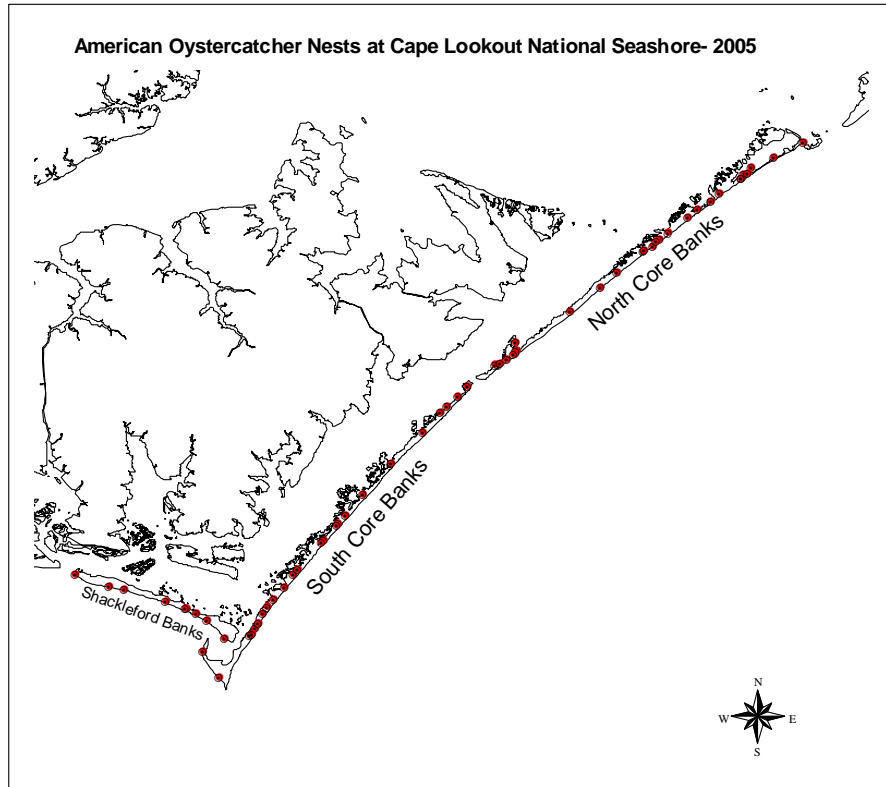


AMERICAN OYSTERCATCHER (*Haematopus palliatus*) MONITORING AT
CAPE LOOKOUT NATIONAL SEASHORE

2005 SUMMARY REPORT



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

2005 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

Surveys of nesting habitat on Core Banks were conducted 2-5 times a week from early April to mid-July. Surveys of Shackleford Banks were made an average of twice a week after June 1. 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. Locations of the nests were recorded using a GPS and the park’s mile marker system. Information about the habitat type was also noted.

Nests were checked every few days to monitor the number of eggs present and hatch date. Chicks were monitored until they fledged or were lost.

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- 2005

North Core Banks	16 pairs
Middle Core Banks	7 pairs
South Core Banks	22 pairs
Shackleford Banks	8 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

65 nests were found of which 26 hatched at least one egg. Eighteen chicks were known to survive to fledge (Table 2). Of the nests that failed, 11 were lost to predation, 3 were lost during storms and 25 nests failed due to unknown causes (Table 3). One nest was run over by an ATV. 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 2005

Island	# pairs	#Nests	# Nests Hatched	# Chicks Fledged
North Core Banks	16	20	11	6
Middle Core Banks	7	8	5	9
South Core Banks	22	27	9	3
Shackleford Banks	8	10	1	0

Table 3. Causes of Nest Failure

Island	Predation	Flooding/ Storms	Human Disturbance	Abandoned	Unknown
North Core Banks	3	1	0	0	5
Middle Core Banks	1	1	0	0	2
South Core Banks	4	1	1	0	12
Shackleford Banks	3	0	0	0	6
CALO total	11(28%)	3	1	0	25(63%)

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
All		795	176 (22%)	108

Banding

Twelve adult birds and 16 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 2005 were nearly double the long-term average for the park. Nests on North Core Banks and Middle Core Banks did particularly well with 57% of the nests hatching. Predators, including raccoons, gulls, crows and ghost crabs, were the primary cause of nest losses. Three nests were lost during storms. One nest was lost when it was driven over by an ATV. The cause of failure of 24 nests was unknown.

Fledging success was also above average for the park. At least 53 chicks hatched and 18 survived to fledge (34%). The use of radio transmitters allowed the determination of the causes of mortality in 10 chicks. Two chicks were lost to owl predation, one to cat predation, and one to ghost crab predation. Two chicks were run over by an ATV. Three chicks were lost in a storm and one chick died of injuries that may have been siblicide. A chick was found dead of unknown causes at Cape Point twelve days after it fledged.

Following the incident on NCB June 17 where two chicks were run over by an ATV, the park changed its management strategy to increase protection. 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.

Management Recommendations

Monitoring should continue to document factors limiting nesting success of American Oystercatchers at CALO. Observations of banded birds could provide vital information on survival rates and site fidelity of nesting birds. The park should continue to close beach areas to off-road vehicles when unfledged chicks are present and a backroad is available.

Figure 1.

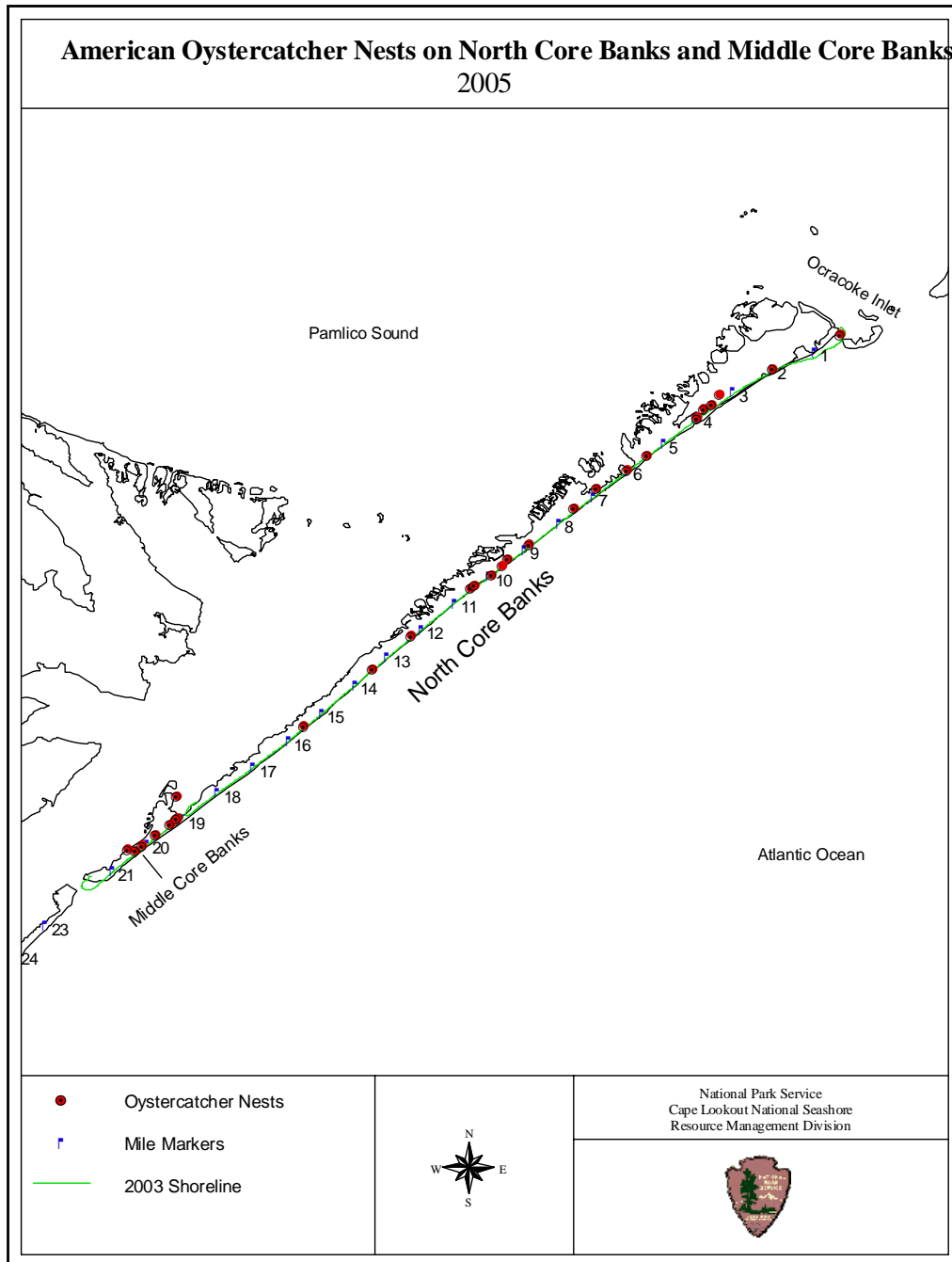
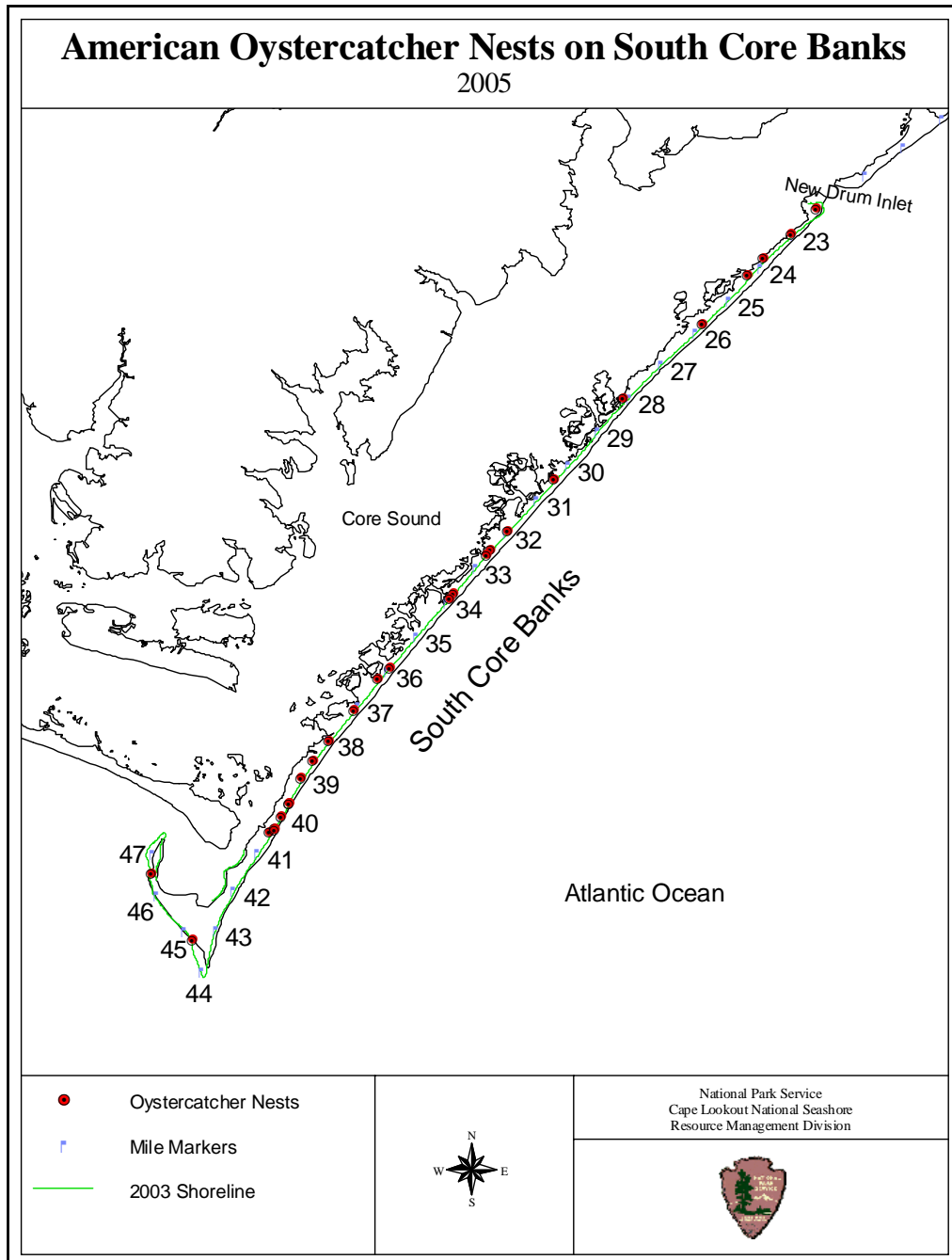
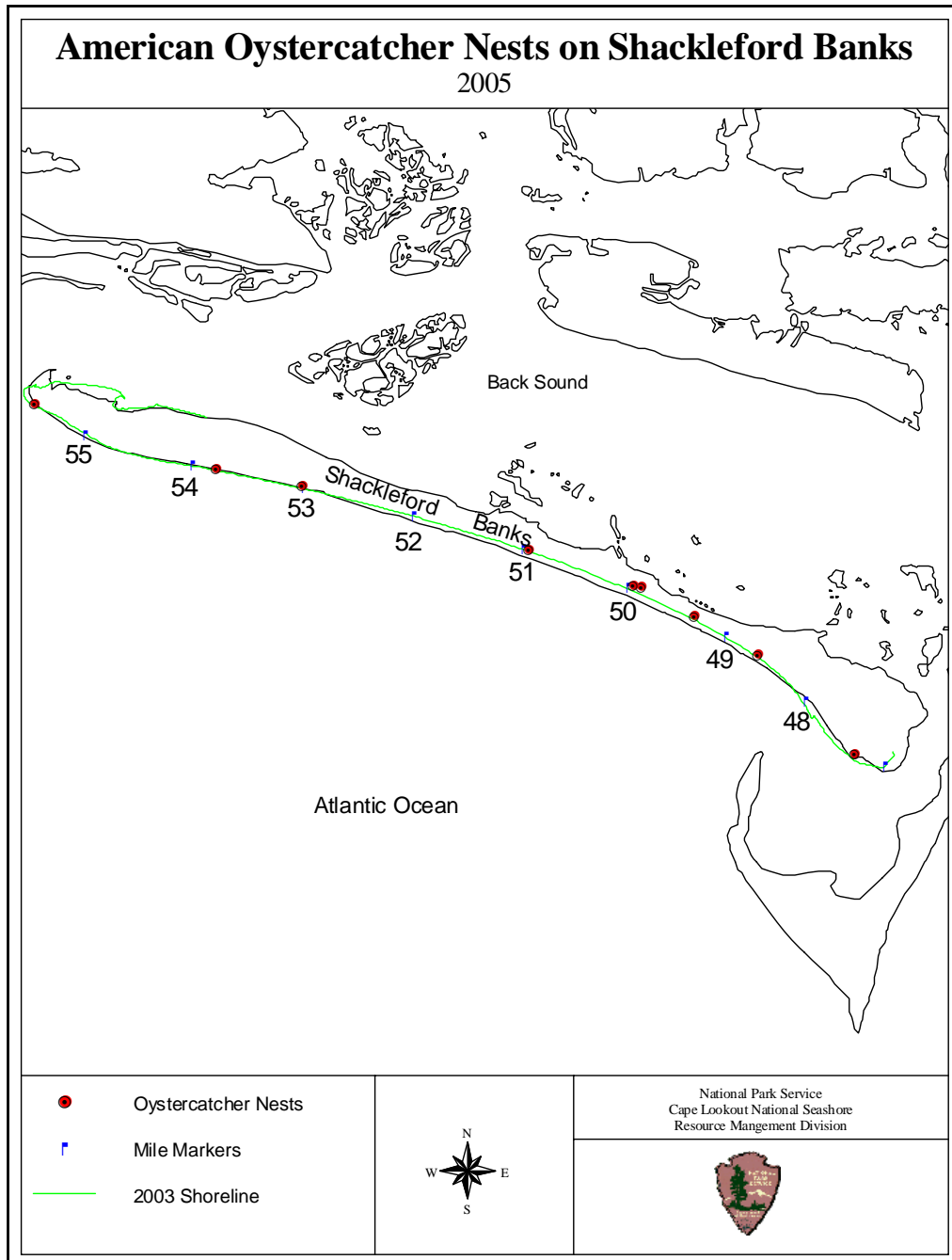


Figure 2.



Plot date: October 29, 2003 c:\gis\data\oystercatcher\amoy_2003.apr

Figure 3.



Plot date: October 29, 2003 c:\gis\data\oystercatcher\amoy_2003.apr

APPENDIX 1A AMERICAN OYSTERCATCHER NESTS- NORTH CORE BANKS-2005

#	PAIR	LOCATION	Eggs	Found	Date Lost	# Hatch	Date Hatch	Notes
1	NC01	NCB Mile 9.2	3	5/3	5/6	0		Nest Failure - Storm on 5/6/2005
2	NC02	NCB Mile 10.5	3	5/4		1	5/31	1 chick fledged 7/3;Radio on J1 - 166.3833
3	NC03	NCB Mile 9.9	3	5/7		3	6/3	Storm on 6/2-6/3 may have been responsible for chick death - one dead newly hatched chick found by nest
4	NC04	NCB Mile 15.5	2	5/17		2	6/13	2 chicks fledged 7/21;Radio on J2 - 166.4236, Radio on J3 - 166.4962
5	NC01	NCB Mile 9.8	3	5/17		2	6/15	One chick disappeared (radio signal gone), 2nd chick eaten by an owl (transmitter found below perch)
6	NC05	NCB Mile 3.8	2	5/17	5/20	0		Nest failure - eggs punctured by gulls
7	NC06	NCB Mile 0.2	3	5/17	6/3	0		Nest failure - cause unknown. No tracks or disturbance at nest
8	NC08	NCB Mile 6.8	2	5/23		1	6/14	1 chick fledged 7/20;Radio on J5 - 166.5705
9	NC08	NCB Mile 10.4	3	5/23		3	6/15	2 chicks run over by ATV in wrack line 6/17. 1 chick found in ghost crab burrow.
10	NC09	NCB Mile 2.0	1	5/23	5/25	0		Nest failure - egg punctured by gulls or crows
11	NC10	NCB Mile 8.8	3	5/23		2	6/14	1st chick disappeared (no signal from radio) 6/19. 2nd chick killed by owl just before fledging 7/21.
12	NC11	NCB Mile 5.5	3	5/24	5/27	0		Nest failure - eggs gone, crow tracks at nest
13	NC12	NCB Mile 3.3	1	5/24	6/5	0		Nest failure - cause unknown. Nest sanded over
14	NC13	NCB Mile 4.01	3	5/24	6/5	0		Nest failure - cause unknown. Nest sanded over
15	NC14	NCB Mile 12.2	1	5/24	6/5	0		Nest failure - cause unknown. Nest sanded over
16	NC15	NCB Mile 13.5	2	5/25	5/27	0		Nest failure - cause unknown.
17	NC16	NCB Mile 7.6	2	5/27		2	6/23	1 chick fledged 7/26;1 chick lost - unknown cause 6/30 (transmitter fell off). Radio on J6 - 166.0322
18	NC05	NCB Mile 3.6	2	6/5		1	6/26	Chick lost 6/29 before transmitter was attached
19	NC14	NCB Mile 4.01	2	6/18		2	7/13	1st chick disappeared 7/19 (no signal from radio). 2nd chick killed by cat 8/14 just before fledging
20	NC12	NCB Mile 6.01	2	6/23		2	7/3	1 chick fledged 8/5;1 chick lost 7/5 - injuries to head and back (siblicide?), 1 chick fledged. Radio on J7 - 166.5333

16 nesting pairs, 20 nests
 6 fledged chicks
 0.375 chicks fledged per pair
 Causes of nest failure:
 3 lost to avian predation
 1 lost to storm

5 lost to unknown causes
Total = 21 chicks (11 nests) 6 fledged from 5 different nests
 15 chicks lost prefledging
 2 lost to owl predation
 1 lost to cat predation
 3 lost to storm (assumed)
 5 lost to unknown causes
 2 lost to ATV
 1 lost to injuries (siblicide?)
 1 lost to ghost crab

APPENDIX 1B AMERICAN OYSTERCATCHER NESTS- MIDDLE CORE BANKS-2005

#	PAIR	LOCATION	Eggs	Found	Date Lost	# Hatch	Date Hatch	Notes
1	MC01	0.1 south of Old Drum Inlet	3	5/8		2	5/30	Fledged 2 chicks 7/4
2	MC02	1.39 miles south of Old Drum Inlet	3	5/8		3	5/25	Chicks lost 5/30
3	MC03	0.8 miles south of Old Drum Inlet	3	5/8	5/21	0		Failed, nest abandoned after storm
4	MC04	0.24 miles south of Old Drum inlet	3	5/8	5/13	0		Failed, unknown causes
5	MC04	0.23 miles south of Old Drum inlet	2	5/22	6/10	0		Failed, unknown causes
6	MC05	0.4 miles south of Old Drum inlet	3	5/25		3	6/19	Fledged 3 chicks 7/22
7	MC06	0.1 miles north of House	2	5/25	6/11	0		Failed, ghost crab
8	MC07	high beach at Old Drum inlet	3	5/26		3	6/15	Fledged 2 chicks 7/20
9	MC02	1.2 miles south of Old Drum Inlet	3	6/15		3	7/5	Fledged 2 chicks 8/10

7 nesting pairs, 9 chicks fledged - 1.286 chicks fledged per pair

Total = 8 nests

14 chicks hatched from 5 nests

Causes of nest failure:

1 lost to Ghost crab

1 abandoned after storm

2 lost to unknown causes

Total = 14 chicks (5 nests). 9 fledged from 4 different nests

5 chicks lost prefledging to unknown causes

APPENDIX 1C AMERICAN OYSTERCATCHER NESTS- SOUTH CORE BANKS-2005

#	MILE	LOCATION	FOUND	EGGS	POSTED	Latitude	Longitude	COMMENTS
1	38.0	Base of primary duneline	18-Apr	2	N	34.66594	-76.49273	Hatched 5/13
2	36.2	Flats west of backroad	18-Apr	3	N	34.68732	-76.47597	Lost to raccoon predation ~5/3
3	40.0	Beach berm	18-Apr	3	N	34.63995	-76.50899	Hatched 2 eggs 5/18
4	32.5	Base of primary duneline	21-Apr	3	N	34.73133	-76.43736	Lost to predation ~5/3
5	31.9	Flats	21-Apr	3	N	34.73804	-76.43132	Lost 5/18
6	23.0	Flats between dunes	21-Apr	2	N	34.83987	-76.33411	Lost 5/18
7	40.4	Flats east of backroad	21-Apr	2	N	34.63469	-76.51318	Lost to flooding 5/9
8	22.2	Flats between dunes	28-Apr	3	N	34.84842	-76.32567	Lost ~5/20
9	33.7	Beach berm	28-Apr	3	N	34.71632	-76.45008	Lost to predation 5/9
10	35.9	Base of primary duneline	29-Apr	3	N	34.69108	-76.47195	Hatched ~5/28, chicks lost
11	39.6	Side of primary dune	3-May	3	N	34.64490	-76.50644	Lost ~5/9
12	25.7	Base of primary duneline	3-May		N	34.80879	-76.36439	Lost 6/3
13	44.8	Beach berm	5-May	1	Y	34.59778	-76.53946	Hatched 5/18, fledged 1 chick
14	24.3	Flats in closure	11-May	2	N	34.82575	-76.34932	Lost 6/13
15	30.4	Flats between dunes	13-May	1	N	34.75549	-76.41574	Lost 5/22
16	37.1	Base of primary duneline	13-May	2	N	34.67631	-76.48399	1 egg hatched 6/10, chick lost
17	39.0	Flats next to backroad	13-May	3	N	34.65333	-76.50228	Run over by ATV 5/28
18	23.7	Flats in closure	18-May		N	34.83171	-76.34372	Lost ~5/25
19	40.3	Base of primary duneline	23-May	3	N	34.63615	-76.51149	Lost 6/10
20	32.6	Base of primary duneline	23-May	3	N	34.72958	-76.43885	Lost 6/10
21	46.5	top of dune	23-May	2	N	34.62074	-76.55378	Hatched 6/2, chicks lost
22	39.6	Base of primary duneline	28-May	2	N	34.64486	-76.50642	Hatched ~ 6/18, chicks lost
23	38.5	Flats between dunes	28-May	3	N	34.65918	-76.49813	Lost 6/10
24	28.0	Flats between dunes	4-Jun	3	N	34.78327	-76.39186	Lost 6/13
25	40.4	Base of primary duneline	24-Jun	1	N	34.63547	-76.51149	Lost to predation 7/2
26	47.0	nest not found	n/a		N			1 chick found 6/23, fledged by 7/11
27	33.9	Base of primary duneline	6-Jul	2	N	34.71477	-76.45137	hatched 7/12, 1 chick fledged 8/18
								Summary: 27 nests, 9 hatched
								3 chicks fledged

APPENDIX 1D AMERICAN OYSTERCATCHER NESTS- SHACKLEFORD BANKS-2005

#	MILE	LOCATION	FOUND	EGGS	POSTED	Latitude	Longitude	COMMENTS
1	49.9	flats between dunes	27-Apr	3	N	34.65808	-76.56814	nest lost to ghost crab predation 5/19; adult banded green E9
2	53.0	beach berm	27-Apr	3	N	34.67387	-76.62137	nest lost ;dog tracks around nest site
3	55.6	base of duneline	13-May	3	N	34.68692	-76.66328	nest lost; adult banded green E8
4	47.2	base of duneline	13-May	3	N	34.63192	-76.53478	nest lost
5	49.1	flats between dunes	31-May	1	N	34.65363	-76.55974	nest lost to ghost crab predation by 6/7
6	52.4	base of duneline	7-Jun	2	N			nest lost 6/14
7	48.7	grassy flats behind dunes	7-Jun	2	N	34.64747	-76.54993	nest lost by 6/14
8	50.0	flats between dunes	7-Jun	1	N	34.65846	-76.56937	nest lost 6/16; human tracks around nest
9	53.8	beach berm	9-Jun	2	N	34.67659	-76.63494	hatched 2 eggs; chicks lost
10	50.9	beach berm	9-Jun	2	N	34.66397	-76.58572	nest lost to ghost crab predation 6/28
								Summary: 10 nests, 1 hatched, 0 chicks fledged

