

Cape Lookout National Seashore Colonial Waterbird 2014 Summary



A Great Egret (*Ardea alba*) Nest on Morgan Island.

2014 NPS Photo.

National Park Service
Cape Lookout National Seashore
131 Charles Street
Harkers Island, NC 28531

Introduction

The inlet spits, sandflats, inshore islands, and point of Cape Lookout National Seashore (CALO) provide nesting habitat for several species of Colonial Waterbirds (CWB). The least tern (*Sternula antillarum*), common tern (*Sterna hirundo*), gull-billed tern (*Gelochelidon nilotica*), black skimmer (*Rynchops niger*), sandwich terns (*Thalasseus elegans*) and royal tern (*Thalasseus maxima*) nest here in single species and mixed species colonies.

Methods

Nesting habitat is posted in the spring by April 1st. Reoccurring nesting sites include Power Squadron Spit, Cape Point, Ophelia Inlet, New Drum Inlet Flats, Old Drum Inlet Flats, Kathryn-Jane Flats, Portsmouth Flats, and Ocracoke Inlet tip. Potential nesting habitat is monitored and posted as the birds colonize a site. Posted closures typically include the upper beach, interior, and/or soundside to provide a 150 foot buffer. If chicks were present on the lower ocean beach vehicles are restricted and/or detoured to avoid flightless chicks.

The annual least tern window census occurs from June 5th-20th. Breeding pairs were counted by either a perimeter count of incubating pairs or a total number adult count. Total adult counts were then divided by two to ascertain the number of breeding pairs. No correction factor was employed in the results. The assumption being that all birds present within the breeding colony site are there as breeders. Counts were conducted by staff biologist and biological technicians. A GPS point was recorded at the center of the colony. Monitoring throughout the summer included weekly counts of adults, incubating nest/pairs, ground nest counts, number of chicks and fledglings, and buffer distance checks. Closures were posted, expanded, reduced, and removed as needed. Fledge success was observationally rated as high, medium, low, none or unknown. CALO participated in the 2014 North Carolina Wildlife Resource Commission (NCWRC) statewide CWB survey.

Results

There were 24 CWB nesting sites monitored in the seashore (Figure 1). Eleven colonies were on North Core Banks (NCB), including the Middle Core section and twelve colonies were on South Core Banks (SCB). There were no nesting terns or skimmers on Shackleford Banks (SB). One colony was located on Morgan Island. Sixteen single species colonies were occupied by least terns, while eight colonies were of mixed species. The largest colonies were at Old Drum Inlet, Ophelia Inlet, Morgan Island and Power Squadron Spit during the June 5th-20th peak counts. There were 134 least terns (LETE), 12 black skimmer (BLSK), and 1 common tern (COTE) pairs counted in the Old Drum Inlet area (Appendix 1). There were 236 LETE, 63 BLSK, 12 COTE and 6 gull-billed tern (GBTE) pairs counted in the Ophelia Inlet area. At Power Squadron spit there were 16 LETE, 28 BLSK and 1 COTE pairs counted. The least tern window census counted 542 total breeding pairs throughout the seashore on Core Banks (Appendix 2).

Morgan Island was colonized by 719 royal tern (ROYT) pairs and 12 sandwich tern (SATE) pairs. Morgan Island also provides nesting habitat for herons, egrets, ibis and gulls. Results provided by the NCWRC of the 2014 tri-annual counts are in Table 1.

Table 1. Morgan Island Colonial Waterbird Survey 2014.

Species	# Nests	Count Date
Little Blue Heron	254	7-May
Tricolored Heron	237	7-May
Black-crowned Night Heron	178	7-May
Snowy Egret	79	7-May
Great Egret	224	7-May
Cattle Egret	5	7-May
White Ibis	3232	7-May
Glossy Ibis	6	7-May
Great Black-backed Gull	1	27-May
Herring Gull	66	27-May
Laughing Gull	1463	9-Jun
Royal Tern	719	9-Jun
Sandwich Tern	12	9-Jun

Discussion

Hurricane Arthur made landfall at Cape Lookout National Seashore on July 3rd. The overwash flooding and high wind destroyed nests and chicks and effectively ended the nesting season with little to no fledgling success on the barrier islands. Prior to the hurricane predation issues were limiting colony success.

The Cape Point colony started on May 10th when nests were first observed and 34 LETE, 10 BLSK, and 7 COTE pairs were recorded. Coyote activity at the site reduced the colony size and most birds relocated to Shark Island and Power Squadron Spit. The nesting closure was removed after the hurricane flooded the site. The Ophelia Inlet spit on SCB was very productive up until the storm with 100 BLSK, 98 LETE, 4 COTE, 3 GBTE pairs, 44 chicks of multiple species, and 24 LETE fledglings on 6/30. The site was completely flooded by the hurricane and no chicks survived though some LETE fledglings were noted.

The royal terns successfully used Morgan Island again as a nesting site in 2014. Prior to 2013 royal terns had not nested on this inshore dredge spoil island since 1977. Although it is now heavily vegetated 719 ROYT nests and 12 SATE nests were counted on a small sandy beach. A permitted research project banded 571 ROYT and 4 SATE chicks on 7/8.

The least tern window census in 2014 recorded 542 breeding pairs, an increase from last year (Chart 1.). The 2013, 2012, 2011, 2010, 2009, 2008, 2007 and 2006 counts recorded 322, 577, 608, 789, 288, 502, 285 and 310 breeding pairs, respectively. Least terns were widely scattered in multiple small nesting groups as in past years. The number of colonies increased from 19 in 2013 up to 24 in 2014.

Chart 1. Least Tern window census, June 5th-20th, counts from 2006 to 2014.

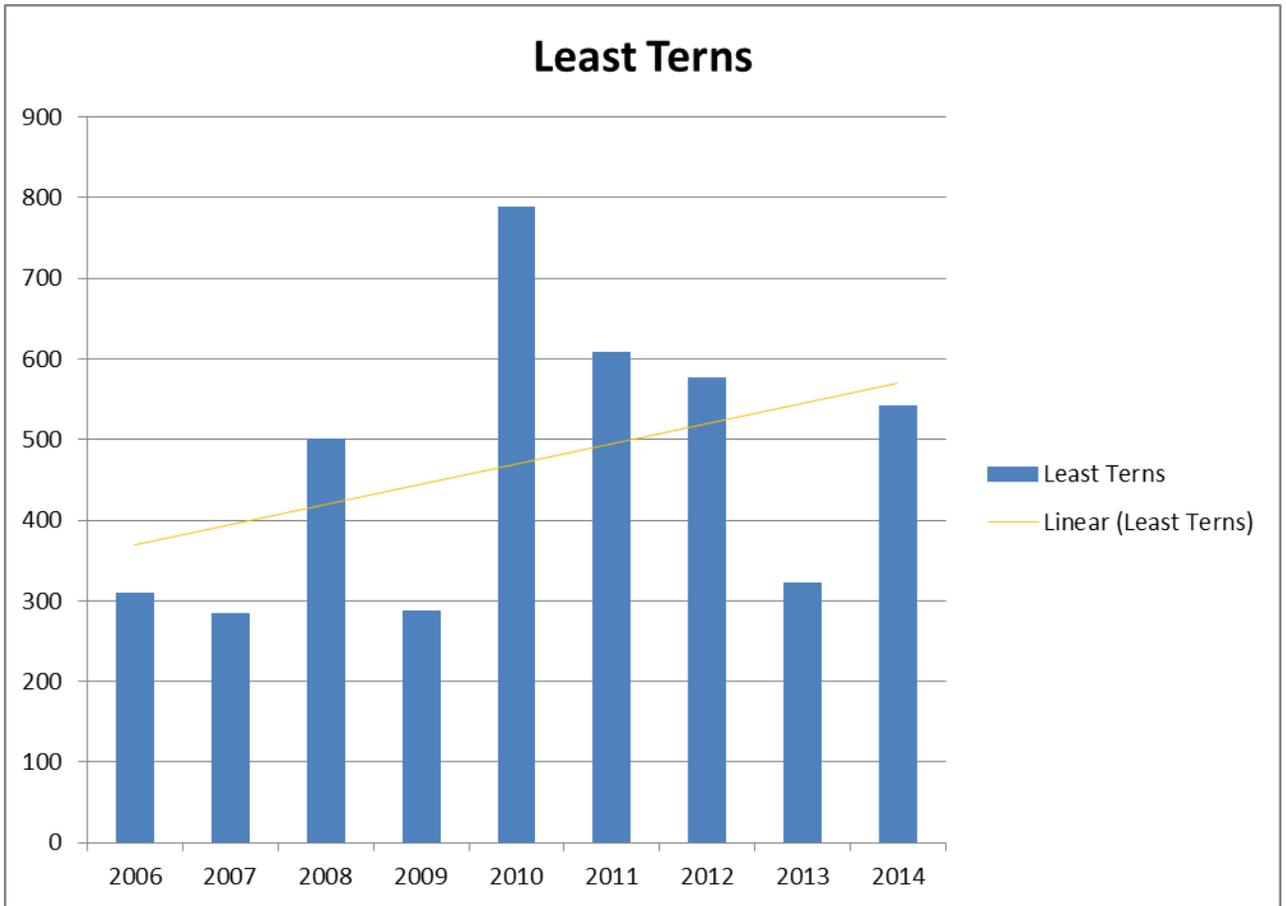
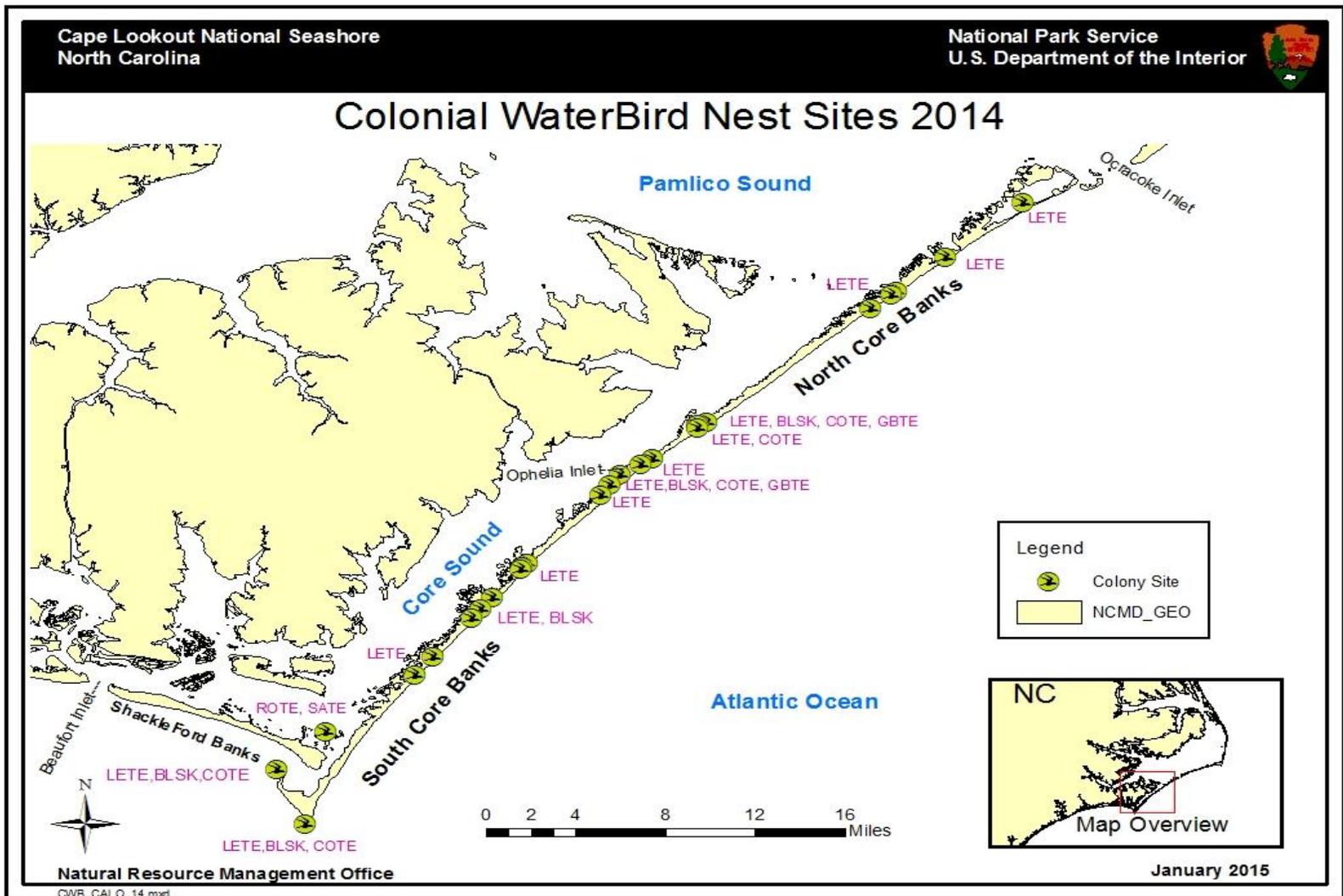


Figure 1



Appendix 1. 2014 Colonial Waterbird Data

ID	Island	Mile	Site Description	Latitude	Longitude	Dates Active	Count date
1	NCB	2.57	Portsmouth Flats	35.04475	-76.07244	15-May to 3-Jul	12-Jun
2	NCB	6.27	Katheryn Jane	35.00445	-76.12267	29-May to 3-Jul	11-Jun
3	NCB	8.97	upper beach	34.97946	-76.1548	13-Jun to 3 Jul	13-Jun
4	NCB	9.20	upper beach	34.97703	-76.15779	15-May to 11-Jun	11-Jun
5	NCB	10.25	upper beach	34.96667	-76.17116	11-Jun to 3-Jul	11-Jun
6	NCB	18.55	Old Drum Inlet	34.88397	-76.27734	8-May to 3-Jul	10-Jun
7	NCB	18.89	Old Drum Inlet	34.88202	-76.28276	12-July to 23 Jul	
8	NCB	19.10	Old Drum Inlet	34.87977	-76.28303	9-May to 3-Jul	14-Jun
9	NCB	21.25	New Drum	34.85715	-76.312	14-May to 3-Jul	16-Jun
10	NCB	21.80	New Drum Inlet	34.8524	-76.31976	14-May to 3-Jul	16-Jun
11	NCB	22.75	Ophelia Inlet	34.84522	-76.33268	14-May to 3-Jul	14-Jun
12	SCB	23.29	Ophelia Inlet spit	34.83769	-76.33982	12-May to 3-Jul	7-Jun
13	SCB	23.87	Ophelia Inlet	34.83009	-76.34498	31-May to 3-Jul	
14	SCB	28.26	shell flat in dunes	34.78059	-76.39297	31-May to 15-Jul	7-Jun
15	SCB	28.53	Ramp 28	34.77765	-76.3959	17-May to 1-Jun	7-Jun
16	SCB	28.66	upper beach	34.77613	-76.39742	17-May to 3-Jul	7-Jun
17	SCB	30.43	between dune and backroad	34.75547	-76.41559	9-Jul to 15-Jul	
18	SCB	30.50	shell flat in dunes	34.74718	-76.42313	23-May to 14-Jul	7-Jun
19	SCB	31.69	shell flat in dunes	34.74062	-76.42876	23-May to 15-Jul	7-Jun
20	SCB	34.11	shell flat in dunes, ramp 34	34.71206	-76.45353	10-May to 23-Jul	7-Jun
21	SCB	35.26	upper beach	34.69874	-76.46562	25-June to 3-Jul	
22	SCB	43.82	Cape Point	34.58961	-76.53605	10-May to 3-Jul	9-Jun
23	SCB	47.19	Power Squadron Spit	34.62975	-76.55452	9-May to 15-Jul	10-Jun
24	MI		Morgan Island	34.65698	-76.52271		9-Jun

ID	Peak Counts	Count Type	Count 1	Count 2	Success
1	47 LETE	pair	16 LETE pairs, scrapes, 1 chick on 6/4	38 LETE pairs, 6 nests, 1 chick on 6/25	low
2	16 LETE	pair	7 LETE pairs , nests, scrapes on 5/29	13 LETE pairs, nest and scrapes on 6/30	none
3	7 LETE	pair	4 LETE pairs, 1 nest	4 LETE pairs, 1 chick on 7/1	none
4	0		5 LETE pairs, nests on 5/15		none
5	6 LETE	pair	3 LETE pairs, no nests, cat tracks on 7/1		none
6	34 LETE, 12 BLSK	pair	77 LETE, 44 BLSK, 2 COTE pairs on 5/22	40 LETE, 16 BLSK, 1 COTE, 1 GBTE on 6/23	none
7			4 LETE pairs, 1 nest, scrapes	nest abandoned on 7/23	none
8	100 LETE (30 chicks), 1 COTE	pair	38 LETE pairs, scrapes, nest on 5/9	10 incubating LETE pairs, fledglings on 7/2	low
9	2 LETE	pair	7 LETE pairs, scrapes on 5/14		none
10	20 LETE	total individual	22 LETE pairs , nests on 5/14	18 LETE pairs on 7/2	none
11	63 LETE, 5 chicks	pair	5 LETE pairs , scrapes	48 LETE pairs, raccoon tracks on 6/23	none
12	173 LETE (2 chicks), 63 BLSK, 12 COTE, 6 GBTE	pair	100 BLSK, 24 COTE, 7 GBTE pairs, 25 LETE chicks on 6/17	2 BLSK, 5 GBTE, 3 COTE, 34 LETE chicks, 24 LETE fledglings on 6/30	low
13			20 LETE pairs on 5/31	12 LETE pairs and 8 chicks on 6/22	none
14	5 LETE	pair	3 LETE pairs, 4 chicks, 1 nest on 6/1	2 LETE chicks on 7/8	none
15	0 LETE		1 LETE pair with nest on 5/17	1 LETE pair with 2 chicks	none
16	4 LETE	pair	2 LETE nests on 5/17	5 LETE pairs, 2chicks on 6/21	none
17			8 LETE pairs, 1 chick on 7/9		none
18	23 LETE	pair	5 LETE nests on 5/23	15 LETE pairs, 1 BLSK pair on 6/21	none
19	10 LETE , 1 chick	pair	3 LETE nests on 5/23, one accidentally stepped on	9 BLSK pairs with scrapes on 7/15	none
20	6 LETE , 1 chick	pair	4 LETE nests on 5/10	1 LETE scrape on 7/8	none
21			1 LETE pair with nest on 6/25	0 birds on 7/8	none
22	10 LETE, 1 COTE,	pair	34 LETE, 10 BLSK, 7 COTE pairs on 5/10	No birds or nests on 7/8	none
23	16 LETE, 28 BLSK, 1 COTE	pair	32 LETE, 19 BLSK, 2 COTE pairs on 5/20	15-20 LETE chicks on 7/4	unknown
24	719 ROTE, 12 SATE	nest	571 ROTE and 4 SATE chicks banded on 7/8		high

ID	Comments
1	Hurricane Arthur flooded site, 7/4 some adults and fledglings present
2	Hurricane Arthur flooded site, 7/4 no nests
3	Hurricane Arthur flooded site, 7/4 no nests, signs removed
4	Closure removed on 6/11
5	Hurricane Arthur flooded site, 7/4 no nests, signs removed
6	Hurricane Arthur flooded site, 7/4 no nests
7	
8	Hurricane Arthur flooded site, 7/4 no nests
9	Hurricane Arthur flooded site, 7/4 no nests
10	Hurricane Arthur flooded site, 7/4 no nests
11	Hurricane Arthur flooded site, 7/4 no nests
12	Hurricane Arthur flooded site, 7/4 no nests, no chicks
13	Hurricane Arthur flooded site, 7/4 no nests, no chicks
14	LETE chicks survived Hurricane Arthur, no fledglings documented
15	Not active after 6/7
16	Not active after 7/4
17	
18	
19	no activity recorded after 7/15, one chick present on 7/4
20	
21	Hurricane Arthur flooded site, 7/4 no nests
22	Hurricane Arthur flooded site, 7/4 no nests
23	LETE chicks survived Hurricane Arthur, no fledglings documented
24	colony survived the hurricane

NCB= North Core Banks
SCB= South Core Banks

LETE= least tern
GBTE= gull-billed tern

COTE= common tern
BLSK= black skimmer

ROYT= royal tern
SATE= sandwich tern

Appendix 2.

2014 Least Tern Window Census
June 5-20

North Core Banks: 295 breeding pairs

South Core Banks: 247 breeding pairs

Shackleford Banks: No breeding pairs

CALO Total= 542 breeding pairs