

NEGOTIATED RULEMAKING COMMITTEE
5th Regulatory Negotiation Meeting
Comfort Inn, Nags Head, NC

Draft Final Agenda
June 17-18, 2008

GOALS

- Review proposed approach on Carrying Capacity and determine next steps
- Introduce bird management background information by invited experts
- Invent ideas and options for protecting natural resources and access at Cape Point, and possibly other areas
- Update on socio-economic study
- Discuss further technical assistance
- Identify additional options for closures in front of Villages
- Develop and organize work over the summer leading up to September meeting
- Obtain input from the public
- Consider other topics, if time allows

DAY I

- 8:00 Breakfast
- 8:30 Welcome to All and Opening of the Meeting, *Mike Murray, NPS, Designated Federal Official (DFO)*
- 8:40 Review agenda, *Facilitators and Agenda Planning Committee*
Review and approve May meeting summary, *Facilitators*
- 9:00 Initial Background on Natural Resource Issues
- NPS and invited scientists
 - Overview of species (each 20 minutes)
 - Anne Hecht, Ted Simons, Mike Erwin
 - Questions and answers
- 10:30 Break
- 10:45 Initial Background on Natural Resource Issues (continued as needed)
- 12:00 Public Comment (3 minutes per person)
Specific comments are requested on the following --
- What are the most important questions the Committee should consider about carrying capacity and village closures?
 - What information does the Committee need to address these questions?
- 12:30 Lunch (*if there are additional public commenters, we will adjust the lunch time*)
- 1:30 Generate and Explore Ideas and Options for Natural Resource Protection and Access at **Cape Point**
- Facilitators and Agenda Planning Subcommittee introduce topic and format
 - Approach for this Discussion

- Identify and explore approaches consistent with the available science, NOT negotiating science or resource protection guidelines
- Offer ideas, suggestions, or options, NOT proposals
- Ideas, suggestions, and options are NOT commitments
- No consensus testing
- Never say never
- Saying no is not enough - what do you suggest that includes others' interests too?
- Invited experts included, if available
- Other?

3:00 Break

3:15 Continue Discussion

4:45 Summary of Day and Closing Remarks

5:00 Adjourn

6:30 Beach Tour of Bodie Island (meet at Oregon Inlet Fishing Center public boat launch parking area)

DAY II

8:00 Breakfast

8:30 Review of Day II Agenda

8:45 Update on and Discussion of Socio-Economic Study (Subcommittee)

10:00 Break

10:15 Follow-On Discussion from First Day, as needed

11:00 Carrying Capacity – furthering the discussion

- NPS overview of proposed approach (to be sent in writing to the Committee prior to the meeting)
- Discussion
- Next steps (Work Group over the summer?)

12:00 Public Comment

Specific comments are requested on the following --

- What ideas and options do you suggest for providing protection of natural resources and access on Cape Point?
- What information can you provide or does the Committee need to address these issues?

12:30 Lunch (*if there are additional public commenters, we will adjust the lunch time*)

1:30 Village Closures

- Identify and discuss options and ideas
- Next steps

- 2:15 Additional Topics, if time (see attachments for these potential topics)
- Designating Routes and Areas, Buxton to Ocracoke
 - Vehicle characteristics (including motorcycles issue)
 - Vehicle operations
 - ORV closures
 - Transportation Management
 - Education and Outreach
 - Night driving and lighting
 - Signage
 - Other?
- 2:45 Further Scientific Input/Assistance
- Purpose, interests for potential assistance
 - Link to the Committee's work and schedule
 - Resources to implement
 - Criteria for who assists
 - Other
- 3:20 Planning for future meetings
- Assign Work Groups and topics
 - Review draft Work Plan for remainder of year
 - Agenda topics for September meeting
 - Mid-Year Evaluation of Committee
 - Other?
- 3:45 Summary and Closing Remarks
- 4:00 Adjourn

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**Cape Hatteras National Seashore Negotiated Rulemaking
Meeting 4 – May 8-9, 2008
Nags Head, NC
*Draft Meeting Summary***

Summary of Consensus Agreements

The Cape Hatteras National Seashore Negotiated Rulemaking Committee reached consensus on the following during the meeting:

1. Approved the February and March meeting summaries. (9 May, pm)
2. Identified areas designated as open or closed to ORV use from Ramps 1 - 4. (8 May, pm)
3. Agreed to recommend to USFWS to continue with current management of Pea Island National Wildlife Refuge and to provide additional parking as feasible to protect the dunes from heavy wear. (8 May, pm)
4. Approved in principle one or more additional ramp(s) between Ramps 23 and 27, one additional ocean side bathhouse to be located at or between Ramps 23 and 27 (location and details to be determined) and additional parking at sound side 46. (8 May, pm)

Welcome to All and Opening of the Meeting

Mike Murray, Cape Hatteras National Seashore (CAHA) Superintendent and Committee member, opened the meeting in his capacity as the designated federal official (DFO) for the Cape Hatteras National Seashore Negotiated Rulemaking process. He welcomed everyone and gave an overview of the agenda items to be accomplished during the two-day meeting. As a cameraman was filming in the meeting room on May 8, the facilitators requested that Committee members be informed who is filming or photographing during committee meetings. Carolyn McCormick informed the Committee that he was from France 5 TV, was filming a documentary about climate change, and wanted to use meeting footage as an example of a community working collaboratively to address coastal issues. Though some concerns were voiced about the potential for the documentary to inaccurately represent stakeholder groups' views on climate change, the Committee did not object to the cameraman's presence.

Designating ORV Routes and Areas

Mike Murray provided an overview of the need to designate ORV routes and areas on CAHA. 36 CFR §4.10 (a) states that "operating a motor vehicle is prohibited except on park roads, in parking areas and on routes and areas designated for off-road motor vehicle use." Mr. Murray requested suggestions for a new system that would reduce user conflicts in which the Park would not be continually managing implementation of a large number of closure overlays on areas open to ORVs. If the Committee can designate these areas, they will go into the NEPA preferred alternative. Mr. Murray presented an overview of the work done on May 1 by the Designating Areas Workgroup, in which

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small, multi-stakeholder groups identified areas of agreement and disagreement on where ORVs should be allowed in CAHA and generated suggestions for additional ramps and interdunal roads. Committee members have a common interest in ensuring that a consensus package that becomes the preferred alternative in the NEPA process be legally, scientifically and practically defensible.

The Committee discussed the challenges of designating areas for ORV use. Committee members approached the designation of ORV routes and areas from different perspectives. Some Committee members wanted the Park to be managed by opening the seashore to ORVs and then identifying important natural resource overlays. Other Committee members stated that laws, policy and regulations indicate that the first priority for managing the Park is to protect natural resources and then identify the overlay of areas for public use and/or open to ORVs. They also noted the difficulty of making decisions about where ORV use would be appropriate in the absence of a resource management plan. They prefer an adaptive management approach, with clear goals and benchmarks based on an articulated set of assumptions about the current state, monitoring implementation to learn whether goals and decision making criteria are being met, and adjusting the plan to ensure that resource protection goals are being met. They suggested convening a panel of scientists to make recommendations about a natural resource baseline to the Committee.

Sandy Hamilton confirmed NPS' intention not to develop a separate resource management plan and to include applicable resource management plan components in the ORV management plan. Many Committee members expressed a desire for scientific advice and data and the need to address issues such as cost and legitimacy prior to convening a panel of experts.

The Committee then looked at different areas of the seashore using the Ranger District maps to identify areas of agreement and disagreement about areas that should or should not be open to ORVs. They focused on long-term ORV closures or open areas, and set aside areas where there was not agreement for the time being. A general caveat to the discussion was that any areas designated as open to ORVs also would be subject to temporary safety, natural resource, or village closures (details to be determined).

Map One: Bodie Island Ranger District Map 1 of 3

Consensus Agreement (8 May PM)

Ramp 1 – Ramp 4

- Repair Ramp 1, make it wide enough for two vehicles, and open it to ORV use down to the north edge of the Coquina Beach pedestrian only area.
- Move Ramp 2 south, perhaps ¼ mile, separating it from the Coquina Beach parking lot, and straighten it.

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- Create a pedestrian only use area of approximately one mile at Coquina Beach near the parking access to begin at the north edge of Ramp 2, and following Access Board standards.
- Area between Ramp 2-4 open for ORV access.
- NPS will consider public parking at the end of Bone Yard Road (sound side A).
- NPS will determine contractual arrangements with the Hunt Club on the second road (sound side B) and consider meeting current obligations then making that road public.

Suggestions

- Natural Resources
 - From Ramp 4 to terminus by Bait Pond may be important habitat for a variety of species
- Open to ORV Use
 - From Ramp 4 to the terminus by the Bait Pond (and what is currently the Oregon Inlet Bridge)
- Parking
 - Additional parking at Coquina Beach, north of existing parking

Map Two: Bodie Island Ranger District Map 2 of 3

Consensus Agreement

Pea Island National Wildlife Refuge (agreed to 8 May, pm)

- The Committee recommends that USFWS continue with current management of PINWR and provide additional parking as feasible to protect the dunes from heavy wear.

Suggestions

- Open to ORV Use
 - From southern edge of PINWR to bottom of map

Issue to be Resolved

- New boundary survey indicates no NPS property ownership north of Rodanthe Pier except for area between mean low tide and mean high tide. Beach management responsibility needs to be determined.

Map Three: Bodie Island Ranger District Map 3 of 3 and Hatteras Island Ranger District Map 1 of 4

Consensus Agreement in Principle (8 May PM)

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Ramp 23 – 27

- One or more additional ramp(s) between Ramps 23 and 27.
- One additional ocean side bathhouse to be located at or between Ramps 23 and 27, location and details to be determined.
- Additional parking at sound side 46.

Suggestions and Related Concerns

- Facilities
 - Improve signage for Salvo Day Use Area
 - Additional facilities at Salvo Day Use Area on ocean side
 - There's an existing bathhouse on sound side
 - Add facilities or bathhouses as appropriate at Ramps 23, 27 and 30
 - Consider weather patterns, water infrastructure when siting
 - Build a bathhouse ocean side at Proposed Ramp 28
 - Long walk to ocean
 - Build facilities at sound side 46 to serve multiple user groups like those at Canadian Hole
- Open to ORV Use
 - From top of map to bottom of map
 - From Ramp 23 or Ramp 27 to bottom of map (just below Ramp 30)
 - Sound side 46 sound side access
 - From just south of the Rodanthe Fishing Pier (if the beach accretes in front of Rodanthe Village) to the bottom of the map, ocean side and sound side
- Natural Resources
 - No significant natural resource concerns were identified between Ramps 23-27
 - Between Ramps 27-30 may be important habitat for a variety of species
- Parking
 - Increase parking at Ramp 23 and walkover
 - Increase parking at sound side 46
- Pedestrian Only Use Area(s)
 - Somewhere between Ramps 23-30
 - Somewhere south of Salvo
 - ½ mile from the south edge of Salvo to Ramp 23
 - Long walk from the Ramp 23 parking to the beach
 - Too close to PINWR, another area where ORVs are not allowed
 - Popular water sports area from Ramp 23 north to the shipwreck and an equal distance south
 - Between Ramps 27 - 30 – whole area or one mile
 - Beach is narrow, locate near Ramp 27

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- Proposed Ramp 26 to Ramp 27 (approximately one mile) – year round or seasonal
- Proposed Ramp 26 to sound side 46
- Ramps and Interdunal Roads
 - Additional ramps
 - Add interdunal road parallel to Highway 12 between Ramps 23-30, sited to minimize habitat damage
 - Highway 12 already provides an alternate route
 - Might disrupt view of ocean from Highway 12
 - NPS concerns about cumulative impact of new construction. May be less total impact if simply build new ramps and use Highway 12 as alternate route
 - Add interdunal road behind any pedestrian area put in place near Ramp 23 for village access if Salvo is seasonally open
 - Add ramp north of sound side 46
 - Additional use could impact current activity of duck hunting from the shoreline
 - Add three ramps between Ramps 23-27
 - Too many ramps for a four mile area
 - Avoid creating new ramps to areas where resource closures are likely

Options Tested

Various options were tested including:

- PINWR to Ramp 30 open to ORV use
- Any driving in front of villages dependent on village closure decisions, accretion and NPS jurisdiction
- A new ramp or ramps between Ramps 27-30
- One-mile pedestrian only use area, possibly between proposed Ramp 26 and Ramp 27
- Improvements including additional parking at sound side 46
- Setting aside: horseback riding, temporary closures, and carrying capacity for further discussion

The reasons for the disagreements included:

- Desire for some permanent closure or a different way to deal with this area
- Closing areas to ORV use without any gains for drivers
- A one-mile pedestrian only area is a problem, as the area between Ramps 23-27 is good for fishing, although it might be acceptable if there were three additional ramps north of Ramp 27 or if between Ramp 30 and Avon
- More information is needed about natural resource needs between Ramp 27-30

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Issues to be Resolved

- New boundary survey indicates no NPS property ownership north of Rodanthe Pier except for area between mean low tide and mean high tide. Beach management responsibility needs to be determined.

Map Four: Hatteras Island Ranger District Map 2 of 4***Suggestions***

- Facilities
 - None proposed
- Natural Resources
 - Ramp 30-34 may be important habitat for a variety of species
- Open to ORV Use
 - From top of map to Ramp 34
 - Area around Ramp 34
 - From proposed ramp at sound side 59 to the north
 - From southern border of Avon to sound side 59
 - From Avon to Buxton
- Parking
 - Additional parking in the Haulover parking lot
 - Additional parking at sound side 59
 - New sound side parking at Proposed Ramp 40 (just above Kite Point)
 - New parking south of Ramp 38, location to be determined
 - New parking just north of Buxton
- Pedestrian Only Use Area(s)
 - Near Ramp 34 to some point in Avon, approximately 1 mile long, partially in and partially out of the village, or to the Avon Pier
 - From Haulover to the north edge of Buxton
 - From sound side 59 to the south
 - From Proposed Ramp 40 (just above Kite Point) to the lighthouse jetties
 - From Buxton town line north one mile
 - At Haulover, ocean side, extending either north or south for one mile
- Ramps and Interdunal Roads
 - Add ramp at sound side 58, just north of Haulover (Proposed Ramp 39)
 - Add ramp just above Kite Point (Proposed Ramp 40)
 - Add ramp at sound side 59
 - Add ramp just north of Buxton (Proposed Ramp 41)

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Options Tested

Various options were tested including:

- Additional parking south of Ramp 38
- Add two new ramps, Proposed Ramp 39 and Proposed Ramp 40 just north of where the words Kite Point are written on the map
- Implement pedestrian only use areas from approximately one mile north of Buxton to the lighthouse jetties
- Improve parking at sound side 60
- Move Ramp 40 to approximately sound side 59
- Pedestrian only use area from Ramp 40's new location to the north edge of Buxton
- Increase parking just north of Buxton.

The reasons for the disagreements included:

- Permanently closing the area in front of the villages is not acceptable
- Need consistency in front of the villages
- Prefer Proposed Ramp 40 to be closer to the Haulover
- Prefer pedestrian only use area on the ocean side near Haulover instead of approximately one mile north of Buxton to the lighthouse jetties, making this a pedestrian only use area is not a gain for pedestrians.
- New parking between Haulover and Buxton may be in area prone to overwash/breach.

In addition to the location-specific discussion focusing on the maps, Committee members identified the following comments and questions regarding designating routes and areas.

General Design Considerations

- Facilities should be designed to serve multiple user groups whenever possible.
- When identifying pedestrian only use areas consider: location of other non-ORV areas, distance from beach, and possibility of changing designated pedestrian only use areas depending on usage; and meet the Access Board Standards.
- When designing new ramps, consider likely users and build and maintain appropriate ramps that include portable johns, parking, facilities, air stations, etc. as appropriate; and evaluate dune conditions and historical closures to identify good ramp locations.
- Areas of the beach open to ORVs should have access by ORVs as sometimes long segments of the beach formally open to ORVs are not really open due to surrounding closures.

Scientific

- Are there scientific reasons related to natural resource protection for closing areas on CAHA to ORVs year-round?
- What scientific information will serve as the best guidance for the Committee?
Options mentioned include: USGS Protocol B, USFWS recovery plan and

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guidance for managing Piping Plover, and the Interim Species Management Plan. These documents seek to answer different questions, consider different geographic areas, had different levels of public review and input, and focus on different species.

- Would additional ramps destabilize the man-made dune ridge system and create more east-west cut-throughs for the ocean?

Other

- The upcoming federal highway legislation could provide substantial, timely funding for improvements to parking, roads and ramps if submitted for consideration.
- If some ORV or pedestrian only areas do not seem to be used, when and how determine a change in status?
- How will horses be managed? There are businesses at risk due to ORV closures.

The Committee also discussed the effort at the meeting to designate routes and areas. Some Committee members questioned representatives of environmental and conservation groups about not being definitive whether particular areas on CAHA should be closed or open to ORVs. The reason derives from the different approaches to designating areas. The representatives of environmental and conservation groups and others on the Committee expected, based on the regulations, that the Committee would consider a resource conservation base with ORV overlays, rather than consider an ORV base with resource management overlays. The Committee needs to find a way to discuss and make decisions about natural resources related to ORV areas and routes soon, and there is a need to base decisions on sound science.

Some Committee members suggested dividing up the tasks among Committee members of developing recommendations for the June meeting relating to vehicular and driving-related topics, natural resource issues, and setting up a scientific review panel of government scientists to develop recommendations over the summer for the Committee to review in the fall. The Committee did not decide whether to do so and some members indicated a preference for different stakeholder groups to work on all issues.

Pete Benjamin noted that USFWS' Section 7 consultation used for the Interim Species Management Plan considered the narrow question of whether the proposed action would jeopardize the continued existence of the listed species or adversely modify species habitat. In evaluating a long-term ORV management plan, USFWS will examine whether NPS is taking an active role in the ultimate recovery of listed species.

Some Committee members representing pedestrian interests expressed support for keeping Buxton, Frisco and Hatteras as permanent pedestrian areas, and the hope that Dare County and NPS jointly will work to provide more parking and access points so those who cannot or choose not to drive onto the beach have access. They also support access by vehicles to critical areas of the beach if possible.

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Commercial Fishing under the Consent Decree

Michael Peele informed the Committee about some of the practical difficulties he has experienced fishing commercially under the terms of the Consent Decree. He requested that ORVs used for commercial fishing be considered “special purpose vehicles,” allowed to drive between high and low water line from Buxton to Frisco, and permitted to fish earlier than 6:00 am through May 20. Park staff committed to respond to Michael’s questions.

Committee Business

Committee Membership: The DFO has received several requests from Committee members for the removal of other members from the Committee. NPS will consider these requests and respond in writing. NPS has decided not to seek alternates for the two Committee principals who do not currently have approved alternates because of the lengthy approval process. Those principals are willing to work without alternates, and FACA does not require that each principal have an alternate.

Upcoming Meeting Schedule: The next Committee meeting is scheduled for June 17-18 at the Comfort Inn in Nags Head. Fall Committee meetings will be held September 8-9 (Avon Fire Hall), October 22-23 (Hatteras Village Civic Center), November 14-15 (Clarion Hotel in Kill Devil Hills), and December 11-12 (Avon Fire Hall). The Park will submit this information to the Federal Register for publication.

Negotiated Rulemaking Evaluation: The DOI Office of Collaboration and Dispute Resolution will be evaluating the negotiated rulemaking process after the June meeting at NPS’ request. They will be speaking with Committee members and others to determine whether the process is making progress and should continue.

Attendance: At the request of several Committee members, member attendance at reg neg meetings will now be recorded at the start of both the morning and the afternoon sessions. The Meeting Summaries will reflect the date and time block for consensus agreements. Committee members were reminded that pursuant to the Groundrules, if both the principal and the alternate are absent from a meeting in which consensus will be deliberated or decided, the absences will be equivalent to not dissenting, and consensus reached during the presence of an alternate and in the absence of a principal will be binding upon the principal.

Public Comments (May 8 and 9)

Jim Harris asked that litigants be removed from the Committee and that peer-reviewed science be used as the foundation of the Committee’s decisions, and shared his interest in creating bird habitat on Cape Point to entice birds from the east and south facing beaches.

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Ted Hamilton asked NPS when the public comments from the NEPA workbooks would be posted, suggested that NPS share all closure rules widely and asked why vehicles cannot be left, parked, on the beach overnight under the consent decree.

Ginny Luizer asked that the Committee advise NPS on flood control and habitat management.

Robert Alderman stated his dismay that due to the consent decree there is currently no pedestrian access to Cape Point.

Michael Stokes stated there should be pedestrian access through natural resource closures and vehicular access to areas in CAHA described as open, and litigants should be removed from the Committee. He also asked the Committee to base their decisions on science, consider economic impact, and open safe corridors around closures.

Carol Garris stated that the interests of human communities should come before individual financial interests and a hope that science will be the foundation of ORV-related management decisions on CAHA. Carol Garris and her daughters Jennifer and Allison, displayed items they carry to the beach in their vehicle, and stated how difficult it would be to carry them on foot. Carol stated that the Committee must prioritize local economics and that species can adapt to changing conditions. Jennifer Garris said she and her friends love using the beach and are sad they might not be able to, shuttle buses to the beach would be inconvenient, and closed beaches will put local businesses out of business. Allison Garris showed a sign asking how birds matter more than she does.

Sean Marsh described his fear that he and others won't be able to share with their children what their parents shared with them. He said it is difficult to imagine the current experience of local residents and that the Committee must follow its groundrules.

Wes Olinger stated that current closures prevent him from going to his wedding site, threaten the livelihood of local residents, and NPS must develop corridors around closures to allow ORV access to 'open' areas.

John Newbold said his business is down 31% this year, the current Superintendent is the best the Park has had, and certain Committee members should be removed from the Committee. During his comment, John asked one Committee member for his attention and to listen. The member replied that John should keep talking while he (the member) would be bored. The Committee member later said that his reply was out of order.

Steve Nagliano described being hemmed in on the beach and crowded into small spaces between natural resource closures.

Arch Bracher described the value of Cape Point for the fishing community worldwide and said an access corridor of 50 feet or so would remedy the situation of current closures that prevent birds, fishermen and businesses from coexisting as they have for the past fifty years.

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Summer Bracher said it is unreasonable and unfair that peoples' livelihoods are being threatened by the rights of the birds.

David Masters suggested that NPS find a way to post what is open and closed every few hours to prevent visitor trips to closed destinations.

Greg Roberts described the economic situation on the Outer Banks as fragile and tough, subject to extreme weather, and stated that the Committee must protect those who have, protected the beach from excessive development by preserving a traditional lifestyle.

Michael Berry expressed concern that management decisions in the consent decree were made behind closed doors. He said these decisions are having the unintended consequences of closing huge areas of CAHA to ORV use without scientific evidence requiring such measures. Another potential unintended consequence could include ORV drivers all using the same small areas of beach to the detriment of the natural system. He stated that the science in the USGS protocols comes from the best reports available, but that the closure distances are expert opinion and should be used as guidelines subject to management decisions on the ground rather than as standards from which NPS cannot deviate. He recommended that the Park create a panel of high-level government scientists to carry out a scientific review of the science that will be associated with the ORV management plan. He also indicated he would submit written comments to the Committee.

Responses to public comment by various Committee members included appreciation for the public's participation, concerns about the economic situation over the summer, a request that NPS staff on the ground not be blamed for implementing legally required closures, a request for people to share any relevant science with the Committee, and a request to the public to understand that the Committee is working on a long-term plan and cannot change or influence current management decisions.

Mike Murray thanked participants for their efforts and adjourned the meeting at 4:03pm.

Attachments

- A. Attendance
- B. Action Items
- C. Materials Distributed to the Committee

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Attachment A: Attendance

REG NEG COMMITTEE MEMBERS						
<u>Last Name</u>	<u>First Name</u>	<u>Seat</u>	<u>Organization</u>	<u>Principal or Alternate</u>	<u>May 8</u>	<u>May 9</u>
Allen	David	State Govt	NC Wildlife Res. Comm	P	AM & PM	AM & PM
Alley	John	User Groups/Open Access	Outer Banks Preservation Assoc	P	AM & PM	AM & PM
Ballance	Gene	County Govt	Hyde County, NC	A		AM & PM
Benjamin	Pete	Federal Govt	USFWS, Raleigh Field Office	P	AM & PM	AM & PM
Boucher	Carla	User Groups/ORV Use	United Four Wheel Drive Assoc	P	AM & PM	AM & PM
Bounds	Ronald	User Groups/Rec Fishing	United Mobile Sportfishermen	A	AM & PM	AM & PM
Broili	Thayer	Federal Govt	Cape Hatteras National Seashore	A	AM & PM	AM & PM
Cahoon	Renee	Tourism, Visitation & Business	Outer Banks Visitor Bureau	A	AM & PM	AM & PM
Carter	Derb	Enviro. & Nat. Res. Cons. (S/R)	Southern Enviro. Law Center	P	AM & PM	AM & PM
Couch	John	User Groups/Open Access	Outer Banks Preservation Assoc	A	AM & PM	AM & PM
Davis	Robert	User Groups/Rec Fishing	Cape Hatteras Anglers Club	A	AM & PM	AM & PM
Doerr	Patricia	User Groups/Rec Fishing	American Sportfishing Assoc	A	AM & PM	AM & PM
Duke	C.A.	Civic & Homeowner Assoc	Rodanthe-Waves-Salvo Cvc Assoc	P	AM & PM	AM & PM
Eakes	Bob	User Groups/Rec Fishing	American Sportfishing Assoc	P	AM & PM	AM & PM
Esham	David Scott	County Govt	Hyde County, NC	P	AM & PM	AM & PM
Folb	Frank	Civic & Homeowner Assoc	Avon Property Owners Assoc	P	AM & PM	AM & PM
Forman	Trip	Other User Group	Watersports Industry Association	P	AM & PM	
Foster	William	Commercial Fishermen	NC Fisheries Association	A	AM	
Golder	Walker	Enviro. & Nat. Res. Cons. (S/R)	Audubon North Carolina	P	AM & PM	AM & PM
Goodwin	David	Tourism, Visitation & Business	Cape Hatteras Business Allies	A	AM & PM	AM & PM
Hagedon	Sam	Tourism, Visitation & Business	Outer Banks Chamber of Comm	A	AM & PM	AM & PM
Hardham	Larry	User Groups/Rec Fishing	Cape Hatteras Anglers Club	P	AM & PM	AM & PM
Jarvis	Destry	Enviro. & Nat. Res. Cons. (N)	Ntrl Rsrc Defence Cncl & The Wilderness Soc	P	AM & PM	AM & PM
Joyner	David	User Groups/ORV Use	NC Beach Buggy Assoc	A	AM & PM	AM & PM
Judge	Warren	County Govt	Dare County	P	AM & PM	AM & PM

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REG NEG COMMITTEE MEMBERS						
<u>Last Name</u>	<u>First Name</u>	<u>Seat</u>	<u>Organization</u>	<u>Principal or Alternate</u>	<u>May 8</u>	<u>May 9</u>
Kayota	Steven	Civic & Homeowner Assoc	Hatteras Island Homeowners Coalition	P	AM & PM	AM & PM
Keene	Jim	User Groups/ORV Use	NC Beach Buggy Assoc	P	AM & PM	AM & PM
Kingery	Roy	Civic & Homeowner Assoc	Hatteras Village Civic Assoc	P	AM & PM	AM & PM
Leggat	Scott	Tourism, Visitation & Business	Outer Banks Chamber of Comm	P	AM & PM	AM & PM
Lyons	Jim	Other User Group	Cape Hatteras Recreation Alliance	P	AM & PM	AM & PM
Maddock	Sidney	Enviro. & Nat. Res. Cons. (S/R)	National Audubon Society	A	AM & PM	AM & PM
Mathis	Wayne	State Govt	NC Marine Fisheries Commission	P	AM & PM	AM & PM
McCall	Aaron	Enviro. & Nat. Res. Cons. (N)	The Nature Conservancy	A	AM & PM	AM & PM
McCormick	Carolyn	Tourism, Visitation & Business	Outer Banks Visitor Bureau	P	AM & PM	AM & PM
Milne	Robert	Enviro. & Nat. Res. Cons. (N)	Coalition of NPS Retirees	P	AM & PM	AM & PM
Moore	Raymond Neal	Other User Group	Cape Hatteras Bird Club	A	AM & PM	AM & PM
Murray	Michael	Federal Govt	Cape Hatteras National Seashore	P	AM & PM	AM & PM
Nuzzo	Matt	Other User Group	Watersports Industry Association	A		AM & PM
Paquette	Patrick	User Groups/Rec Fishing	Recreational Fishing Alliance	P	AM & PM	AM & PM
Pearsall	Sam	Enviro. & Nat. Res. Cons. (N)	The Nature Conservancy	P	AM & PM	AM & PM
Peele	Michael	Commercial Fishermen	NC Fisheries Association	P	AM & PM	AM
Piner	Lyle	User Groups/ORV Use	United Four Wheel Drive Assoc	A	AM & PM	AM & PM
Rabon	David	Federal Govt	USFWS, Raleigh Field Office	A	AM & PM	AM & PM
Rettie	Dwight	Enviro. & Nat. Res. Cons. (N)	Coalition of NPS Retirees	A	AM & PM	AM & PM
Rylander	Jason	Enviro. & Nat. Res. Cons.(N)	Defenders of Wildlife	P	AM & PM	AM & PM
Sanguineti	Vincenzo	Civic & Homeowner Assoc	Hatteras Island Homeowners Coalition	A	AM & PM	AM & PM
Swartwood	Judy	Tourism, Visitation & Business	Cape Hatteras Business Allies	P	AM & PM	AM & PM
Wells	Jeffrey	Civic & Homeowner Assoc	Hatteras Landing Homeowners Assoc	P	AM & PM	AM & PM
Weston	Pat	Civic & Homeowner Assoc	Grtr Kinnakeet Shores Homeowners Inc	A	AM & PM	AM & PM
Winslow	Sara	State Govt	NC Marine Fisheries Comm	A	AM & PM	AM & PM

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REG NEG COMMITTEE MEMBERS						
<u>Last Name</u>	<u>First Name</u>	<u>Seat</u>	<u>Organization</u>	<u>Principal or Alternate</u>	<u>May 8</u>	<u>May 9</u>
Wrenn	Lee	County Govt	Dare County	A	AM & PM	AM & PM

AGENCY AND OTHER STAFF				
<u>Last Name</u>	<u>First Name</u>	<u>Organization</u>	<u>May 8</u>	<u>May 9</u>
Hamilton	Sandra	NPS	AM & PM	AM & PM
Holda	Cyndy	NPS	AM & PM	AM & PM
Waanders	Jason	Office of the Solicitor	AM & PM	AM & PM
Ferguson	Ona	CBI	AM & PM	AM & PM
Field	Pat	CBI	AM & PM	AM & PM
Fisher	Robert	Fisher Collaborative Services	AM & PM	AM & PM

MEMBERS OF THE PUBLIC				
<u>Last Name</u>	<u>First Name</u>	<u>Organization</u>	<u>Made Public Comment?</u>	<u>Date Present</u>
Alderman	Robert		Y	May 8
Berry	Sharon	Citizen		May 8 & 9
Berry	Mike	Writer	N Y	May 8 & 9
Bracher	Arch	Self	Y	May 9
Bracher	Summer	Citizen & self	Y	May 9
Ebert	Jim	Self		May 8 & 9
Garris	Carol		Y Y	May 8 & 9
Garris	Jennifer	Self	Y	May 9
Garris	Scott	Self		May 9
Garris	Allison	Self	Y	May 9
Haley	Shane	Self		May 9
Hamilton	Ted	Self	Y Y	May 8 & 9
Harris	Jim	Self	Y Y	May 8 & 9
Hayes	Mike			May 8 & 9
Luizer	Ginny	Self	Y	May 8
Marsh	Sean			May 8
Masters	David	Self	Y	May 9
Moore	Pat	Self		May 8 & 9
Mortensen	John			May 8
Nagliano	Steve		Y	May 8
Newbold	John		Y	May 8
Olinger	Wes		Y	May 8
Outten	Bobby	Dare County Attorney		May 8
Roberts	Greg	Self	Y	May 9
Stokes	Michael	Public	Y Y	May 8 & 9
Story	Tim	Outer Banks Fishing Charters		May 9
Swartz	Dolores	Avon Resident		May 8
Swartz	Neil	Avon Resident		May 8
Thomas	Nevin	Self		May 8 & 9
Walls	Jim	Self		May 9

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Attachment B:**Cape Hatteras National Seashore Negotiated Rulemaking****Meeting 4 – May 8-9, 2008******Draft Summary of Action Items***

Task	From	To	Deadline
Distribute Action Item list from Meeting 4.	CBI	Committee	Done
Respond to Michael Peele's questions about possible changes to commercial access under the consent decree.	NPS	Michael Peele	May (ASAP)
Send out final approved Meeting 2 and Meeting 3 summaries.	CBI	Committee	May 16, 2008
Provide documentation when beach driving on PINWR stopped and by what authority (sent).	NPS	Committee	May 13, 2008
Provide seasonal rates from various realtors to help inform village closure discussion (completed and available for dissemination).	CBI	Committee	May 16, 2008
Determine federal requirement on whether motorcycles can be treated differently from other vehicles (completed and available for dissemination)	DOI Solicitor's Office	Committee	May 16, 2008
Respond to questions regarding water users such as kiteboarding, kayaking, etc. in resource closure areas.	NPS	Committee	May 31, 2008
Post NEPA workbook executive summary on PEPC and notify Committee.	NPS	Committee	May 31, 2008
Socioeconomic Analysis Subcommittee meeting (by phone or in person).	CBI/NPS		Prior to June meeting
Keep facilitators informed of subgroup activity.	Committee	CBI	ongoing
Prepare and distribute draft Meeting 4 summary.	CBI	Committee	June 2, 2008
Develop and distribute draft agenda for June meeting.	Agenda Planning Subcommittee	Committee	June 10, 2008
Review draft Meeting 4 summary and submit comments.	Committee	CBI	June 16, 2008
Determine compatible uses regarding providing public parking on Pea Island National Wildlife Refuge, if public can use administrative parking lot, and parking space plans in comprehensive conservation plan, if any.	FWS to FWS Refuge	Committee	June meeting
Check contractual obligations to Hunt Club affecting access.	NPS	Committee	June meeting
Draft proposed approach to ORV safety closures and consider reopening criteria.	CBI/NPS	Committee	June meeting
Respond to letters regarding members on the Committee.	NPS	Committee	June meeting

*Action items not completed from previous meetings are carried forward into the most current action item list.

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Attachment C:

**Cape Hatteras National Seashore Negotiated Rulemaking
Meeting 4 – May 8-9, 2008
*Materials Distributed***

1. Draft Final Agenda, dated April 18, 2008.
2. Draft Meeting 2 Summary, dated April 29, 2008.
3. Draft Meeting 3 Summary, dated April 29, 2008.
4. Designating Routes and Areas Workgroup Summary, revised May 7, 2008.
5. Cape Hatteras National Seashore Baseline maps, undated.
6. Document entitled “An Alternative for Managing the Impacts of ORV While Allowing Vehicular Access” from Destry Jarvis.
7. Letter from Michael Peele addressed to the Committee and NPS.

6/13/08

**Cape Hatteras National Seashore Negotiated Rulemaking
Meeting 4 – May 8-9, 2008
Nags Head, NC**

Changes to the June 3, 2008 Draft Summary based on Committee Feedback

Location	Change
Page 3, Map 2	Added New Heading -- “Issue to be Resolved” and “New boundary survey indicates no NPS property ownership north of Rodanthe Pier except for area between mean low tide and mean high tide. Beach management responsibility needs to be determined.”
Page 4, Map 3 • Open to ORV Use	Deleted “Mike Murray said he expected that any beach between mean high tide and mean low tide would fall into NPS jurisdiction, and that it is not clear if NPS would have jurisdiction from there for 500’.”
Page 5, Map 3 • Ramps and Interdunal Roads ○ Add interdunal road parallel to Highway 12 between Ramps 23-30, sited to minimize habitat damage	Added New Bullet: “NPS concerns about cumulative impact of new construction. May be less total impact if simply build new ramps and use Highway 12 as alternate route”
Page 5, Map 3 • Ramps and Interdunal Roads ○ Add ramp north of sound side 46”	Revised bullet to read “Additional use could impact current activity of duck hunting from the shoreline” instead of “Additional use could impact duck hunting”
Page 5, Map 3	Added New Heading -- “Issue to be Resolved” and “New boundary survey indicates no NPS property ownership north of Rodanthe Pier except for area between mean low tide and mean high tide. Beach management responsibility needs to be determined.”
Page 7, Map 4 Options Tested - the reasons for the disagreements included	Added new bullet: “New parking between Haulover and Buxton may be in area prone to overwash/breach.”
Page 7 Scientific Last Bullet	Substituted “man-made dune ridge” for “natural” to read - “Would additional ramps destabilize the man-made dune ridge system and create more east-west cut-throughs for the ocean?”
Page 10, Public Comment John Newbold Paragraph Last Sentence	Substituted “that his reply” for “this comment” to read - - “The Committee member later said that his reply was out of order”
Page 10, Public Comment David Masters Paragraph	Grammatical change: added “to” before “post”
Page 12, Attendance List	Thayer Broili: changed to reflect he also was present on the morning of May 8.

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**Cape Hatteras National Seashore Negotiated Rulemaking
Proposed Work Plan**

DATE	NEPA	AGENDA TOPICS	WHO	DETAILS
May/June	NPS working on NEPA alternatives	• Natural Resources	Caucuses	<ul style="list-style-type: none"> • Prepare for June Committee meeting regarding natural resource and access options on Cape Point. • Consider ideas for technical panel for Fall
			NPS	<ul style="list-style-type: none"> • Invite experts, if available, and distribute natural resource data
		• Socio-Economic Impacts	Sub-committee	<ul style="list-style-type: none"> • Discuss implications of peer review for NEPA socio-economic work • Update from NPS/contractor on NEPA socio-economic work, and business and visitor surveys
		• Carrying capacity	NPS	<ul style="list-style-type: none"> • Prepare short memo on NPS proposed approach on this subject
June 17/18		<ul style="list-style-type: none"> • Natural Resource Areas (8) • Other Routes and Areas designation (2) • Other Issues, as time allows (2) 	Committee	<ul style="list-style-type: none"> • Discuss Cape Point and access/natural resource issues • Discuss potential technical/science panel • Consider other proposals for routes/areas not covered in previous meeting and not natural resource area priorities • Updates on Safety/Village closures and approach to carrying capacity • Update on Socio-Economic work • Lay out work for summer
Following June reg-neg meeting		• Process Evaluation	CADR	<ul style="list-style-type: none"> • DOI office initiates Mid-Year evaluation of the Committee (CADR is Office of Collaborative Action and Dispute Resolution)
July and/or August	NPS releases NEPA alternatives (except for	• Natural Resource Areas	NPS/Facil	<ul style="list-style-type: none"> • Potentially identify/organize Expert Technical/Science Panel

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DATE	NEPA	AGENDA TOPICS	WHO	DETAILS
	Committee alternative, when developed)			
		• Socio-Economic Impacts	Sub-committee	<ul style="list-style-type: none"> • Meet via phone to discuss/consider on-going work of NPS consultant, and to develop a standardized reporting process and format to document economic impacts of implementing the consent decree • Other topics as needed
		• Permits, passes, fees	Work Group	<ul style="list-style-type: none"> • Identify the purpose/intent of possible permit/pass or other system • Identify the criteria for devising the approach • Develop one or more management options • Consider costs/fees
		• Carrying Capacity	Work Group/NPS	<ul style="list-style-type: none"> • Discuss proposed NPS approach
		• Outreach, education, signage and maps	Work Group	<ul style="list-style-type: none"> • Discuss issues • Develop options and ideas
Sept 8/9	NPS works on impact analysis of NEPA alternatives (continues through Fall)	<ul style="list-style-type: none"> • Natural Resource Areas (7) • Other Routes and Areas designation (1) • Report back from work groups (4) 	Committee	<ul style="list-style-type: none"> • Discuss natural resource areas beyond Cape Point • Discuss further routes and areas designations • Discuss further natural resource areas and management options • Report back from work groups
Oct 22/23		<ul style="list-style-type: none"> • Natural Resources (6) • Carrying Capacity 	Committee	<ul style="list-style-type: none"> • Potential Technical/Science panel reviews Committee's management options, offers advice and answers questions developed by Committee

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06/13/08

DATE	NEPA	AGENDA TOPICS	WHO	DETAILS
		(1.5) • Permits/Passes/Fees (1.5) • Temporary closures (village & ORV safety) (1.5) • Education, outreach, signage (1.5)		• Discuss and respond to work group issues on a number of issues
Nov. 14/15	NPS shares preliminary impact analysis of NEPA alternatives (continues through Fall)	• Volunteers, patrols, monitoring (2) • Vehicle operations & characteristics (2) • Discuss other specific issues further (8)	Committee	• Continue to detail issues and ideas
		• Prepare write ups of draft agreements and options	Facilitators	• Write-ups of agreements reached or narrowed options generated will be provided on each issue area discussed to date
Dec 11/12		• Discuss specific issues further	Committee	• Continue to detail issues and ideas
		• Prepare write ups of draft agreements and options	Facilitators	• Write-ups of agreements reached or narrowed options generated will be provide on each issue area discussed to date
Early January 2009		• Negotiate package on preferred alternative	Committee	• Seek to finalize package on preferred alternative

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DATE	NEPA	AGENDA TOPICS	WHO	DETAILS
		• Distribute draft package preferred alternative in writing	Facilitators	• From early January "package" discussion develop draft agreement with remaining open issues/options and distribute to Committee
Mid January 2009		• Finalize package of preferred alternative	Committee	• Craft final consensus preferred alternative for NEPA analysis
January 31, 2008		• Final, written document to NPS	Committee	• Final consensus preferred alternative submitted to NPS for final impact analysis
February 2009	Continue impact analysis on preferred (Committee) alternative to the extent needed			
Spring	Finalize impact analysis and prepare DEIS for NPS/DOI review	• Discuss impact analysis of preferred alternative, if needed	Committee	• Committee discusses impact analysis of preferred alternative IF the analysis requires a revision to the alternative
	Prepare draft rule	• Review rule's consistency with Committee's recommendation	Committee	• Review electronically or otherwise draft rule written by NPS regulation writing contractor for consistency with Committee's recommendation
Summer 2009	NPS/DOI review & approval of DEIS for public release			

4

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06/13/08

DATE	NEPA	AGENDA TOPICS	WHO	DETAILS
Fall 2009	Release of DEIS and proposed rule and public comment period			
Jan - March 2010	Analysis of public comment	• Discuss public comment	Committee	• Committee discusses public comment and revises preferred alternative if and as needed
April to December 2010	Finalize EIS and Management Plan			•
December 31, 2010	Final ORV Management Plan			• Complete ORV Management Plan, as agreed to in the Consent Decree
April 1, 2011	Final rule			• Promulgate final rule as agreed to in the Consent Decree



Conservation of the Atlantic Coast Piping Plover

Anne Hecht

U.S. Fish and Wildlife Service

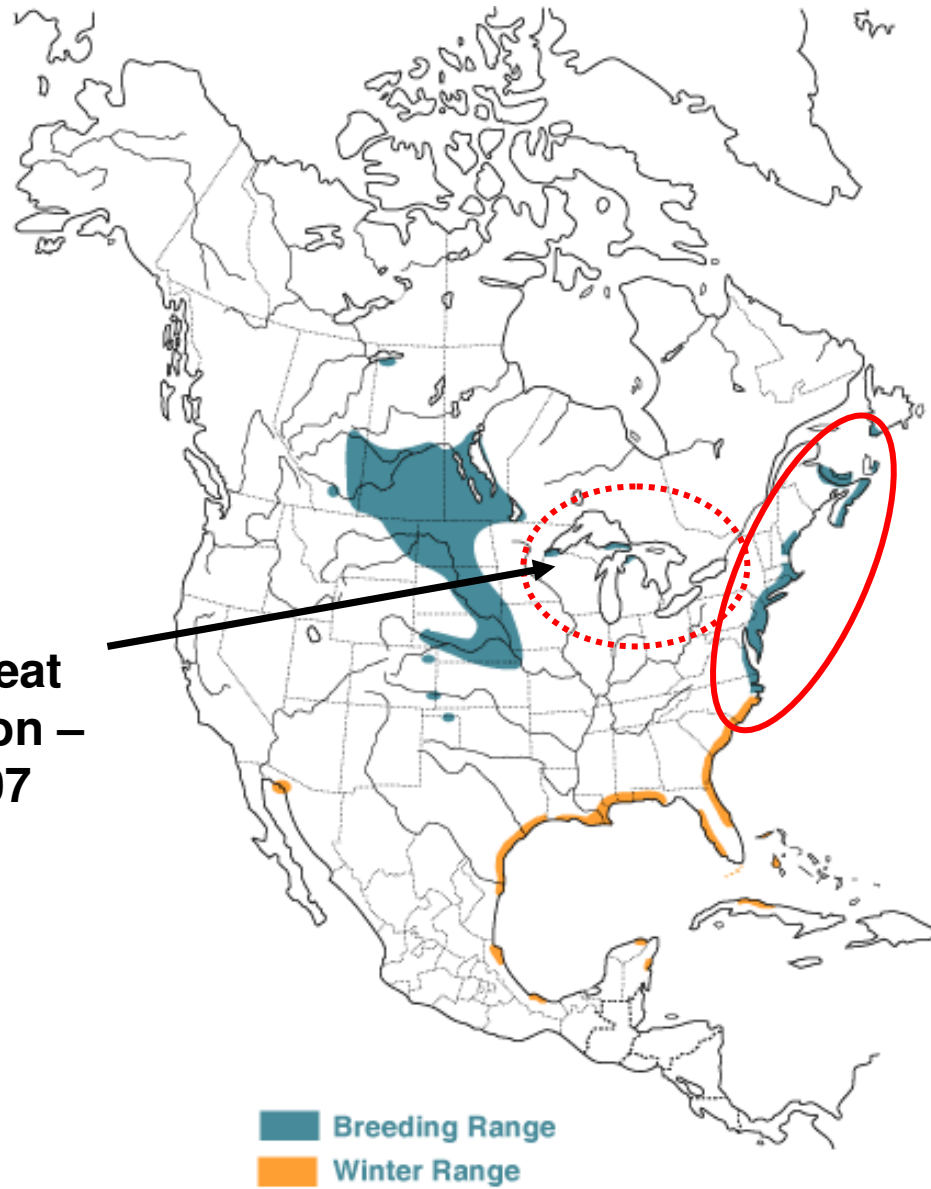
0074893



Credit: Haig and Elliott-Smith(2004). *The Birds of North America Online*.

0074894

**Endangered Great
Lakes Population –
~63 pairs in 2007**



Credit: Haig and Elliott-Smith(2004). *The Birds of North America Online*.

0074895



Suzi Fox

0074896



Richard Kuzminski

0074897



Richard Kuzminski

0074898



Laurie MacIvor

0074899



Laurie MacIvor

0074900



USFWS photo

0074901



USFWS photo

0074902



Richard Kuzminski

0074903



Peter Trull



Richard Kuzminski



Piping Plover Courtship Behaviors

- Parallel runs (up to 100 meters), aerial displays, tilt displays, vocalizations
- Multiple scrapes (nests)
- Full-time incubation usually commences with 3rd or 4th egg
- Detailed descriptions in Cairns (1982 and 1977)



Richard Kuzminski

Flushing Distances

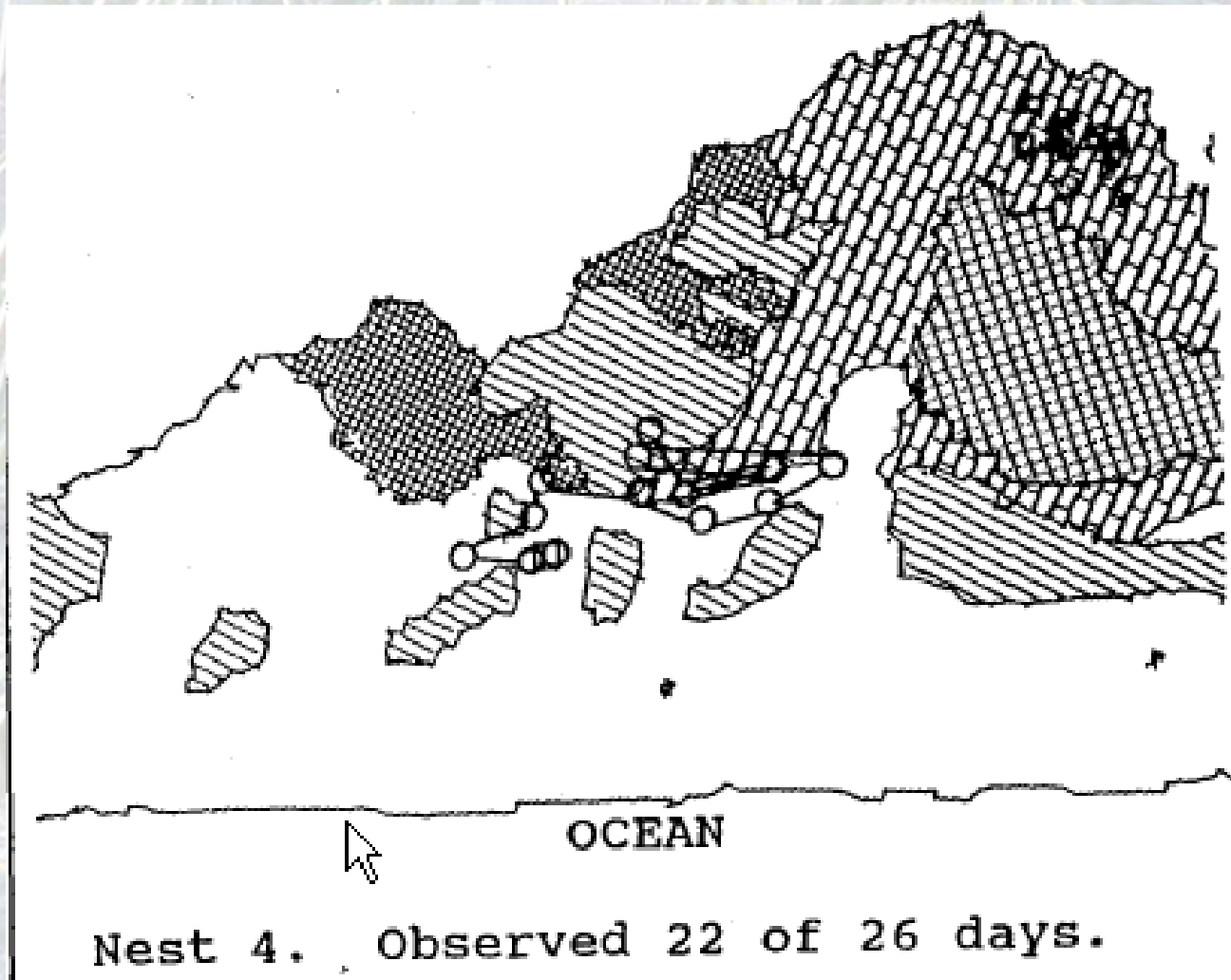
(incubating birds, pedestrians)

- Table 3, 1996 Atlantic Coast Piping Plover Recovery Plan summarizes 5 studies with data for incubating plovers, 2 studies with data for non-incubating birds

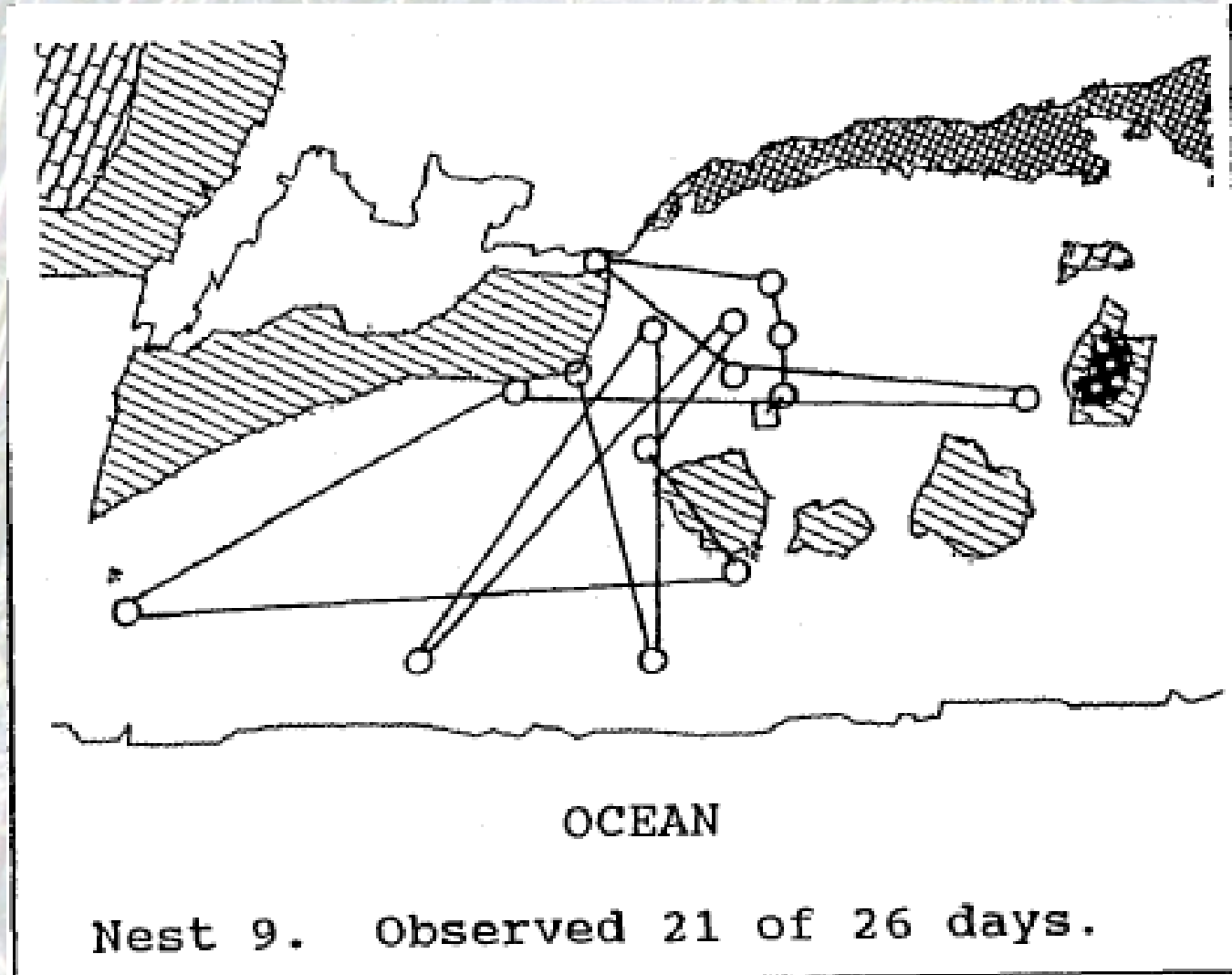
Flushing distances for incubating piping plovers, Southern Recovery Unit

	Mean (m)	Range (m)	n (sample size)
Loegering 1992 (MD)	78	20 - 174	43 nests
Cross 1996 (VA)	32	2 – 120 (excluding one extreme outlier)	613 instances, 112 nests
Cross and Terwillinger 1993 (VA)	58	6 - 183	201 nests

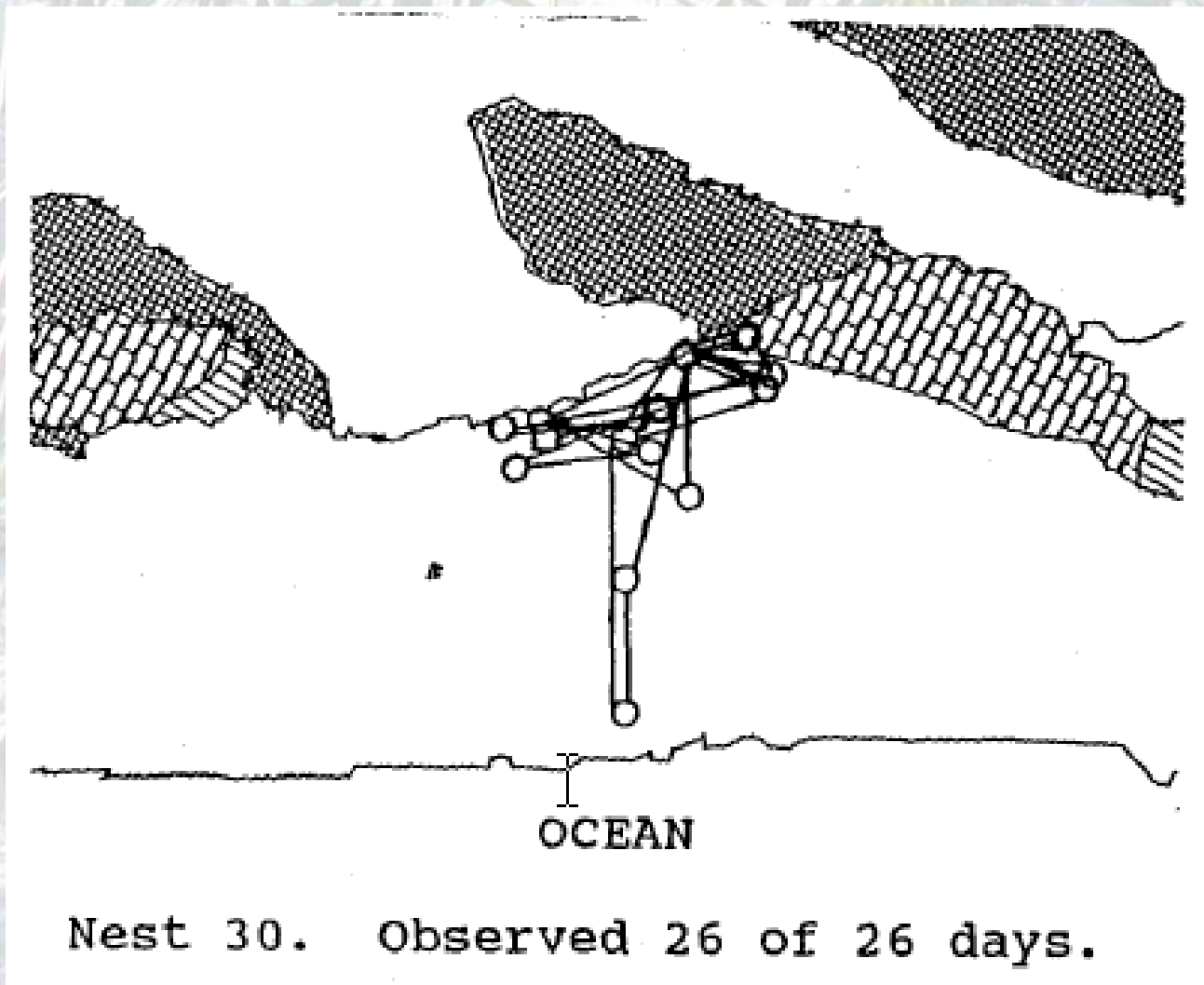
Brood movements, Assateague Island Seashore, 1993



Brood movements, Assateague Island Seashore, 1993



Brood movements, Assateague Island Seashore, 1993



Habitat use by chick age class interval, Assateague Island Seashore, 1993

(from NPS & Maryland DNR, 1993, table 8)

Age class (days)	No. observations	Ocean beach	
		No. observations	Percent of observations for age class
0-5	85	2	2
6-10	75	4	5
11-15	74	5	7
16-20	67	7	10
21-25	60	4	7

0074910

Observed movements of broods, Overwash Zone, Chincoteague Refuge, Virginia, 2004

Brood Number	Date in intertidal zone	Time observed	# of Chicks Observed	Date obsrved back in overwash zone	Time observed in overwash	Age of Chicks (days)
OV 04/06	6/12	1006	3	6/12	1850	12
OV 07/23	7/5	1615	2	7/5	1832	19
OV 07/23	7/6	615	2	7/6	1830	20
OV 08/24	6/9	848	3	6/9	1800	2
OV 08/24	6/20	1846	3	6/21	950	14
OV 08/24	6/23	1130, 1152	3	6/24	731	17
OV 08/24	6/26	1355, 1511	3	6/26	1723	20
OV 08/24	6/28	1553	3	6/28	1553	22
OV 08/24	6/30	615	3	6/30	1737	24
OV 09/28	6/19	1000	2	6/19	1842	1
OV 09/28	6/20	1120, 1354	3	6/20	1537	2
	6/20	1634, 1713, 1914	3			2
OV 09/28	6/21	0650, 1015, 1220, 1508, 1720	3	6/21	1730	3
OV 09/28	7/9	604	2	7/9	626	21
OV 10/33	6/20	0840, 1913	3	6/21	729	14
OV 11/44	6/27	803	3	6/27	1816	8
OV 11/44	7/5	1906, 1934	3	7/6	604	16
OV 11/44	7/6	1811	3	7/7	552	17
OV 11/44	7/7	0708, 0934	3			18
OV 11/44	7/8	600	3	7/8	1745	19

Piping plover chick mobility

- Table 1, 1996 Atlantic Coast Piping Plover Recovery Plan summarizes data from 6 studies

Table 6. Average distance (meters) piping plover broods were observed from nests on Cape Hatteras National Seashore 1989.

	# of Broods	# of Obs.	\bar{x} (m)	SE	Min. Value	Max. Value
Cape Point	7	37	133	120	0	435
Hatteras Spit	1	6	335	32	322	400
Ocracoke	3	45	261	183	0	725
TOTAL	11	88	212	167	0	725

From Coutu et al. 1990; 5 chicks survived >10 days

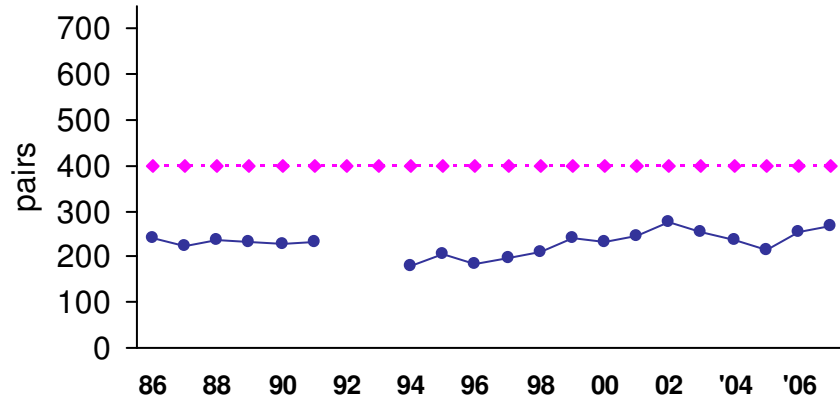
2007 Annual Piping Plover Report, Cape Hatteras National Seashore

- “The brood from Nest 5 moved ~900 feet from the nest enclosure...”
- “The four chicks from Brood 7 on Ocracoke moved approximately 2000 feet...”
- After Brood 9 hatched, the adults and the surviving chick move more than 1,600 feet east ...

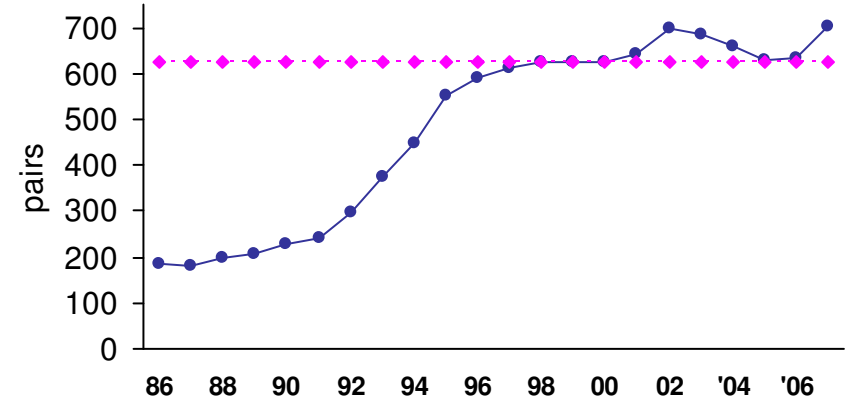
0074913

Breeding Pairs, 1986-2007

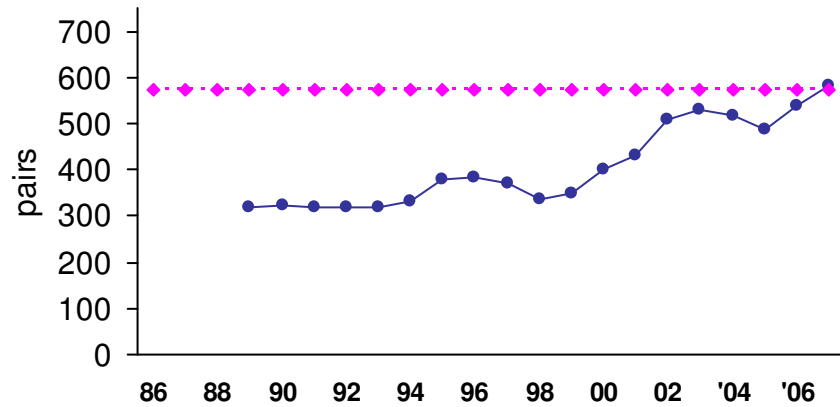
Eastern Canada



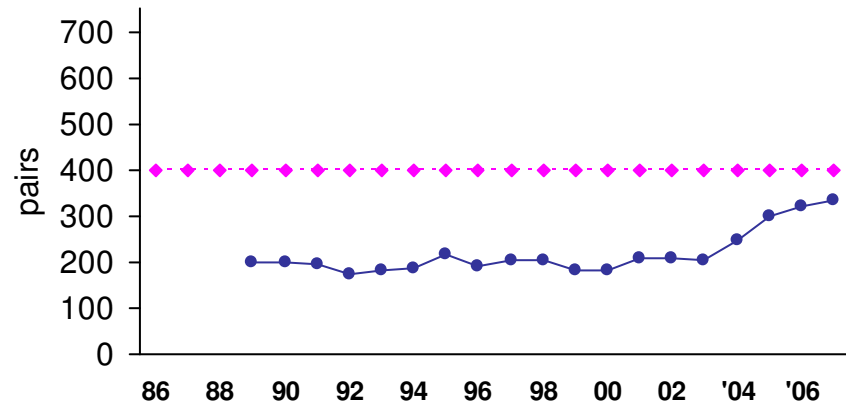
New England



NY-NJ



Southern



Prognosis

- Decreasing near-term extinction risk, *but*:
 - Unrelenting pervasive threats
 - Wide-ranging, sparsely-distributed species
 - Labor-intensive protection activities

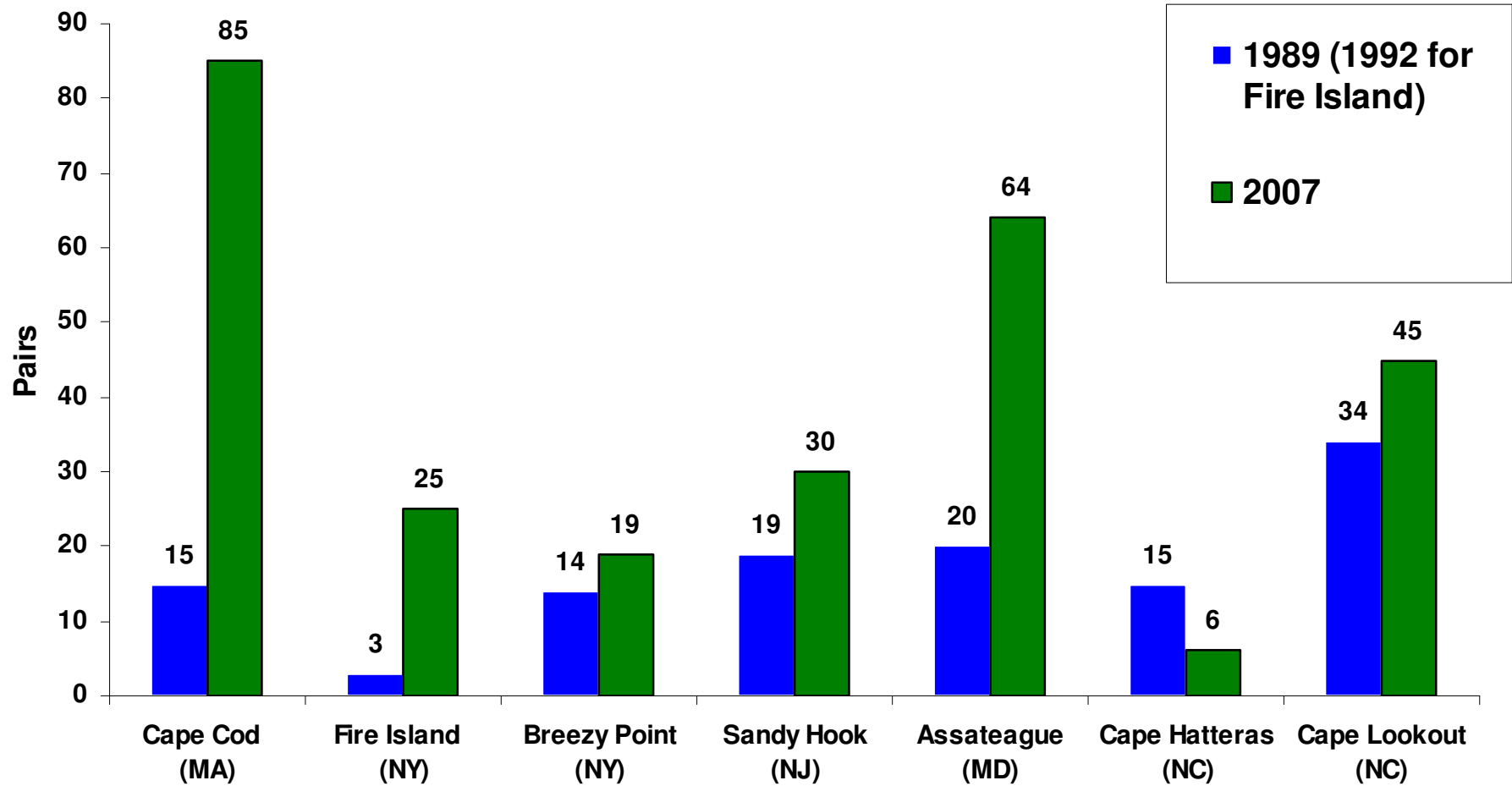
Five Delisting Criteria

1. 2000 pairs for five years distributed among four recovery units:
 - Atlantic Canada: 400 pairs
 - New England: 625 pairs
 - New York-New Jersey: 575 pairs
 - **Southern: 400 pairs**

Delisting Criteria

2. Verify adequacy of 2000 pairs to maintain long-term heterozygosity and allelic diversity
3. 5-year avg. productivity of 1.5 chicks per pair in each recovery unit
4. **Long-term agreements to ensure protection and management sufficient to maintain criteria 1 and 3**
5. Long-term maintenance of wintering habitat to maintain survival rates for a 2000 pair population

Abundance of Breeding Piping Plovers, Atlantic Coast National Park Service Units



Supplementary slides used in Q&A

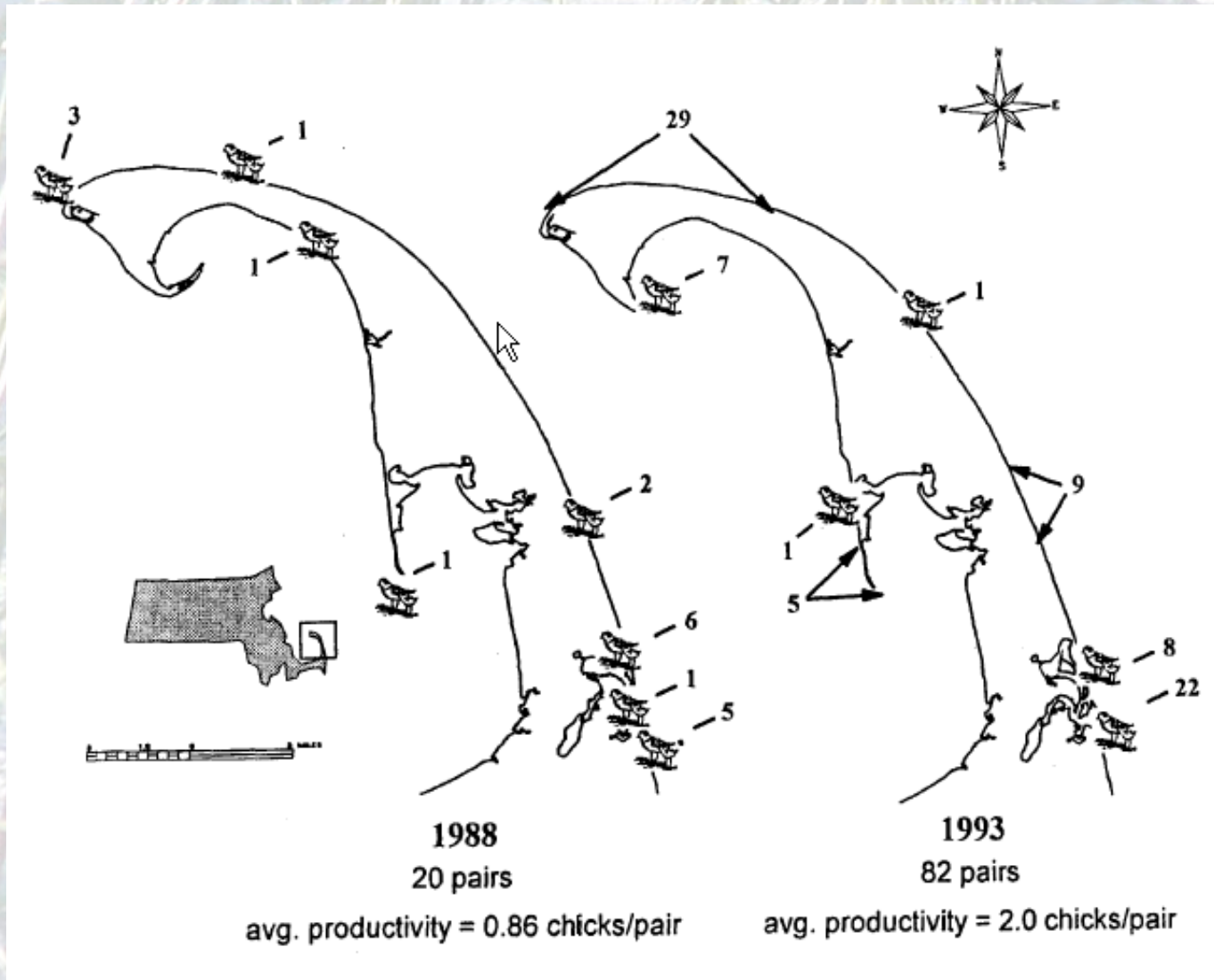
Courtship Protection Issues (general)

- Detection and interpretation challenges
- Territories may expand or shift
- New monitors still familiarizing themselves with habitats

Courtship Protection Issues (Cape Hatteras Seashore)

- Expansive habitats with extensive visibility (from plover perspective)
- Interspersion of foraging and nesting habitats
- High levels of human activity (past)
- Limited authority for monitors to expand protective fencing

Distribution of piping plovers on Outer Cape Cod, 1988 - 1993



**Negotiated Rulemaking Committee
5th meeting**

June 17-18, 2008

**Dr. R. Michael Erwin – USGS Patuxent Wildlife Research Center &
Professor, University of Virginia Dept. Env. Sciences**

- Waterbird researcher with USFWS and USGS since 1978
- Research Professor of Environmental Sciences at UVA since 1996
- Former President of the Waterbird Society
- Former Editor of the journal, *Waterbird*
- Chairman of the USGS science task force (2005) to develop monitoring and management protocols for CAHA threatened and endangered species

Ground-nesting colonial waterbirds of Cape Hatteras National Seashore, NC

Black Skimmer

Common Tern

Forster's Tern (marsh nester)

Gull-billed Tern

Least Tern

Royal Tern

Sandwich Tern

0074924



Black Skimmer (*Rynchops niger*)

0074925



0074926

Common Tern (*Sterna
hirundo*)



0074927



Least Tern (*Sterna
antillarum*)

Photo: Dan Thompson

0074928

Gull-billed Tern (*Sterna nilotica*)



Population status of colonial waterbirds in coastal NC

Black Skimmer – recent declines from 820 pr (1995) to 620 prs in 2004

Common Tern- decline from 2100 pairs (1993) to 570 in 2004

Gull-billed Tern- “Threatened in NC” - declining from 620 pairs (1977) to 260 pairs in 2001

Least Tern – increase from 1925 pr (1977) to 2408 pr (2004)

Royal Tern – decline from peak of 35000 pairs (1973) to recent, but may be stable from mid 1990s (14000 plus) to present

Sandwich Tern- increase from ca. 2000 pairs (NC) in 1977 to 5200 pairs in NC-SC combined

Colony site – habitat requirements for terns-skimmers



- Remote locations – islands, rocks, shell bars
- Proximity to inlets or bays for feeding
- Absence of predatory mammals-human habitation
- Social attraction – often multispecies colonies

COLONY SPECIES ASSOCIATIONS:

Royal Terns – Sandwich Terns

Common Terns – Black Skimmers

Common Terns -Black Skimmers - Gull-billed Terns

Least Tern (solitary)



Early Management Guidelines for Colonial Waterbirds within National Seashores

From: Buckley,PA and FG Buckley. 1976. Guidelines for the Protection and Management of Colonial Waterbirds. National Park Service, Northeast Region, Boston MA.

- Restrict foot travel within 1000 ft of active colonies
- Enforce strict pet regulations
- Seasonal closures: “close off entire areas to all ORVs...”
- “Restrict essential ORVs to carefully marked tracks during critical periods”
- “Prohibit night use of area by visitors”

Recommended sign-posting distances for terns and skimmers in the mid-Atlantic region ¹



Species	“First Flush Distance” (M +/- 1 SD)	Recommended Buffer*
Blk Skimmer	130(50)	200
Com. Tern	142(81)	200
Least Tern*	64	100
Royal Tern*	106(83)	100
Waders	N/A	100

¹ From: Erwin, RM. 1989. Responses to human intruders by birds nesting in colonies: experimental results and management guidelines. Colonial Waterbirds 12: 104-108.

* During the pre-hatching nesting phase: larger distances needed during chick phases

Recommended buffer distances for terns and skimmers at Cape Hatteras ¹



Species	Buffer Distance (m)
Blk Skimmer	200
Com. Tern	200
Least Tern	100
Royal Tern	200 *

¹ From: Cohen, J., RM Erwin, JB French, J. Marion, and JM Meyers. 2005. Synthesis of management, monitoring, and protection protocols for threatened and endangered species of special concern at Cape Hatteras National Seashore, North Carolina. USGS Patuxent Wildlife Research Center report to the National Park Service.

In summary, with a multi-species complex sharing resource space, a standard rule should be to adopt the value of the most sensitive species

0074936



Least Tern (*Sterna antillarum*)

Photo: Dan Thompson

Ecology and population dynamics of American Oystercatchers in North Carolina



Ted Simons

Shiloh Schulte, Conor McGowan, Melissa Davis
USGS NC Cooperative Fish and Wildlife Research Unit
Department of Zoology, North Carolina State University

Overview

- Background and Conservation
- Ecology of American Oystercatchers
- Study Area
- Reproductive success
 - Nest survival
 - Chick survival
 - Radio tracking
 - Behavioral observations
- Hurricane effects
- Demographic modeling
- Migration/Dispersal



Project history

- Our American Oystercatcher research in NC began at Cape Lookout in 1997
- Initiated as a study of basic ecology
- Ongoing cooperative research and monitoring between the NPS, and the USGS Cooperative Fish and Wildlife Research Unit at NCSU
- Oystercatchers have emerged as a species of concern in NC and along the Atlantic seaboard recent years



Conservation

- Widespread along Atlantic and Gulf Coasts
- Sensitive to a variety of factors affecting coastal resources
 - Habitat loss, coastal development
 - Pressure from human recreation
 - Pollution
 - Non-native predators
- Large, charismatic, easily identified
- Long-lived, amenable to long term mark-resight studies



Research objectives

- Understand the factors affecting the reproductive success of American Oystercatchers on the Outer Banks
- Develop population models that incorporate the effects of humans, predators, and environmental conditions on population trends.
- Understand patterns of adult migration and juvenile dispersal through a large scale mark-recapture study.

Ecology

- American Oystercatchers are closely tied to the coastal zone
- Population:
 - 11000 (North America)
 - 700 (North Carolina)
- Oystercatchers in our study area nest mainly on barrier islands
- Pairs defend stretches of beach and adjacent marsh
- Territory size ranges from 100 to 1500 meters



■ Breeding
 ■ Year-round
 ■ Nonbreeding

Figure 1.

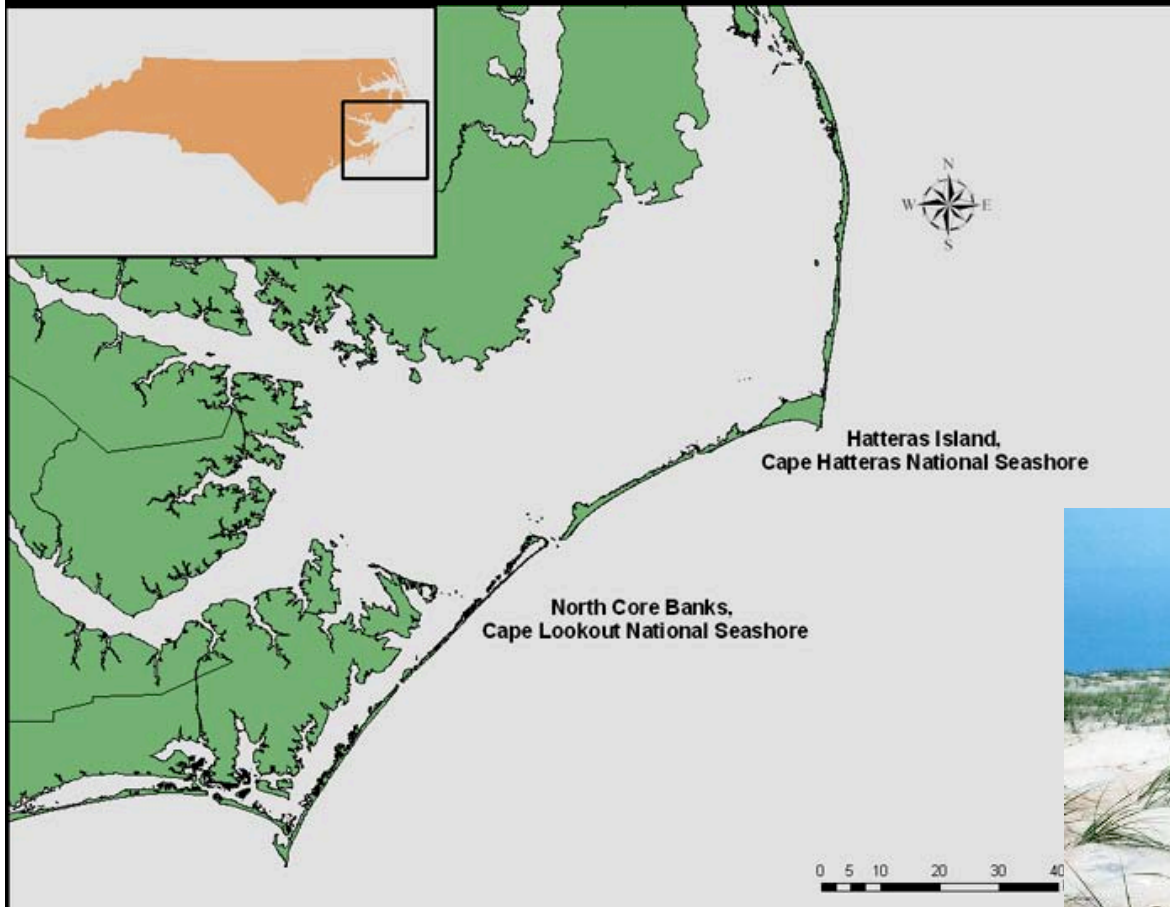
Breeding, year-round, and wintering ranges of the American Oystercatcher. Dashed line indicates where species is a permanent, year-round resident with only a local distribution.

Ecology

- Food: Shellfish and other marine invertebrates that inhabit intertidal areas.
- Strong mate and nest site fidelity
- Clutch size 2-4, in shallow scrape
- Precocial chicks, 35-45 days to develop flight capability, young fed by adults up to 6 weeks after fledging



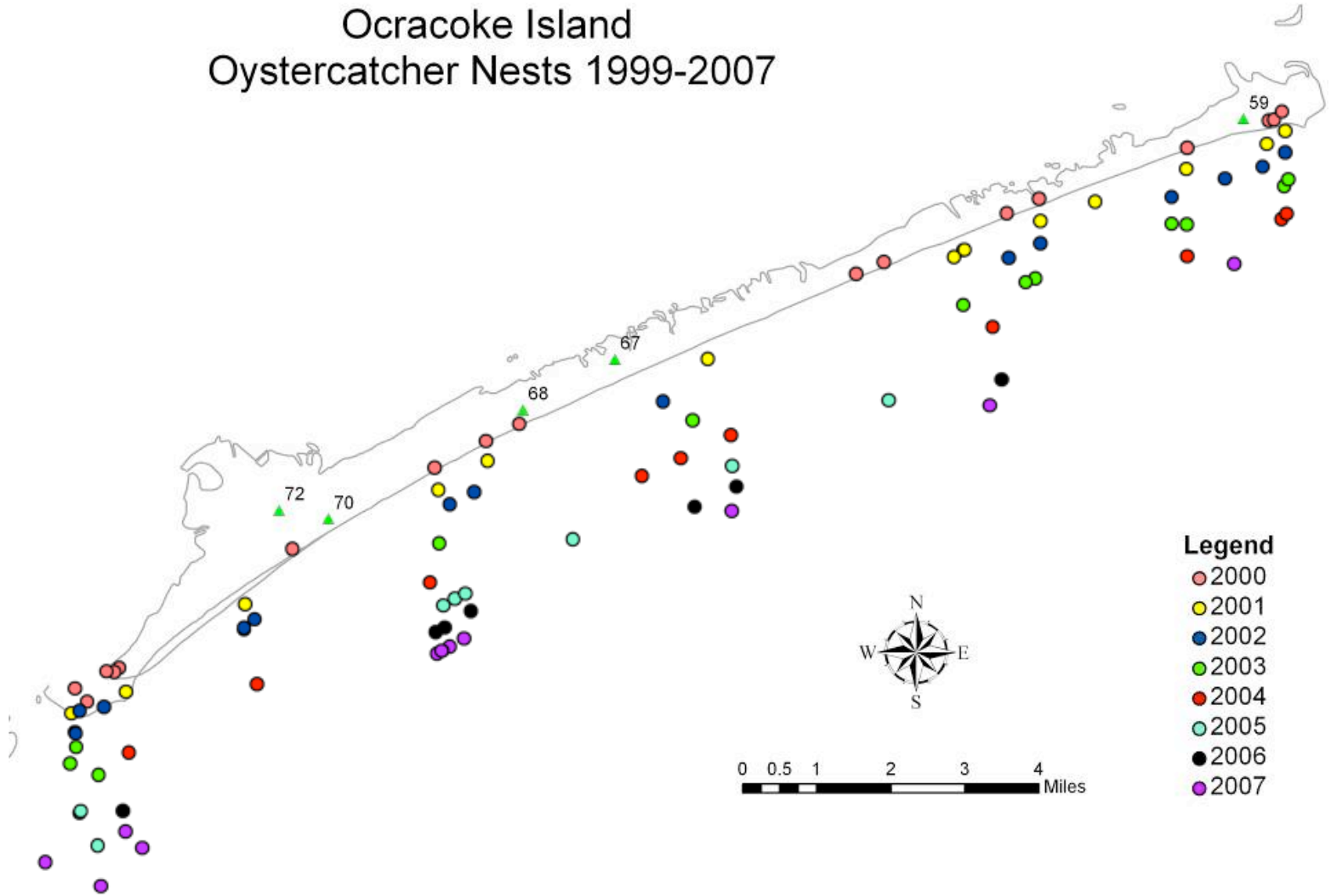
Study Area



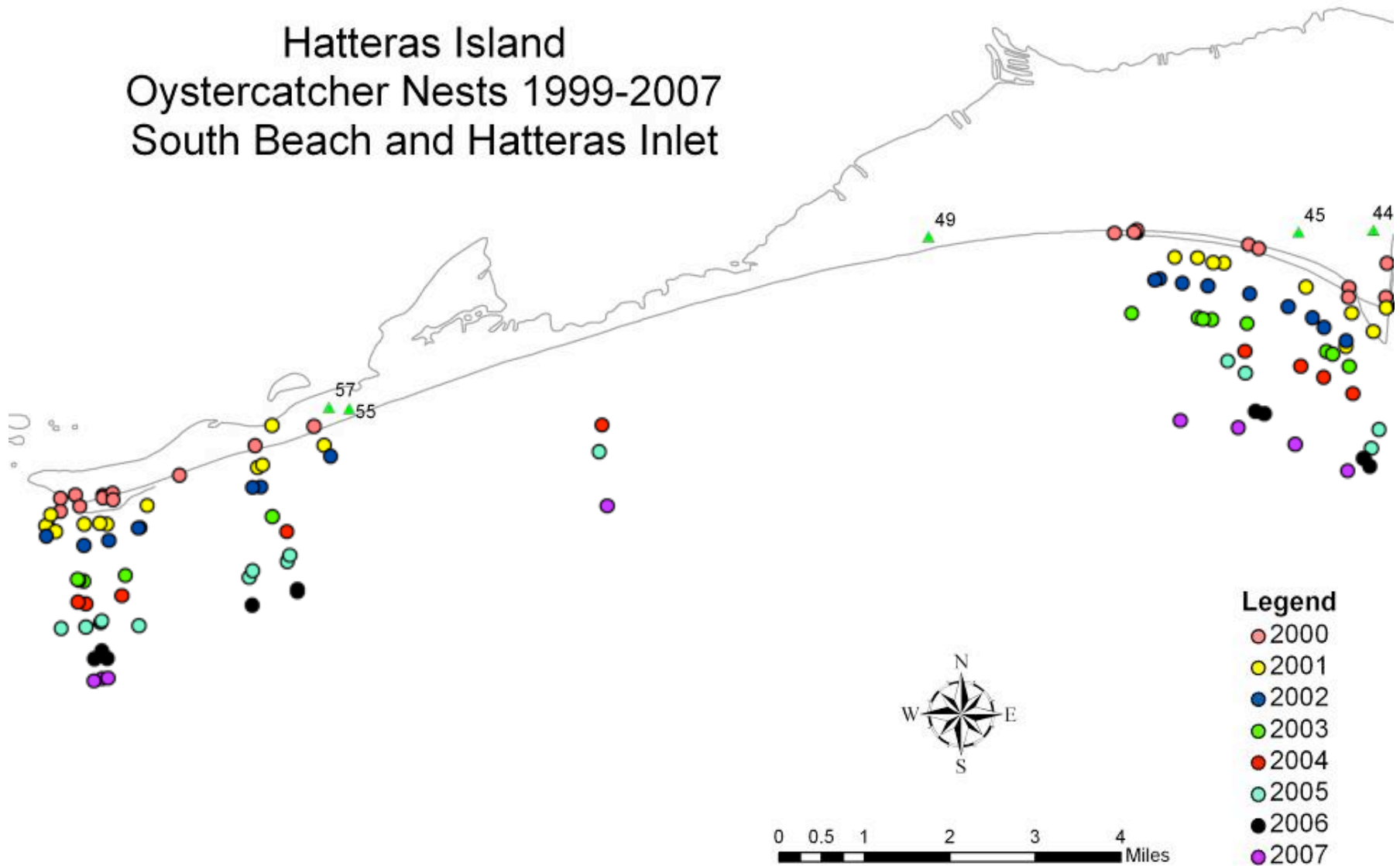
- Cape Hatteras and Cape Lookout National Seashores
- Over 160 km of barrier island habitat



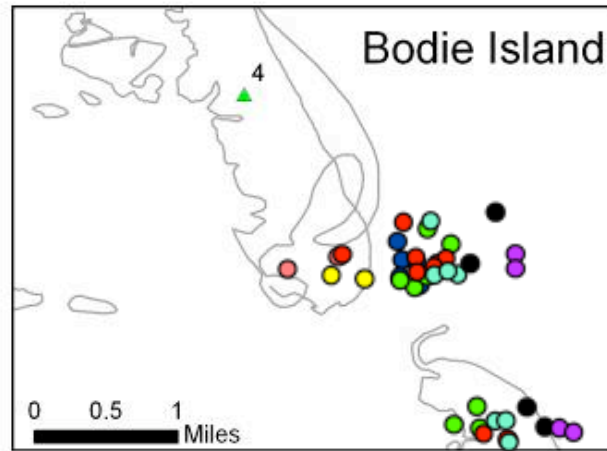
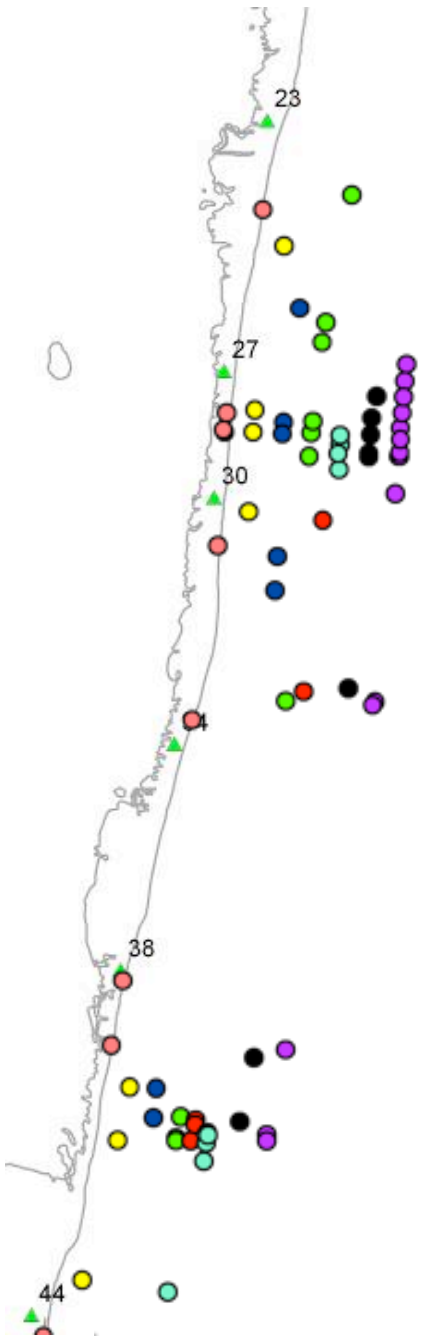
Ocracoke Island Oystercatcher Nests 1999-2007



Hatteras Island Oystercatcher Nests 1999-2007 South Beach and Hatteras Inlet

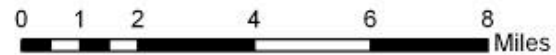


Hatteras Oystercatcher Nests 1999-2007 North Beach and Bodie Island



Legend

- 2000
- 2001
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007

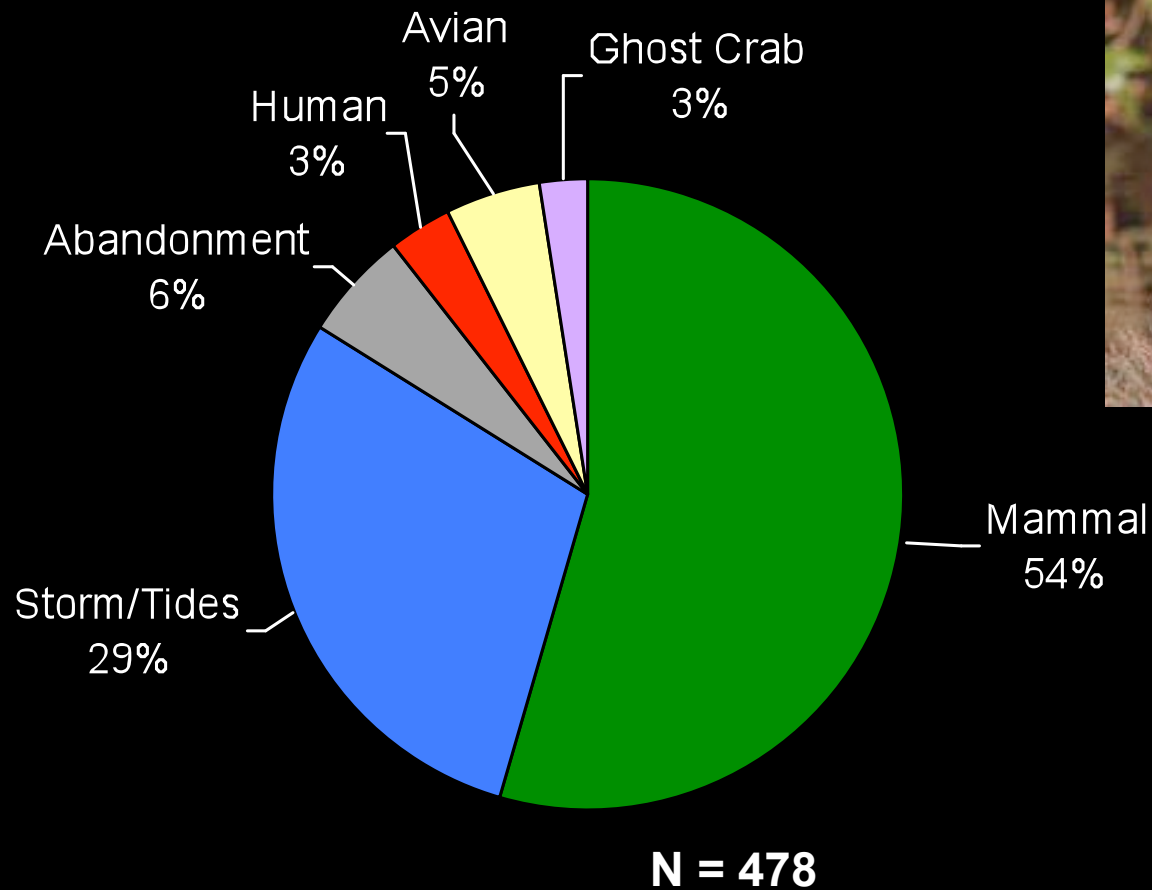


Reproductive Success

- The breeding season is divided into two distinct periods: nesting and chick rearing
- Oystercatcher chicks are mobile shortly after hatch and do not remain in the nest
- Nest survival is variable between islands and years, but is generally low; ~ 25% of all nests survive to hatch
- 0.32 chicks produced per breeding pair



Sources of nest failure



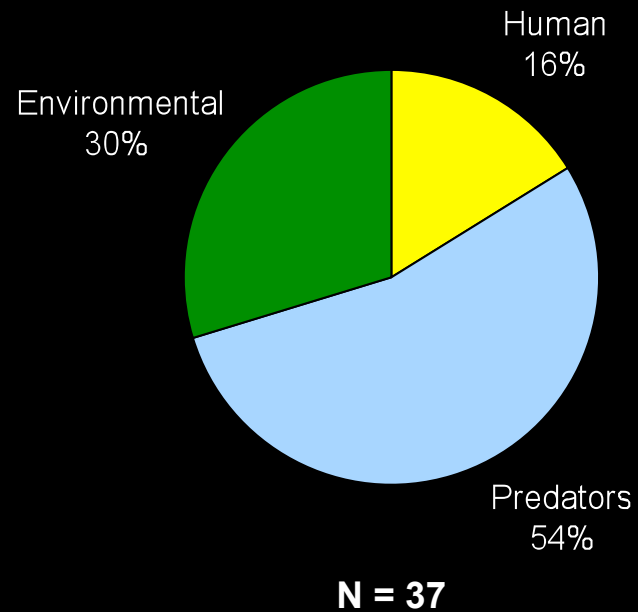
Source of failure could not be determined for 52% of failed nests (N = 518)

Chick survival

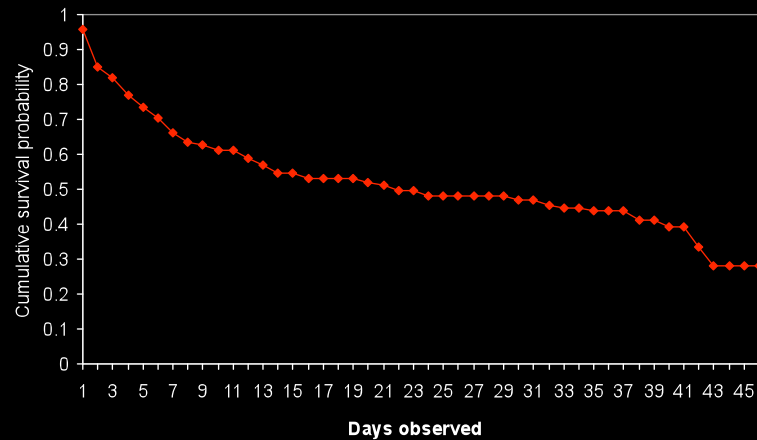
- Oystercatcher chicks are camouflaged and highly mobile, which makes them difficult to monitor
- We used radio tags to track chicks and identify sources of mortality



Sources of chick mortality



Source of mortality could not be determined for 51% of chick mortalities (N = 39)

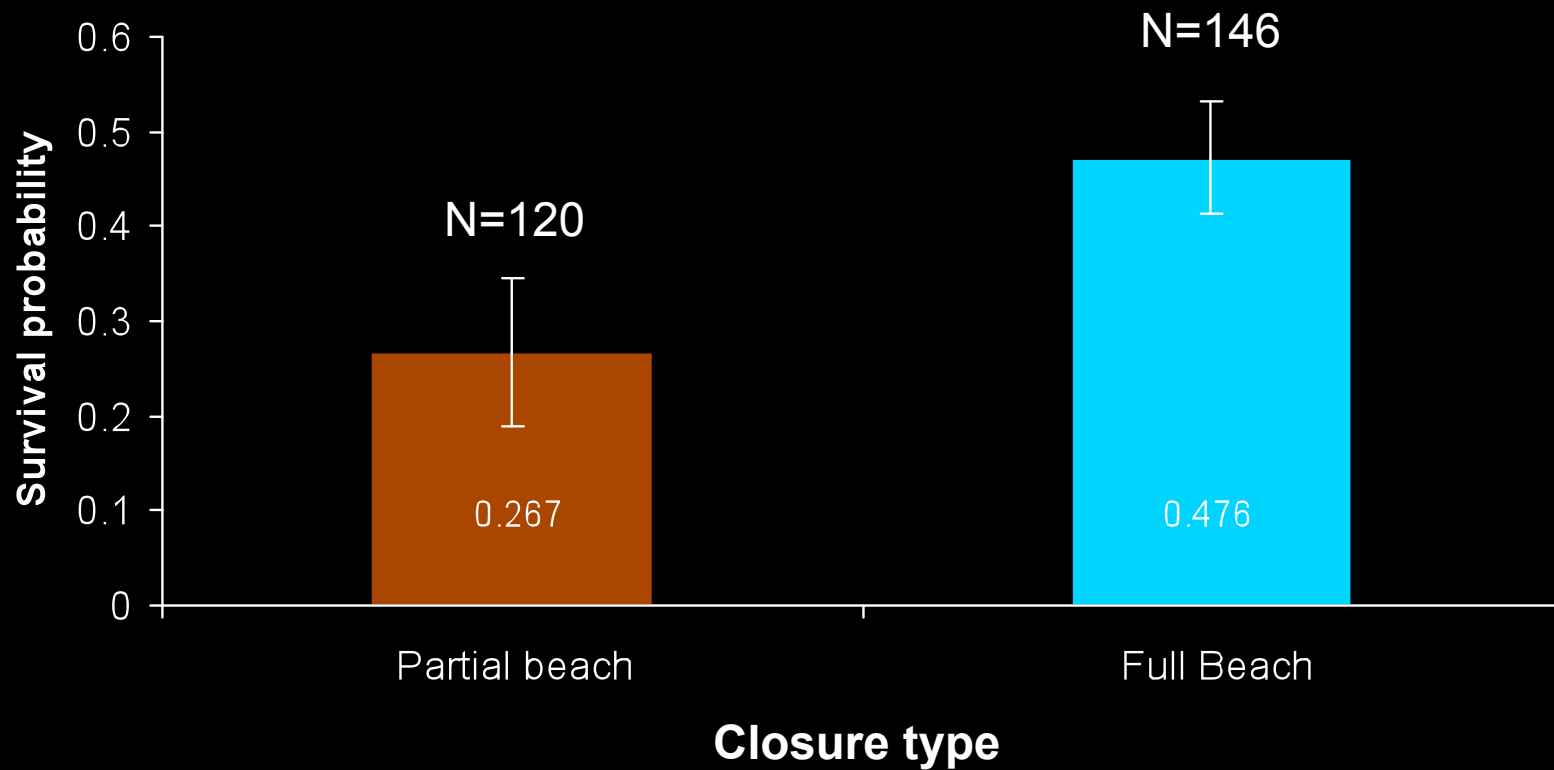


Vehicles and chick survival

- Humans have direct and indirect effects on chick survival
- Oystercatcher chicks are highly mobile
- Chicks use truck ruts and beach debris for hiding
- 13 chicks killed by vehicles on Hatteras and Lookout from 2003-2007
- Cape Lookout closed beach sections with oystercatcher broods after two chicks were killed in 2005
- No mortality from vehicles documented on CALO after the policy was implemented



Chick survival and vehicle closures

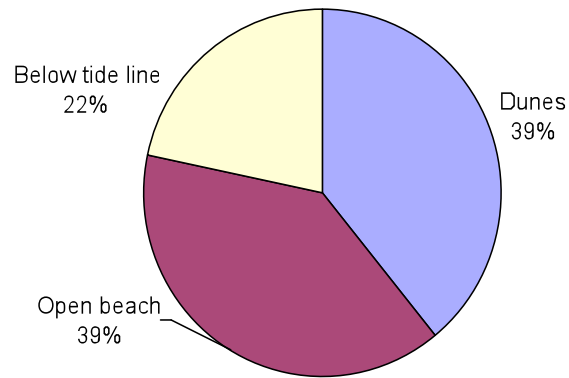


Factors affecting productivity and survival

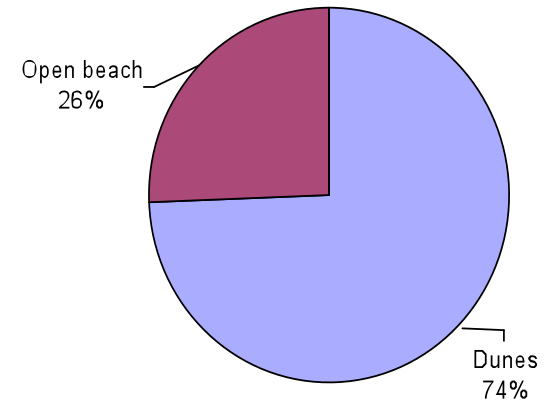
Human disturbance and chick behavior

Chick habitat use

Full beach closures

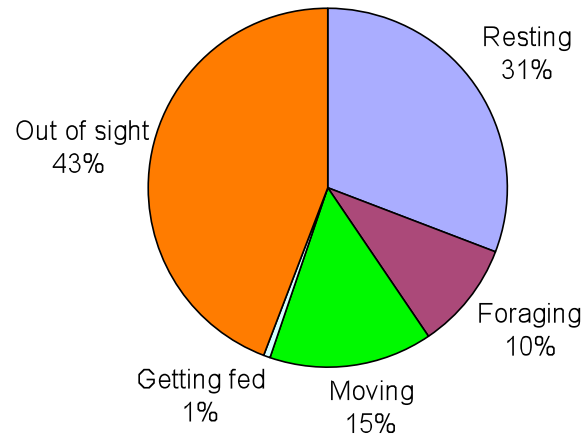


Partial beach closures

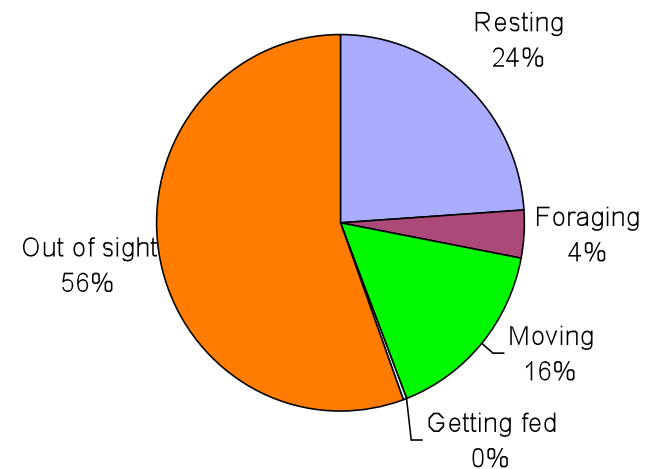


Chick behavior

Full beach closures

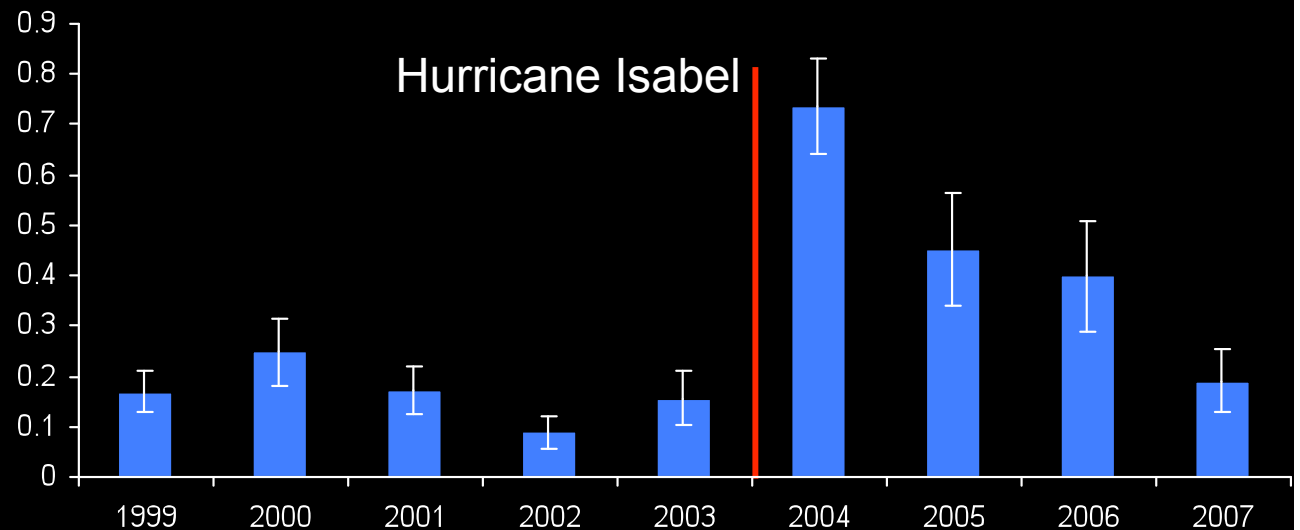


Partial beach closures



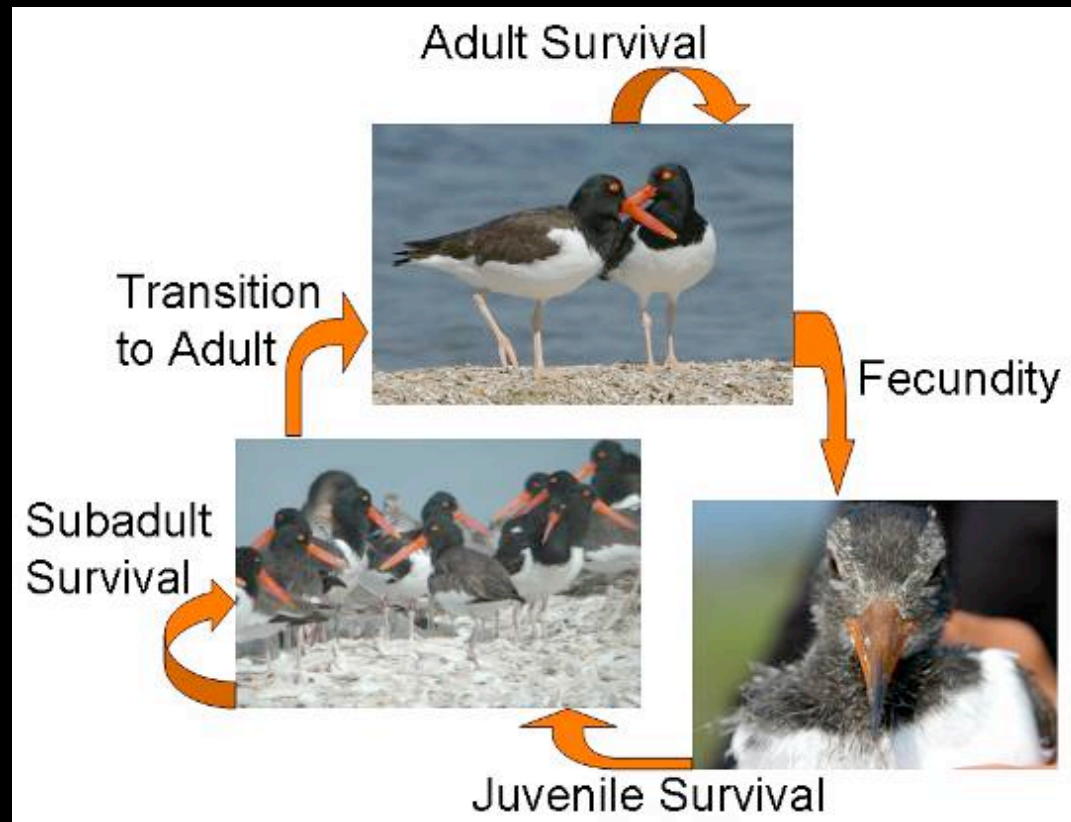
Hurricane Effects

- Hurricane Isabel made landfall on the Outer Banks in 2003
- Overwash and sand movement improved habitat and reduced predator populations
- Large improvement in reproductive success in areas affected by the storm

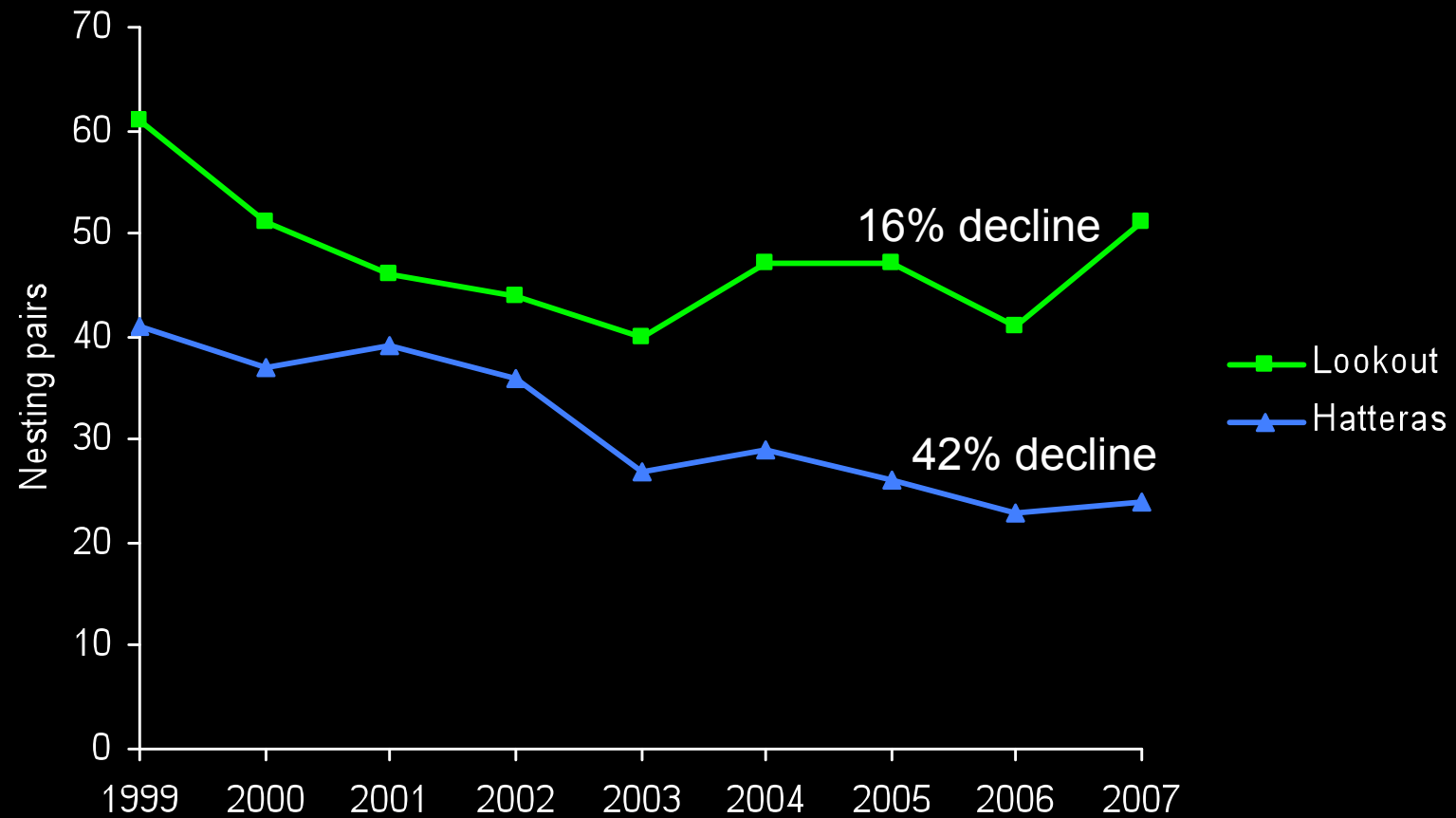


Population Model

- Constructed a demographic model to assess the status and trajectory of the population



Population Trends

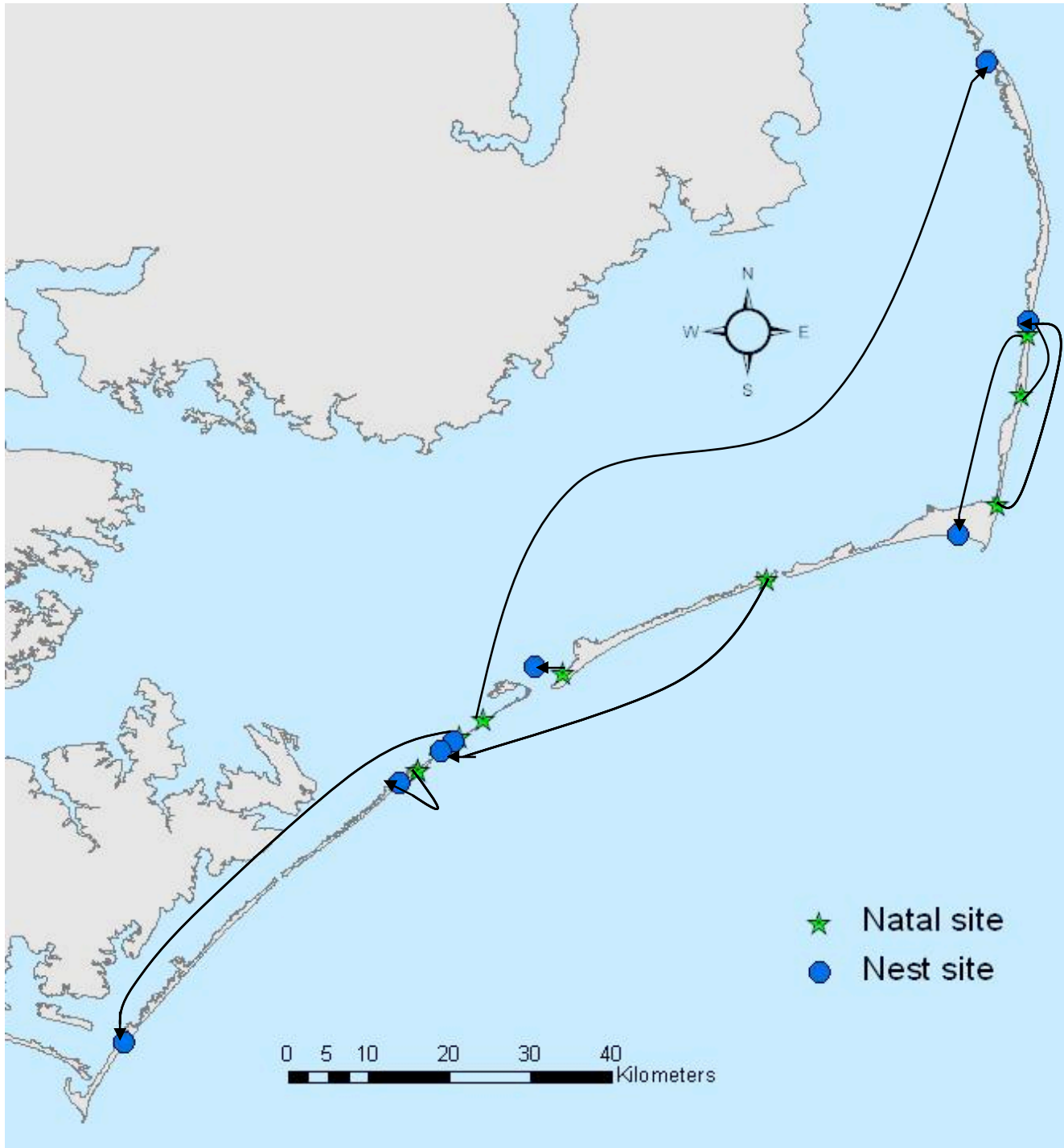


Mark – Resight Studies



- 309 Oystercatchers banded in NC
- Hundreds of resights from Virginia to South Florida
- Migration: 5 - 800 km
- Age at first breeding 3-5 years
- Dispersal: 2 -100 km

0074959



Connections between natal sites and nest sites for first-time nesters.

Maximum distance
From natal site for first-time nesters:
96.1 km

Minimum distance:
2.6 km

Age at first breeding
3-5 years (n=9, mean
3.89 years, S.D. 1.05
years)

Conclusions

- Nesting success is variable, but generally low
- Raccoons are the primary nest predator
- Populations at CAHA and CALO have shown steady declines over the past decade
- Chicks are vulnerable to vehicle traffic and disturbance and appear to benefit from targeted beach closures
- Hurricanes can improve nesting habitat and reduce predators
- The population is projected to decline in the absence of frequent hurricane events or management to increase annual reproductive success

Working Group Web Page

<http://www.ncsu.edu/project/simonslab/AMOY/Research.htm>

- A Working Group Web page created in 2002 provides:
 - A summary of Working Group objectives, activities, and contact information
 - Access to the Working Group list server
 - Banding protocols, banding summaries by state, banded bird reporting form
 - Descriptions of field methods



Links

Home
Banding and Re-sighting
American Oystercatcher Working Group
Field Methods

Inquiries or questions about this web site?

Contact:

[Ted Simons](#)
919-515-2689



Introduction

American Oystercatchers (*Haematopus palliatus*) are striking black and white shorebirds with large reddish-orange bills. Oystercatchers breed on coastal beaches from Baja California to Nova Scotia (Nol and Humphrey 1994). Recent evidence of population declines, particularly in the Southeastern U.S. (Davis et al 2001), has prompted research aimed at understanding the bird's biology and conservation needs.



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Have you seen a banded American Oystercatcher? Please let us know!

[*Click here to report a banded Oystercatcher*](#)

NEW!

Chick Survival and Closure Type

A comparison of American oystercatcher fecundity and fledging rate in two closure types on Cape Hatteras National Seashore from 1999-2007

Year	Pairs	Partial beach closure			Full beach closure			Total chicks fledged	Chicks fledged/pair
		Chicks hatched	Chicks fledged	Fledging rate	Chicks hatched	Chicks fledged	Fledging rate		
1999	41	15	4	0.27	5	1	0.20	5	0.122
2000	37	21	4	0.19	10	5	0.50	9	0.243
2001	39	25	12	0.48	17	12	0.71	24	0.615
2002	36	13	6	0.46	6	3	0.50	9	0.250
2003	27	18	3	0.17	3	2	0.67	5	0.185
2004	29	14	2	0.14	33	17	0.52	19	0.655
2005	26	2	0	0.00	23	11	0.48	11	0.423
2006	23	8	0	0.00	25	7	0.28	7	0.304
2007	24	4	1	0.25	24	11	0.46	12	0.500
Total	282	120	32	0.267	146	69	0.473	101	0.358

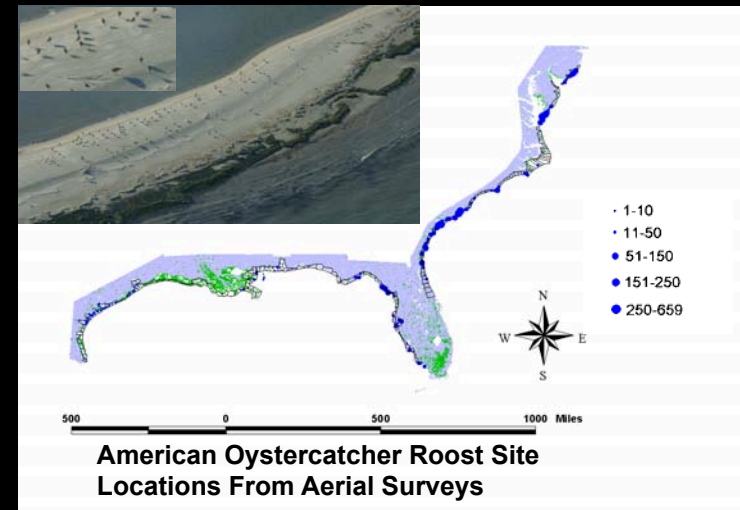
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American Oystercatcher productivity on Cape Hatteras National Seashore from 1999-2007

Year and Location	Breeding Pairs	Nests	Nests hatched	Nest survival (observed)	Nest survival (Mark)	Successful pairs (at least 1 chick fledged)	No. of chicks fledged	Fecundity (Chicks fledged/ breeding pair)
Ocracoke Island								
1999	15	17	7	0.412	0.321	2	2	0.13
2000	12	17	6	0.353	0.270	5	7	0.58
2001	13	15	11	0.733	0.624	8	17	1.31
2002	12	18	6	0.333	0.266	3	3	0.25
2003	8	12	4	0.333	0.255	1	1	0.13
2004	9	11	7	0.636	0.566	5	8	0.89
2005	5	10	3	0.300	0.295	1	1	0.20
2006	5	8	5	0.625	0.492	1	2	0.40
2007	5	12	3	0.250	0.102	1	1	0.20
Island	84	120	52	0.455 (0.043)	0.341 (0.042)	27	42	0.50
Hatteras Island								
1999	24	31	7	0.226	0.287	3	3	0.13
2000	23	29	10	0.345	0.251	2	2	0.09
2001	24	28	10	0.357	0.259	6	6	0.25
2002	21	25	3	0.120	0.030	3	4	0.19
2003	14	21	8	0.381	0.372	5	6	0.43
2004	15	18	14	0.778	0.706	7	9	0.60
2005	17	25	13	0.520	0.501	7	10	0.59
2006	14	19	11	0.579	0.525	4	5	0.36
2007	15	23	10	0.435	0.481	6	9	0.60
Island	167	219	86	0.404 (0.031)	0.349 (0.032)	43	54	0.32
Bodie Island								
1999	2	2	0	0.000	NA	0	0	0.00
2000	2	3	0	0.000	NA	0	0	0.00
2001	2	3	1	0.333	NA	1	1	0.50
2002	3	5	1	0.200	NA	1	2	0.67
2003	5	5	1	0.200	NA	0	0	0.00
2004	3	7	0	0.000	NA	0	0	0.00
2005	2	3	1	0.333	NA	0	0	0.00
2006	2	2	1	0.500	NA	0	0	0.00
2007	2	2	1	0.500	NA	0	0	0.00
Island	23	32	6	0.206 (0.069)	NA	2	3	0.13
Green Island								
2004	2	3	2	0.667	NA	1	2	1.00
2005	2	3	2	0.667	NA	0	0	0.00
2006	2	2	2	1.000	NA	2	2	1.00
2007	2	2	1	0.500	NA	1	2	1.00
Island	8	10	7	0.7 (0.145)	NA	4	6	0.75
Total/mean	282	381	151	0.396 (0.025)	0.325 (0.024)	76	105	0.37

2002 Winter Roost Survey

- Aerial surveys November 2002 – February 2003
- Stratified sampling, 239 blocks
- High tide +/- 2 hours survey window
- Detection rates calculated from digital photographs and ground truth surveys
 - Detection rate 0.73 for flocks <50 birds
 - Detection rate 1.0 for flocks \geq 50 birds
- Winter population estimate 10,971 \pm 298 birds



	Estimate	S.E.
Ground photo	8,354	0
Aerial count	2,460	148
Barrier beach count	157	35
Total	10,971	152

Brown et al. 2005. Journal of Wildlife Management 69:1538-1545

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