AN ECONOMIC ANALYSIS OF PIPING PLOVER RECOVERY ACTIVITIES ON THE ATLANTIC COAST



INDUSTRIAL ECONOMICS, INCORPORATED

2067 MASSACHUSETTS AVENUE

CAMBRIDGE, MASSACHUSETTS

		·	
			ı
			i
			i
			i
			1
			1
			i
			'
			i
			ı
			i
			i
			•
			i
			i

AN ECONOMIC ANALYSIS OF PIPING PLOVER RECOVERY ACTIVITIES ON THE ATLANTIC COAST

Prepared for:

Division of Economics
U.S. Fish and Wildlife Service
Department of the Interior

Prepared by:

Robert E. Unsworth and Robert W. Paterson Industrial Economics, Incorporated 2067 Massachusetts Avenue Cambridge, MA 02140

and

Douglas A. Rae 36 Gage Street Needham, Massachusetts

April 1998

				ı
				ı
				1
				1
	•			I
				1
				ı
				1
				ı
				1

EXECUTIVE SUMMARY

Piping plovers are small, migratory shorebirds that nest on beaches. The Atlantic population nests on barrier beaches from North Carolina to Newfoundland and is currently listed as threatened under the Endangered Species Act (ESA). Management plans to protect plovers during breeding periods in spring and summer include closure of beaches or sections of beach to off-road vehicles (ORVs) and in some cases to pedestrians. Closure of beaches has generated controversy and protests from beach users in some locales. The purpose of this study is to determine the extent to which beach closures have impacted the economies of these locales.

Beach closures or restrictions may cause swimmers, sunbathers, anglers and others to reduce the number of trips they take to an area. Understanding the relationship between closures or restrictions and resulting changes in recreational behavior is fundamental to this study. Where adequate data are available, this analysis employs various modeling techniques to quantify these relationships. Where data are unavailable, the analysis relies on interviews and other qualitative data. Quantification of economic impacts then links changes in visitation to changes in direct spending on food, lodging, transportation and other sectors. It then uses IMPLAN (a regional economic model) to model the structure and linkages in the local economy at the county level to quantify how changes in these sectors affect the overall production of goods and services. IMPLAN quantifies the impact of changes in direct spending on overall economic activity, employment and tax collections. In addition, where the data support a quantitative link between beach closures or restrictions and beach access, the analysis quantifies changes in economic welfare by drawing upon the existing body of economic literature to value these losses.

This report consists of five case studies of local areas where beach managers have initiated closures and other management actions to protect piping plovers. The criteria for selecting areas for the case studies include availability of data on visitation, diversity of management, and geography. The beach areas studied range from Assateague Island in Maryland/Virginia to Parker River National Wildlife Refuge (NWR) in Massachusetts and include areas in four states. The predominance of sites in Massachusetts is largely due to the availability of non-federal sites with adequate data from more years of active plover management. The case studies include areas

		·	
		·	
			1

SUMMARY OF CASE STUDY SITE ANALYSES

Parker River NWR

Parker River NWR in Massachusetts, which is owned and managed by the FWS, includes roughly six miles of barrier beach on Plum Island. It is located in Essex County adjacent to the towns of Newbury and Newburyport. The refuge manager initiated partial closure of the beach to both ORVs and pedestrians in 1986 and full closure in 1991. In most years the closure has lasted from early April into August.

Regression analysis of visitor data from 1973 to 1996 indicates that closures resulted in a loss of about 600 visitor trips per day of total beach closure. Since 1991, when the refuge began implementing full closures, the effect of the closure has amounted to approximately 80,000 visitor-days lost per year. Typical daily expenditures by beach users amounted to roughly nine dollars per person.

Estimates of total economic impacts on the local economy have ranged from \$230,000 in 1987, a partial closure year, to \$790,000 in 1995, when the beach was fully closed for nearly five months. The latter total represents approximately 0.02 percent of baseline economic output in the study area. Additional economic impacts result from the loss of revenues to the refuge from sales of surf fishing permits, both ORV and pedestrian, which have ranged from \$6,000 to \$16,000 per year. Finally, estimates of economic welfare losses (as measured by changes in consumer surplus) associated with forgone beach access and fishing opportunities range from \$170,000 to \$660,000 per year.

Martha's Vinevard

Martha's Vineyard is an island that lies about 10 miles south of Cape Cod. Its permanent population is about 15,000, but its beaches and other amenities attract large numbers of seasonal residents and vacationers. There are many beaches on the island, but the barrier beaches on Chappaquiddick Island provide the best nesting habitat for piping plovers. Dukes County, which manages Norton Point Beach, and The Trustees of Reservations (TTOR), which manages Leland and Cape Poge beaches, began implementing plover management restrictions in 1993. The primary impact of these restrictions has been to close sections of these beaches to ORVs (but not to pedestrians) from late May through July, extending into August in some years.

Analysis of the tourism data for the island do not indicate that beach closures have resulted in any discernible negative impacts on visits, visitor spending, or overall economic activity. Rather, these beach closures primarily affected ORV users, especially surf fishing anglers, and resulted in lost revenues from the sale of ORV permits. Dukes County suffered an increase in management

costs and a decrease in permit sales associated with the closure, which amounted to a net loss of about \$40,000 per year. TTOR suffered a significant revenue decline in ORV permit sales from 1993 to 1995. However, revenues from increased pedestrian usage and increased membership sales compensated for the revenue losses from ORV permit sales. TTOR costs attributable to managing the beaches to protect plovers amount to about \$18,000 per year.

Closures of Norton Point Beach have also affected access to shellfish beds, and the Town of Edgartown also appears to have suffered a recurring loss of about \$5,000 per year in revenues from the sale of recreational shellfish permits. Anecdotal evidence suggests that restrictions on ORV access to beaches greatly affected surf fishing anglers, and owners of local bait and tackle shops reported significant declines in revenues in the first few years of beach closures; however, several of these businesses have expanded into charter boat fishing and guided fishing tours and revenues now exceed pre-closure levels.

Assateague Island

Assateague Island is a barrier island that extends 37 miles from Maryland into Virginia. The NPS manages the National Seashore in both Maryland and Virginia, and the FWS manages the Chincoteague NWR at the Virginia end of the island.

The NPS is responsible for plover management on the Maryland portion of Assateague Island. Beginning in 1993, the NPS began restricting all access to dune areas to protect plovers. Due to the distribution of plovers primarily on the north end of the island, NPS has been able to maintain pre-existing pedestrian and ORV access to portions of all beaches northward from the Virginia border. To date the main effect of these restrictions has been to restrict bayside boater access to Atlantic beaches at the north end of the island. Analysis of data on total visits and ORV visits found no negative impacts on pedestrian or ORV users as a result of these plover restrictions. The resulting conclusion is that plover restrictions at the Maryland Unit have resulted in negligible economic impacts to Worcester County (Maryland).

The FWS imposed plover restrictions at Chincoteague NWR beginning in 1988. Since that time the refuge manager has closed the lower 2.7 miles of Toms Cove Hook to all visitors, both pedestrians and ORVs, from March 15 through August 31. The main impact has been on ORVs, since several miles of beaches remained open to pedestrian users. The maximum number of ORVs allowed in the ORV zone on the Hook declined from 42 to 18 vehicles during the closure period (but increased from 42 to 48 in the off-season). Analysis of data on ORV trips found that these restrictions resulted in a loss of about 4,400 ORV trips per year, and anecdotal evidence suggested that the main impact was on surf fishing anglers who relied on ORVs to access fishing sites on the Hook.

Further analysis of room tax and refuge visitation data provide conflicting results. Analysis of real room tax revenues revealed increases in collections after implementation of the closure, indicating continued growth in numbers of overnight visitors. But regression analysis of refuge visitation data provided evidence of declines of about 16,000 visitor-days per year, primarily in the

			ı
			I
			1
			ı
			I
			ı
			1
			1
			1
			1
			1
			·
			1
			1
	•		

have caused visitors to begin to seek substitute beaches around the same time as the implementation of plover management restrictions.

The mixed evidence of closure effects at Chincoteague NWR, and the lack of data to account for potential congestion effects, increases the level of uncertainty as to whether plover restrictions did actually result in negative economic impacts. On one hand, attributing the loss in visitor-days wholly to plover management restrictions results in an estimate of about \$6 million in lost output to the Accomack County (Virginia) economy. On the other hand, given evidence of increasing room tax revenues since the initiation of closures, one can not dismiss the possibility that there is no negative effect attributable to plover restrictions; such a conclusion implies that increased numbers of non-ORV visitors compensated for any loss in ORV visitors.

Holgate Unit. Edwin B. Forsythe NWR

Long Beach Island is an 18 mile barrier island in Ocean County, New Jersey. The Holgate Unit, part of Edwin B. Forsythe NWR, comprises the southernmost 2.75 miles of the island. To protect plovers, the FWS closed the refuge to both pedestrians and ORVs beginning in 1988. There are no data available to assess visitation to the refuge before and after the implementation of closures. Interviews with local officials and business people indicated that the closures had negligible impact on the overall economy of the island, which amounts to about \$500 million in output per year. However, the closures appear to have affected the beach usage patterns of some residents and visitors with consequent effects on economic welfare, potential loss in municipal revenues from beach buggy licenses and lost revenues to some businesses, especially at the south end of the island.

The closures especially affected anglers, and many apparently sought alternate sites offisland with resultant effects on businesses that catered to surf fishing anglers. Bait and tackle shops throughout the island appear to have lost some revenues, and one shop nearest to the refuge reported losing 30 percent or more of revenues in the first few years after the closure. In addition, several other motels and restaurants that catered to anglers also reported a loss in revenues. However, all these businesses survived the closure and remain viable.

Sandy Neck

Sandy Neck is a six mile barrier beach in the town of Barnstable on Cape Cod Bay. Beach closures to protect nesting plovers began in 1990. Since that time, ORV usage of the beach has declined dramatically, and the Department of Recreation and Human Services of the Town of Barnstable (responsible for management of the beach) has experienced a corresponding loss in revenues due to depressed permit sales. This decline has rendered the Sandy Neck division unable to meet the Town of Barnstable's cost recovery mandate over the last several years and forced

•

•

.

reductions in staffing. These staffing cuts have a number of consequences, including potentially reduced efficiency in plover protection and management.

Qualitative evidence suggests that local and regional economic effects associated with these closures have been minimal. The number of ORV trips has declined since the implementation of beach closures, and these lost trips probably represent some reduction in spending in the local area. However, there are few businesses in the primarily residential local area. In addition, there are a number of substitute beaches on the Cape (within the county) that allow ORVs, and anecdotal evidence suggests that most of the displaced ORV users are likely to relocate to other Cape beaches (or have been compensated for by increased pedestrian usage). As a result, economic impacts appear limited to some redistribution of consumer expenditures within the county.

Despite minimal economic impacts, these closures have resulted in some welfare losses. Sandy Neck is a regionally important recreational resource that is highly valued by local area residents and visitors. For these reasons, beach closures have likely resulted in some loss in welfare, both to displaced ORV users, and users whose experience is diminished due to increased congestion on a smaller area of accessible beach.

Overview

The results of these case studies range from negligible to economically significant impacts. ORV users appear to be the most affected, and all but one of the sites has effected restrictions that resulted (at least initially) in some loss in ORV trips. The group that has suffered the greatest losses appears to be recreational anglers. Surf fishing requires considerable gear, and the elimination of ORV access generally precludes surf fishing anglers from using a site. In some cases comparable fishing sites are distant so that the loss of business may have economically significant revenue impacts on bait and tackle shops and other local businesses; resulting in potentially significant regional economic impacts.

Preliminary conclusions from these five case studies suggest that five key elements determine the magnitude of any economic impacts resulting from implementation of plover restrictions. First, the extent of plover management restrictions determine whether there are likely to be significant impacts. At Assateague Island National Seashore, Maryland Unit, the NPS imposed restrictions on access to dune areas and bayside flats at the north end where most of the plovers nest, but maintained pedestrian and ORV access to portions of all beaches. Visitation appears to be unaffected, with little to no impact on the local economy. At the other extreme the FWS closed the entire beach at Plum Island (Parker River NWR) to both pedestrians and ORVs, which forced thousands of annual visitors to forego beach trips or find alternative sites. As a result, the Plum Island closures resulted in the loss of considerable visitor spending in the local economy.

Second, the availability of substitutes within the local economic region determines whether economic activity is lost to another region. At Chincoteague NWR closure of Toms Cove Hook appears to have had at most a small impact on pedestrian users, since there are miles of other beaches available to pedestrians. However, closure of the Hook to ORVs resulted in displacement

	•
•	1
	1
	1
	1
	1
	1
	1
	1
	1
	1
	I
	1
	1
	'

minimal effect, since the Township of Long Beach operates a beach adjacent to the refuge. But closure to ORVs caused surf fishing anglers to seek alternate sites off-island at Island Beach and Brigantine. This situation is analogous in many ways to that at the Sandy Neck beach in Barnstable.

Third, the popularity of the beach environment also determines the magnitude of the impacts. Plum Island (Parker River NWR), on the north shore of Massachusetts, has few overnight accommodations nearby and attracts primarily day trip users who spent under \$10 per visitor-day. Assateague Island, however, is a National Seashore and attracts visitors from significant distances, including large numbers from the urban areas of Baltimore, Washington, and Philadelphia. These mostly overnight visitors spend over \$70 per visitor-day. Thus, any displacement is likely to result in greater losses in spending. Sandy Neck on Cape Cod and Long Beach Island on the New Jersey shore attract a mixture of overnight (motel and rental) visitors and day trip visitors so that displacement in these areas represents of mix of overnight and day trip spending.

Fourth, the size and rate of growth of the local economy determine whether any loss in visitation caused by plover restrictions will result in any measurable net losses to the economy. Where visitor demand is strong at Cape Cod, Martha's Vineyard, the Jersey Shore, and Ocean City, Maryland, other beach users are likely to replace displaced ORV users — at least during peak summer months. Losses in visits by surf fishing anglers and others in early spring may be more difficult to replace, although birdwatchers and other eco-tourists constitute a growing element of visitation to some sites in both spring and fall.

Finally, adaptation has and will continue to mitigate economic impacts of beach closures and other restrictions. Over time local businesses have adapted to changes in demand. On Martha's Vineyard, for example, several bait and tackle shops initially lost considerable revenues from anglers displaced when beach managers first initiated beach closures. However, these businesses adapted by expanding into boat charters and guided trips to enhance revenues. Likewise, on Long Beach Island one bait and tackle shop adapted by targeting goods and services toward "tourist" anglers having far less knowledge of the sport than his "regulars" prior to the closure. There is no evidence in any of the five case studies of business bankruptcies or shutdowns attributable to beach closures or other restrictions.

	·			
		·		

Cape Hatteras National Seashore ORV Management Regulation

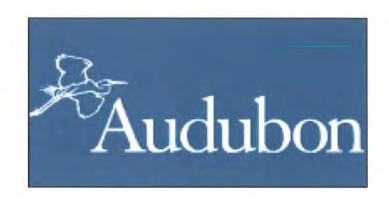




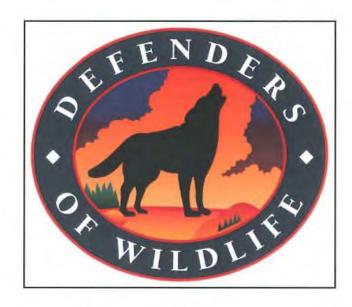












Cape Hatteras National Seashore ORV Management

SOUTHERN ENVIRONMENTAL LAW CENTER

Telephone 919-967-1450

601 WEST ROSEMARY STREET, SUITE 220 CHAPEL HILL, NC 27516-2356 Facsimile 919-929-9421

September 6, 2011

Michael B. Murray Superintendent, Cape Hatteras National Seashore National Park Service, Outer Banks Group 1401 National Park Drive Manteo, NC 27954

Re: Comments on Proposed ORV Rule for Cape Hatteras National Seashore

Dear Superintendent Murray:

These comments on the proposed special regulation to govern off-road vehicle ("ORV") use at Cape Hatteras National Seashore (the "Proposed Rule") are submitted by National Audubon Society (North Carolina State Office), Defenders of Wildlife, National Parks Conservation Association, Natural Resources Defense Council, Center for Biological Diversity, Sea Turtle Conservancy, and the Southern Environmental Law Center. Collectively, these organizations represent over 3.7 million members and supporters with an interest in protecting public lands, wildlife, and other natural resources, as well as the experiential, recreational, and educational opportunities that these lands provide. Cape Hatteras National Seashore is one of the last, best places on the East Coast where the public can visit wild beach environments that provide these opportunities.

We support a specific regulation for the use of ORVs within the Seashore. The regulation must include specific, enforceable, science-based protections for wildlife and for pedestrians who wish to visit the National Seashore in a natural, vehicle-free state. As written, the Proposed Rule does not do so. In addition, the Proposed Rule should set aside additional areas for those uses. Finally, certain terms of the Proposed Rule should be modified, as described below.

1. Science-Based Resource Protections - § 7.58(c)(10)

The Proposed Rule, as written, does not contain sufficiently specific and enforceable protections for wildlife and other natural resources. As a result, it does not meet the purpose and need identified by the National Park Service, and it does not comply with controlling law. At the very minimum, the Proposed Rule should mirror the Selected Action from the NPS's Record of Decision ("ROD"), which was to implement Alternative F from the Final Environmental Impact Statement ("FEIS") (although we believe that the better alternative remains Alternative D, the

environmentally preferred alternative, which, according to the ROD "best protects the biological and physical environment"). According to the FEIS, the purpose of the Proposed Rule is to

carefully manage ORV use/access in the Seashore to protect and preserve natural and cultural resources and natural processes, to provide a variety of visitor experiences while minimizing conflicts among various users, and to promote the safety of all visitors.

(FEIS at p. 1) The ROD states that the Proposed Rule will, among other things:

- Bring the Seashore in compliance with Executive Orders 11644 and 11989 respecting ORV use, and with NPS laws, regulations (36 CFR 4.10), and policies to minimize impacts to Seashore resources and values.
- Provide for protected species management in relation to ORV use
- Provide protection for threatened, endangered, and other protected species (e.g., state-listed species) and their habitats, and minimize impacts related to ORV and other uses
- Minimize impacts to wildlife species and their habitats related to ORV use.
- Manage ORV use to allow for a variety of visitor use experiences.
- · Minimize conflicts between ORV use and other uses.

(ROD at pp. 1-2)

In order to meet that purpose and accomplish those objectives, the Selected Action states that the NPS will implement the terms and conditions of the FEIS's Alternative F, "as fully described in the final plan/FEIS, with one change" (that change being a requirement to increase protective buffers in response to disturbance of wildlife by kites). (ROD at p. 4) Alternative F, while inadequate to protect the natural resources on the Seashore, includes not only a designation of specific routes and areas that could potentially be open to ORV use (FEIS at pp. 103-108), but also includes very specific, enforceable, science-based measures designed to protect wildlife and other natural resources from ORV impacts. (FEIS at pp. 79-82, 113-144) These protective measures include:

- Pre-nesting closures in specific places at specific times,
- Designated vehicle-free areas that leave areas less disturbed for wildlife,
- Mandatory buffers of predetermined, species-specific sizes to be implemented around nesting birds and turtles, nests, turtle hatchlings, and unfledged chicks, to prevent disturbance of the species by ORVs, and

 Year-round vehicle-free areas for use by migrating and wintering birds for resting, foraging, and roosting.

The FEIS acknowledges that the specific natural-resource-protection measures are the very elements of Alternative F that allow it to meet the objectives listed above. (FEIS at pp. 145-162) Indeed, the FEIS concludes that even full implementation of Alternative F meets the legal requirements for protected species, vegetation, and wildlife only "to a large degree," but not completely. (FEIS at p. 146) Those conclusions were expressly based on "increased buffer distances . . . and large, pre-determined buffers for breeding/nesting activity [that] would provide proactive (prior to breeding season) protection." Id. Similarly, the NPS's determination that Alternative F would be beneficial to the threatened piping plover is dependent on the "establishment of prescribed buffers." (FEIS at p. 150) Yet the Proposed Rule fails to include those specific measures or even to include any mandatory, enforceable measure at all to protect natural resources from ORV-related impacts.

Instead, the section of the Proposed Rule entitled "Superintendent's closures" (§ 7.58(c)(10)) is vague and permissive rather than mandatory, and is thus unenforceable. It states:

The Superintendent <u>may temporarily</u> limit, restrict, or terminate access to routes or areas designated for off-road use <u>after taking into consideration</u> public health and safety, <u>natural and cultural resource protection</u>, carrying capacity and other management activities and objectives, <u>such as</u> those described in the plan/FEIS. The public will be notified of such closures through one or more of the methods listed in § 1.7(a) of this chapter. Violation of any closure is prohibited.

(Proposed Rule § 7.58(c)(10) (emphasis added))

The use of the term "may" renders the section permissive rather than obligatory. As written, the Proposed Rule seems to allow the Superintendent to choose whether, when, and to what extent to impose any limits or restrictions on ORV routes for resource protection. It allows the Superintendent to choose not to impose any closures at all, even in the presence of, for instance, protected species' nests or chicks that would warrant imposition of buffers under the FEIS and ROD. By leaving the decision whether, when, and to what extent to limit or restrict ORV routes to the Superintendent's discretion, the permissive nature of this section's wording renders the carefully crafted wildlife protections and buffer requirements of the FEIS and ROD moot. The use of "may" in this section stands in marked contrast to the compulsory language used elsewhere in the Proposed Rule, such as "must," "is required," and "is prohibited." Even

¹ It is essential that the regulation be at least as stringent as Alternative F. As we documented in comments on the DEIS, even Alternative F is not sufficiently protective of wildlife at Cape Hatteras and is not consistent with the applicable law.

As in § 7.58(c)(3): "(i) The vehicle <u>must</u> be registered, licensed, and insured (ii) The vehicle <u>must</u> have no more than two axles. ... (v) The vehicle <u>must</u> carry a low pressure tire gauge,"

³ As in § 7.58(c)(2)(i): "A permit issued by the Superintendent is required to operate a vehicle on designated ORV routes at the Scashore.

the section identifying ORV routes says absolutely that they are "designated" as ORV routes, not, for instance, that they "may be designated" in the discretion of the Superintendent. Obligatory, rather than permissive, terms in this section are necessary for the Proposed Rule to implement the selected alternative.

Likewise, the word "temporarily" is vague and subject to interpretation. Its use will likely lead to confusion and perhaps ultimately litigation over whether, for instance, a closure that is in place for a week or a month or a season is truly temporary. We recommend removal of the word "temporarily" from this section.

The words "after taking into consideration" and "such as those described in the plan/FEIS" also render the section permissive, as though none of the issues listed afterwards will give rise to a mandatory closure. They create instead the impression that the list of issues — including public safety and natural resource protection — are merely among those that could, but need not necessarily, be considered by the Superintendent in deciding whether to close an ORV route temporarily. These phrases also imply that, in those instances when the Superintendent chooses to exercise his discretion to impose limits on ORV routes, he is free to impose the exact buffers and other protections from the FEIS/ROD, but that he may also merely use them as a guideline, impose smaller buffers, or even ignore them altogether. Thus, these phrases conflict with the protections described in the FEIS and ROD and must be deleted.

More generally, because the buffer requirements and other wildlife protections are not codified anywhere in the regulation, they can be ignored or changed by the Superintendent without a formal rulemaking process. This section, as written, leaves all aspects of resource closures to the sole discretion of the Superintendent. In contrast, the ORV routes are designated very specifically in a chart, and they are not left to the Superintendent's discretion; accordingly, they may not be changed except by formal rulemaking procedures. This disparity between the treatment of ORV routes and resource protections creates a critical imbalance between the two competing interests addressed in the ROD and FEIS; to change the ORV routes, a formal rulemaking process would be needed, but to change the wildlife protections and buffers, only a favorably disposed or easily pressured Superintendent would be needed.

Furthermore, having the discretion to dictate resource closures will be an extremely onerous burden on any Superintendent who is dedicated to fulfilling the requirements of federal law through the implementation of the measures described in the FEIS and ROD. Local residents and ORV enthusiasts have already put enormous pressure on Park Service officials over the years to allow them ever greater freedom to drive whenever and wherever they choose. If the Proposed Rule remains as written, that pressure on the Park Service will only increase, as each Superintendent faces recurring demands to exercise his discretion in favor of imposing few resource protection closures or even ignoring the wildlife protection requirements of the FEIS and ROD altogether.

⁴ As in § 7.58(c)(5): "The off-road operation of a motorcycle . . . <u>is prohibited."</u>

In addition, there are pending petitions for listing the red knot, a shorebird that uses Cape Hatteras during its spring and autumn migrations, as an endangered species, and the Park Service may need, in the future, to conduct research to determine appropriate conditions to protect red knots from ORV impacts. There may be other species that become listed as endangered, threatened, or a species of concern, and the Park Service will similarly need to conduct research into the needs of those species. It may become necessary, during the course of such research, to close ORV routes temporarily to determine, for instance, the effect of ORVs on the species and to discover which areas the species may be able to use as habitat. The regulation should, therefore, acknowledge that fact, and should include "research" among the considerations that can lead the Superintendent to limit, restrict, or terminate access to a particular route.

Last but not least, the omission of buffers and other resource protections from the Proposed Rule prevents it from fulfilling its purpose, satisfying the objectives listed above, and complying with applicable law. The FEIS statement of purpose and need, Executive Order 11644, 36 C.F.R. § 4.10, and the Consent Decree⁵ all require the NPS to promulgate a special regulation that designates ORV routes and areas in such a way that will protect and preserve wildlife, habitat, and other natural resources from ORV impacts and that will minimize conflicts among uses (for instance, conflicts between ORV use and wildlife protection or between ORVs and pedestrian visitors). By merely designating ORV routes without also including the buffers and other measures described in the FEIS/ROD that limit the routes for the protection of wildlife, the Proposed Rule cannot be said to satisfy any of those requirements.

Unlike the Proposed Rule, the following version of §7.58(c)(10) would uphold the compromise embodied in the FEIS and ROD, with the underlined portions being added and the stricken parts being deleted:

(10) Superintendent's closures. The Superintendent may shall temporarily limit, restrict, or terminate access to routes or areas designated for off-road use based on after taking into considerations of public health and safety, natural and cultural resource protection, carrying capacity, minimizing conflicts between users, research, and other management activities and objectives; such as those described in the plan/FEIS. At a minimum, the Superintendent shall enforce the wildlife protection measures, buffer requirements, and other management activities and objectives described for Alternative F on pages 79-82 and 113-144 of the FEIS, including without limitation imposing prenesting closures as described on page 138 of the FEIS and imposing other closures in accordance with the protective buffers described therein, summarized in the following table. The public will be notified of such closures through one or more of the methods listed in §1.7(a) of this chapter. Violation of any closure is prohibited.

⁵ This refers to the Consent Decree entered in the lawsuit <u>Defenders of Wildlife v. National Park Service</u>, 2:07-CV-45-BO (E.D.N.C. April 30, 2008).

Species	Breeding Behavior/ Nest Buffer*	Unfledged Chick Buffer
Piping plover	75 meters	1,000 meters for ORVs 300 meters for pedestrians
Wilson's plover	75 meters	200 meters
American oystercatcher	150 meters	200 meters
Least tern	100 meters	200 meters
Other colonial waterbird species	200 meters	200 meters
Sea turtles	10 meters by 10 meters around nest, then expanded to shoreline approximately 50-55 days into incubation, plus 10-15 meters behind nest, 25 meters wide in vehicle free areas with little pedestrian traffic, 50 meters wide in village beaches and areas with high pedestrian use, and 105 meters wide in areas with ORV traffic	Not applicable

^{*}Buffers will be increased in 50-meter increments if human disturbance occurs.

In the alternative, the section could be re-written to include performance-based standards. For example, the section of the regulation could be amended as follows:

(10) Superintendent's closures. The Superintendent may temporarily limit, restrict, or terminate access to routes or areas designated for off-road use after taking into consideration public health and safety, natural and cultural resource protection, carrying capacity, minimizing conflicts between users, research, and other management activities and objectives, such as those described in the plan/FEIS. The public will be notified of such closures through one or more of the methods listed in §1.7(a) of this chapter. Violation of any closure is prohibited. If population or reproduction levels for piping plovers, American oystercatchers, least terns, common terns, gull-billed terns, or black skimmers drop below those levels established in the 2010 breeding season, then ORV use will be prohibited throughout the year in the areas where these species breed, roost, nest, forage, or fledge, or might breed, roost, nest, forage, or fledge, until the species recovers to 2010 levels or higher.

In sum, the section must be amended to include specific details regarding the protective buffers and other wildlife protections described in the FEIS. The language must be amended to clarify that imposition of those protections, or more stringent provisions if future conditions or

recovery goals are not being met, are mandatory as opposed to optional, in order for the section to comply with applicable law and to meet the purpose and need of the project.

2. ORV Routes - § 7.58(c)(9)

Section 7.58(c)(9) affirmatively designates ORV routes without any indication that ORV use in those areas may be occasionally subject to mandatory limitations, restrictions, or prohibitions, for instance, when the beaches are closed for reasons related to natural-resource protection and public health and safety.

This omission ensures that the Proposed Rule will violate controlling law. As discussed above, Executive Order 11644, 36 C.F.R. § 4.10, and the Consent Decree all require the final regulation to include provisions to protect natural resources from ORV impacts. Similarly, section 1.4.3 of the National Park Service's Management Policies 2006 explains that, "when there is a conflict between conserving resources and values and providing for enjoyment of them, conservation is to be predominant." Likewise, the Cape Hatteras National Seashore enabling legislation provides that no "plan for the convenience of visitors shall be undertaken which would be incompatible with the preservation of the unique flora and fauna or the physiographic conditions now prevailing in the area." 16 U.S.C. § 459a-2. Elevating ORV access above wildlife protections turns these provisions on their heads.

This omission – failing to state explicitly that resource protection may lead to closures of ORV routes – allows the Proposed Rule to be interpreted to contradict the FEIS and ROD and ensures that the regulation will not meet the purpose and need identified by the Park Service. For instance, the FEIS states that "ORV routes and vehicle-free areas under [Alternative F] would still be subject to temporary resource closures established when protected-species breeding behavior warrants" and to protect migrating or wintering birds as they forage, rest, and roost. (FEIS at p. 81; see also ROD at 15)

The section should therefore be amended to clarify that protection of natural resources predominates over access for ORV use. We suggest the addition of the underlined portions, so that the section reads as follows:

(9) ORV Routes. The following tables indicate designated ORV routes that may be available for ORV use subject to the mandatory resource, safety, seasonal, and other closures imposed pursuant to subsection (10). The following ramps are designated as potentially open to ORV use (also subject to the mandatory resource, safety, seasonal, or other closures imposed pursuant to subsection (10)) to provide access to ocean beaches: 2.5, 4, 23, 25.5, 27, 30, 32.5, 34, 38, 43, 44, 47.5, 49, 55, 59.5, 63, 67, 68, 70, 72. Soundside ORV access ramps are described in the table below. For a village beach to be open to ORV use during the winter season, it must be at least 20 meters (66 feet) wide from the toe of the dune seaward to mean high tide line. Maps depicting designated routes and ramps are available in the Office of the Superintendent and for review on the Seashore Web site.

The performance-based standards proposed to be added to § 7.58(c)(10) above could also be added to this section.

In sum, the final regulation must be clear that ORV access is not guaranteed in the designated ORV routes, but rather that the natural resource protections of Alternative F of the FEIS will prevail by limiting the ORV routes and areas.

3. Additional Space for Vehicle-Free Recreation

For the reasons we more fully explained in our comments on the draft environmental impact statement and submitted on May 11, 2010, we believe that the Proposed Rule provides too few areas where ORV use is prohibited year-round for use and enjoyment by pedestrians and other visitors.

As the FEIS documented in detail, the overwhelming majority of visitors to the Seashore prefer not to use a vehicle to access the Seashore's beaches and place little value on ORV access to the beach. (FEIS at pp. 281-322) Yet the Proposed Rule disproportionately sets aside more than half of the Seashore's beaches for either seasonal or year-round ORV use. Although pedestrians can theoretically also use the sections of the beach that are set aside as ORV routes, they cannot practically do so without risking their personal safety and having their experience diminished by vehicle traffic, tire ruts, noise, and exhaust as well as the interruption of views of the natural landscape. More miles should, instead, be set aside for the many visitors who wish to enjoy the National Seashore in its natural state, so that they may enjoy fishing, surfing, swimming, sunbathing, windsurfing, kiteboarding, beachcombing, wildlife-watching, photography, etc., free from ORVs.

Cape Hatteras National Seashore already has too few areas where visitors can experience the Seashore's beaches without impacts from off-road vehicles. There are even fewer areas, arguably none, where a visitor can enjoy the Seashore's beaches without the sight of a vehicle on the landscape, the sound of a vehicle in the distance, and the visual impacts left by vehicles on the beach. Vehicle use jeopardizes the experience for visitors who come to the Seashore for wildlife-viewing and other wildlife-related activities, such as photography and other arts, and for the aesthetic enjoyment of scenic landscapes and the primitive beach environment. As written, the Proposed Rule perpetuates this reality. Even those miles of beach set aside as year-round vehicle-free areas are disproportionately those that are narrower and less scenic than those set aside for beach driving, and are still within sight and sound of ORV sections of the beach.

In particular, the opening of beaches to ORV traffic in front of residential developments eliminates opportunities for people to enjoy the unspoiled beach in front of their residences and rental properties. It also increases the risks to public safety. There have been numerous incidents in which vehicles have come close to striking pedestrians at Cape Hatteras, and a few incidents in which people have been harmed by beach driving, either by being in a vehicle that overturned on the beach or by being struck by an ORV. Many of these incidents have involved children. Nationally, people have been killed by ORVs where vehicles are allowed on beaches

with pedestrians. Recent examples include small children at the Daytona and New Smyrna Beaches in Florida. There is a real fear that the Proposed Rule, by allowing more driving in front of populated areas than has historically been the case, will increase the likelihood of such tragic events.

In sum, we recommend that more miles be set aside for pedestrian-only access.

4. Special Use Permits - § 7.58(c)(7)

Although § 7.58(c)(7), entitled "Special use permits for off-road driving, temporary use," is taken from page 120 of the FEIS, it has been altered in such a way as to fundamentally change its meaning and effect. The Proposed Rule deleted the final sentence describing Alternative F's plan for special use permit management, which states, "Temporary non-emergency use by nonessential vehicles would not be permitted within resource closure." FEIS at 120 (emphasis in original). This final sentence in the FEIS's description of Alternative F is crucial to the balance between ORV users and wildlife protections, and should be restored in the final regulation.

While special use permits are an important and necessary component of Seashore use for NCDOT, fishing tournaments, and mobility-impaired visitors, the FEIS makes clear that those special needs do not trump resource closures. The final sentence describing Alternative F clarifies that any nonessential ORV users, even those with special use permits, are not allowed within resource closures. Omission of this point in the regulation may lead to confusion in the event of a conflict between a special use and a resource closure. The FEIS and controlling law are clear about which takes priority—resource closures—and the regulation should be, too. As explained above, federal law and Park Service policy dictate that a conflict between conservation and recreation must be resolved in favor of conserving natural resources.

Accordingly, we suggest that the Proposed Rule be amended as follows:

- (7) Special use permits for off-road driving, temporary use. The Superintendent may issue a special use permit for temporary off-road vehicle use to:
 - (i) Authorize the North Carolina Department of Transportation to use Seashore beaches as a public way, when necessary, to bypass sections of NC Highway 12 that are impassable or closed for repairs; or
 - (ii) Allow participants in regularly scheduled fishing tournaments to drive in an area if such tournament use was allowed in that area for that tournament before January 1, 2009; or
 - (iii) Allow vehicular transport of mobility impaired individuals via the shortest, most direct distance from the nearest designated ORV route or Seashore road to a predetermined location in a designated vehicle-free area in front of a village; *provided that*, the vehicle must return to the designated ORV route or Seashore road immediately after the transport.

Such special use permits are subject to the mandatory resource, safety, seasonal, and other closures imposed pursuant to subsection (10). Temporary non-emergency use by nonessential vehicles is not permitted within a resource closure.

5. Commercial Fishing - § 7.58(c)(8)(i)

Although the spirit of this section of the Proposed Rule is in line with the FEIS, its wording may create an unintended consequence. As worded in the FEIS, Alternative F allows the Superintendent to permit a qualified commercial fishing vehicle to drive on a beach that is "not designated for off-road use, except for resource closures and lifeguarded beaches" – that is, if a beach is closed to driving either for resource protection or because it is lifeguarded, it remains off-limits to commercial fishing vehicles. (FEIS at p. 124; see also FEIS at p. 383: "Commercial fishermen would be able to enter all areas except resource closures and lifeguarded beaches.")

In rephrasing the exception, the Proposed Rule appears to allow a commercial fisherman with a permit to operate a vehicle on a non-ORV beach in all instances unless the beach is <u>both</u> a resource closure <u>and</u> is lifeguarded. In other words, a beach that is subject to a resource closure would not be off-limits to a commercial fishing vehicle unless it is also lifeguarded. In practice, though, there may be little to no overlap in these two categories. Any beach at the Seashore is unlikely to be both a resource closure <u>and</u> to be lifeguarded, since the two uses are so incompatible.

A small revision will give the section a meaning that is more in line with the reality of Hatteras beaches and with the intent of the FEIS. We suggest amending the section to read as follows:

- (8) Commercial Fishing vehicles. The Superintendent may authorize a commercial fishing permit holder when actively engaged in authorized commercial fishing to operate a vehicle on a beach:
 - (i) Not designated for ORV use, provided the beach is <u>neithernot</u> subject to a resource closure norand is not lifeguarded; and
 - (ii) Beginning at 5 a.m. on days when night driving restrictions are in effect, to set or tend haul seine or gill nets, if the permit holder is carrying and able to present a fish-house receipt from the previous 30 days.

The amendment brings the Rule in line with the intent of the FEIS and ROD, and allows qualified commercial fishermen to enter all areas except resource closures and lifeguarded beaches. That sentence makes clear that fisherman cannot enter resource closures, regardless of whether they are also lifeguarded, and cannot enter lifeguarded beaches, regardless of whether they are also resource closures. The small wording change will have major benefits for the safety of wildlife and pedestrians.

6. Definition of ORV Corridor - § 7.58(c)(1)

Section 7.58(c)(1) defines the term "ORV Corridor" in a way that is not sufficiently protective of wildlife, especially migrating and wintering shorebirds. Although we acknowledge that the definition in the Proposed Rule is similar to the definition in the FEIS, the FEIS also

contained mandatory conditions related to imposing substantial "Species Management Areas," or "SMAs," throughout the Seashore, including at the points and spits, which modified the ORV corridors and affected the scope of the definition. References to those SMAs were erroneously omitted from the regulation. As a result, the definition of "ORV corridor" in the Proposed Rule has the effect of setting aside far more area for driving than it did in the FEIS, when it was clearly modified by the establishment of SMAs.

Additionally, throughout the Seashore, space at the toe of the Seashore's dunes is necessary year-round to give protected shorebird species adequate area to rest, roost, and seek shelter; the ocean intertidal zone, wrack line, and sandy beach landward of the high tide line are important for foraging, resting, and roosting shorebirds. The Park Service appears to have determined that an ORV corridor of 20 meters at the water's edge is sufficient, as evidenced by the way in which the FEIS and Proposed Rule both define a corridor when the beach is at least 30 meters wide. The definition of "ORV Corridors" should be based on the minimum width necessary, but measured from the high tide line, leaving the habitat at the toe of the dune, the intertidal zone, wrack line and immediately landward of the high tide line undisturbed by vehicles.

We recommend the following revisions:

ORV corridor means the actual physical limits of the designated ORV route in the Seashore. The ORV corridor generally runs from the toe of the dune or the vegetation line on the landward side to the water line on the seaward side. Where the dry sand ocean beach is at least 3060 meters wide above the high tide line, the landward side of the corridor will be 40 meters landward of the high tide line and the seaward side will be 20 meters from the high tide line. 10 meters seaward of the toe of the dune. There will be no ORV corridor in areas where the dry sand ocean beach is less than 60 meters wide. The ORV corridor will usually be marked by posts on the landward and seaward side (the seaward side of the corridor usually will not be posted).

In addition, we ask that the following sentence be added to the definition of "ORV corridor" or to section 7.58(c)(10), in order to ensure that adequate areas are set aside for use by migrating and wintering shorebirds and other species for foraging, resting, and roosting:

In addition, the Superintendent will establish and manage vehicle-free shorebird species management areas for the protection of migrating and wintering species throughout the Seashore, including at all points and spits and along the ocean shoreline.

7. Carrying Capacity - § 7.58(c)(13)

This section of the Proposed Rule states that the "maximum number of vehicles allowed on any particular ORV route, at one time, is the linear distance of the route divided by 6 meters (20 feet)." According to the FEIS, this equates to 260 vehicles per mile. (FEIS at p. 81) For the

reasons we more fully explained in our comments on the draft environmental impact statement and submitted on May 11, 2010, we believe that the carrying capacity in the final regulation should be much lower. The current limit of 260 vehicles per mile could result in approximately 10,500 ORVs on Seashore beaches at any given time, if the carrying capacity is maximized on all ORV routes. That is approximately four times the highest number of vehicles that has ever been recorded on Cape Hatteras's beaches in any given day. In addition, as the Proposed Rule is currently written, it is not clear that all those vehicles must be spread throughout the Seashore.

That number of vehicles would result in significant recreational conflicts and increased environmental impacts, including degradation of soil, sand, vegetation, and wildlife habitat in violation of Executive Order 11644, especially if allowed to pack into a few small areas of the Seashore. We recommend a much lower carrying capacity and clarification that the density applies per mile of the beach, and not to the entire National Seashore. We recommend the following revisions:

- (13) Vehicle carrying capacity. The maximum number of vehicles allowed on any particular ORV route, at one time, is the linear distance of the route divided by 612 meters (2040 feet). The density of vehicles on the beach may not exceed 130 vehicles per each mile of beach.
- 8. NPS's Exclusion of Fixed-Distance, Mandatory Buffers for Resource Protection Creates a New Alternative That Violates the National Environmental Policy Act and the Administrative Procedure Act.

As discussed above, the Proposed Rule departs from the FEIS's Alternative F and the ROD's Selected Action by excluding mandatory resource protections in favor of subjective, discretionary measures. In doing so, the Proposed Rule creates a new alternative, one that takes the unique approach of defining ORV routes and areas, but leaving resource protections undefined and discretionary. None of the alternatives evaluated in the FEIS took this approach; each alternative studied and implemented standardized, obligatory buffers. To be sure, the fixed buffers of Alternative A were woefully inadequate, but they were consistent with the overall approach of pairing designated ORV routes with fixed buffers related to breeding and nesting behavior. The ROD reflected the dual components, stating that the designation of routes and areas "in conjunction with the species management strategies described in the final plan . . . will provide for species protection . . . using the standard set of buffers." (ROD at 5) The Proposed Rule jettisons this approach, focusing on ORV routes. As a result, it not only fails to protect

⁶ According to one news report, the highest number of drivers ever recorded on a given day (as of the day of that report) was 2,557 on the July 4th holiday in 2008. Irene Nolan, New dispatches from the beachfront: Access update, getting smart about beach driving, manners and laws, and July 4 report, ISLAND FREE PRESS, http://www.islandfreepress.org/2008Archives/07.11.2008-ShootingTheBreezeNewDispatchesFromTheBeachfront.html.

⁷ The ROD states that Alternative A "has the potential for impairment to sea turtles, common terns, gull-billed terns, and black skimmers" and would "impede the Seashore's desired future conditions for protected species." (ROD at p. 13)

wildlife on the Seashore, it runs afoul of the National Environmental Policy Act ("NEPA") and the Administrative Procedure Act ("APA").

a. The Proposed Rule's new alternative violates NEPA.

NPS's decision to adopt a new alternative in the Proposed Rule violates NEPA in three ways. First, the Proposed Rule selects an alternative that is outside the range of alternatives considered within the EIS. Second, by selecting that alternative, the Proposed Rule adopts an alternative that has not undergone the "hard look" required by NEPA. Third, because it was not included in the EIS, NPS has not provided the public or other governmental agencies the opportunity to analyze and substantively comment on the alternative in the Proposed Rule and its implications for wildlife protection. Because of these shortcomings, the new alternative articulated in the Proposed Rule must be fully evaluated in a supplemental EIS before it can legally be finalized.

Under NEPA's implementing regulations, the selected alternative must be "encompassed by the range of alternatives discussed in the relevant environmental documents." 40 C.F.R. § 1505.1(e). As described above, the Proposed Rule fails to prescribe any fixed-distance, mandatory buffers for resource protection. Each alternative considered in the EIS, however, included mandatory, fixed-distance buffers. In contrast, the Proposed Rule provides that the "Superintendent may temporarily limit, restrict, or terminate access," without requiring any specific restrictions. 76 Fed. Reg. at 39,356. Thus, the Proposed Rule cannot, under any interpretation, be considered to be within the range of alternatives of the EIS or representative of Alternative F as it was selected in the ROD. Nor does it purport to be within that range; it merely states that it "implements portions of the plan/FEIS and ROD." 76 Fed. Reg. at 39,354. By doing so, it selects an alternative outside of the range of those considered in the FEIS and violates NEPA.

Further, adopting a new alternative in the Proposed Rule frustrates the central purpose of NEPA and the EIS process. The alternatives analysis is often described as the heart of the EIS and requires that agencies take a "hard look" at the environmental impacts of their actions. Nat'l Audubon Soc'y v. Dep't of the Navy, 422 F.3d 174, 184 (4th Cir. 2005). That analysis "encompasses a thorough investigation into the environmental impacts of an agency's action and a candid acknowledgement of the risks that those impacts entail." Id. at 185. It is "surely implicated when the environment that may be damaged is one that Congress has specially designated for federal protection," as are the wildlife and habitat at the Seashore. Id. at 186-87. There, the "hard look" must "take particular care to evaluate how its actions will affect the unique biological features of th[e] congressionally protected area." Id. at 187. The Proposed Rule ignores these requirements, extracting the ORV routes and other requirements from Alternative F as described in the FEIS and ROD, yet omitting the mandatory resource protections that would provide the environmental benefits described by Alternative F. The resulting new alternative has not been given the "hard look" required by NEPA and its environmental consequences are, at best, unknown. Its approach to resource protection

⁸ See FEIS at p. 144 (chart showing fixed buffer distances under each alternative).

drastically differs from each of the alternatives considered in the FEIS and has not been studied to any degree.

Finally, NPS's promulgation of a new alternative in the Proposed Rule also violates NEPA's purpose of providing an opportunity for the public and governmental agencies "to analyze and comment on the action's environmental implications." 422 F.3d at 184. Here, neither the public nor federal and state wildlife agencies had the opportunity to comment on the environmental implications of the alternative reflected in the Proposed Rule. The FEIS did not forecast that NPS was considering an alternative devoid of mandatory, specified buffers and the public could not have anticipated that such an alternative would be introduced during the rulemaking period. Nor can NPS rely on the inclusion of Alternative F in the FEIS to satisfy NEPA's public notice requirements. The benefits provided by Alternative F, while not adequate to protect all natural resources within the Seashore, rely on fixed, mandatory buffers; they would significantly exceed the environmental benefits, if any, of the Proposed Rule and cannot put the public on notice of its environmental consequences. See Hughes River Watershed Conservancy v. Glickman, 81 F.3d 437, 446-47 (4th Cir. 1996) (stating that misleading representation of benefits can violate NEPA "by skewing the public's evaluation of a project").

The only legal path forward for NPS if it decides to implement the Proposed Rule is first to prepare and disseminate a supplemental EIS that takes a legitimate "hard look" at the consequences of a regulation that contains no mandatory, science-based wildlife protections. A supplemental EIS is required if an "agency makes substantial changes in the proposed action that are relevant to environmental concerns." 40 C.F.R. § 1502.9. The exclusion of fixed-distance, mandatory buffers is clearly a "substantial change" that is "relevant to environmental concerns." To be clear, we do not support a supplemental EIS or a regulation without mandatory, science-based wildlife protections; NPS can only comply with the court-ordered deadline to complete this rulemaking by implementing the changes to the Proposed Rule described above and should do so no later than November 15.

b. The Proposed Rule violates notice and comment requirements of the APA.

By implementing a new alternative that was not studied in the FEIS, the Proposed Rule violates the APA's notice and comment requirements. Under the APA, the notice of the Proposed Rule "must be sufficiently descriptive of subjects and issues involved so that interested parties may offer informed criticism and comments." Ethyl Corp. v. EPA, 541 F.2d 1, 48 (D.C. Cir. 1976). The purpose of that description is "to disclose the thinking of the agency and the data relied on." Lloyd Noland Hosp. & Clinic v. Heckler, 762 F.2d 1561, 1565 (11th Cir. 1985). An agency that fails to reveal the technical basis for its rule "commits serious procedural error." Conn. Light & Power Co. v. Nuclear Regulatory Comm'n, 673 F.2d 525, 530 (D.C. Cir. 1982).

⁹ The opportunity to comment on the Proposed Rule does not ameliorate this violation. For major federal actions, like this rule, that opportunity for public comment is only meaningful if it is preceded by a full analysis of the proposed action in an EIS, a step the NPS has failed to take with its new alternative.

Because the alternative presented in the Proposed Rule was not evaluated in the FEIS, the NPS has not presented an analysis evaluating the environmental impact of the Proposed Rule, provided any scientific evidence for its ORV-route-only approach, or made available any of the data that undergirds this approach, if any exists. Therefore, the Proposed Rule does not "disclose the thinking of the agency" and does not provide sufficient information for the public to allow us to submit "informed criticism and comments" on the analyses and data that purportedly support the Proposed Rule.

Further, adopting this new alternative in a final rule would be arbitrary and capricious. Under the APA, courts "shall . . . hold unlawful and set aside agency action, finding, and conclusions found to be – (A) arbitrary, capricious, an abuse of discretion or otherwise not in accordance with the law." 5 U.S.C. § 706(2)(A). Nothing in the record before the agency supports NPS's conclusion that a purely discretionary resource protection program will provide adequate environmental benefits. To the contrary, the record is replete with evidence that discretionary measures before the creation of the Interim Plan in 2007 and the mandatory measures within the Interim Plan – embodied in Alternative A of the FEIS – were inadequate to protect resources and contributed to declines in breeding shorebirds, water birds, and sea turtles. The ROD makes clear that "[p]rotected species and wildlife mitigation measures []are integral parts of the selected action" that are necessary to mitigate for impacts to wildlife. ROD at 7. Without these "integral parts," NPS has no basis to claim that the Proposed Rule will protect resources on the Seashore.

Conclusion

We appreciate the opportunity to provide these comments and the hard work and dedication of the National Park Service in preserving the best examples of America's natural and cultural heritage for future generations. And we look forward to a final regulation that addresses and incorporates our concerns, and restores a balance to the Seashore consistent with NPS's stewardship obligations to restore and protect the natural resources and leave them unimpaired for future generations.

Sincerely,

Derb S. Carter, Jr., Director, Carolinas Office

Julia F. Youngman, Senior Attorney Southern Environmental Law Center

Heather Starck, Executive Director/Vice President Walker Golder, Deputy State Director National Audubon Society (North Carolina State Office)

Jason Rylander, Senior Staff Attorney Defenders of Wildlife

Chris Watson, Program Manager, Southeast Regional Office National Parks Conservation Association

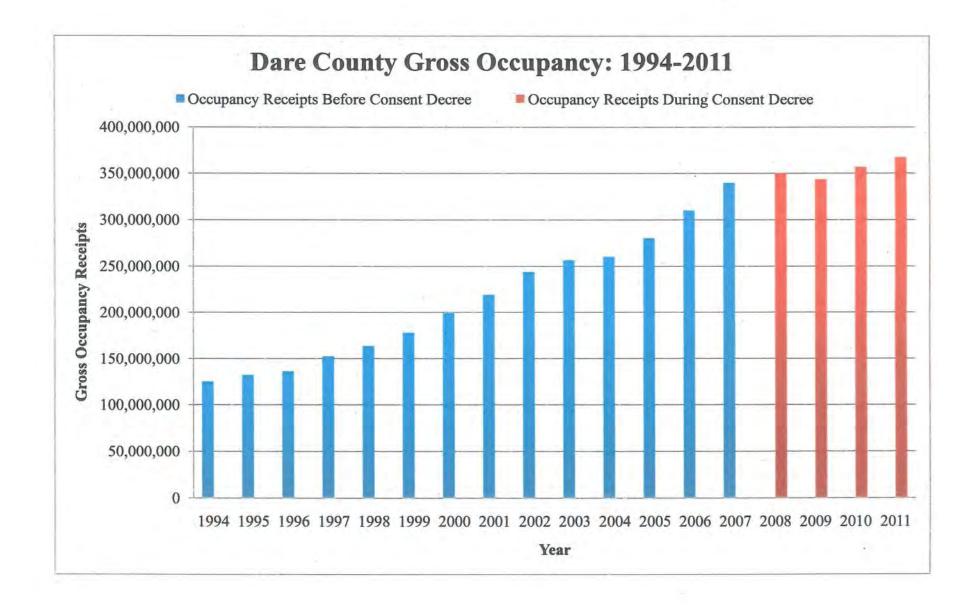
Charles M. Clusen, Director, National Parks Project Natural Resources Defense Council

David Godfrey, Executive Director Sea Turtle Conservancy

Tierra Curry, Conservation Biologist Center for Biological Diversity

Cc (via U.S. mail):

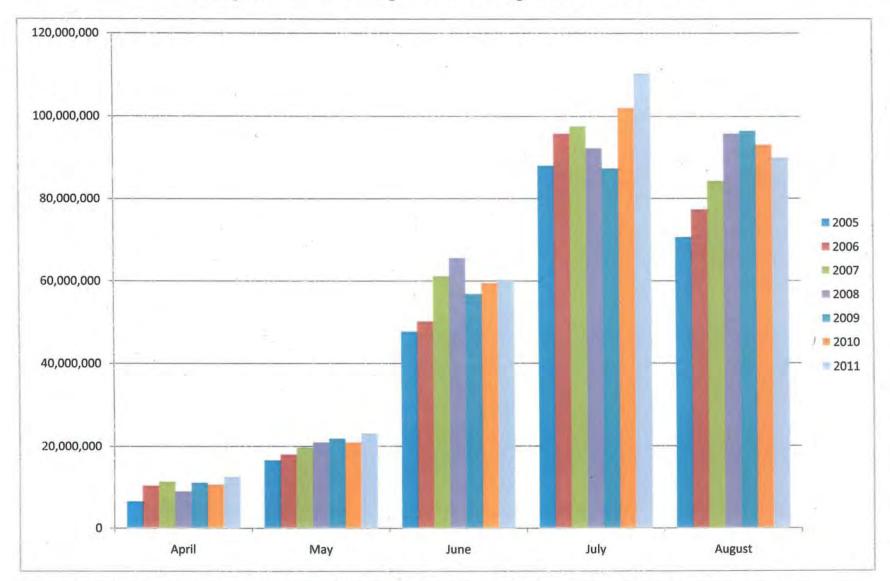
Jon Jarvis, Director, NPS
Bert Frost, Associate Director, Natural Resource Stewardship and Science, NPS
David Vela, Southeast Regional Director, NPS



^{*} Gross occupancy statistics as reported by the Outer Banks Visitors Bureau: http://www.outerbanks.org/pdf/ Gross_Occupancy_Summary_receipts.pdf. Receipts for December 2011 were not available as of January 6, 2012, and are not included in the 2011 statistic.

·	

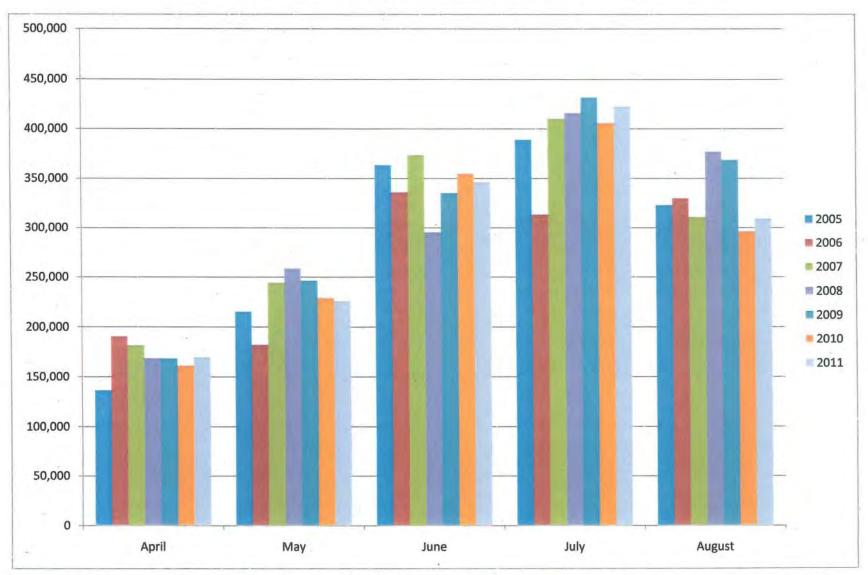
Dare County Gross Occupancy During Peak Breeding and Nesting Season 2005-2011*



^{*} Data were taken from the Outer Banks Visitors Bureau website maintained by Dare County, North Carolina, (available at http://www.outerbanks.org/pdf/Gross Occupancy Summary receipts.pdf) on January 6, 2012. Wildlife protections under the court-approved Consent Decree went into effect April 30, 200%. Dare County officials ordered a mandatory evacuation of all visitors from Hatteras Island effective 8:00 a.m., August 25, 2011, and Hurricane Irene made landfall on the Outer Banks on August 27, 2011.

	·			
				1
				1
			•	1
				1
·				1
				1

Cape Hatteras National Seashore Visitation During Peak Breeding and Nesting Season 2005-2011*



^{*} Data were taken from the National Park Service website (available at http://www.nature.nps.gov/stats/) on December 12, 2011. Wildlife protections under the court-approved Consent Decree went into effect April 30, 200%. Dare County officials ordered a mandatory evacuation of all visitors from Hatteras Island effective 8:00 a.m., August 25, 2011, and Hurricane Irene made landfall on the Outer Banks on August 27, 2011.

			1
			: !
			!
			!
			. !
	·		!
			į
			!
	·		!
		,	
·			

County	Expenditures (\$ Millions)	Percent Change 2009/10		Employment (Thousands)	State Tax Receipts (\$ Millions)	Local Tax Receipts (\$ Millions)
MECKI EMBLING	2 727 02	10.00/	1.076.04	41.50	102.22	00.66
MECKLENBURG	3,727.02	12.2%	1,276.24	41.52	192.23	99.65
WAKE	1,540.97	9.4%	490.76	18.43	80.76	44.11
GUILFORD	1,006.91	7.6%	247.55		56.60	24.38
DARE	834.29	8.8%	172.00	11.26	44.55	39.78
BUNCOMBE	729.02	11.3%	159.11		40.82	23.37
FORSYTH	622.88	9.2%	107.46		39.24	12.27
DURHAM	546.50	8.8%	112.78	7.02	32.12	16.65
CUMBERLAND	417.67	10.5%	77.91	4.13	24.35	9.21
NEW HANOVER	400.88	6.9%	91.62	5.04	21.59	15.72
BRUNSWICK	395.38	8.7%	73.63	4.60	20.44	25.71
MOORE	342.25	9.3%	76.75	4.73	19.41	10.87
CABARRUS	312.92	6.9%	68.92	3.68	19.65	5.18
CARTERET	271.30	6.6%	48.65	2.99	13.60	17.52
SWAIN	256.35	8.0%	73.71	3.21	16.63	5.71
NASH	233.95	12.2%	45.15	2.82	13.38	6.55
HENDERSON	203.09	3.7%	36.32	1.97	10.08	9.49
CATAWBA	200.51	10.7%	36.95	2.05	11.78	6.46
GASTON	190.69	7.7%	30.06	1.66	11.70	3.35
WATAUGA	189.77	5.9%	41.13	2.39	10.49	7.77
PITT	181.74	7.6%	35.56	1.92	10.23	4.26
IREDELL	180.96	10.2%	28.42	1.59	10.81	5.92
ONSLOW	180.30	9.9%	33.79	1.64	10.21	6.57
JOHNSTON	175.02	6.3%	26.57	1.56	10.55	4.69
ORANGE	144.07	5.7%	27.17	1.61	8.45	2.92
ALAMANCE	\$136.28	7.2%	\$22.11	1.21	\$8.55	\$2.52
RUTHERFORD	129.25	8.3%	18.44	1.08	8.21	4.07
WAYNE	126.50	8.4%	16.97	0.94	8.28	2.05
ROWAN	124.59	5.4%	20.43	1.18	7.19	4.12
MACON	122.08	6.6%	21.26	1.12	6.11	10.31
DAVIDSON	118.92	10.7%	16.84	0.88	7.13	4.08
CURRITUCK	117.12	3.2%	21.84	1.38	5.60	5.77
ROBESON	116.42	8.9%	17.36	1.05	7.15	2.22
HAYWOOD	116.31	6.8%	22.59	1.30	6.55	5.00
RANDOLPH	108.38	8.3%	16.77	0.88	6.95	1.79
CRAVEN	108.29	9.1%	20.51	1.03	6.33	2.52
SURRY	95.02	10.4%	13.78	0.74	5.69	2.15
UNION	92.52	6.3%	14.41	0.82	5.59	1.76
WILSON	90.52	8.2%	13.54	0.77	5.67	1.82
AVERY	89.82	5.6%	20.78	1.14	5.01	4.12

•				
		·		
				•
				1
				1
			·	1
				1
				•

County	Expenditures (\$ Millions)	Percent Change 2009/10	-	Employment (Thousands)	State Tax Receipts (\$ Millions)	Local Tax Receipts (\$ Millions)
CLEVELAND	80.47	9.0%	11.69	0.61	5.06	1.48
LENOIR	74.76	9.6%	12.48	0.64	4.44	1.53
PENDER	72.83	8.1%	12.31	0.71	3.68	5.20
HALIFAX	72.16	8.5%	8.87	0.48	4.70	1.67
BURKE	71.89	5.6%	10.48	0.60	4.26	2.22
TRANSYLVANIA	71.75	1.7%	13.01	0.69	3.10	3.43
BEAUFORT	66.97	4.7%	8.62	0.44	3.64	4.24
HARNETT	63.36	5.1%	9.07	0.52	3.78	1.51
JACKSON	62.58	2.8%	10.31	0.56	3.13	5.12
STANLY	61.54	1.5%	8.14	0.45	3.80	1.96
LEE	59.88	12.9%	10.57	0.58	3.68	1.22
WILKES	57.79	6.1%	8.40	0.48	3.07	1.36
ROCKINGHAM	57.08	7.1%	9.32	0.51	3.27	1.45
PASQUOTANK	50.67	7.8%	7.76	0.47	3.02	1.20
EDGECOMBE	49.05	9.5%	6.70	0,35	2.89	0.89
MCDOWELL	44.09	8.0%	6.59	0.38	2.50	1.69
ASHE	42.99	13.6%	6.25	0.37	2.40	2.46
COLUMBUS	42.47	-0.1%	5.22	0.27	2.60	1.24
CALDWELL	42.45	1.5%	6.34	0.32	2.46	1.41
LINCOLN	41.94	6.2%	6.74	0.34	2.49	1.32
SAMPSON	40.53	4.0%	5.24	0.27	2.42	1.37
VANCE	38.74	7.3%	5.30	0.28	2.42	1.23
RICHMOND	37.39	2.0%	6.66	0.37	2.16	0.74
GRANVILLE	37.34	2.7%	4.67	0.27	2.30	1.10
SCOTLAND	35.62	4.9%	5.82	0.35	2.11	0.66
DUPLIN	32.38	6.1%	3.72	0.19	2.00	1.01
CHEROKEE	31.64	3.0%	4.88	0.28	1.66	1.99
BLADEN	31.34	6.8%	3.38	0.18	1.98	0.96
HYDE	30.90	11.6%	5.92	0.39	1.62	1.73
YANCEY	29.92	8.4%	4.86	0.23	1.49	2.24
PERSON	29.52	7.5%	3.68	0.21	1.83	0.70
YADKIN	29.37	2.5%	5.02	0.32	1.71	0.76
MADISON	28.54	1.3%	5.53	0.30	1.61	1.37
DAVIE	28.48	7.5%	5.12	0.26	1.70	0.53
MARTIN	26.02	1.7%	3.86	0.22	1.53	0.69
СНАТНАМ	25.03	4.6%	3.03	0.16	1.59	0.48
HERTFORD	23.27	7.7%	2.98	0.17	1.46	0.61
GRAHAM	22.82	6.7%	3.97	0.25	1.18	1.57
MONTGOMERY	22.15	5.8%	2.23	0.10	1.12	2.16

		!
		ı
		•
		į
		1
		1
		1
		!
		!
		ļ
		1
		1
		!
		!
		ļ

County	Expenditures (S Millions)	Percent Change 2009/10	-	Employment (Thousands)	State Tax Receipts (\$ Millions)	Local Tax Receipts (\$ Millions)
WARREN	21.57	3.1%	2.61	0.12	0.87	1.95
ALLEGHANY	20.72	5.3%	3.70	0.18	1.09	1.44
POLK	20.26	6.5%	2.91	0.17	1.13	1.21
STOKES	20.06	8.1%	2.55	0.13	1.10	0.83
MITCHELL	19.10	4.1%	2.91	0.16	0.92	0.86
FRANKLIN	18.91	12.1%	2.19	0.12	1.13	0.50
CHOWAN	16.45	1.1%	2.44	0.14	0.87	1.09
ALEXANDER	15.58	1.2%	2.29	0.11	0.92	0.68
PAMLICO	14.37	4.9%	1.70	0.08	0.65	1.68
ANSON	14.15	5.4%	1.73	0.10	0.88	0.37
WASHINGTON	12.48	6.4%	1.65	0.09	0.74	0.56
NORTHAMPTON	11.94	-0.7%	1.38	0.05	0.58	1.05
BERTIE	11.47	7.3%	1.16	0.05	0.67	0.68
CLAY	11,23	4.2%	1.22	0.06	0.51	1.30
HOKE	9.39	15.2%	1.15	0.07	0.57	0.15
PERQUIMANS	8.66	4.1%	1.04	0.04	0.40	1.02
CASWELL	6.85	6.0%	0.70	0.04	0.35	0.51
GATES	5.28	8.4%	0.45	0.02	0.34	0.21
GREENE	4.82	7.6%	0.48	0.03	0.29	0.17
JONES	3.42	4.4%	0.47	0.02	0.22	0.11
TYRRELL	3.12	5.7%	0.30	0.01	0.16	0.31
CAMDEN	1.71	6.0%	0.19	0.01	0.10	0.15
STATE TOTALS	\$17,015.70	9.0%	\$3,995.79	183.88	\$946.05	\$543.78

County	Expenditures (\$ Millions)	Percent Change 2009/10		Employment (Thousands)		Local Tax Receipts (\$ Millions)
HOKE	9.39	15.2%	1.15	0.07	0.57	0.15
ASHE	42.99	13.6%	6.25	0.37	2.40	2.46
LEE	59.88	12.9%	10.57	0.58	3.68	1.22
NASH	233.95	12.2%	45.15	2.82	13.38	6.55
MECKLENBURG	3,727.02	12.2%	1,276.24	41.52	192.23	99.65
FRANKLIN	18.91	12.1%	2.19	0.12	1.13	0.50
HYDE	30.90	11.6%	5.92	0.39	1.62	1.73
BUNCOMBE	729.02	11.3%	159.11	8.94	40.82	23.37
CATAWBA	200.51	10.7%	36.95	2.05	11.78	6.46
DAVIDSON	118.92	10.7%	16.84	0.88	7.13	4.08
CUMBERLAND	417.67	10.5%	77.91	4.13	24.35	9.21
SURRY	95.02	10.4%	13.78	0.74	5.69	2.15
IREDELL	180.96	10.2%	28.42	1.59	10.81	5.92
ONSLOW	180.30	9.9%	33.79	1.64	10.21	6.57
LENOIR	74.76	9.6%	12.48	0.64	4.44	1.53
EDGECOMBE	49.05	9.5%	6.70	0.35	2.89	0.89
WAKE	1,540.97	9.4%	490.76	18.43	80.76	44.11
MOORE	342.25	9.3%	76.75	4.73	19.41	10.87
FORSYTH	622.88	9.2%	107.46	5.82	39.24	12.27
CRAVEN	108.29	9.1%	20.51	1.03	6.33	2.52
CLEVELAND	80.47	9.0%	11.69	0.61	5.06	1.48
ROBESON	116.42	8.9%	17.36	1.05	7.15	2.22
DARE	834.29	8.8%	172.00	11.26	44.55	39.78
DURHAM	546.50	8.8%	112.78	7.02	32.12	16.65
BRUNSWICK	395.38	8.7%	73.63	4.60	20.44	25.71
HALIFAX	72.16	8.5%	8.87	0.48	4.70	1.67
YANCEY	29.92	8.4%	4.86	0.23	1.49	2.24
WAYNE	126.50	8.4%	16.97	0.94	8.28	2.05
GATES	5.28	8.4%	0.45	0.02	0.34	0.21
RANDOLPH	108.38	8.3%	16.77	0.88	6.95	1.79
RUTHERFORD	129.25	8.3%	18.44	1.08	8.21	4.07
WILSON	90.52	8.2%	13.54	0.77	5.67	1.82
STOKES	20.06	8.1%	2.55	0.13	1.10	0.83
PENDER	72.83	8.1%	12.31	0.71	3.68	5.20
SWAIN	256.35	8.0%	73.71	3.21	16.63	5.71
MCDOWELL	44.09	8.0%	6.59	0.38	2.50	1.69
PASQUOTANK	50.67	7.8%	7.76	0.47	3.02	1.20
GASTON	190.69	7.7%	30.06	1.66	11.70	3.35
HERTFORD	23.27	7.7%	2.98	0.17	1.46	0.61

•				

County	Expenditures (\$ Millions)	Percent Change 2009/10	•	Employment (Thousands)	State Tax Receipts (S Millions)	Local Tax Receipts (\$ Millions)
GREENE	4.82	7.6%	0.48	0.03	0.29	0.17
GUILFORD	1,006.91	7.6%	247.55	11.44	56.60	24.38
PITT	181.74	7.6%	35.56	1.92	10.23	4.26
DAVIE	28.48	7.5%	5.12	0.26	1.70	0.53
PERSON	29.52	7.5%	3.68	0.21	1.83	0.70
VANCE	38.74	7.3%	5.30	0.28	2.42	1.23
BERTIE	11.47	7.3%	1.16	0.05	0.67	0.68
ALAMANCE	\$136.28	7.2%	\$22.11	1.21	\$8.55	\$2.52
ROCKINGHAM	57.08	7.1%	9.32	0.51	3.27	1.45
NEW HANOVER	400.88	6.9%	91.62	5.04	21.59	15.72
CABARRUS	312.92	6.9%	68.92	3.68	19.65	5.18
HAYWOOD	116.31	6.8%	22.59	1.30	6.55	5.00
BLADEN	31.34	6.8%	3.38	0.18	1.98	0.96
GRAHAM	22.82	6.7%	3.97	0.25	1.18	1.57
MACON	122.08	6.6%	21.26	1.12	6.11	10.31
CARTERET	271.30	6.6%	48.65	2.99	13.60	17.52
POLK	20.26	6.5%	2.91	0.17	1.13	1.21
WASHINGTON	12.48	6.4%	1.65	0.09	0.74	0.56
UNION	92.52	6.3%	14.41	0.82	5.59	1.76
JOHNSTON	175.02	6.3%	26.57	1.56	10.55	4.69
LINCOLN	41.94	6.2%	6.74	0.34	2.49	1.32
WILKES	57.79	6.1%	8.40	0.48	3.07	1.36
DUPLIN	32.38	6.1%	3.72	0.19	2.00	1.01
CASWELL	6.85	6.0%	0.70	0.04	0.35	0.51
CAMDEN	1.71	6.0%	0.19	0.01	0.10	0.15
WATAUGA	189.77	5.9%	41.13	2.39	10.49	7.77
MONTGOMERY	22.15	5.8%	2.23	0.10	1.12	2.16
TYRRELL	3.12	5.7%	0.30	0.01	0.16	0.31
ORANGE	144.07	5.7%	27.17	1.61	8.45	2.92
BURKE	71.89	5.6%	10.48	0.60	4.26	2.22
AVERY	89.82	5.6%	20.78	1.14	5.01	4.12
ROWAN	124,59	5.4%	20.43	1.18	7.19	4.12
ANSON	14.15	5.4%	1.73	0.10	0.88	0.37
ALLEGHANY	20.72	5.3%	3.70	0.18	1.09	1.44
HARNETT	63.36	5.1%	9.07	0.52	3.78	1.51
SCOTLAND	35.62	4.9%	5.82	0.35	2.11	0.66
PAMLICO	14.37	4.9%	1.70	0.08	0.65	1.68
BEAUFORT	66.97	4.7%	8.62	0.44	3,64	4.24
CHATHAM	25.03	4.6%	3.03	0.16	1.59	0.48

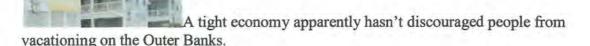
			1
			1
			1
			1
			ı
			,
		,	1
			1
			1
			,
			1
	•		

County	Expenditures (\$ Millions)	Percent Change 2009/10	-	Employment (Thousands)	State Tax Receipts (\$ Millions)	Local Tax Receipts (S Millions)
JONES	3.42	4.4%	0.47	0.02	0.22	0.11
CLAY	11.23	4.2%	1.22	0.06	0.51	1.30
PERQUIMANS	8.66	4.1%	1.04	0.04	0.40	1.02
MITCHELL	19.10	4.1%	2.91	0.16	0.92	0.86
SAMPSON	40.53	4.0%	5.24	0.27	2.42	1.37
HENDERSON	203.09	3.7%	36.32	1.97	10.08	9.49
CURRITUCK	117.12	3.2%	21.84	1.38	5.60	5.77
WARREN	21.57	3.1%	2.61	0.12	0.87	1.95
CHEROKEE	31.64	3.0%	4.88	0.28	1.66	1.99
JACKSON	62.58	2.8%	10.31	0.56	3.13	5.12
GRANVILLE	37.34	2.7%	4.67	0.27	2.30	1.10
YADKIN	29.37	2,5%	5.02	0.32	1.71	0.76
RICHMOND	37.39	2.0%	6.66	0.37	2.16	0.74
MARTIN	26.02	1,7%	3.86	0.22	1.53	0.69
TRANSYLVANIA	71.75	1.7%	13.01	0.69	3.10	3.43
CALDWELL	42.45	1.5%	6.34	0.32	2.46	1.41
STANLY	61.54	1.5%	8.14	0.45	3.80	1.96
MADISON	28.54	1.3%	5,53	0.30	1.61	1.37
ALEXANDER	15.58	1.2%	2.29	0.11	0.92	0.68
CHOWAN	16.45	1.1%	2.44	0.14	0.87	1.09
COLUMBUS	42.47	-0.1%	5.22	0.27	2.60	1.24
NORTHAMPTON	11.94	-0.7%	1.38	0.05	0.58	1.05
STATE TOTALS	\$17,015.70	9.0%	\$3,995.79	183.88	\$946.05	\$543.78



Dare occupancy receipts reach an all-time high

Rob Morris | September 16, 2010



Vacation rental receipts hit an all-time high in Dare County during July, and August is likely to show similar results when the numbers come in later this month.

The Dare County Visitor's Bureau reported that rentals of cottages, hotel rooms, bed-and-breakfast accommodations and camping sites brought in \$101,783,465, a 16 percent jump over last July.

Year-to-date, occupancy receipts are up 8.42 percent over last year, said Lee Nettles, managing director of the bureau.

Nettles attributed the increase partially to pent-up demand after a long stretch of discouraging economic news.

"A lot of destinations had a good July and August, I think," he said.

The previous best July was in 2007, when occupancy receipts stood at a little over \$97 million. The dollar amounts do not take into account changes in rental rates from year to year. So they are not necessarily a comparative measure of the number of people vacationing in Dare County from one year to the next.

Records were not immediately available for the years before 2001, but Nettles said it was a safe assumption that none of them approached this July's total. July is historically the highest month of the year for occupancy receipts.

•					

Even Hatteras Island, which has dealt with beach closures under a consent decree to protect nesting shorebirds, saw a big jump this July to \$27.8 million from \$23.4 million last July. That was an increase of 18.5 percent, which was even more than the northern beaches, which saw a 15 percent increase.

Rental companies reported earlier this summer that the first three weeks of August, the final stretch before many school systems resume classes, were fully booked.

"We'll see if the numbers bear it out," Nettles said. "At any rate, it's encouraging."

After a period of flat spending, people appear to be dining out more, too, or at least they are spending more on meals. In July, they spend \$35.2 million compared to \$32.6 million in July 2009, which was an increase of 7.98 percent.

Overall, the Outer Banks has fared reasonably well during the protracted recession, experiencing a decline in gross occupancy receipts only in 2009, when they dipped 6 percent to \$343.6 million from the year before. It was the only year in a decade to show a decline.





Published on HamptonRoads.com | PilotOnline.com (http://hamptonroads.com)

Soaring gas prices haven't hurt Outer Banks tourism

Gas prices are way up, but no matter - people are driving to the Outer Banks anyway.

After a bit of a down year in 2009, the number of visitors rebounded last year. Expectations are this summer will be good, too, despite the price of gas nearly doubling over the last two years.

"Certainly the mood is upbeat," said Lee Nettles, director of the Outer Banks Visitors Bureau. "I think this year is going to be strong."

Visitors to North Carolina spent a record \$17 billion in 2010, 9 percent more than in 2009 and \$200 million more than the previous record set in 2008, according to a release from Gov. Beverly Perdue's office.

More people came last year, too - 38.6 million, up 2.5 percent from 2009.

While the state figures come from a study by the U.S. Travel Association, specific local numbers are harder to pin down.

Sales taxes offer some idea, but rates have changed so much it is hard to compare one year to the next. The best measurement is occupancy taxes, a tariff on beach house and hotel stays.

Dare County collected \$356.8 million in occupancy taxes last year, an increase of \$13.2 million from 2009. In Currituck County, occupancy taxes increased to \$9.3 million last year from \$8.7 million in 2009.

In January 2009, a gallon of gas locally averaged \$1.87, according to statistics provided by the Currituck County Travel and Tourism Department. By June of that year, the average was \$2.63.

In January 2010, a gallon was \$2.71; in January of this year, it was \$3.09.

And prices have continued to rise.

"I don't think it will hurt us," Nettles said.

Diane Nordstrom, director of the Currituck Travel and Tourism Department, agreed. High gas prices, she said, prompt travelers to fly less and take shorter trips.

"It seems when gas prices go up, we're a drive-to destination," she said. "It actually helps us."

Visitor spending figures put out by the state are the preliminary results of an annual study by the U.S. Travel Association. The study takes in sales and tax revenue data, employment figures, and other travel statistics.

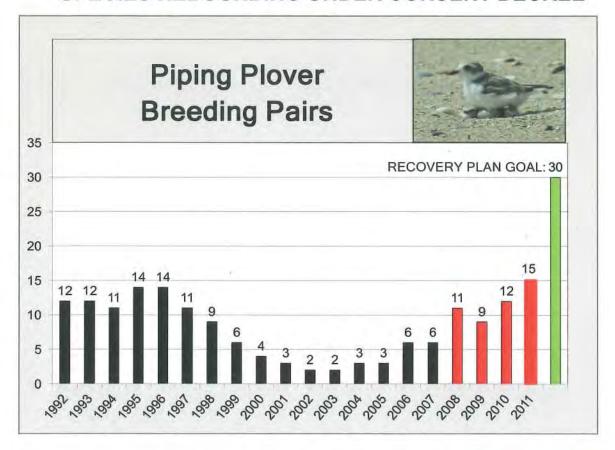
Page 1 of 2

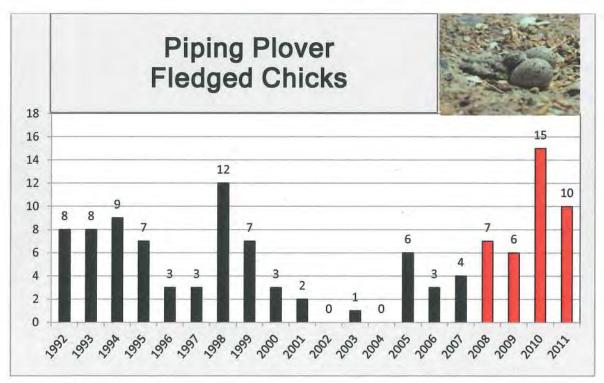
	·		

Jeff Hampton, (252) 338-0159, jeff.hampton@pilotonline.com

Source URL (retrieved on 01/06/2012 - 15:09): http://hamptonroads.com/2011/03/soaring-gas-prices-havent-hurt-outer-banks-tourism

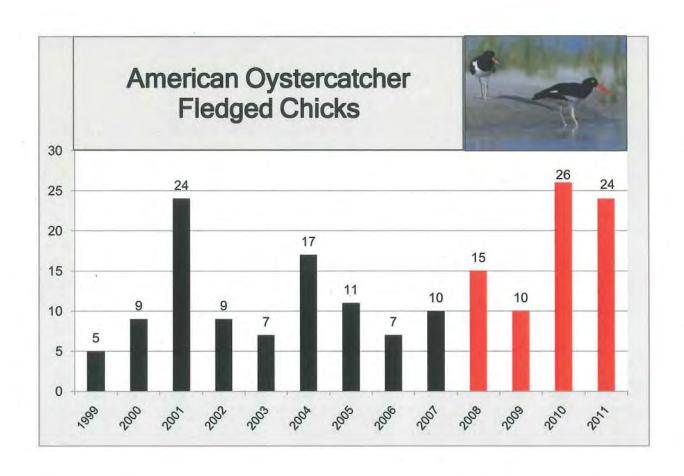
CAPE HATTERAS NATIONAL SEASHORE: SPECIES REBOUNDING UNDER CONSENT DECREE

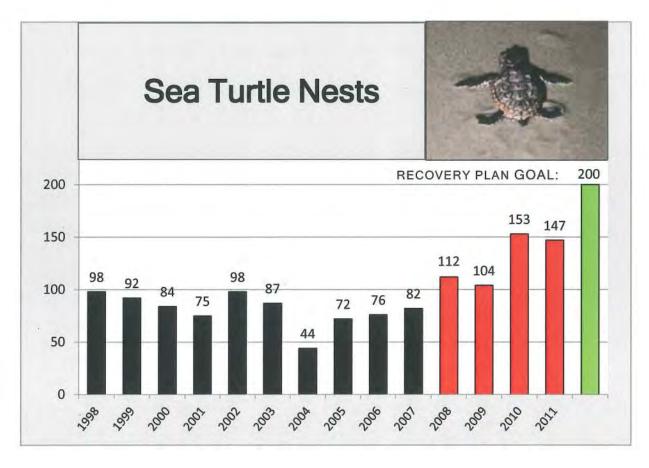




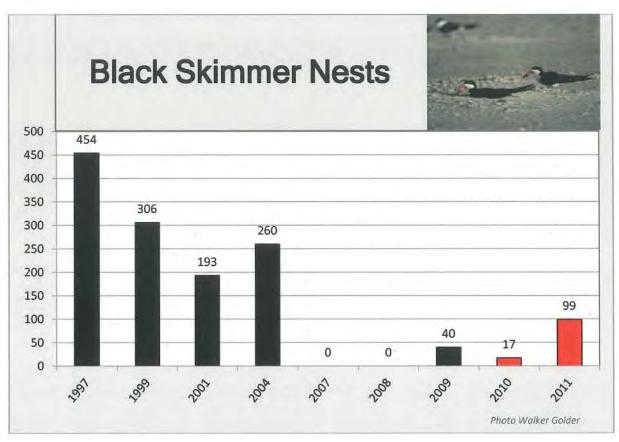
Statistics are based on the Cape Hatteras National Seashore 2010 Annual Resource Reports by NPS, except 2011 statistics, which are based on the NPS Resource Management Field Summary for 2011 Breeding Season. Statistics exclude nests laid on Green Island, which is not accessible by vehicle.

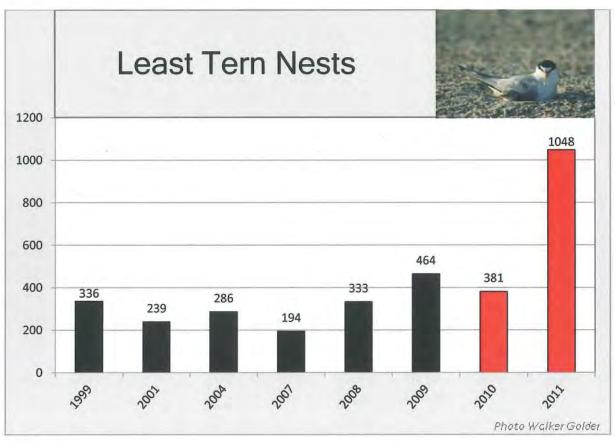
		·



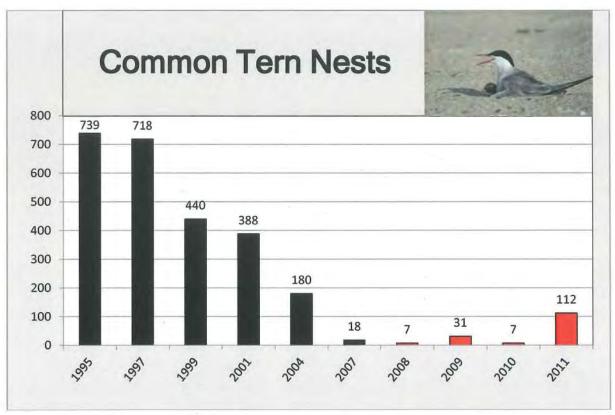


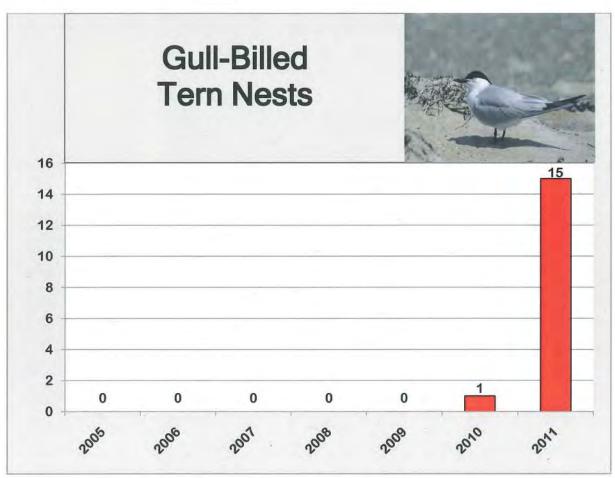
·				





The 2010 annual report states that a "change in survey dates from the previous year led to a potential under-estimate of [colonial waterbird] nests for the Seashore" in 2010.





The 2010 annual report states that a "change in survey dates from the previous year led to a potential under-estimate of [colonial waterbird] nests for the Seashore" in 2010.

							'
					•		1
							'
							·
							1
	·						1
							1
							1
							'
							1
							'
							·
							•
•							
							1
							1
							1
				•			
			•			•	