064	721
2023	1,109	550
2024	765	480
<b>2025</b>	<b>785</b>	<b>418</b>

Tern Productivity

Tern productivity was monitored in both fenced productivity plots and unfenced feeding study plots (Table 2). Mean clutch size was 1.93 for Common Terns and 1.55 for Arctic Terns. Overall productivity was 0.50 chicks fledged per nest for Common Terns and 0.61 chicks fledged per nest for Arctic Terns. Both species were affected by a wave of starvation in mid-July that was accompanied by increased gull predation in the colony.

**Table 2. Tern productivity on Seal Island NWR, 2021-2025.**

Species	Year	Mean clutch size	Hatch Success	Productivity	Nests monitored
<b>COTE</b>	2021	1.74	0.72	0.32	69
	2022	2.21	0.86	1.32	57
	2023	1.93	0.84	0.51	59
	2024	1.83	0.71	0.67	46
	<b>2025</b>	<b>1.66</b>	<b>0.71</b>	<b>0.50</b>	<b>44</b>
<b>ARTE</b>	2021	1.71	0.62	0.22	49
	2022	1.78	0.83	0.83	36
	2023	1.50	0.73	0.60	30
	2024	1.63	0.81	0.84	38
	<b>2025</b>	<b>1.55</b>	<b>0.75</b>	<b>0.61</b>	<b>38</b>

Tern Provisioning

Arctic Tern nests were observed for 438 cumulative nest-hours, with an average feeding rate of 3.97 feedings per nest per hour. Common Tern nests were observed for 633 cumulative nest-hours, with an average feeding rate of 1.98 feedings per nest per hour. Arctic Tern diet was 35.3% amphipods, 29.8% euphausiids, and 11.2% hake, while Common Tern diet was 45.8% euphausiids, 21.6% herring, and 7% hake (Table 3).

**Table 4. Principal prey items (percent of diet by prey item) in tern chick diet on Seal Island NWR in 2025. Total number of prey items observed n= 1741 for ARTE and n= 1251 for COTE.**

Prey item	ARTE %	Prey item	COTE %
Amphipods	35.3	Euphausiids	45.8
Euphausiids	29.8	Herring	21.6
Hake	11.2	Hake	7.0

#### Predator Activities and Gull Control Efforts

Gull predation was observed regularly, often at the fringes of the colony and occasionally in the center of the tern colony. Gull predation hit elevated levels during the period just after the May 23 gale, when most of the terns abandoned the eggs that had been laid, and also in mid-July, when fish availability dropped. During the peak few days of this period, at least two Black-backed Gulls and 3 to 4 Herring Gulls were observed predated the tern colony. Gull control efforts included poking eggs in all gull nests found during a gull census conducted at the end of May and mid-June, as well as the culling of individual predatory gulls (Table 4). Laughing Gulls did not attempt to nest in 2025, but low numbers were observed consistently kleptoparasiting terns, puffins and guillemots in late July.

**Table 4. Gull control measures by species at Seal Island NWR in 2025.**

Species	# Nests destroyed	# Killed
Herring Gull	282	2
Great Black-backed Gull	24	0
Laughing Gull	0	0

Peregrine Falcons were observed semi-regularly in the early season and during the tern fledging period. In mid to late May, a Peregrine Falcon predated 5 adult puffins and 2 guillemots. One falcon was observed predated the tern colony on a daily basis in the last week of July, often successfully.

#### Atlantic Puffins

Atlantic Puffin productivity is being monitored at 71 burrows. Hatch success was 0.85 chicks hatched per egg. Productivity monitoring is ongoing, but the projected number of chicks fledged per pair is 0.77 (Table 5).

**Table 5. Atlantic Puffin hatch success and productivity at Seal Island NWR from 2020-2025.**

	<b># Burrows monitored</b>	<b>Hatch Success</b>	<b>Productivity</b>
2020	73	0.88	0.76
2021	77	0.79	0.53
2022	78	0.94	0.81
2023	65	0.77	0.59
2024	63	0.83	0.79
<b>2025</b>	<b>71</b>	<b>0.85</b>	<b>0.77</b>

A total of 2,819 prey items of 22 identified species were observed delivered to puffin chicks. Haddock made up the highest percentage of diet, at 39.2%, followed by 15.2% sandlance, 12.9% herring, 9.5% euphausiids and 8.9% hake. Sandlance was observed in the highest numbers in late June, with herring picking up in early July, after which haddock became a majority of diet.

Black Guillemots

Black Guillemot productivity is being monitored at 44 burrows. Average clutch size was 1.78 eggs laid per pair and average hatch success was 0.86 chicks hatched per egg. Productivity monitoring is ongoing, but the projected productivity is 1.23 chicks fledged per pair, which would be the highest Black Guillemot productivity recorded since monitoring began.

Black Guillemot diet studies were conducted this season as part of a student research project. A total of 559 prey items of 14 identified species were observed. Black Guillemot chick diet was made up of 38.3% rock gunnel, 22.5% redfish, 16.5% radiated shanny, and 12.2% cunner.

Razorbills

A total of 113 active burrows were confirmed in 2025, an increase of 12 burrows from 2024. A subset of 43 burrows was monitored for productivity. Productivity this season was 0.72 chicks fledged per pair and hatch success was 0.74 chicks hatched per egg.

A pilot study of Razorbill diet was on Seal Island this year. A total of 222 prey items of 7 identified species were observed. Razorbill chick diet was made up of 70.7% herring and 14.0% sandlance, with an additional unidentified clupeid species making up 7.2%.

Cormorants

A minimum of 46 Great Cormorant and 33 Double-crested Cormorant nests were counted from photos taken on June 3. The number of Great Cormorant nests dropped by 11 from 2024, while Double-crested Cormorants held steady. Counts of chicks of both species are still being conducted to estimate productivity.

**Matinicus Rock**

*Tracey Faber, Island Supervisor – National Audubon Society Seabird Institute*

Tern and Laughing Gull Census

The GOMSWG census was conducted on 13-15 June. We estimated a total of 651 Arctic Tern nests after adjusting the raw count with a Lincoln Index correction factor. We directly counted 415 Common Tern nests, or 38.9% of the total colony. Common Tern nests increased from 380 in 2025. Arctic Tern nests decreased by 75 pairs from 2024, with 214 fewer nests than in 2022.

Laughing Gull nesting attempts were minimal, with a season high count of 12 individuals. No nests were found during the GOMSWG census, nor were any found after.

**Table 1. GOMSWG census results on Matinicus Rock, 2021-2025**

Year	ARTE	COTE	LAGU
2021	854	395	121
2022	865	278	135
2023	686	290	4
2024	726	380	7
2025	651	415	0

Tern Productivity

Tern productivity was monitored in both fenced productivity plots and unfenced feeding study plots. Arctic Terns fledged 0.83 young per nest with a mean clutch of 1.86 for 42 nests. Common Terns fledged 0.55 young per nest and mean clutch was 1.87 for 38 nests.

**Table 2. Tern productivity on Matinicus Rock, 2021-2025**

Species	Year	Mean clutch size	Hatch Success	Productivity	Nests monitored
<b>ARTE</b>	2021	1.71	0.88	0.25	48
	2022	1.92	0.84	1.22	49
	2023	1.47	0.77	0.81	47
	2024	1.77	0.77	1.04	53
	<b>2025</b>	<b>1.86</b>	<b>0.87</b>	<b>0.83</b>	<b>42</b>
<b>COTE</b>	2021	1.88	0.88	0.28	32
	2022	2.15	0.91	1.41	27
	2023	1.65	0.72	0.83	48
	2024	1.73	0.88	1.14	37
	<b>2025</b>	<b>1.87</b>	<b>0.82</b>	<b>0.55</b>	<b>38</b>

Tern Chick Provisioning

During chick provisioning, both species relied heavily on euphausiids and amphipods. The most common prey item for Common Terns was euphausiids, at 45% of items, while hake comprised 12% of prey. Arctic Tern chick diet was 44% amphipods and 26% euphausiids.

Predator Activities and Control Efforts

Peregrine Falcons and Merlins were observed throughout the season. Peregrines took adult or fledgling terns on at least 2 occasions. Large gulls predated young chicks and fledglings occasionally from late June through August. Three Herring Gulls were shot. Bangers and screamers were used to haze Laughing Gulls between mid-May and mid-June, and 1 adult was

shot in mid-July that was kleptoparasitizing puffins. Incidents of kleptoparasitism of terns and alcids decreased due to these efforts. Common Ravens did not nest on the island in 2025, but a pair of ravens were occasionally observed in the Razorbill colony, likely eating eggs, though many eggs were abandoned after heavy storms in May. There was little, if any, adult alcid predation by ravens.

#### Atlantic Puffins

Atlantic Puffin productivity was 0.81 (n=74), with a hatch success of 0.89 (n=75) and fledge success of 0.90. This is the highest puffin productivity since 2008. Puffin diet was mostly Haddock (28%), followed by Euphausiids (22%), Sandlance (16%), and Hake (13%). Earlier hatch dates relative to the past decade and mostly consistent prey availability resulted in high fledgling weights through mid-July. These numbers are preliminary as of 12 August.

#### Razorbills

Razorbill hatch success was 0.65, and productivity was 0.53 chicks fledged per nest, with a fledge success of 0.80 (n=66). Razorbill diet consisted primarily of Herring (43%), Sandlance (21%), and Pollock (10%). At least two-thirds of the colony was impacted by over wash from a storm in mid-May, resulting in mid-incubation failures and a second, mostly successful wave of nesting. With high-quality prey in June, earlier-hatched chicks had phenomenal growth rates, and while most secondary nesting attempts were not monitored, many pairs fledged chicks into early August.

#### Black Guillemots

Productivity of Black Guillemots was 1.0, with a hatch success of 0.79 and fledge success of 0.74. Mean clutch size was 1.73. This is the highest productivity since 2019. These numbers are pre-liminary as of 12 August.

#### Common Murres

We recorded a high count of 138 Common Murres on 24 May. A minimum of 17 eggs were observed, 16 chicks hatched, and 15 chicks fledged between late July and early August. It is likely that pairs initially laid in early May, had eggs destroyed by storms in mid-May, and laid second clutches in early June. This was the 8th consecutive year that Common Murres have bred on Matinicus Rock, and the second highest count of chicks. Diet was predominantly haddock (47%), herring (33%), and rosefish (7%).

#### Leach's Storm Petrels

In adult survival plots, 19% of birds banded since 2018 were recaptured. Productivity checks are ongoing as of 12 August.

#### Manx Shearwaters

We used a combination of call playbacks, burrow latticing, and grubbing to assess Manx Shearwater activity throughout the season. X burrows have been confirmed active. Monitoring is ongoing as of 12 August.

#### Other Breeding Birds

In 2025, we confirmed breeding of Common Eiders, Savannah Sparrows, Song Sparrows, Herring Gulls, and Carolina Wrens in addition to the above-mentioned species. No Herring Gulls successfully hatched chicks. This is the first breeding record of Carolina Wren for Matinicus Rock.

**Metinic Island**

*Courtney Naughton, Island Supervisor - USFWS*

Tern Census

On June 16, a total of 1,239 tern nests were counted during the Gulf of Maine Seabird Working Group (GOMSWG) census. After applying a Lincoln Index Correction Factor of 1.026 to the raw count and adding 69 productivity plot nests, there was an estimated corrected total of 1,341 pairs of terns that nested on Metinic in 2025. This number was greater than 2024 (1,226 pairs) and stands as the largest number of nesting terns on Metinic since restoration efforts began in 1998. Individual species were identified at 31% of the total nests (n=412) and calculated to a species ratio of 70% common terns (938 pairs) and 30% Arctic terns (403 pairs).

**Table 1. Estimated number of tern pairs counted during the GOMSWG census at Metinic Island, 2019-2025.**

Year	COTE	ARTE
2019	515	316
2020	630	389
2021	690	421
2022	689	537
2023	888	345
2024	868	358
2025	938	403

Productivity

Overall productivity was lower than it was in 2024 and lower than the long-term average for both Arctic and common terns.

**Table 2. Tern reproductive success at Metinic Island, 2019-2025.**

	2019	2020	2021	2022	2023	2024	2025
<b>Common Tern</b>							
# of Nests	40	45	44	55	59	53	54
Mean Clutch Size	2.25	1.96	2.20	2.31	2.37	2.24	2.04
Mean Hatch Success	90%	81.8%	89.7%	89.0%	95.0%	91%	80%
Mean Fledge Success	46%	50.0%	19.6%	60.6%	47.4%	45%	27%
Chicks fledged/pair	0.93	0.80	0.43	1.40	1.07	0.92	0.56
<b>Arctic Tern</b>							
# of Nests	24	24	28	30	26	34	23

Mean Clutch Size	1.71	1.63	1.82	1.87	1.42	1.82	1.78
Mean Hatch Success	85.4%	92.3%	88.2%	91.1%	81.1%	87%	88%
Mean Fledge Success	91.4%	63.9%	35.3%	62.5%	73.3%	61%	46%
Chicks fledged/pair	1.33	0.96	0.64	1.17	0.85	0.97	0.83

### Tern Provisioning

During chick provisioning observations, a total of 8 common tern nests were monitored for a combined 156 hours and 8 Arctic tern nests were monitored for 223 hours. There was a total of 158 feedings recorded at common tern nests for a feeding rate of 1.01 feedings/hour/per nest and 618 feedings recorded at Arctic tern nests resulting in 2.75 feedings/hour/per nest. Invertebrates (60.6%) were the most common prey items delivered to Arctic tern nests followed by hake (4.5%) and herring (7.0%) with an additional 5.0% of prey being unidentified hake or herring. 16.1% of prey items were unidentified. For common terns, herring (15.2%) were the most common identified prey items delivered followed by sandlance (8.9%), and invertebrates (8.2%), however 54.4% of prey items were reported as unknown fish, and 10.1% were unidentified, making it difficult to interpret actual percentages in the diet. Prey composition remained fairly consistent within species throughout the season until the end when there was a notable increase in herring and hake.

**Table 3. Principal prey items (percent) of tern chick diets on Metinic Island in 2025.**

Prey Item	COTE	ARTE
Herring	15.2%	7.0%
Hake	0.6%	4.5%
Hake/herring	--	5.0%
Invert	8.2%	60.7%
Sandlance	8.9%	0.6%
Butterfish	0.6%	0.5%
Stickleback	--	0.5%
Fish		
Scrap/Chunk	1.9%	0.6%
Unknown Fish	54.4%	9.4%
Unknown	10.1%	11.2%

### Predator Activities and Control Efforts

We determined that 1.1% of 92 tern nests marked for predation rates were predated prior to the GOMSWG census. This was higher than 0% in 2024 but lower than years prior. Herring and great black-backed gulls are allowed to nest on the portion of the island south of the island's rock wall running alongside North Point and nests between the wall and the start of the forest are oiled to reduce hatching success. A gull census was conducted May 27 during which a total of 47 herring gull and five great black-backed gull nests were found and oiled. Laughing gulls do not breed on Metinic but small groups of two to six birds were observed flying around the colony in the early season and increased to a regular group of 20-30 harassing the terns and in the intertidal around the colony. On one day there were around 100 laughing gulls seen flying over the island

but they did not land and moved on after several hours of soaring. Herring and great black-backed gulls were observed on several occasions preying upon common eider ducklings around the island. Three times a herring gull was seen grabbing small tern chicks, once a laughing gull was seen grabbing a medium-sized tern chick before a herring gull stole it, and once a herring gull was seen with a large tern chick.

Merlin nested on the island this year, though their nest was in a different part of the forest than it has been found in previous years. There were 5 reports of merlin within the tern colony, often just transiting through the area, and never any successful attempts in capturing a tern. Additionally, there were 16 reports of peregrine falcons within the colony with two successful attempts recorded. There were six tern bodies around the colony and two accounts of black guillemot carcasses/wing pairs found along the western shoreline expected to be the prey remains of peregrine kills as well. A juvenile Cooper's hawk arrived in late season and was reported in the colony 16 times, with 5 successful attempts recorded (3 adults and 3 chicks). There were no known accounts of any owls on Metinic this year. A juvenile black-crowned night heron was observed on one occasion being chased away from the colony. Four depredated eggs and a few small chicks were found missing the following day during prod checks but neither the bird nor signs of its predation were observed after that.

A total of 62 eastern garter snakes were caught and removed from the island this season. On one occasion a large snake was seen biting onto a freshly dead small tern chick and another was discovered with a small songbird or sandpiper chick visible in its abdomen.

#### Black Guillemots

A total of 60 active guillemot burrows were found on USFWS property and as of July 29 had confirmed a hatch rate of 50% among 15 burrows followed for productivity. Our estimated productivity rate was 0.87 chicks/burrow. The first guillemot chicks were observed June 25 and as of the last burrow check, 36% (n=13) of chicks were fledged or at least 15 days old. One adult guillemot was captured while checking burrows after eggs had hatched and a total of 18 new guillemots were banded this season (one adult and 17 chicks).

#### Leach's Storm-Petrels

A total of 89 active burrows were located across the northern half of the island using audio callback, burrow scope, or hand grubbing with confirmed eggs in 21 of those burrows. As of the last burrow check at the end of July, at least 52% of known eggs had hatched (n=11 chicks) with another 5 nests still with adults incubating eggs. The ability to successfully follow productivity in a majority of burrows is limited as it remains difficult to access those located in the island's stone walls and various rocky areas along the western shoreline that are too deep or intricate to grub by hand or properly see with a burrow scope.

#### Common Eiders

A census of common eider nests was not formally conducted, but an estimated 15-20 nests were found during the gull census on May 27, and another 5 were found around the North end of the island outside of this. This does not include the forest interior where additional hens have been observed throughout the season. The first eider ducklings were seen May 29 and then regularly observed throughout the season as they approached fledging size. A high count of 109 hens and

duckling (24 hens and 85 ducklings) in combined creches around North Point were recorded June 24.

Sheep

Sheep graze freely across Metinic from September through May but are restricted to the southern half of the island during the seabird breeding season. Prior to crew arrival, an electric fence was set up across the middle of the island and sheep were herded to the south side by Refuge staff on May 13. Three sheep evaded round up efforts but stayed in the forest until a group of 6-9 got around the fence on June 20. These new sheep were persistent in trying to venture into the colony until July 10 when access via the intertidal was finally blocked off with non-electrified fence run across the neck of the peninsula and along the eastern shoreline. Additional sheep were found on the north end of the island after this, for a total of 16 known left on USFWS property at the end of the season. The sheep are known to have trampled at least one small common tern chick and one larger Arctic tern chick during their incursions. Given the increased amounts of fog and poor food this season, any extra energy expenditure of adults attempting to dive at the sheep while also leaving small chicks unattended in wet conditions could have had an effect on productivity at least along the southeast shoreline where the sheep frequented most.

Additional Research

Dropped forage fish and other prey items were opportunistically collected around the tern colony during the chick-rearing period. 18 specimens were collected representing 8 species, two of which were not observed being offered to chicks in provisioning. Collected samples were measured and weighed when wet, and weighed again once fully dry.

**Table 4. Forage Fish Collected from Metinic Island in 2025**

Species	Quantity	Observed during Provisioning?
Sandlance	3	Y
Herring	3	Y
Stickleback	3	Y
Marine Isopod	2	Y
Butterfish	2	Y
Pollock	2	N
Hake	1	Y
Atlantic Pearlsides	1	N

Eastern Egg Rock

*Alison Ballard, Island Supervisor – National Audubon Society Seabird Institute*

Census

The GOMSWG tern census was conducted from June 9-12. The raw count of Common Tern nests was 1,186 which was adjusted with a Lincoln Index of 1.023. Including the addition of 59 nests in study plots, the final Common Tern nest count was 1,230 (Table 1). 69 Roseate Tern nests and 41 Arctic Tern nests were identified. 730 Laughing Gull nests were counted during census, a significant decrease from the past 3 years.

**Table 1. Number of tern and Laughing Gull nests found on Eastern Egg Rock from 2020-2025.**

Year	COTE	ROST	ARTE	LAGU
2020	1156	80	77	1174
2021	1359	85	74	251
2022	1358	78	84	1194
2023	1552	70	55	1635
2024	1298	79	48	2457
2025	1230	69	41	730

Tern Productivity

Productivity was down for all of our terns this season from last year (Table 2). Clutch size was also down from recent years, including a notable decrease in mean hatch for Common and Roseate Terns. There were many storms this season and cold days that could have contributed to the decline in hatch success. While our productivity was down from last year it also seems to be in a trend of fluctuation over the past 5 years.

**Table 2. Reproductive Success for Common, Arctic, and Roseate Terns on Eastern Egg Rock from 2020-2025.**

Species	Year	Clutch size	Mean Hatch	Productivity	Nests monitored
<b>COTE</b>	2020	2.28	1.81	0.27-0.56	79
	2021	2.30	2.00	0.51	78
	2022	2.47	2.24	1.26	68
	2023	2.40	1.81	0.44	73
	2024	2.43	2.25	0.95	59
	<b>2025</b>	<b>1.83</b>	<b>1.39</b>	<b>0.78</b>	<b>59</b>
<b>ARTE</b>	2020	1.67	0.60	-	42
	2021	1.84	1.08	-	73
	2022	2.00	1.51	-	53
	2023	1.84	0.82	-	45
	2024	1.87	1.37	-	47
	<b>2025</b>	<b>1.87</b>	<b>1.42</b>	<b>-</b>	<b>38</b>
<b>ROST</b>	2020	1.83	1.68	1.60	72
	2021	1.65	1.38	1.06	78
	2022	1.99	1.54	1.09	78
	2023	2.00	1.54	1.01	63
	2024	1.83	1.67	1.22	78
	<b>2025</b>	<b>1.42</b>	<b>1.15</b>	<b>1.05</b>	<b>46</b>

Tern Provisioning

Prey item selection among Common Terns and Roseate Terns was similar consisting mostly of hake and herring, with Arctic Terns feeding amphipods as a majority of their diet (Table 3). The highest percentage of fish consumed by all three species of tern was hake. Roughly 27% of

feedings by each tern species were not identified to species. The Egg Rock crew spent 126.23 hours monitoring 15 Common Tern nests, 186 hours monitoring 5 Roseate Tern nests, and 60 hours monitoring 7 Arctic Tern nests.

**Table 3. Principal prey items (percentage) in tern chick diet on Eastern Egg Rock in 2025.**

COTE		ROST		ARTE	
Prey item	Percentage	Prey item	Percentage	Prey item	Percentage
Hake	22.9%	Herring	44.4%	Amphipod	67.6%
Herring	18.4%	Sandlance	16.6%	Hake	9.7%

Predator Activities and Control Efforts

Laughing Gull deterrence began in early May and lasted through end of June and consisted of shooting gull-deterrence flares, clapping, screaming, and air horns. Gulls were also shot occasionally with their bodies being hung up as a warning. Throughout the season 27 gulls were killed. A combination of these approaches seemed to help bring our laughing gull numbers down from 2,457 in 2024 to 730 during the 2025 census. All Laughing Gull eggs encountered during census were oiled to prevent hatching. We also went around the island to stomp on laughing gull eggs around July 1 to destroy nests laid after census. We then did a mini laughing gull census around the end of July to do a second round of stomping eggs to prevent chicks hatching from re-lays. We also counted how many chicks were seen during this mini census and counted 134 laughing gull chicks.

We had a Peregrine Falcon in the colony at the start of and at the end of the season that took a few tern adults along with laughing gull chicks. We also had Mallards in the colony predated tern eggs early in the season. No control efforts were done.

Atlantic Puffin

We observed our first Atlantic Puffin with fish on June 2. We did extensive burrow searching and found 25 new active puffin burrows. We trapped and banded 25 adult Atlantic Puffins, 8 of which were re-banded due to worn bands. In addition, we grubbed and banded 37 pufflings.

Leach’s Storm Petrels

Three storm-petrel productivity checks were conducted throughout the season in 2 monitoring plots. The first check was conducted from June 20-23 to identify burrows with eggs and/or adults. The second check was conducted on July 18-19 and the third conducted August 10 to record hatch success. Measurements and weights were taken of chicks, adults and breeders of found nests. Petrel hatch success was 0.86. Monitoring for fledging will continue in September.

Black Guillemot

Black Guillemot productivity was monitored at 31 burrows in 2025. Mean clutch size was 1.87, mean hatch was 1.71 chicks hatched per nest, and Productivity was 1.51 chicks fledged per nest.

Other Notes

While conducting the tern and Laughing Gull census, we counted 5 Common Eider nests, although many were likely missed. Ducklings were regularly observed in July and August.

Three Razorbills were present on Eastern Egg Rock regularly in May and June, and were often seen loafing and quickly hopping down into crevices, although not spending more than a minute out of view. There was no indication that they bred on the island this year.

A Manx Shearwater was observed circling the island throughout the entire season, often flying low. No nest was found, and there was no indication of breeding.

**Pond Island**

*Juliana Ramirez, Island Supervisor and Tori Smith, Research Assistant - National Audubon Society Seabird Institute*

Tern Census

Tern census was conducted on June 15. The unadjusted count for Common Terns was 1,824 nests. After applying a Lincoln Index of 1.010 and the addition of 68 study nests, the adjusted count was 1,910 nests. This is the highest number of nests recorded on Pond Island since the restoration project began and is 147 more nests than last year (Table 1). At the time of census, there was 1 active Arctic Tern nest and 13 active Roseate Tern nests. One additional B-wave Arctic Tern nest was found post-census, bringing the total number of nests for the season to 2.

**Table 1. Number of tern nests on Pond Island NWR from 2021-2025.**

<b>Year</b>	<b>COTE</b>	<b>ROST</b>	<b>ARTE</b>
2021	706	0	0
2022	1580	5	5
2023	1641	9	4
2024	1763	12	2
<b>2025</b>	<b>1910</b>	<b>13</b>	<b>1</b>

Productivity

Common Tern productivity was determined by following 68 nests in fenced and unfenced study plots. These nests were followed from egg stage until fledging (fledging determined at 15 days, unless later found deceased). Mean clutch size was 2.03 with a mean hatch of 2.01 and 0.85 fledged/produced per nest (Table 2). The majority of chick deaths and nest failures were due to lack of available prey, most of which occurred during a period of food scarcity in early/mid July. Two Arctic Tern nests were monitored, though due to late lay only one was included in productivity estimates. Arctic Tern mean clutch size was 2.0, with a mean hatch of 2.0 and productivity of 1.0 chicks fledged per nest. Thirteen Roseate Tern nests were monitored throughout the season, followed from egg stage until fledging. Roseate Tern mean clutch size was 1.38, and mean hatch was 1.23. Roseate Terns averaged 1.14 fledged per nest.

**Table 2. Tern reproductive success on Pond Island, 2021-2025.**

Species	Year	Clutch size	Hatched per nest	Fledged per nest	Nests monitored
<b>COTE</b>	2021	1.76	0.85	0.27	62
	2022	2.24	1.94	1.56	68
	2023	2.18	1.89	0.77	83
	2024	2.52	2.36	1.40	95
	<b>2025</b>	<b>2.03</b>	<b>2.01</b>	<b>0.85</b>	<b>68</b>
<b>ARTE</b>	2021	1.00	0.33	0.33	3
	2022	2.00	1.80	1.00	5
	2023	2.00	0.5	0.25	4
	2024	2.00	2.00	1.50	2
	<b>2025</b>	<b>2.00</b>	<b>2.00</b>	<b>1.00</b>	<b>1</b>
<b>ROST</b>	2021	-	-	-	-
	2022	1.33	1.00	0.83	6
	2023	1.67	0.56	0.11	9
	2024	1.33	1.33	1.00	12
	<b>2025</b>	<b>1.38</b>	<b>1.23</b>	<b>1.14</b>	<b>13</b>

Tern Chick Provisioning

Chick provisioning studies for Common Terns were conducted by observing 18 nests from hatching through fledging or failure. There were 1,634 total prey items observed being fed during 192.25 stint hours, resulting in 908.85 nest hours of observation. The principal prey species this season were sandlance (28.9%), herring (18.9%), and sand shrimp (14.3%). No Roseate Tern feeding studies were conducted due to lack of visible/congregated nests near blinds.

**Table 3. Principal prey items in Common Tern chick diet on Pond Island in 2025.**

Prey item	Number of Items	% of diet
Sandlance	472	28.8
Herring	309	18.9
Sand Shrimp	234	14.3

Predator Activities and Control Efforts

Evidence of Great Horned Owl predation was detected on June 5. Five padded leg-hold traps were set at dusk that night on raised posts across high points of the island, and a Great Horned Owl caught in a trap in the early morning of June 8. All carcasses attributed to owl predation were adult Common Terns, and there were a total of 10 confirmed kills.

A Sharp-shinned Hawk and Peregrine Falcons were observed hunting on the island during the season. In total, two adult Common Terns and four large common tern chicks were confirmed to have been killed by the Sharp-shinned Hawk. Peregrine Falcons visited occasionally throughout the season, resulting in two fledgling and one tern (unknown age and species due to distance from sighting) confirmed kills.

Great Black-backed Gulls and Herring Gulls were sighted at various times loafing at the north end of the island, but were harassed from early on via screaming and clapping. No predation from gulls was observed, though a few individuals seemed to loaf closer to the colony towards the end of the season. A pair of Laughing Gulls consistently loafed near the landing towards the middle-end of July, and were seen exhibiting kleptoparasitic behavior towards terns during the chick rearing period.

Eagles perched on Wood Island and occasionally hunted on Pond. One tern chick and one tern of unknown age/species were confirmed to be taken by Bald Eagles, seen being picked up and carried off towards Wood Island. Bald Eagles were seen being chased by terns throughout the second half of the season, though it was unclear if all visits were the result of hunting behavior.

Common Eiders nested on Pond Island, with three nests confirmed on the day of the GOMSWG census. Three additional nests were found after the census time period.

**Jenny Island**

*Margaret Jensen, Island Supervisor – National Audubon Society Seabird Institute*

Tern Census

The annual Gulf of Maine Seabird Working Group (GOMSWG) census was conducted on 5 June. A total of 1,334 Common Tern nests were counted, with clutches ranging between 1 and 3 eggs. A Lincoln index mark/recapture correction of 1.0253 was applied to the uncorrected count. The addition of 59 productivity nests, 22 marked feeding study nests, 50 geolocator nests, and 10 GPS tag nests brought the total to 1,499 nests. Twelve Roseate Tern nests were also active during the GOMSWG census window. No B-wave Roseate Tern nests were detected this year.

**Table 1. GOMSWG census results on Jenny Island, 2021-2025.**

<b>Year</b>	<b>COTE</b>	<b>ROST</b>
2021	2,044	17
2022	1,899	17
2023	1,857	22
2024	1,726	22
<b>2025</b>	<b>1,499</b>	<b>12</b>

Tern Hatch and Fledging

The first Common Tern eggs were found on 14 May, two days after staff arrived on the island for the 2025 season. The first Common Tern chick hatched on 8 June, three days later than in 2024 (5 June), breaking the pattern of earlier and earlier hatches for the first time in three years. The first Common Tern chick fledged on 4 July, 5 days later than in 2024 (29 June).

Tern Productivity

For Common Terns, five productivity plots containing 59 nests and three feeding study plots with 20 nests were monitored to determine productivity. 12 Roseate Tern nests were also monitored for productivity. Common Tern productivity was 0.66 chicks fledged per nest, which was a sharp decrease from 2024’s productivity rate of 1.13 chicks per nest, but still above 2023’s

rate (0.35 chicks per nest; Table 2). Roseate Tern productivity was calculated at 0.58 chicks fledged per nest, significantly lower than previous years.

**Table 2. Tern productivity on Jenny Island, 2021-2025.**

Species	Year	Mean clutch size	Mean hatch	Productivity	Nests monitored
<b>COTE</b>	2021	2.43	2.13	0.55	99
	2022	2.20	1.90	1.25	88
	2023	2.04	1.54	0.35	69
	2024	2.50	2.31	1.13	54
	<b>2025</b>	<b>1.69</b>	<b>1.46</b>	<b>0.66</b>	<b>79</b>
<b>ROST</b>	2021	1.94	1.71	1.27	17
	2022	2.00	1.82	1.10	17
	2023	1.76	1.52	1.14	21
	2024	1.83	1.61	1.27	23
	<b>2025</b>	<b>1.08</b>	<b>0.67</b>	<b>0.58</b>	<b>12</b>

Tern Provisioning

Common Tern chick provisioning was monitored at three feeding study plots with 20 nests. A total of 793 feedings were observed, across 677.72 nest-hours of observation, with an average of 1.17 feedings per nest per hour. Atlantic herring constituted the highest percentage of observed feedings (31.7%). Sand shrimp made up another 14.8% of feedings, a significant increase from last year’s percentage (8.3%). Hake (including white hake and small four-bearded rockling) was less common in chick diet this year, making up 13.4% of feedings (compared to 20.8%). Fish scraps from bait (4.41%) and pollock (2.52%) both made up a larger proportion of feedings compared to last year (0.3% and 1.17%, respectively; Table 3).

**Table 3. Principal prey items in COTE chick diet on Jenny Island in 2025.**

Prey item	Number of Items	% of Diet
Herring	251	31.7
Sand Shrimp	117	14.8
Hake	106	13.4
Fish Scrap (Bait)	35	4.4
Pollock	20	2.5

A Roseate Tern feeding study was not possible in 2025, as only three nests were laid within view of a blind. A dead adult Roseate Tern was found in one of these three nests soon after lay, and the egg was subsequently abandoned.

Predator Activities and Control Efforts

Large gulls were more of a problem in the 2025 than 2024, but no nesting activity was observed. Herring Gulls occasionally predated Common Tern chicks and fledglings late in the season (one attempt and three successful predation events were observed). No gulls were observed landing above the intertidal for more than a few seconds before being chased away by the colony. Great Black-backed Gulls occasionally circled the island and the eider flock, but no predation was observed.

Like 2024, Laughing Gull kleptoparasitism was extremely apparent during the latter half of the 2025 season, with up to three gulls circling the colony at a time. Kleptoparasitism was also frequently observed between Common Terns.

Great Horned Owl predation was not observed in 2025, in contrast to 2024's 11 kills.

Ruddy Turnstone predation was significant at the end of May 2025, and was more widespread than in 2024. Many pecked eggs (at least 40) were observed around Meadow blind and the western edge of the colony on 30 and 31 May and 1 June. A flock of approximately 10 Ruddy Turnstones was flushed from the island at sunset on 1 June via a coordinated effort by five people. The flock did not return, and no more pecked eggs were found. Several of the predated Common Tern nests were re-laid afterwards.

Peregrine Falcon predation was slightly more intense during the 2025 season than during 2024, but still quite minor. Seven visits were observed, but only one ended in a predation event.

#### Other Bird Notes

A pair of American Oystercatchers nested in 2025 on the beach on the north end of Jenny Island. The nest had two eggs when researchers arrived for the season on 12 May. Only one egg hatched (in early June), but the chick successfully fledged and was observed flying with the parents most days in July. This is the first record in at least 34 years of nesting oystercatchers on Jenny.

### **Outer Green Island**

*Curtis Mahon, Island Supervisor – National Audubon Society Seabird Institute*

#### Tern Census

We counted a total of 1,400 Common Tern nests with a Lincoln Index correction factor of 258 total nests/250 marked nests (~1.032). With the addition of 88 feeding study and fenced productivity plot nests at the time of census, the final corrected total number of Common Tern nests in the census window was 1532 nests (Table 1). This represents an 18.6% decrease in Common Tern nests compared to 2024 and the lowest number of tern nests on the island since 2017. In 2025, we found the first Roseate Tern nest on OGI since 2021. We located the nest on June 17 and the lone chick hatched on July 10.

**Table 1. Number of tern nests counted on Outer Green Island from 2020-2025**

Year	COTE	ROST
2020	1775	0
2021	1661	2
2022	1994	0
2023	1741	0
2024	1883	0
2025	1532	1

Tern Productivity

We monitored a total of 105 Common Tern nests from May 16 to August 4. The average clutch size was 1.86 eggs/nest with an average of 1.22 hatches/nest. The first recorded hatch was on June 6<sup>th</sup>, one day later than in 2024. Due to the Nor’easter occurring during peak lay, our peak hatch was staggered into two peaks. Peak hatch was between June 11-15 and June 21-25. The average number of chicks fledged per nest (productivity) was 0.46 (Table 2), which is the second lowest productivity in the last 10 years. The relatively low number of chicks hatched per nest largely reflects early season predation by gulls and over-wash from the Nor’easter. The low fledged per nest was likely a function of that and poor fish quantity.

**Table 2. Reproductive Success for Common, and Roseate terns on Outer Green Island from 2021-2025.**

Species	Year	Clutch size	Hatching success	Productivity	Nests monitored
COTE	2021	2.21	0.87	0.54	89
	2022	2.33	0.85	1.27	81
	2023	1.89	0.68	0.43	80
	2024	1.98	0.83	0.80	95
	<b>2025</b>	1.86	0.66	0.46	105
ROST	2021	Not Reported	Not Reported	Not Reported	2
	2022	N/A	N/A	N/A	0
	2023	N/A	N/A	N/A	0
	2024	N/A	N/A	N/A	0
	<b>2025</b>	1	1	1	1

Tern Provisioning

Over the 2025 field season, we observed 939 chick feedings at 32 nests over 811.45 nest hours for 1.16 feedings per hour. A total of 21 species of prey items were identified and only 3.2% of prey items were not identified to species. Herring was overwhelmingly the most common prey item at 66.8%, with sand lance a distant second at 10.8% (Table 3). Of note is that we detected for the first time in tern diet Atlantic Cod, with three seen in courtship diet, and 5 in chick diet (0.5%).

**Table 3. Principal prey items (percent) in tern chick diet on Outer Green Island in 2025. 939 is the total number of prey items observed.**

Prey item	COTE
Herring	66.8
Sand Lance	10.8
Hake	5.0
Amphipod	4.4
Pollock	2.3
Fish Scrap	1.7
Stickleback	1.3

### Predator Activities and Control Efforts

Gulls were a significant egg predator this year following a major storm in May. We were eventually able to shoot two herring gulls and display them near heavily affected areas. This stopped further gull predation. There was zero sign of gulls nesting on the island. Peregrine Falcons also visited regularly, especially in July. We recorded them predated 14 tern chicks, 4 adult terns, and 1 adult Black Guillemot. A handful of eggs were also predated by Spotted Sandpipers, and many also by Ruddy Turnstones. A Merlin visited a few times and while it harassed the terns, it was only observed predated a Common Yellowthroat and Spotted Sandpiper.

### Black Guillemot

During the 2025 field season, we found 29 burrows, 24 of which were active and 21 of which we monitored. Eggs were found on the first burrow checks on May 26, the first chick was found on June 25, and the first immature guillemot was seen in the water on July 30. We found and marked 4 new burrows in 2025. We found a total of 39 eggs across the 21 monitored burrows (mean clutch = 1.86 eggs/nest). 20 of these eggs hatched, leading to a low hatching success of 0.51 (# hatched/#eggs), or 0.95 hatched per nest. We presumed 16 chicks fledged for a productivity of 0.80 chicks fledged per nest. A large factor in our guillemot's productivity and particularly the low hatch rate was nests failing due to placement or predation.

### Common Eiders

Common Eiders have nested on Outer Green Island since before tern restoration began. We did not research Common Eiders beyond counting adults and chicks in morning and daily bird counts and counting nests during the GOMSWG census on June 6.

### Other Notes

This year was a very good year for alcid observations. We recorded Atlantic Puffins on 33 days this season, Razorbills on 13 days, and even Common Murre on 3 days. We recorded a total of 108 species. For the 5th consecutive year, a pair of American Oystercatchers nested on Outer Green Island. They laid 3 eggs, and fledged one chick.

### **Stratton Island**

*Benjamin Becker, Island Supervisor – National Audubon Society Seabird Institute*

### Tern Census

An island-wide Common Tern nest count was conducted on June 8-9. Arctic and Roseate Tern nests were found and counted throughout the season. The Common Tern nest count of 1342 nests

was corrected with a Lincoln index of 1.176 to 1578 nests, and the addition of 59 marked study nests brought the total count to 1637 nests. 108 Roseate Tern nests were found during the season, including 6 nests that were on Little Stratton. Arctic Terns had 4 active nests during the GOMSWG census, not including a possible 5<sup>th</sup> nest on Little Stratton that was never found. A Least Tern census was performed on June 13 in coordination with the statewide survey, 90 Least Tern nests were counted, with 2 chicks present. 99 Least Tern nest starts were recorded throughout the season, though some were likely relays.

**Table 1. GOMSWG census results on Stratton Island, 2020-2025.**

<b>Year</b>	<b>COTE</b>	<b>ARTE</b>	<b>ROST</b>	<b>LETE</b>
2020	1159	5	114	0
2021	1315	10	140	63
2022	1369	8	138	91
2023	1065	4	86	76
2024	1172	5	94	106
<b>2025</b>	<b>1637</b>	<b>4</b>	<b>104</b>	<b>90</b>

Tern Productivity

Tern productivity was determined from both fenced and unfenced plots. The 55 nests in the Common Tern plots fledged 1.22 chicks per nest. Roseate Tern productivity was calculated at 1.32 chicks fledged per nest using the B-chick weight method. Roseate Tern chicks faced significant predation from Black-crowned Night Herons this year, and this maximum productivity estimate should be adjusted downwards to reflect the true productivity. From the 4 Arctic Tern nests followed, 4 chicks were seen successfully fledged, giving a minimum productivity of 1.0. Least Terns hatched chicks from 90 nests, and July 12 had the highest Least Tern fledgling count with 2 fledglings seen. These were the only chicks known to have survived, giving a productivity of 0.02. Least Tern chicks faced very high predation from Black-crowned Night Herons this season.

**Table 2. Tern productivity on Stratton Island, 2021-2025.**

<b>Species</b>	<b>Year</b>	<b>Clutch size</b>	<b>Hatched per nest</b>	<b>Fledged per nest</b>	<b>Nests monitored</b>
<b>COTE</b>	2021	2.56	2.46	0.71	79
	2022	2.23	2.03	1.31	65
	2023	2.00	0.63	0.42	46
	2024	2.09	1.89	0.98	63
	<b>2025</b>	<b>2.07</b>	<b>1.64</b>	<b>1.22</b>	<b>55</b>
<b>ROST</b>	2021	1.83	1.47	1.02	95
	2022	1.82	1.52	1.25	92
	2023	1.63	1.32	0.96*	65
	2024	1.75	1.43	1.40	64
	<b>2025</b>	<b>1.86</b>	<b>1.68</b>	<b>1.32*</b>	<b>66</b>
<b>ARTE</b>	2021	1.69	0.92	-	13
	2022	2.00	1.63	0.75	8
	2023	1.75	1.25	0.25	4

	2024	2.00	2.00	0.25	5
	2025	2.00	0.63	1.0	4

\*Productivity number does not account for significant amounts of predation that affected the Roseate Tern colony in 2023 and 2025, and true productivity is lower.

### Tern chick provisioning

12 Common Tern nests were observed with a total of 862 feedings. Chick diet primarily consisted of herring, sandlance, and hake, comprising 59%, 13%, and 4% of deliveries, respectively. 15% of prey items were not identified to species. 12 Roseate Tern nests were observed with a total of 621 feedings. Diet primarily consisted of sandlance at 51% of deliveries, herring at 38%, with 9% of prey items not identified to species.

### Predation

An American Mink was witnessed predated nesting terns in mid-May. A cache, latrine, and the individual was witnessed, and conibear traps were placed all around this area. 6 traps were baited using canned chicken placed in a tube, and these were effective, catching the mink on May 21, 3 days after first detection. 4 Roseate Terns, 4 Common Terns, and 1 Double-crested Cormorant were discovered predated by the mink.

As part of an effort to reduce Herring and Great Black-backed Gull populations on Stratton and Bluff Islands, eggs in all gull nests found on both islands were poked early in the season. 63 Herring Gull nests totaling 136 eggs, and 30 Great Black-backed Gull nests totaling 56 eggs were poked and destroyed. These nest counts remain relatively consistent with the past 3 years. 3 Great Black-backed Gull nests were found Little Stratton, and were destroyed. All nests were removed, except 1 GBBG chick that escaped detection. 2 Herring Gulls were witnessed predated tern chicks, one was shot. A Great Black-backed Gull might have predated chicks, but was not directly witnessed.

Black-crowned Night Herons were a significant predator in 2025. Signs of predation began on Stratton as chicks began to hatch, with loud tern disturbances at night, and finding slashed eggs. At least one individual was witnessed actively predated the colony every night during the month of June and early July. The most significant predation occurred on Little Stratton, where marked Roseate Tern nests showed missing chicks, and significantly diminished Common Tern presence despite starting with 64 nests. On July 4, most Least Tern chicks were predated, reduced to only 3 chicks. At least 15 Roseate Tern chicks were determined to be killed by a night heron. After the night heron was detected, attempts at non-lethal deterrence were made, and night stints from 2100-0100 were conducted every night, weather permitting, from June 17 to July 18. Bright LED flashlights were used, moving around the island to where a night heron was heard. Additional use of a new method - remote-controlled 6000lm floodlights system were placed in the Least and Roseate Tern colonies. This showed success in areas with large terns, however in the Least Tern colony, it was ultimately ineffective. The shortcoming was the heron would return after researchers went to sleep, however, keeping it at bay until then still cut its hunting time in half. Despite being unable to eat large chicks, several fledglings were found killed by the night heron. The night heron ultimately ceased its hunting after July 18.

In late July and early August, at least 1 young Peregrine Falcons was witnessed actively hunting the colony throughout the days, stopping to roost or eat in the forest and cliffs on the northern parts of the island. One Merlin was witnessed predated an adult Common Tern. Predation from falcons was not as significant this year than prior years.

### Wading Birds

The 2025 wading bird census was not conducted this year due to poor weather conditions during the census window of May 18-21. Great Egret, Snowy Egret, Glossy Ibis, Black-crowned Night Heron, Little Blue Heron, and Great Blue Heron were all confirmed to be breeding on Stratton this year, and nearby Bluff. It's estimated that 8-10 Black-crowned Night Heron nests were present this year. 1-2 Yellow-crowned Night Herons were witnessed all season, but evidence of nesting was never discovered. It is the first year a Great Blue Heron nest was confirmed on Stratton.

### American Oystercatchers

2 American Oystercatcher nests were identified on Little Stratton and 1 on Stratton. Additional nests were suspected on Stratton and Bluff Island. Chicks were seen on Stratton on May 26, and 2 fledglings were seen later in the season.

### Black Guillemots

3 Black Guillemot burrows were confirmed in 2025, with 2 on Stratton Island, 1 on Little Stratton, and more suspected on Bluff Island. Only 1 chick was successfully fledged from Stratton.

### Double-crested Cormorants

Double-crested Cormorant nest census was conducted on June 11. The nest estimate was determined from averaging counts from five observers counting via boat. An estimate of 183 DCCO nests was found on Bluff Island, down from 214 in 2024.

## **New Hampshire**

### **White and Seavey islands**

*Liz Craig, Director of Seabird Research, Shoals Marine Laboratory (SML)*

*Joe Brosseau & Kayla Cannon, Seabird Technicians, SML*

*Additional collaborators and summer interns listed below*

### Tern Census

#### Common Terns

- COTE census was conducted over 4 days within June 3rd to 11th, 2025
- Unadjusted census:
  - 558 nests on White Island.
  - 2,573 nests on Seavey Island.
  - Lincoln Indices were calculated for White Island and Seavey Island (divided into sections with indices ranging from 1.00 to 1.12 on White and 1.00 to 1.14 on Seavey).

- Adjusted census:
  - 579 nests on White Island.
  - 2,667 nests on Seavey Island.
  - **Total estimated population was 3,246.** Similar to last year’s census count (3,069).

Roseate Terns

- **131 ROST nests were established on Seavey Island within the census window** (before 13 June 2025; comparable to 133 in 2024)
- B-wave ROST nests brought the season total to 183 (a new historic high)

Arctic Terns

- 0 ARTE nests were established in 2025, with 2023 being the first year to not establish any.

**Table 1. Number of tern nests found on White and Seavey islands from 2021-2025**

Year	COTE	ROST	ARTE
2021	3,412	112	1
2022	3,066	124	1
2023	3,165	151	0
2024	3,069	133	0
2025	3,246	131	0

Productivity

Common Terns

- 8 fenced plots (~10x12 ft) containing 78 nests.
- Nests were monitored until chicks reached “fledge” age (15 days).
- Productivity was average for COTEs (0.77 chicks per nest) in comparison to recent years. Contributing factors to COTE productivity may have included somewhat high predation pressure from a PEFA early in the season, an early season storm, and good fish (diet was unusually heavy in herring with no butterfish seen until very late in the season).

Roseate terns

- ROST nests were monitored individually until chicks reached “fledge” age (5 days for ROST).
- Productivity was average for ROSTs (0.83 chicks per nest) in comparison to recent years.

**Table 2. Breeding parameters for Common, Arctic, and Roseate terns on White and Seavey islands from 2021-2025. Only nests with known outcomes were used for ROST & ARTE calculations.**

Species	Year	Clutch size	Hatching success	Fledging success	Nests monitored
COTE	2021	2.16	1.01	0.33	116
	2022	1.99	1.46	0.96	72
	2023	1.71	1.15	0.39	77

	2024	2.02	1.69	0.92	84
	2025	1.88	1.20	0.77	97
ROST	2021	1.77	1.05	0.62	73
	2022	1.81	1.61	1.31	88
	2023	1.44	1.02	0.87	120
	2024	1.61	1.11	0.80	111
	2025	1.36	1.02	0.83	138
ARTE	2021	1.00	0.00	0.00	1
	2022	1.00	1.00	1.00	1
	2023	-	-	-	0
	2024	-	-	-	0
	2025	-	-	-	0

### Tern Provisioning

- Selected COTE and ROST nests were monitored for diet.
- Remote observation cameras were used to record video of each COTE and ROST nest every 1-2 days starting 18 June 2025. COTE and ROST observations concluded 20 July 2025. Complementary provisioning data were collected by observers in blinds to compare to camera observations. Data from camera recordings will be collected in fall 2025.
- Diet items included herring, hake, butterfish, moonfish, pollock/haddock, cunner, sand lance, pipefish, lumpfish, pufferfish, rainbow smelt, stickleback, mummichog, grasshopper, moth, ant, earwig, dragonfly, cricket, bee/fly, and chum.
- Partnering with Dr. Gemma Clucas at Cornell Lab of O to conduct DNA metabarcoding of feces to determine diet to species level.

### Predator Activities and Control Efforts

#### Gulls:

- Used human presence, as well as pyrotechnics and lasers to dissuade gulls from lingering and predating.
- Managed predation with pyrotechnics and lasers: 15 pyrotechnics were used between 8th of May and 5th of August (up from 9 in 2024).
- Lethal control: 2 Herring Gulls were lethally removed in 2025 – both sick or injured and loafing on the colony.

#### PEFA:

- Were present on island during first arrival, and at least 1 adult and juvenile were regularly seen throughout May and early June.
- Used pyrotechnics to flush when seen hunting or in the presence of the colony.
- Noted 4 cases of PEFA successfully hunting adult terns, with 2 dropping prey after pyrotechnic use.

Other Avian:

- RUTU were first seen in mid May, and seen regularly through August.

Muskrats:

- Due to predation issues in previous years, muskrats were trapped at their dens on White and Seavey using conibear traps. 8 muskrats were trapped (up from 2 in 2024).

Other Mammalian:

- No other mammalian predators were observed on White or Seavey islands in 2025.

### Other Species

- Common Eider: at least 26 nests (1 on White and 25 on Seavey; down from 38 total in 2024)
- Spotted Sandpipers: at least 5 nests (2 on White and 3 on Seavey; similar to 6 total in 2023)
- A Bridled Tern was observed on the colony regularly from the 13th of June to the 6th of August 2025, allowing for monitoring with GoPros and some fecal collection for diet analysis.
- Used eBird for daily bird lists to share bird diversity data from White and Seavey.

## **Other Isles of Shoals islands**

### Alcids

This was the fourth year of concerted monitoring efforts for Black Guillemots on the Isles of Shoals with one dedicated 2025 intern, Ben Kerstetter. As of 13 August 2025 there were 62 total occupied nest cavities on the Isles of Shoals. 27 known BLGU nests were observed across 7 neighborhoods on Appledore Island and another 35 nests across 5 neighborhoods on Smuttynose Island. This constituted a slight increase from nests observed in 2024 (48 total). Nest cavities were labeled with epoxy markers to facilitate continued monitoring into the future. Adults and chicks were banded with plastic field readable bands (green bands with white text) for the first time in 2025.

### Long-legged wading birds

A mixed-species colony of long-legged wading birds has re-established on Appledore Island as of 2020. 2025 nest counts will be conducted at the end of the breeding season once chicks fledge. A combination of nest ID and adult counts are used to estimate breeding colony size and relative species abundance. Species included Snowy Egret, Great Egret, Glossy Ibis, and Black-crowned Night-Heron.

### American Oystercatchers

The SML team received reports of 1 AMOY nest on Smuttynose Island and one on Lunging Island in 2025.

## Gulls

Gulls continue to be monitored on Appledore Island by the Gulls of Appledore team. Both Great Black-backed Gulls and Herring Gulls continued to breed on Duck Island, Appledore Island, Smuttynose Island, Star Island, Lunging Island, and Square Rock.

## Double-crested Cormorants

Double-crested Cormorants continued to breed on Duck Island, Lunging Island, and Square Rock.

## Research highlights:

- Collected HPAI samples from gulls and terns in collaborations with Wendy Puryear at Tufts and Nichola Hill from UMass Boston.
- Collected GPS locations for all censused tern nests. Evaluating spatial distribution of birds and nest site selection wrt habitat characteristics and management.
- Continued evaluation of salt for habitat management for terns at the neighborhood/mesohabitat scale.
- Tern and guillemot fecal collection (for DNA metabarcoding) to determine diet with Gemma Clucas (Cornell Lab of Ornithology).
- Passive bioacoustic monitoring of terns with UNH students Valerie Eddington, Joe Brosseau, and Dan Zogby (PI Laura Kloepper).
- Drone-based exploration of tern distribution and abundance (thermal and optical) with UNH collaborators Mike Palace and Frankie Sullivan
- Exploration of historic tern diet data and reproductive success/growth wrt fisheries data.
- Deployed 4 GPS tags on Common Terns and 10 GPS tags on Roseate Terns. Movement analysis with Aliya Caldwell (UNH grad student), Keenan Yakola (Oregon State grad student), and Caitlin Panicker (Bowdoin undergrad student).
- Deployed 12 GPS tags on Great Black-backed Gulls on Appledore Island with Gulls of Appledore crew
- Investigation of tag effects with Grace Guo (recent Cornell grad)
- Camera monitoring of ROST diet
- Compiled 4-year BLGU nest-monitoring dataset with Ben Kerstetter (Cornell undergraduate)

## **Massachusetts**

### **Minimoy Island**

*Eileen McGourty, Island Supervisor – U.S. Fish and Wildlife Service*

*Nora Cheesema and Leila Kline – Northwoods Stewardship Center for USFWS*

*Olivia Thompson and Joelle Marchiani – ACE for USFWS*

### Tern Census

In 2025, fourteen visits were made to the island. The first visit was on May 3rd prior to the arrival of terns. The last visit was on August 2<sup>nd</sup>. A census was completed on June 15<sup>th</sup> with a

total of 20 empty scrapes found on the island and approximately 35-40 common terns were in the air above the island. No nests with eggs were counted. This is a decrease in nesting pairs compared to 2024 which had 47 pairs. No productivity data was collected for terns on Minimoy Island. The island was visited 9 times after the census was complete and no productivity was noted. No laughing gull, herring gull, black-backed gull nests were noted.

**Table 1. Number of tern and laughing gull nests counted on Minimoy Island from 2021-2025**

Year	COTE	ROST	ARTE	LETE	LAGU
2021	80*	0	0	0	Not documented
2022	334	0	0	0	1
2023	47	0	0	0	1
2024	47	0	0	0	5
2025	20**	0	0	0	0

\*Based on a flush count of 100 common terns on June 17<sup>th</sup> and adjusted with 0.8 correction factor.

\*\* 20 Empty scrapes were found and approximately 35-40 common terns were observed flying over the island on June 15<sup>th</sup>.

#### Black Skimmer

One black skimmer nest was found on Minimoy on June 23 with 2 eggs. The nest failed, likely due to an overwash event. The pair remained in the area and was last observed on July 17<sup>th</sup>.

#### North Monomoy Island

*Eileen McGourty, Island Supervisor – U.S. Fish and Wildlife Service*

*Nora Cheesema and Leila Kline – Northwoods Stewardship Center for USFWS*

*Olivia Thompson and Joelle Marchiani – ACE for USFWS*

#### Tern Census

In 2025, twenty-five visits were made to the island. The first visit was on April 19<sup>th</sup> and the was on August 8<sup>th</sup>. A census was completed on June 13 and a total of 196 incubating least terns were counted on newly formed habitat on the east side of the island. This habitat was formed by the remnant of South Beach rolling west into North Monomoy Island resulting in a large expanse of suitable habitat for terns, plovers, and oystercatchers. No other nesting terns were noted on the island. No productivity data was collected for least terns.

**Table 1. Number of tern nests counted on North Monomoy Island from 2021-2025**

Year	COTE	ROST	ARTE	LETE
2021	0	0	0	0
2022*	0	0	0	0
2023**	No census	No census	No census	No census
2024	0	0	0	0
2025	0	0	0	196

\*Count occurred on June 22, outside the official census window of June 5-20.

\*\*No official census was conducted during the census window of June 5-20 but visits on May 31 and June 30 had no nesting terns.

### Black Skimmer

No black skimmers were observed on the island.

### Gull Census

In 2025, though great black-backed gulls and herring gulls were observed nesting on North Monomoy, gull nests were not counted this field season. Gull census is typically conducted every five years with the most recent census completed in 2024.

### Wading Bird Census

No wading bird census was conducted in 2025. It is unknown if wading birds nested on the island.

## **South Monomoy Island**

*Eileen McGourty, Island Supervisor – U.S. Fish and Wildlife Service*

*Nora Cheesema and Leila Kline – Northwoods Stewardship Center for USFWS*

*Olivia Thompson and Joelle Marchiani – ACE for USFWS*

### Tern Census

#### Common Terns

In 2025, sixty-three visits were made to the island. The first visit was on May 1<sup>st</sup> and the last visit was on August 2<sup>nd</sup>. A census was completed June 8<sup>th</sup> and 9<sup>th</sup>. This year we conducted a partial census. A 12m wide transect (measured off the northernmost grid line) was conducted in an E/W or W/E direction through each grid. For a whole 60X60m grid, we sampled a 12mX60m area or 20% of the grid. There were a few grids that were partial grids due to erosion. For each of those grids we determined the area surveyed compared to the grid and adjusted each of those counts accordingly. We also noted whether the grid seemed representative or not. For some grids noted as not representative we used a three year average to determine the numbers in those grids or used the raw count as times the transect was the only suitable habitat in the grid. We feel confident that the actual common tern count falls between 17,385 and 21,249 which is +/- 10% of 19,317. The census number of 19,317 would reflect a slight increase of 1.27% from our 2024 census count of 19,075. No productivity data was collected for common terns on South Monomoy Island in 2025.

#### Roseate Terns

We identified 22 Roseate terns nests within the colony in 2025, about half of what we suspect nests there. Twenty pairs were observed during the A-census window and 2 during the B-period. Of the 22 pairs monitored, 9 were found with chicks, and 13 had eggs or a combination of eggs and chicks. Of the 21 eggs observed, at least 19 hatched. A total of 24 chicks fledged, all from A-period nesters.

#### Least Terns

In 2025, a least tern census was completed by plover monitors over several days. A total of 516 nesting least terns were counted in 4 separate colonies this year during the census window. The

largest colony was at the connection area at the northeastern end of the island with a total of 495 incubating adults estimated on June 16<sup>th</sup>. All other colonies on the island were small. Lighthouse Landing had 6 incubating least terns and Powder Hole had 3 incubating least terns counted on June 13<sup>th</sup>. A total of 12 incubating least terns were counted on the South Tip on June 14<sup>th</sup>, though later in the season more least tern were observed on the south tip but no counts were conducted. The newer colony at the Overwash on the east side did not have any least terns during the census window but after the census period 5 incubating terns were observed. Productivity of least terns was not monitored but qualitative observations show poor productivity in the connection area due to overwash and predation issues. No productivity was noted at any of the other colonies on South Monomoy Island. Predation and over wash from storm events continue to significantly impact these colonies. No B-period census was conducted except for the terns noted at the Overwash colony.

Laughing Gulls

Laughing gulls nest within the common and Roseate tern colony on the north tip of South Monomoy Island. This year we conducted a partial census. A 12m wide transect (measured off the northernmost grid line) was conducted in an E/W or W/E direction through each grid. For a whole 60X60m grid, we sampled a 12mX60m area or 20% of the grid. There were a few grids that were partial grids due to erosion. For each of those grids we determined the area surveyed compared to the grid and adjusted each of those counts accordingly. We also noted whether the grid was representative or not. For some grids noted as not representative we used a three year average to determine the numbers in those grids or used the raw count as times the transect was the only suitable habitat in the grid. We feel confident that the actual count falls between 8,874 and 10,846 which is +/- 10% of 9,860. Utilizing the 9,860 census estimate, there was a significant population increase of 31.29% over the past year. Increases in the vegetation in the colony favor laughing gulls and coupled with limited gull control efforts, the population has about doubled in the past five years. Laughing gulls complete for nesting space and food resources with nesting terns. Laughing gull management was not conducted in 2025 due to limited staffing and funding.

**Table 1. Number of tern and laughing gull nests counted on South Monomoy Island from 2021-2025**

Year	COTE	ROST***	ARTE	LETE	LAGU
2021	No census	5 (5)	0	619	No census
2022	18,026*	18 (4)	0	595	5,200
2023	19,875*	40 (6)	0	611	7,751****
2024	19,075**	17	0	129	7,510
2025	19,317*****	20 (2)	0	516 (5)	9,860*****

\*Adjusted estimate based on Lincoln Index.

\*\*Used three year average of Lincoln Index.

\*\*\*Full census not conducted due to limited staffing. Numbers represent a minimum number of pairs.

\*\*\*\*Adjusted laughing gull census number due to nest destruction prior to census.

\*\*\*\*\*Partial census completed and then numbers extrapolated based on total area of colony.

### Tern Productivity

Tern productivity data was not collected in 2025.

**Table 2. Reproductive Success for Common and Roseate terns on South Monomoy Island from 2021-2025 during the A-period.**

Species	Year	Clutch size	Hatching success	Productivity (fledglings/nest)	Nests monitored
COTE	2021	No data	No data	No data	No data
	2022	2.40	69.5%	0.83	405
	2023	2.56	79.3%	1.36	407
	2024	2.24	57.3%	0.29	340
	2025	No data	No data	No data	No data
ROST	2021	No data	No data	No data	No data
	2022	1.83	81.82%	1.44	18
	2023	1.58	63.3%	0.85	40
	2024	1.64	61%	0.71	17
	2025	1.64	89%	1.2	20

### Tern Provisioning

Tern provisioning data was not collected in 2025.

### Predator Activities and Control Efforts

In 2025, coyotes, black-crowned night-herons, gulls, raptors, and rats continued to impact productivity of seabirds and shorebirds on South Monomoy Island. Coyote management was once again conducted with the removal of 10 adult coyotes and one den. Black-crowned night-herons were particularly impactful in the colony in 2024, clearing out eggs and chicks in large swaths within the tern colony. In 2025, we removed 17 black-crowned night-herons that were found within the tern colony, with efforts focused during mid-June and early July. We continued our large gull harassment activities and removed 23 great black-backed gull nests and 22 herring gull nests. We removed 2 adult herring gulls and 6 adult great black-backed gulls. In the spring we treated several rat warrens within the common tern colony with dry ice to see if this control method would reduce the rat population. Though we were unable to get back out and check our results in a timely manner due to weather, we believe we had some success with this treatment based on our unsuccessful trapping efforts in this area later in the spring with APHIS. Rats are still present on all islands and by mid-summer tracks were observed in abundance throughout South Monomoy Island from the north tip to the south tip. In late July one adult rat was removed by APHIS with a firearm from the tern colony. We are currently working with partners to determine the feasibility of rat control on the refuge.

### Other Notes

Fecal samples were collected within the tern colony on South Monomoy Island in collaboration with Cornell University and Gemma Clucas as part of a larger study, Project Poop. Samples were collected during the incubation and chick-rearing period from both common tern adults and chicks

A salmonellosis mortality event in the colony was noted between August 6-10<sup>th</sup> affecting an estimated 115 laughing gulls and 25 common terns, mostly fledgling aged birds. Several birds were observed dead on their backs. One bird was observed with abnormal twitching behavior before it flipped on its back and died. Two common terns and one laughing gull carcass were sent to the National Wildlife Health Lab for testing. All three submissions were negative for avian influenza. The laughing gull was also positive for circovirus.

## 2025 Maine State Synopsis of Nesting Least Terns

From June 11 - 13 coordinated statewide walking nest census counts documented a minimum of 213 nesting pairs of Least Terns in Maine. This was 22 more pairs than last year's 191 and was the fourth lowest pair count in the past ten years. This low population count could be attributed to varied disturbance and delayed nest initiation throughout the colonies that made coordinating a census count challenging; we believe the actual population size of Least Terns in Maine is larger than reflected in the census counts. During the census window, we observed 26 nests on Wells, 40 nests on Parsons, 53 nests on Western, 90 on Stratton Island, and four nests on Higgins. Least Terns did not attempt to nest at Laudholm Farm, Crescent Surf, Goose Rocks, Seawall, Popham, or Reid State Park in 2025. The Least Terns on Wells fledged a minimum of 90 chicks, 53 from Parsons, 25 on Western, two on Stratton and ten on Higgins. Breakwater Beach had nine nests outside the window count and fledged one chick. The state fledged a minimum 181 chicks for an estimated productivity of 0.85 fledglings per pair. This was the highest productivity since 2002 and most fledged chicks since 1997.

### Estimate of Least Tern Pairs

	WELLS BEACH	LAUDHOLM FARM	CRESCENT SURF	PARSONS BEACH	GOOSE ROCKS	WESTERN BEACH	STRATTON ISLAND	HIGGINS	RAM ISLAND	SEAWALL	POPHAM	REID STATE PARK	TOTAL
2003	0	20 (0)	57 (8)	0	8 (0)	0	-	38 (53)	0	0	0	33(5)	156 (66)
2004	15(10)	1 (0)	[50] (3)	0	0	0	-	45 (54)	0	0	0	50(2)	146 (69)
2005	0	4 (1)	[52] (7)	0	0	[40](3)	18 (9)	[22] (0)	0	[17] (0)	0	0	114 (20)
2006	[1] (0)	0	30 (10)	0	[25] (1)	0	103 (15)		0	0	0	[1](0)	134 (26)
2007	1 (1)	0	[37] (1)	0	[45] (2)	0	113(10)8	0	0	0	0	0	150*(112)
2008	0	0	92 (52)	0	2 (0)	[2]	72 (33)	0	0	0	0	0	166* (89)
2009	0	0	102**(62)	0	[6]**(0)	0	72 (16)	[16] (0)	0	0	0	0	170 (78)
2010	0	[1]**	136**(45)	0	[18]**	0	76** (5)	0	0	0	0	0	211* (50)
2011	0	0	123* (73)	0	23* (12)	0	59* (28)	0	0	0	0	0	205*(113)
2012	0	0	99* (78)	0	0	0	86-92* (72)	0	5 (1)	0	2	0	185-191* (155)
2013	0	0	129* (93)	0	0	0	92* (79)	0	0	0	3* (0)	0	224*(172)
2014	0	4** (4)	164* (29)	0	0	0	79* (36)	4* (0)	0	0	2* (?)	0	249* (72)
2015	0	6** (0)	138*(144)	0	0	0	69* (0)	25* (6)	0	0	14* (3)	0	233*(153)
2016	0	2**(0)	169*(15)	0	10**(7)	4(0)**	69*(14)	0	0	1(0)**	22(0)**	0	238*(36)

<b>2017</b>	0	1*(0)	115*(13)	0	4*(0)	48*(5)	87*(1)	0	0	0	0	0	255*(19)
<b>2018</b>	0	21*(0)	43*(19)	0	2**(0)	4**(0)	122*(50)	10**	0	0	0	0	186*(69)
<b>2019</b>	0	0	156*(31)	0	0	35*(0)	84*(14)	21*+(16)	0	0	0	0	296*(61)
<b>2020</b>	0	0	130*(65)	0	0	0	0	128*(50)	0	7(1)	0	0	258*(116)
<b>2021</b>	0	18*(41) ***	116*(40) ***	0	[10]**(0)	0	[63]*(0)	71*(17)	0	13*(39)	0	0	281*(137)
<b>2022</b>	0	23*(18)	102*(0)	0	5**(1)	0	91*(14)	51*(5)	0	10*(2)	0	0	277*(40)
<b>2023</b>	0	9*(1)	77*(8)	0	8*(0)	0	76*(4)	20*(0)	0	3*(0)	0	0	187*(13)
<b>2024</b>	15*(28)	15*(3)	11*(0)	3*(19)	0	30*(45)	106*(30)	0	0	10*(0)	0	1*(0)	191*(125)
<b>2025</b>	26*(90)	0	0	40*(53)	0	53*(25)	90*(2)	4*(10)	9**(1)	0	0	0	213(181)

( ) number of fledglings

[ ] colony deserted

\* simultaneous count at all occupied nesting sites during window count, not a site specific high nest count, only these numbers used in total. In 2017, after window count, colonies moved around substantially due to predation issues, in 2018 a synchronized count was not possible as the CS colony was disrupted and colonies never really synched up.

\*\* nesting outside of the window count and not included in state total

\*\*\* Productivity at Crescent Surf and Laudholm Farm should be calculated by combining number of nests and fledglings from the two beaches and be considered one "Little River colony" as LETE were moving back and forth between beaches after fledging making it impossible to know which birds fledged from which beach.

### **Wells Beach, Wells**

*Laura Zitske and Laura Williams - Maine Audubon*

**Population Estimate:** Wells had 26 nests counted during the nest census, although more were laid throughout the season. Late winter storms in 2024 created a new nesting habitat area in front of Public Way 15 that the Least Terns nested in last year and again this year. Due to their success last season, they expanded their colony size and nested from Public Way 13 to Public Way 16. The colony was estimated to be 80 birds during its peak and the Least Terns stayed well into late August. A minimum of 90 Least Terns fledged. There were no major predator events observed in the colony. Beachgoers walking through the stake and twine area continuously posed a threat and caused disturbance to the birds.

**Comparison:** Least Terns nested on Wells for the second consecutive year since 2007, and at that time there was one pair and one successful fledge. In 2004, Wells was home to 15 Least Tern pairs and fledged 10 chicks. Prior to then, the last time Least Terns nested and successfully fledged chicks there was in 1979.

**Predation Management:** None.

### **Laudholm Farm Beach, Wells**

*Helen Manning and Selona Baker - Rachel Carson NWR*

**Population Estimate:** Least Terns did not attempt to nest on Laudholm Beach this year.

Comparison: 21 pairs nested at Laudholm in 2018 but all nests were predated by a fox after the electric net fence failed. There were no pairs nesting at Laudholm in 2019 or 2020. In 2021 there were 18 pairs nesting which combined with Crescent Surf's 116 pairs produced at least 81 fledglings. In 2022, 23 pairs produced 18 fledglings and in 2023, nine pairs fledged one chick. During the 2024 season, a high count of 18 pairs (outside of census window) produced three fledglings.

Predation Management: Anti-perching bird spikes were placed on top of symbolic fencing posts and a game camera was set to record predator activity.

### **Crescent Surf Beach, Kennebunk**

*Helen Manning and Selona Baker- Rachel Carson NWR*

Population Estimate: Least Tern did not attempt to nest on Crescent Surf Beach in 2025. The exact reason they did not attempt nesting is unknown but could be due to degraded nesting habitat and high predator pressure. The beach has continually been eroded and scarped leaving a very narrow strip of potential nesting habitat. There was also high predator presence throughout the breeding season with coyote, fox, and crow sign observed regularly. The only other years Least Terns did not nest at Crescent Surf were 1991, 1984, and 1979.

Comparison: Crescent Surf Beach saw its most successful years in 2015, 2013, and 2012 with productivity of 1.04, 0.76, and 0.79 respectively. 2021, 2020, 2011, 2009, and 2008 were decent years with productivities between 0.5-0.6. Productivity was poor in 2017, 2016, and 2014, and was also poor from 2003-2007. In 2022, 102 pairs nested and did not fledge any chicks. In 2023, 77 pairs fledged eight chicks and in 2024 a high count of 45 pairs (outside of census window) nested and did not fledge any chicks. Predation management was conducted from 2007-2023 and was paused/not conducted in 2024 or 2025.

Predation Management: Anti-perching bird spikes were placed on top of symbolic fencing posts in 2025.

### **Parsons Beach, Kennebunk**

*Helen Manning and Selona Baker – Rachel Carson NWR*

Population Estimate: Parsons Beach had 40 nests during the walking nest census conducted on June 13. This site held up to 100 adults (50 pairs) later in the season suggesting more nests may have been laid after the census. The Least Terns stayed into late August and fledged a minimum 53 chicks leaving the Least Terns at Parsons Beach with a productivity of 1.33 fledglings per pair. While there were no catastrophic predation events recorded, a chipmunk was observed entering the colony frequently and was seen taking at least one Least Tern egg. Human and dog tracks were found inside the symbolic fencing area along with fire pits and trash multiple times throughout the nesting season.

Comparison: Least Terns nested on Parsons Beach for the first time in 2024 after winter storms created a section of nesting habitat to the left of the entrance path towards the Mousam River. In 2024, three nests were recorded during the census window, though more showed up after the survey window and a minimum of 19 chicks fledged.

Predation Management: None.

### **Goose Rocks Beach, Kennebunkport**

*Laura Zitske and Laura Williams - Maine Audubon*

Population Estimate: Least Terns did not attempt to nest on Goose Rocks Beach in 2025.

Comparison: In 2022, five nest attempts hatched two chicks and fledged one. A small colony of Least Terns attempted to nest in 2021. There were ten nesting attempts but no chicks survived until fledging and the colony abandoned in late July. No nesting attempts were made in 2020 or 2019, although courtship was observed. Two nesting attempts were made in 2018 but no chicks hatched. At least seven pairs attempted to nest in 2017 but all were unsuccessful. Ten pairs of Least Terns made nest attempts on Goose Rocks in 2016 fledging at least seven chicks. No nesting attempts were made at Goose Rocks between 2012-2015. In 2011 a season high of 46 birds were documented and produced a minimum of 12 fledglings. In 2010, a small colony set up after failures at Crescent Surf and Stratton Island, however no chicks survived. Least Terns did not attempt nesting in 2024.

Predation Management: None.

### **Stratton Island**

*National Audubon Society*

Population Estimate: 90 nests were counted during the nest census conducted on June 13 and 95 nest attempts were recorded throughout the season. A total of 47 nest hatched at least one chick. Over the nights of July 3-5, a Black-crowned Night Heron predated the majority of the island's Least Tern chicks, and the colony was largely abandoned. Only three chicks remained following the predation event, two of which fledged.

Comparison: In 2024, 106 nests fledged 30 chicks. In 2022, at least 14 fledglings were produced from 91 pairs. Black-crowned Night Heron predation was the biggest struggle in 2022. In 2021, at least 63 pairs nested on the island but abandoned after two nights of Black-crowned Night Heron predation and tropical storm Elsa. No chicks fledged. In 2020, Least Terns did not attempt to nest on the island. Eighty-four pairs produced 14 fledglings in 2019, and 122 pairs produced 50 fledglings in 2018. In 2017, only one chick fledged from 87 nesting pairs. Stratton Island has historically hosted the second largest Least Tern colony in the state.

Predation Management: Predation management was conducted on Stratton Island. Specialist predators targeting the colony were removed.

### **Western Beach, Scarborough**

*Laura Zitske and Laura Williams - Maine Audubon*

Population Estimate: Least Terns had a record-breaking season at Western beach with 53 nests counted during the census. The site held up to 125 adults at one time and consistently held around 90 until early July. Many chicks hatched during a heat wave immediately followed by a thunderstorm, and at least four deceased chicks were found the next day. A minimum of 25 chicks fledged.

Comparison: Least Terns nested in 2024 when new dredge sand was deposited on the beach. There were 30 nests at the census that fledged a minimum of 45 chicks. In 2019, 35 Least Terns were observed on Western, but after a predation event, no nests or chicks remained. There were a minimum of five Least Tern nests in 2018 that fledged no chicks. There were 48 Least Tern nest attempts on Western in 2017, fledging five birds. In 2016, there were at least four nest attempts on Western, with no fledglings produced. Before this, terns had not nested on Western Beach since 2008, and the site had not fledged chicks since 2005, when there were 40 active nests. Prior to 2005, Least Terns had not nested at the site since 1981.

Predation Management: USDA Wildlife Services removed specialist predators from Western Beach throughout the breeding season. An electric net fence was set up surrounding most of the colony.

### **Higgins Beach, Scarborough**

*Laura Zitske and Laura Williams - Maine Audubon*

Population Estimate: First nesting activity was observed on Higgins Beach on May 28, and there were four nests counted during census. The flock count reached 12 pairs at one time, but there were consistently seven to eight pairs present in the colony throughout the season. There were several nests that appeared to be buried or wind-blown, with unknown cause of abandonment. The fledge count ended up being ten, with two chicks fledging late, on August 19.

Comparison: In 2024, Least Terns were observed flying and landing but they never nested. There were 20 nests counted during census in 2023, but no chicks made it to fledge age. A colony with at least 51 nesting pairs fledged a minimum of five chicks in 2022. In 2021, at least 71 pairs nested and fledged a minimum of 17 chicks. A colony of 128 nesting pairs of Least Terns on Higgins Beach fledged at least 50 chicks in 2020. A smaller colony of 55 pairs fledged 16 chicks in 2019. A small colony was unsuccessful in 2018, and no terns nested in 2017. In 2016, a colony began to form at the end of May, but a storm tide in early June washed over the area and no nests were laid. In 2015 and 2014, small colonies formed at Higgins, fledging 13 chicks in 2015 and none in 2014. No Least Terns nested on Higgins between 2010-2013.

Predation Management: USDA Wildlife Services removed specialist predators from Higgins Beach throughout the breeding season.

### **Breakwater Beach, Ram Island Farm, Cape Elizabeth**

*Laura Zitske and Laura Williams – Maine Audubon*

Population Estimate: A small late colony settled in at the point on Breakwater Beach about a week after the census count was conducted. A high of nine nests were counted. The colony had a lot of predator pressure with nests disappearing and re-nests happening frequently. One sole chick fledged and the colony abandoned shortly after.

Comparison: The only other years a Least Tern colony was reported on Ram Island were 2012 and 1985. In 2012 one chick fledged, and none fledged in 1985.

Predation Management: None.

### **Seawall Beach, Phippsburg**

*Laura Zitske and Laura Williams - Maine Audubon*

Population Estimate: Least Terns did not attempt to nest at Seawall Beach this year.

Comparison: In 2023 and 2024, predators were a prevalent issue leading to low nest counts and no chicks fledged. In 2022 ten pairs managed to fledge two chicks. However, in 2021, 39 chicks fledged from a colony of 60 adults. Prior to 2020, Least Terns did not nest on Seawall since 2005, where the colony was predated, resulting in no chicks hatching.

Predation Management: None.

### **Reid State Park, Georgetown**

*Laura Zitske and Laura Williams - Maine Audubon*

Population Estimate: Least Terns did not attempt to nest at Reid State Park in 2025.

Comparison: In 2024, an average of seven Least Terns were regularly spotted at Half Mile Beach. One nest was counted during the census window. Three hatched chicks were observed on July 5 but not seen in following visits. Least Terns had not nested at Reid State Park since 2006, prior to 2024, with only one chick hatching but not fledging. Even in 2006, no chicks fledged.

Predation Management: None.

## **Presentations**

- Exploring Light Sensitivity as a Means of Non-lethal Black-crowned Night Heron Control – Ben Becker
- Assessing pre- and post-spill PFAS exposure in common eiders and bald eagles following the August 2024 Brunswick Naval Air Station fire foam suppression spill – Kelsey Sullivan
- Examining the biological and environmental factors affecting Atlantic Puffin dispersal – Quinn Carvey
- Comparing local and regional density models for marine birds in the Gulf of Maine – Iain Stenhouse
- Mapping aggression: research updates 2025 – Kay Garlick-Ott
- Modeling the risk of seabird collisions with offshore wind turbines using movement data – Julia Gulka
- Boat-based avian transect surveys along the Maine coastline: 2024-2025 observations and findings – Sarah Dodgin
- GPS Tracking of Maine’s Seabirds: 2025 GOMSWG Update – Keenan Yakola