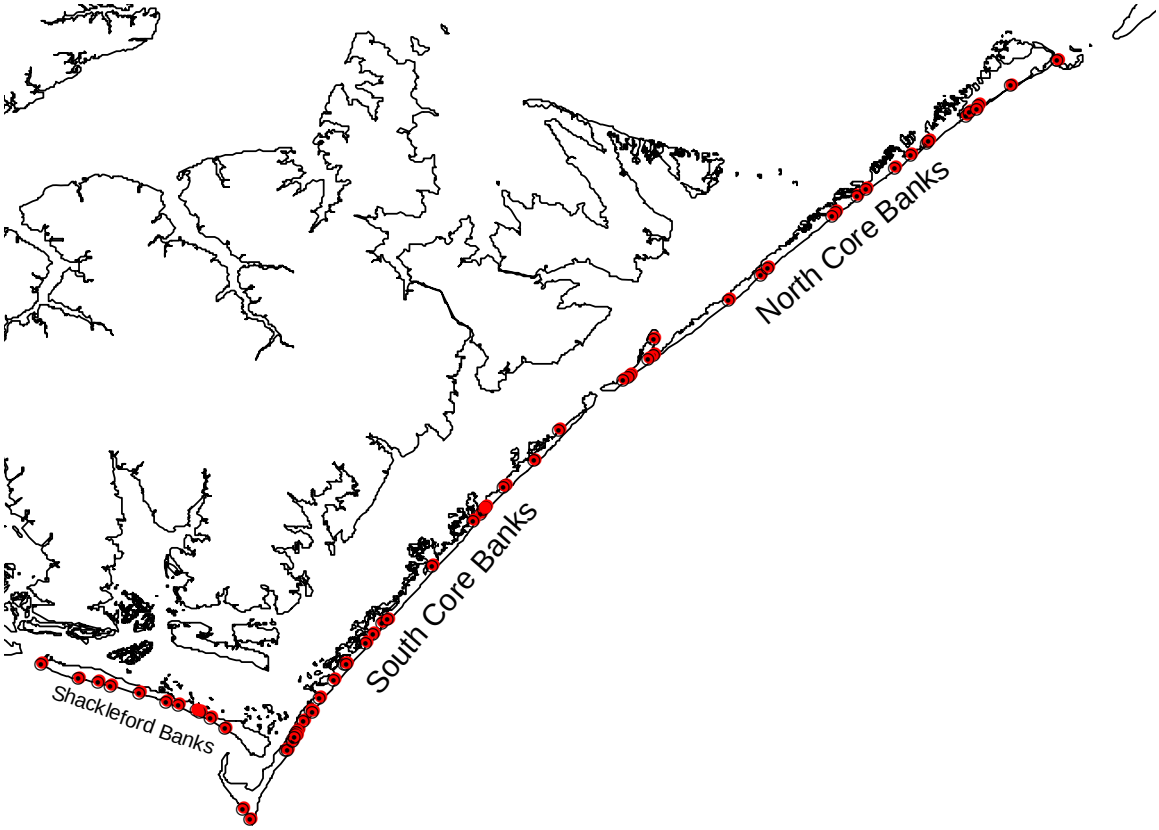
AMERICAN OYSTERCATCHER (*Haematopus palliatus*) MONITORING AT CAPE LOOKOUT NATIONAL SEASHORE

2006 SUMMARY REPORT



NATIONAL PARK SERVICE
CAPE LOOKOUT NATIONAL SEASHORE
131 CHARLES STREET
HARKERS ISLAND, NC 28531

2006 American Oystercatcher Monitoring-Cape Lookout National Seashore

Introduction

American Oystercatchers are common nesters throughout the park, primarily on the ocean beach. They are listed as a 'Bird of Conservation Concern' on the southeast coastal plain. Their choice of nesting habitat makes them particularly vulnerable to disturbance by park visitors and off-road vehicles.

Monitoring of American Oystercatcher nesting at Cape Lookout National Seashore (CALO) began in 1995. A researcher from Duke University studied nesting on South Core Banks and found low reproductive success. She also documented chick mortality caused by off-road vehicles. Since 1997 researchers from N. C. State University and park staff have conducted censuses, monitored nesting success and banded birds in the park. The primary focus of this research has been to find ways to measure impacts of park visitors and improve nesting success.

Methods

Weekly surveys of nesting habitat on Core Banks began in late March. Nesting on North Core Banks and South Core Banks was monitored 5 days a week from April 17 to May 31 and daily from June 1 to the end of the nesting season. Surveys of Shackleford Banks were made an average of twice a week beginning in mid April. Monitoring was not done in inclement weather.

The area around the nest was closed with "Bird Sanctuary" signs if the nest was in danger of being run over by off-road vehicles. Generally, nests found in the dunes were not posted. There was concern that predators might learn to associate posts with nests. Nest locations were marked with either a stake or objects like sticks or shells to facilitate follow up checks.

The locations of the nests were recorded using a GPS and the park's mile marker system. Information about the habitat type was also noted. If one or both adults were banded, that information was recorded on the nest data sheet (see figure 1).

Nests were checked regularly to monitor the status of incubation and document losses. Immediately at the time of hatch, the ocean beach in that area was closed to vehicles with traffic routed to the backroad. In areas north of Ramp 9 (where there is no backroad), signs warning of the presence of flightless chicks and reducing the speed limit to 15mph were placed on the beach. Chicks were monitored daily until they fledged or were lost. Most chicks on North Core Banks were monitored using radio transmitters.

Results

Fifty-three pairs of American oystercatchers nested at CALO (Table 1). Counts were for pairs on or near the ocean beach and did not include marsh islands.

Table 1. American Oystercatcher Nesting Pairs- 2006

North Core Banks	15 pairs
Middle Core Banks	8 pairs
Ophelia Inlet	2 pairs
South Core Banks	19 pairs
Shackleford Banks	9 pairs

Nesting pairs were spread throughout most of the ocean beach habitat in the park (Figures 1,2 & 3). The birds did not use areas adjacent to buildings and concentrations of people.

Hatch Success

69 nests were found of which 23 hatched at least one egg. Twenty five chicks were known to survive to fledge (Table 2). Of the nests that failed, 8 were lost to predation, 4 were lost during storms and 33 nests failed due to unknown causes (Table 3). Raccoons and ghost crabs were found to be the main predators of oystercatcher eggs. Individual nest data are found in Appendix 1.

Table 2. Oystercatcher Nesting by Island 2006

Island	**# pairs**	**#Nests**	**# Nests Hatched**	**# Chicks Fledged**
North Core Banks	15	18	8	5
Middle Core Banks	8	9	7	8
Ophelia Island	2	?	1	2
South Core Banks	19	31	6	10
Shackleford Banks	9	11	1	0

Table 3. Causes of Nest Failure

Island	**Predation**	**Flooding/ Storms**	**Human Disturbance**	**Abandoned**	**Unknown**
North Core Banks	1	2	0	1	6
Middle Core Banks	1	0	0	0	1
South Core Banks	6	2	0	1	16
Shackleford Banks	0	0	0	0	10
CALO total	8	4	0	2	33

Table 4. Summary of Oystercatcher Reproductive Success Data

Year	Island	#Nests	#Nests Hatched	#Chicks fledged
1995	South Core Banks	36	10 (28%)	7
1997	South Core Banks	34	4 (12%)	2
1998	North & South Core Banks	98	12 (12%)	6
1999	North & South Core Banks	114	16 (14%)	6
2000	North & South Core Banks	75	25 (33%)	9
2001	North & South Core Banks	109	19 (17%)	1
2002	North & South Core Banks	90	10 (11%)	6
2003	Cape Lookout N. S.	106	17 (16%)	8
2004	Cape Lookout N. S.	68	37 (54%)	45
2005	Cape Lookout N.S.	65	26 (40%)	18
2006	Cape Lookout N.S.	69	23 (33%)	25
All		864	199 (23%)	133

Banding

Four adult birds and 21 chicks were captured and banded in the park. Details on oystercatcher band combinations can be found at the website: www4.ncsu.edu/unity/users/s/simons/www/AMOY%20Banding.htm
Radio transmitters were placed on 11 chicks on North Core Banks.

Discussion

Hatch rates in 2006 were vastly different in each area of the park. Nests on North Core Banks and Middle Core Banks did well with 56% of the nests hatching. Only 17% of the nests on South Core Banks and Shackleford Banks hatched. Predators and flooding were the known causes of some nest losses. The cause of failure of 33 nests was unknown.

Fledging success in the park was an above average 0.47 chicks per nesting pair. The use of radio transmitters aided in the determination of the causes of mortality in chicks.

No incidences of chick mortality due to vehicles were documented. In areas with a backroad system, the ocean beach was closed to vehicles when unfledged oystercatcher chicks were present. Off-road vehicle traffic was routed to the backroad via the nearest ramps. In areas without a backroad, signs advising visitors that chicks were in the area and limiting speeds to 15 mph were posted.

Figure 1.

American Oystercatcher Nest Form - Cape Lookout 2006

Island_____ Nest Number_____ Pair Number_____ Re-nest: Y N ?

Color Bands (1)_____ (2)_____

Latitude_____ Longitude_____

Location/Habitat:_____

_____

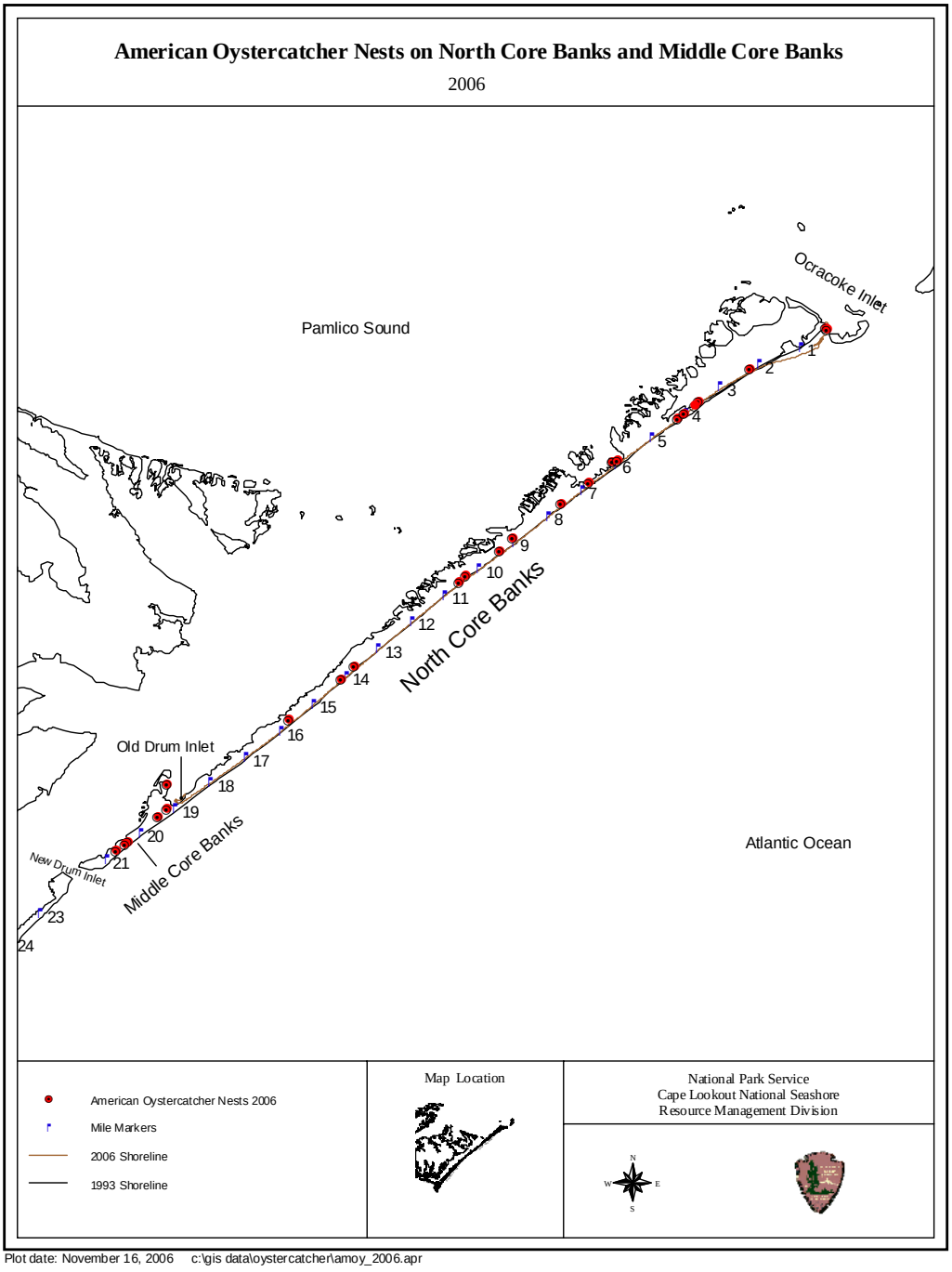
Dates:
Nest Found_____ Hatch_____ Failure:_____ Fledge_____

Cause of Nest Failure or Chick Loss:_____

_____

Date	# eggs	# young	Notes

Figure 2.



Plot date: November 16, 2006 c:\gis data\oystercatcher\amoy_2006.apr

Figure 3.

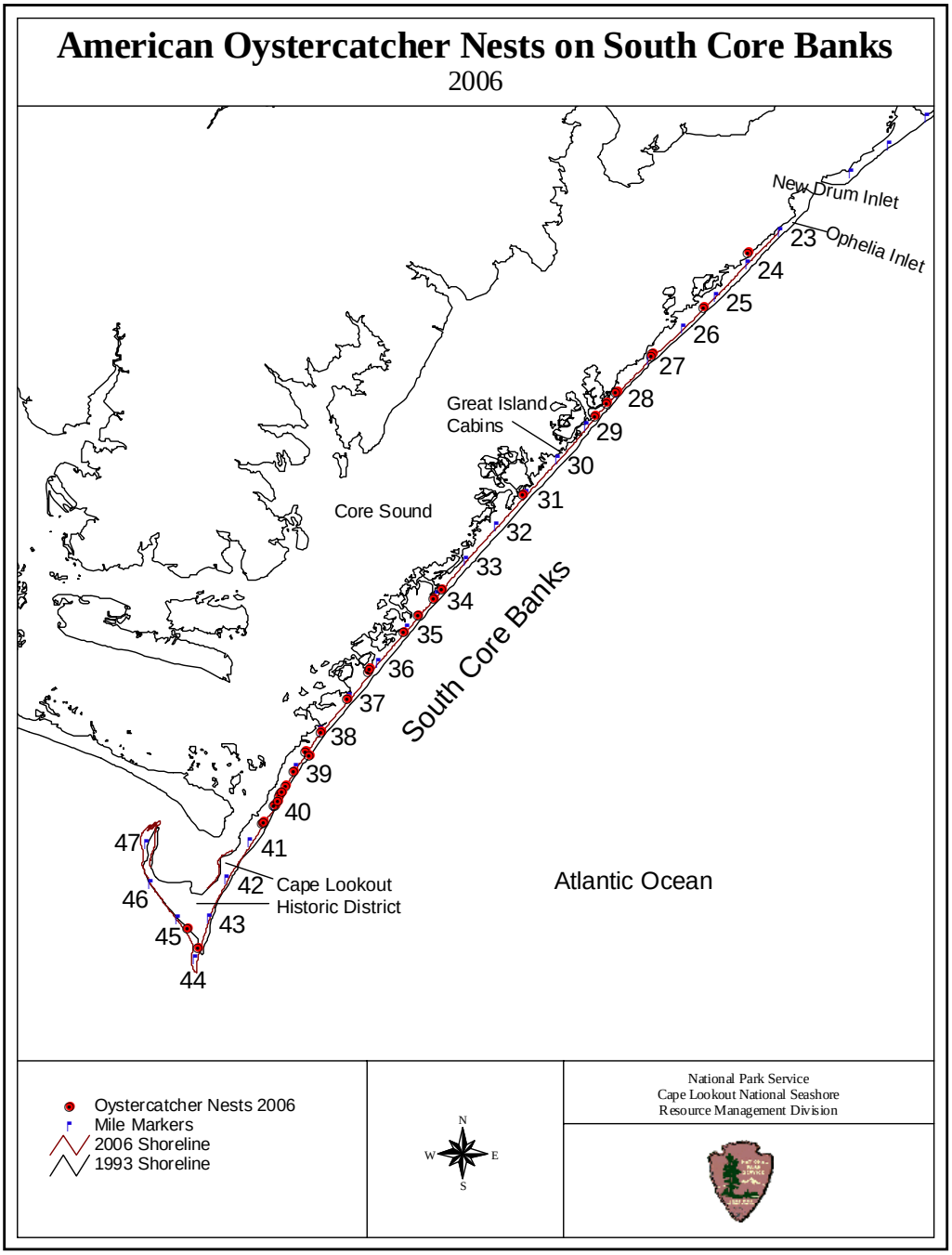
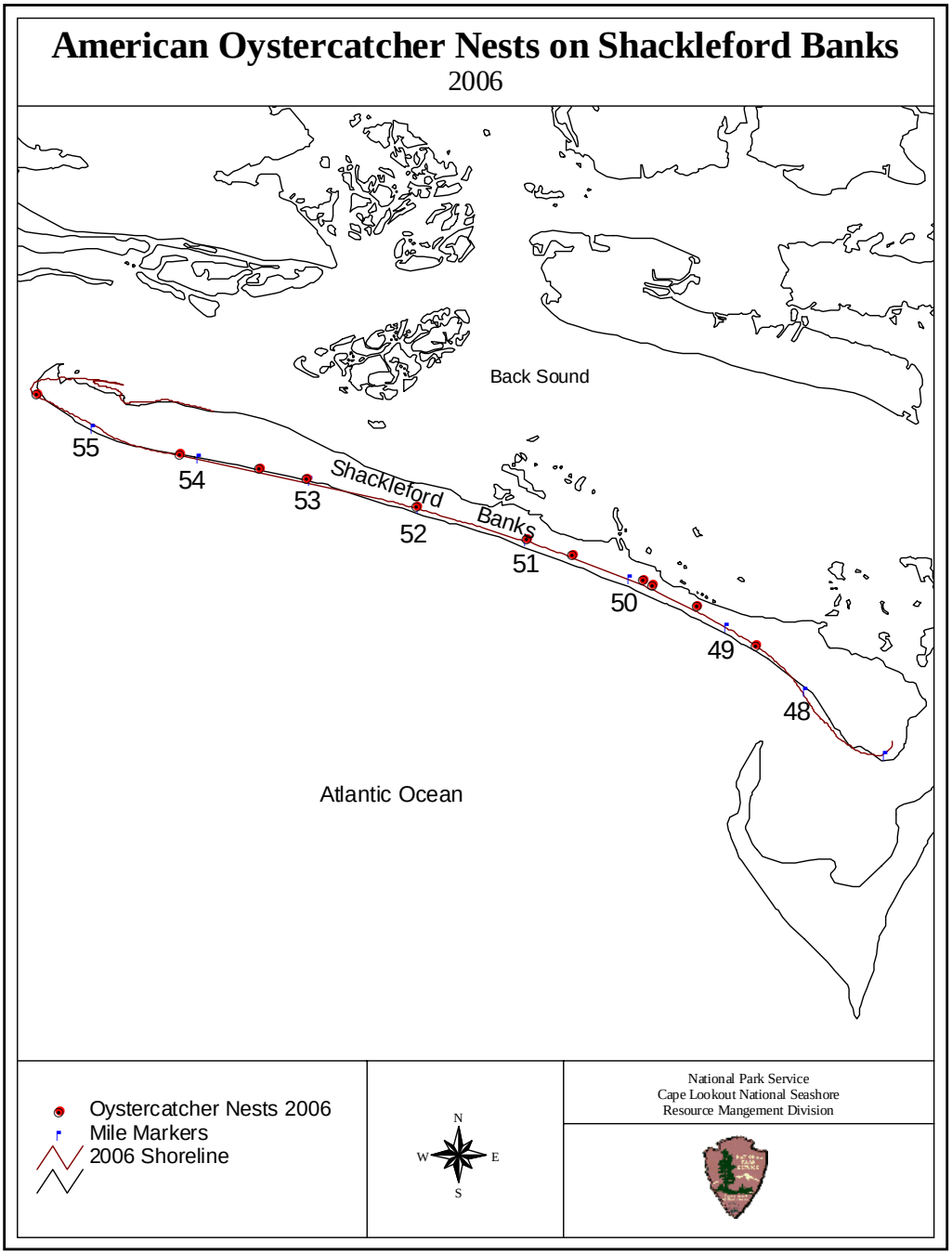

American Oystercatcher Nests on South Core Banks
2006
New Drum Inlet
Ophelia Inlet
Great Island
Cabins
Core Sound
South Core Banks
Atlantic Ocean
Cape Lookout
Historic District
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
Oystercatcher Nests 2006
Mile Markers
2006 Shoreline
1993 Shoreline
N
W
E
S
National Park Service
Cape Lookout National Seashore
Resource Management Division

Figure 4.


American Oystercatcher Nests on Shackleford Banks
2006
Back Sound
55
54
53
52
51
50
49
48
Shackleford Banks
Atlantic Ocean
Oystercatcher Nests 2006
Mile Markers
2006 Shoreline
N
W
E
S
National Park Service
Cape Lookout National Seashore
Resource Mangement Division

APPENDIX 1A AMERICAN OYSTERCATCHER NESTS- NORTH CORE BANKS-2006

#	MILE	LOCATION	FOUND	EGGS	POSTED	Latitude	Longitude	COMMENTS
1	7.6	behind dune	20-Apr	3	N	34.99349	-76.13729	hatched 5/16, chicks lost by 5/26
2	0.0	soundside tidal area	21-Apr	2	N	35.05967	-76.03770	lost by 4/28, possibly flooded
3	14.1	beach berm	23-Apr	2	N	34.92729	-76.22027	lost by 4/27
4	4.2	beach berm	28-Apr	3	Y	35.02535	-76.09362	flooded 5/1
5	9.3	flats behind primary dune	28-Apr	3	N	34.97546	-76.16070	hatched 5/25,fledged 1 chick
6	6.8	beach berm	28-Apr	3	N	35.00120	-76.12723	hatched 5/27, chicks lost 6/5
7	10.3	flats behind primary dune	29-Apr	3	N	34.96602	-76.17361	hatched 5/25,fledged 1 chick, died after fledging
8	13.7	flats west of backroad	30-Apr	2	N	34.93205	-76.21543	lost by 5/3
9	8.9	flats	3-May	3	N	34.98059	-76.15568	hatched 5/29, fledged 1 chick
10	3.6	flats in bird closure	3-May	3	N	35.03170	-76.08555	hatched 5/21, fledged 1 chick
11	2.1	flats in bird closure	12-May	3	N	35.04423	-76.06606	abandoned?
12	0.0	In grass	12-May	3	N	35.05903	-76.03719	lost to raccoon predation 5/18
13	6.0	flats behind primary dune	10-May	2	N	35.00904	-76.11808	lost by 5/17
14	4.0	beach berm	13-May	3	N	35.02761	-76.09084	hatched 6/15, chicks lost 6/25
15	3.7	flats in bird closure	13-May	3	N	35.03020	-76.08705	lost 6/6
16	5.9	flats in bird closure	27-May	3	N	35.00954	-76.11639	hatched 6/23, fledged 1 chick
17	10.6	beach berm	31-May	2	N	34.96348	-76.17583	lost 6/15
18	15.7	flats west of backroad	12-Jun	1	N	34.91153	-76.23999	lost 6/17

15 nesting pairs, 18 nests, 8 hatched, 5 chicks fledged

APPENDIX 1B AMERICAN OYSTERCATCHER NESTS- MIDDLE CORE BANKS-2006

#	MILE	LOCATION	FOUND	EGGS	POSTED	Latitude	Longitude	COMMENTS
1	19.2	flats SE of Old Drum Inlet	4-May	3	N	34.87823	-76.28594	hatched 3 eggs, fledged 1 chick, G(M0)
2	19.5	flats	4-May	3	N	34.87532	-76.28958	1 egg hatched, fledged 1 chick (unbanded)
3	20.4	dunes	4-May	1	N	34.86572	-76.30103	lost to ghost crab predation
4	18.8	beach berm	4-May	2	N	34.88745	-76.28599	failed - unknown
5	19.9	flats behind primary dunes	5-May	3	N			1 egg hatched, 0 chicks fledged
6	20.5	base of duneline	13-May	3	N	34.86474	-76.30219	3 eggs hatched, 2 chicks fledged, G(U3), G(U4)
7	20.7	flats behind primary dunes	13-May	3	N	34.86225	-76.30561	3 eggs hatched, 1 chick fledged, G(N0)
8	19.6	flats south of Old Drum Inlet	1-Jun	2	N			2 eggs hatched, 1 chick fledged, G(P0)
9	19.5	flats behind primary dunes	1-Jun	3	N			3 eggs hatched, 2 chicks fledged, G(U0), G(P9)

8 nesting pairs, 9 nests, 7 nests hatched (16 eggs), 8 chicks fledged

APPENDIX 1C AMERICAN OYSTERCATCHER NESTS- SOUTH CORE BANKS-2006

#	MILE	LOCATION	FOUND	EGGS	POSTED	Latitude	Longitude	COMMENTS
1	28.3	beach berm	13-Apr	3	Y	34.77988	-76.39364	lost-washed away
2	34.1	beach berm	17-Apr	3	Y	34.71206	-76.45370	lost-washed away
3	38.0	Base of primary duneline	19-Apr	3	N	34.66570	-76.49294	hatched 5/15, fledged 3 chicks
4	38.5	beach berm	19-Apr	3	Y	34.65862	-76.49802	lost to raccoon predation 5/5
5	39.5	beach berm	19-Apr	3	N	34.64684	-76.50523	lost 5/1
6	39.9	beach berm	21-Apr	3	N	34.64033	-76.50871	lost 5/5
7	34.6	beach berm	21-Apr	3	N	34.70592	-76.45922	lost
8	25.4	beach berm	21-Apr	3	N	34.81267	-76.36013	lost to predation
9	39.7	Base of primary duneline	21-Apr	1	N	34.64412	-76.50682	lost by 4/25
10	40.5	beach berm	25-Apr	2	Y	34.63368	-76.51304	lost 5/5
11	23.8	soundside beach berm	25-Apr	3	N	34.83176	-76.34444	hatched; fledged 2 chicks
12	36.3	flats west of backroad	25-Apr	1	N	34.68672	-76.47659	lost 5/6
13	43.7	flats in bird closure	28-Apr	3	N	34.59082	-76.53558	lost 5/20
14	26.8	flats behind primary dune	1-May	3	N	34.79700	-76.37784	lost 5/19
15	39.7	Base of primary duneline	3-May	3	N	34.64334	-76.50722	lost 5/19
16	31.1	flats behind primary dune	3-May	2	N	34.74782	-76.42268	lost 5/19
17	40.5	beach berm	16-May	2	N	34.63424	-76.51270	lost 5/22
18	39.1	beach berm	16-May	3	N	34.65177	-76.50242	lost, possibly to ghost crab, 5/27
19	33.9	beach berm	16-May	3	Y	34.71516	-76.45102	hatched 6/15, fledged 2 chicks
20	37.1	Base of primary duneline	16-May	2	N	34.67693	-76.48354	hatched 1 egg 6/2; chick lost
21	27.9	flats behind primary dune	19-May	3	N	34.78398	-76.39001	lost 5/22, possibly to raccoons
22	38.5	beach berm	20-May	2	Y	34.65753	-76.49704	lost 6/1
23	40.0	Base of primary duneline	26-May	2	N	34.64003	-76.50892	lost to raccoon predation 5/30
24	36.2	flats west of backroad	30-May	2	N	34.68762	-76.47579	lost 6/16
25	39.6	beach berm	30-May	3	Y	34.64471	-76.50643	hatched 6/25; fledged 3 chicks
26	28.0	beach berm	2-Jun	1	N	34.78317	-76.39074	lost 6/4
27	44.7	Cape Point bird closure	5-Jun	3	N	34.59733	-76.53937	lost 6/29
28	26.9	top of small dune	13-Jun	1	N	34.79592	-76.37840	lost 6/24
29	29.3	beach berm	16-Jun	2	Y	34.77530	-76.39760	hatched 7/12; chicks lost by 7/15

#	MILE	LOCATION	FOUND	EGGS	POSTED	Latitude	Longitude	COMMENTS
30	39.9	beach berm	13-Jun	3	Y	34.64159	-76.50773	lost to raccoon predation 6/15
31	35.2	base of primary duneline	16-Jun	2	N	34.70030	-76.46414	abandoned

19 nesting pairs, 31 nests, 6 hatched, 10 chicks fledged

APPENDIX 1D AMERICAN OYSTERCATCHER NESTS- SHACKLEFORD BANKS-2006

#	MILE	LOCATION	FOUND	EGGS	POSTED	Latitude	Longitude	COMMENTS
1	50.6	flats	18-Apr	3	N	34.66199	-76.57924	lost by 4/26
2	53.5	base of duneline	18-Apr	3	N	34.67561	-76.62900	lost by 5/16
3	49.4	flats between dunes	26-Apr	3	N	34.65373	-76.55957	lost by 5/2
4	52.0	flats	2-May	1	N	34.66966	-76.60412	lost by 5/30
5	49.8	flats in bird closure	10-May	2	N	34.65703	-76.56665	lost by 5/17
6	48.7	base of duneline	10-May	1	N	34.64764	-76.55030	lost by 5/16
7	51.0	flats	17-May	3	N	34.66434	-76.58663	lost by 5/30
8	49.9	flats	1-Jun	2	N	34.65793	-76.56810	hatched about 6/15, chicks lost
9	53.0	base of duneline	1-Jun	3	N	34.67397	-76.62160	flooded by 6/20
10	54.2	base of duneline	15-Jun	1	N	34.67787	-76.64161	lost by 6/20
11	55.6	flats	15-Jun	2	N	34.68745	-76.66427	lost by 6/22

9 nesting pairs, 11 nests, 1 hatched, 0 chicks fledged