

**National Park Service
U.S. Department of the Interior**



**Cape Hatteras National Seashore
Manteo, North Carolina**

REVIEW AND ADJUSTMENT OF WILDLIFE PROTECTION BUFFERS

**Finding of No Significant Impact
June 2015**

The selected alternative does not constitute an action that normally requires preparation of an Environmental Impact Statement (EIS). The selected alternative will not have a significant effect on the human environment. Some long-term adverse environmental impacts will likely occur, but these will be limited in extent and partially offset by management activities designed to minimize impacts. There are no unmitigated adverse impacts on public health, public safety, threatened or endangered species, sites or districts listed in or eligible for listing in the National Register of Historic Places or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, cumulative effects or elements of precedent were identified. Implementation of the selected alternative will not violate any Federal, State or local environmental protection laws.

Based on the forgoing, it has been determined that an EIS is not required for this project and thus will not be prepared.

Recommended:  6/15/15
Superintendent, Cape Hatteras National Seashore Date

Approved:  6/15/15
Regional Director, Southeast Region Date

Department of the Interior
National Park Service
Finding of No Significant Impact
Review and Adjustment of Wildlife Protection Buffers
Cape Hatteras National Seashore
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Executive Summary

The National Park Service (NPS) has selected a plan to modify wildlife protection buffers established under the Cape Hatteras National Seashore Final Off-Road Vehicle Management Plan and Environmental Impact Statement of 2010 (ORV FEIS) and to provide pedestrian and vehicle corridors around these buffers where possible. The selected plan was developed in response to Section 3057 of the Defense Authorization Act of Fiscal Year 2015, Public Law 113-291 (2014 Act). As a result of preparing an Environmental Assessment and considering 9255 correspondences that were received during a 2-week public comment period, the NPS has selected Alternative B. The 2014 Act directed the NPS “to ensure that the buffers are of the shortest duration and cover the smallest area necessary to protect a species, as determined in accordance with peer-reviewed scientific data and to designate pedestrian and vehicle corridors around areas of the National Seashore closed because of wildlife buffers, to allow access to areas that are open.”

Alternative B only makes changes related to the review and modification, as appropriate, of wildlife protection buffers and the designation of pedestrian and vehicle corridors around buffers. All other aspects of the ORV FEIS remain unchanged.

A brief summary of the selected plan is as follows:

- For **American oystercatcher**: There will be an ORV corridor at the waterline during nesting, but only when (a) no alternate route is available, and (b) the nest is preferably at least 50 meters, but no less than 25 meters from the vehicle corridor. Buffer reductions and corridors will only be implemented with at least twice daily monitoring to ensure that the area can be managed appropriately when chicks hatch. Buffers for nests and unfledged chicks will stay the same as they are now.
- For **piping plover and Wilson’s plover**: The buffer during nesting will be reduced from 75 meters to 50 meters for both pedestrians and ORVs. For unfledged chicks, the buffer will be reduced from 300 meters to 100 meters (pedestrians) and from 1,000 meters to 500 meters (ORVs). Where the standard 500 meter buffer blocks ORV access, the buffer may be reduced to no less than 200 meters to allow an access corridor along the shoreline. Buffer reductions when chicks are present will only be implemented with intensive monitoring by qualified staff.
- For **least tern**: The buffer for unfledged chicks will be reduced from 200 meters to 100 meters for both pedestrians and ORVs. The buffer during nesting would stay the same.

Buffer reductions and corridors will only be implemented with at least twice daily monitoring to ensure that the area can be managed appropriately when chicks become mobile.

- For **common tern, gull-billed tern, and black skimmer**: The buffer for these species during nesting and when unfledged chicks are present will be reduced from 200 meters to 180 meters for both pedestrians and ORVs.
- For **sea turtles**: The expansion buffer will be reduced to 30 meters (15 meters on either side), and, when light filtering fencing is installed, 5 meters minimum behind the nest. In the absence of an existing corridor, the shorter buffer behind the nest may allow ORVs to travel behind a nest where sufficient beach width exists. Where a turtle nest blocks access during the hatch window from one ORV area to another and no way around the nest exists, ORVs may drive in front of the nest only when qualified staff are regularly monitoring the nest for signs of hatching and available to remove ruts in front of nests on a daily basis.

For nests laid prior to June 1, the Seashore will retain the option of not expanding the buffer until day 60, unless signs of hatching prior to day 60 were detected. For nests laid after August 20, the Seashore will retain the option of not expanding the buffer for nests that block access to ORV passage.

On the rare occasion that a sea turtle nest is laid in such a location as to completely block ORV ramp access to and from an open section of beach where there is no ability to provide a corridor or other route around the nest, that nest may be relocated to an area that does not block access.

The buffers and corridors proposed in alternative B are contingent on NPS having the resources (funding and staff) to perform intensive or increased monitoring to protect species. In cases where resource management personnel document adverse impacts to resources greater than those described in this EA, the Seashore would retain the discretion to revert to the resource protection measures in the ORV FEIS.

Additionally, to help refine monitoring and research of these species in a manner that guides adaptive management of the Seashore, the NPS will implement a series of science workshops, open to the public, to ensure that current research and monitoring activities are appropriate to help understand the impacts of human use of beaches on nesting wildlife. The workshops will evaluate desired future conditions, trends in wildlife nesting success, factors affecting success and use of habitat, and put forward a plan with recommendations for future monitoring and research. These workshops will lead to an improved understanding of the impacts of recreation and seashore management on wildlife in order to implement an effective adaptive management program. A work plan growing out of the workshops will be completed within two years of the date of execution of this FONSI.

Introduction

On April 29, 2015, the National Park Service (NPS) issued an Environmental Assessment (EA) analyzing impacts associated with proposed modifications to wildlife protection buffers at Cape Hatteras National Seashore (the Seashore or CAHA). The existing buffers had been established under the Cape Hatteras National Seashore Final Off-Road Vehicle (ORV) Management Plan and Environmental Impact Statement of 2010 (ORV FEIS). The proposed action results from a review of the buffers, as mandated by Section 3057 of the Defense Authorization Act of Fiscal Year 2015, Public Law 113-291 (the 2014 Act). The 2014 Act directs the NPS “to ensure that the buffers are of the shortest duration and cover the smallest area necessary to protect a species, as determined in accordance with peer-reviewed scientific data and to designate pedestrian and vehicle corridors around areas of the National Seashore closed because of wildlife buffers, to allow access to areas that are open.”

The EA evaluated potential impacts to the human environment resulting from two alternative courses of action: alternative A (no action, i.e., continue current management under the ORV FEIS), and alternative B (modify buffers and provide additional access corridors) (the NPS preferred alternative).

The purpose of this document is to record the decision of the NPS and to declare a Finding of No Significant Impact (FONSI) pursuant to the Council on Environmental Quality's (CEQ) regulations for implementing the National Environmental Policy Act Of 1969 (NEPA).

Background

The Seashore is home to important habitats created by its dynamic environmental processes, including habitats for several federally listed species including the piping plover and four species of sea turtles. It also provides habitat to numerous other protected species, as well as other wildlife. The NPS is required to conserve and protect all of these species, as well as the other resources and values of the Seashore. Under the “Organic Act” by which Congress created the NPS, it is the mission of the NPS to “conserve the scenery, natural and historic objects, and wild life in the System units and to provide for the enjoyment of the scenery, natural and historic objects, and wild life in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.” The Seashore’s enabling legislation is in accord, stating that

[e]xcept for certain portions of [the Seashore], deemed to be especially adaptable for recreation uses, particularly swimming, boating, sailing, fishing, and other recreational activities of similar nature, which shall be developed for such uses as needed, the said area shall be permanently reserved as a primitive wilderness and no development of the project...for the convenience of visitors shall be undertaken which would be incompatible with the preservation of the unique flora and fauna...now prevailing in this area... (16 U.S.C. 459a-2).

The Seashore serves as a popular recreation destination with over 2 million visits annually. It is a long, essentially linear park, and parking spaces near roads are limited. Some popular beach sites, particularly those near the inlets and Cape Point, are a distance from established or possible

parking spaces. Some visitors who come for popular recreational activities such as surf fishing and picnicking are accustomed to using large amounts and types of recreational equipment and prefer some form of motorized access. For some visitors, the time needed and the physical challenge of hiking to the distant sites, or even to close sites, can discourage or preclude access by non-motorized means. As a result, ORVs have long served as a primary form of access for many portions of the beach within the Seashore, and continue to be the preferred available means of access for some visitors.

ORV use on Seashore beaches may have impacts to wildlife; therefore, the NPS strives to establish buffers and corridors that appropriately protect resources (including protected, threatened, or endangered species), while ensuring that they are not restrictive in a way that unnecessarily limits otherwise appropriate access to the Seashore and its resources.

The President signed the 2014 Act on December 19, 2014. Section 3057 of the 2014 Act directs the Department of the Interior, acting through the NPS and the United States Fish and Wildlife Service (USFWS), to review and modify existing wildlife protection buffers set pursuant to the ORV FEIS, as follows:

- (1) In General.— Not later than 180 days after the date of enactment of this Act, the Secretary [of the Interior] shall review and modify wildlife buffers in the National Seashore in accordance with this subsection and any other applicable law.
- (2) Buffer Modifications.— In modifying the wildlife buffers under paragraph (1), the Secretary shall, using adaptive management practices –
 - (A) Ensure that the buffers are of the shortest duration and cover the smallest area necessary to protect a species, as determined in accordance with peer-reviewed scientific data; and
 - (B) Designate pedestrian and vehicle corridors around areas of the National Seashore closed because of wildlife buffers, to allow access to areas that are open.
- (3) Coordination with State.— The Secretary, after coordinating with the State [of North Carolina], shall determine appropriate buffer protections for species that are not listed under the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.), but that are identified for protection under State law.

In undertaking the buffer and corridors review called for by the 2014 Act, the NPS coordinated with the North Carolina Department of Environment and Natural Resources, Wildlife Resources Commission.

The proposed action (modification of wildlife protection buffers) relates back to the ORV FEIS rather than the January 23, 2012 final regulation that created routes and areas for ORV use at the Seashore (Final Rule). The ORV FEIS covers anything related to pedestrian access, species buffers, prenesting closures, pets, and the like. In contrast, the Final Rule designates the areas that are open or closed to ORVs and sets forth requirements related to the protection of resources from ORV impacts, such as the dates that ORV routes are open/closed, restrictions on night driving, designated speed limits, and required equipment. Thus, even though the ORV FEIS

specifically discusses ORV routes, hours of operation, and vehicle-free areas, those elements are now designated by special regulation, i.e., the Final Rule. Consideration of modifications to the Final Rule (“phase 2”) will not commence until after completion of the review and modification of buffers (“phase 1”) required by the 2014 Act. The EA dealt solely with review and modification, as appropriate, of wildlife protection buffers and the designation of pedestrian and vehicle corridors around buffers.

Purpose and Need for Action

The purpose of the proposed action is to review and modify, as appropriate, wildlife buffers necessary to protect a species, and to designate pedestrian and vehicle corridors around areas of the Seashore closed because of wildlife buffers, as required by the 2014 Act. For purposes of this document, the term “buffer” means a defined area around a sensitive species intended to shield that species from unacceptable adverse impacts. The term “corridor” means a way around wildlife protection buffers to enable pedestrians and ORVs to obtain access to other, open areas of the Seashore.

This action is needed to comply with Section 3057 of the 2014 Act, which directs the NPS to review and modify wildlife buffers at the Seashore in such a way as to ensure that they are of the shortest duration and cover the smallest area necessary to protect affected species.

Selected Alternative

After review of the alternatives and consideration of comments received from the public, various agencies, and interested stakeholders, the NPS has identified alternative B (Modify Buffers and Provide Additional Access Corridors), as the selected alternative (selected alternative).

Alternative B was the preferred alternative in the EA. Under the selected alternative, the NPS will modify the ORV FEIS by modifying the size of existing wildlife protection buffers and designating additional access corridors around temporary resource protection closures.

Apart from buffers and corridors, all other elements of alternative F from the ORV FEIS remain unchanged under the selected alternative, as does the Final Rule. Thus, vehicle-free areas, seasonal closures, pre-season habitat assessments, prenesting closures, and surveys will continue in accordance with current practice. However, this alternative provides species protection buffers that are of the shortest duration and cover the smallest area necessary to protect a species (as determined in accordance with peer-reviewed scientific data¹), as required by the 2014 Act. It also designates additional pedestrian and vehicle corridors around areas of the Seashore closed because of wildlife buffers, to allow access to areas that are open.

The selected alternative provides access in such a way as to minimize the amount of beach made inaccessible by closures established for nesting birds or sea turtles, while at the same time protecting park resources. In some instances, a corridor is provided only when no alternate route

¹ Peer reviewed data were not available for all of the species subject to the buffer review mandated by the 2014 Act. Where peer reviewed data were not available, the best available data and scientific analyses were used to inform new proposed buffers and corridors. A summary of the literature search used to identify the best available science is provided in the EA.

is available. An “alternate route” is defined as a route involving the use of an interdunal road, bypass road, Highway 12 plus ramp to the north or south, etc.

The modified buffers and additional corridors established under the selected alternative are described below. These buffers and corridors are summarized in Tables 2.2a and b. Tables 2.2a and b also include the scientific references used in developing the modified buffers and additional corridors.

Modified Buffers and Additional Corridors:

1. Buffer modification and new corridor for **American oystercatcher**: the selected alternative provides NPS with the ability to implement an ORV corridor at the waterline during *nesting*, (defined to include courtship, mating, and scrapes) in cases where the beach is wide enough to allow for a vehicle corridor at least 50 meters from the nest. However, where 50 meters from a nest to the high tide line (i.e., water and/or wet sand) will still not allow passage around an oystercatcher nest during nesting, NPS could allow an ORV corridor of no less than 25 meters from the nest. The vehicle corridor would allow pass through traffic only; no parking is allowed within the standard 150 meter buffer. Safety concerns may preclude pass through corridors in some locations when the beach is narrow and only a small area exists between the nest and waterline. The distance between the corridor and nest could be adjusted based on the results of ongoing monitoring and future research, using the adaptive management strategy outlined in the ORV FEIS.

Increased monitoring will be conducted at American oystercatcher nests with chicks to ensure that adequate buffers are being maintained. Monitoring will be conducted no less than two times a day, once in the morning and again in the late afternoon, for the entire nesting period. Monitoring will be increased as the hatching window approaches. This increased monitoring will allow the Seashore to identify when chicks have hatched so it can change the buffer to protect unfledged chicks.

2. New buffers for **pipin g plover**: The buffer for piping plover during nesting is reduced from 75 meters to 50 meters for both pedestrians and ORVs. For unfledged chicks, the buffer is reduced from 300 meters to 100 meters (pedestrians) and from 1,000 meters to 500 meters (ORVs). However, where the 500 meter buffer blocks ORV access and no alternate route is available, the buffer may be reduced to no less than 200 meters to allow an access corridor along the shoreline. All modifications made to piping plover buffers are consistent with the Piping Plover Recovery Plan (USFWS 1996).

Modified buffers for unfledged chicks are contingent on the Seashore’s ability to perform intensive monitoring.² “Intensive monitoring” means that qualified staff members

² Current buffers provide protection for nesting species given current staffing levels and current workload. For beach nesting species which are highly mobile, such as piping and Wilson's plovers and American oystercatchers, any decrease in buffer size increases the risk of negative impacts, given the current level of staffing. To minimize that risk, intensive or increased monitoring, as appropriate, will be necessary to achieve a level of confidence that species

maintain regular visual confirmation of chick location from the time the chicks are located in the morning until the beach closes to driving at night. Intensive monitoring will allow park managers to have current information on the location of piping plover chicks and continually manage buffer distances and corridor locations to minimize disturbance and the potential for injury. If (a) staffing requirements cannot be met, (b) the location and fate of the chicks cannot be determined, or (c) best efforts of staff appear unlikely to prevent harm to chicks in a given instance, buffers will revert to the buffers established in the ORV FEIS. In addition, piping plover chicks will need to be located prior to opening an area in the morning to ORVs to ensure that adequate buffers are being maintained. When chicks cannot be located, areas will remain closed to all ORV access until chicks are observed, they are no longer in the area, or their fate has been determined.

3. New buffers for **Wilson's plover**: The buffer for Wilson's plover during nesting is reduced from 75 meters to 50 meters for pedestrians and ORVs. The pedestrian buffer for unfledged chicks is reduced from 200 meters to 100 meters, the same as for piping plovers. The ORV buffer for unfledged chicks increases from 200 meters to a standard 500 meters; however, where the standard 500 meter buffer blocks ORV access and no alternate route is available, the buffer may be reduced to 200 meters to allow an access corridor along the shoreline.

Wilson's plover chicks are generally protected by the piping plover buffers. Where Wilson's plover and piping plover occur together, the buffer will default to whichever buffer is greater. In those cases where Wilson's plovers are found outside of a piping plover buffer, the park will implement increased monitoring, similar to the monitoring proposed for piping plovers.

4. New buffer for **least tern**: The buffer for unfledged chicks of least tern is reduced from 200 meters to 100 meters for both pedestrians and ORVs. (The buffer for nests stays the same.)

Increased monitoring will be conducted at least tern colonies with chicks to ensure that adequate buffers are being maintained. Monitoring will be conducted no less than two times a day, once in the morning and again in the late afternoon. This increased monitoring will allow the Seashore to keep better track of chicks when they move within the colony or when the colony shifts locations, thereby enabling staff to adjust the buffers in a timely manner. If colonies consist of mixed species, the largest buffers necessary to protect the species will apply and increased monitoring for least terns may not be necessary. On the other hand, if the reduction of the buffer allows for vehicles to pass in front of a colony, then increased monitoring may be warranted.

5. New buffers for **common tern, gull-billed tern, and black skimmer**: The buffer for these species during nesting is reduced from 200 meters to 180 meters for both pedestrians and ORVs. Likewise, the buffer for unfledged chicks is reduced from 200 meters to 180 meters for both pedestrians and ORVs.

protection has not been compromised. Workloads and current staffing levels cannot achieve this. Therefore, the number of staff will need to be increased.

6. New buffers and corridor for **sea turtles**: Sea turtles at the Seashore have an average incubation period of 62 days (over the last three seasons). Currently, an initial 10 meter x 10 meter buffer is placed around all newly-laid sea turtle nests. Then, under the ORV FEIS, sea turtle nest protection buffers are expanded down to the waterline to protect hatchlings. In most cases, buffer expansion takes place between day 50 and 55 after nests are laid. Under the selected alternative, the size of these “expansion” buffers for sea turtles is reduced, and additional corridors provided, as follows:
- For nests in *vehicle-free areas*: The expansion buffer is made consistent with village areas and ORV routes (see below) to be 30 meters (15 meters on either side) and, when light filtering fencing is installed, 5 meters minimum behind the nest. A pedestrian corridor during the expansion period will be available: Visitors will be able to walk in front of turtle nests – as close as practicable to the surf line – although occasionally, where signage exists, people might be asked to walk behind nest closures. There may exist conditions from time to time that would preclude passage around a nest, as when a nest is so close to the dune line and the high tide line simultaneously that passage could endanger the nest.
 - For nests in *village areas*: The expansion buffer is reduced from 50 meters (25 meters on either side) to 30 meters (15 meters on either side) and, when light filtering fencing is installed, 5 meters minimum behind the nest. A pedestrian corridor during the expansion period will be available: Visitors will be able to walk in front of turtle nests – as close as practicable to the surf line – although occasionally, where signage exists, people might be asked to walk behind nest closures. There may exist conditions from time to time that would preclude passage around a nest, as when a nest is too close to the dune line and the high tide line simultaneously for passage to be safe for people or turtles.
 - For nests in *ORV routes*: The expansion buffer is reduced from the current 105 meters (52.5 meters on either side) and 10-15 meters behind nests. The new buffer is 15 meters on the sides and, when light filtering fencing is installed, a minimum of 5 meters behind the nest. Corridors: The first option will be to use an existing corridor around that part of the beach where a nest occurs, if available. Second, in the absence of an existing corridor, the shorter buffer behind the nest will allow ORVs and pedestrians to travel behind a nest where sufficient beach width exists. A third option, where a turtle nest blocks access from one ORV area to another and no way around the nest exists, will permit driving in front of the nest if resources exist to monitor the nest and remove ruts. When nests are nearing hatching and hatchlings are likely to emerge, driving may continue to 9 p.m. only if funding and staffing exist to protect hatchlings and remove ruts.
 - For nests laid prior to June 1, the Seashore retains the option of not expanding the buffer until day 60, unless signs of hatching prior to day 60 were detected.
 - For nests laid after August 20, the Seashore retains the option of not expanding

the buffer for nests that block access to ORV passage. Nests laid after August 20 will be monitored daily for signs of hatching and managed appropriately to avoid impacts if signs of hatching are observed. Where signs of hatching are observed (e.g., depression), buffers will be expanded as outlined for nests laid prior to August 20.

- On the rare occasion that a sea turtle nest is laid in such a location as to completely block ORV ramp access to and from an open section of beach where there is no ability to provide a corridor or other route around the nest (i.e., the nest is laid in a ramp itself or immediately adjacent to the ramp such that the buffer would completely close the ramp and no corridor or other access route is possible), that nest may be relocated following existing relocation protocols described in the ORV FEIS (Table 10-1) to an area that does not block access. Based on observations from previous years, it is anticipated that only a single nest might require relocation each season due to completely blocking ramp access.

Driving in front of a nest is permitted where the nest blocks access from one ORV area to another and no way around the nest exists, but *only if* resources exist to perform intensive monitoring for sea turtles, i.e., monitor nests and remove ruts that may be present between the nest and the waterline and could prevent hatchlings from reaching the ocean.

When nests laid after August 20 block access to ORV passage, the Seashore may consider not expanding the buffer size. Seashore data show that these late nests rarely, if ever, hatch. Therefore, late nests will be marked and monitored for signs of hatching, but generally will not be expanded where they block access to ORV passage. However, nests laid after August 20 will be monitored daily when they enter the hatch window for signs of hatching and managed appropriately to avoid impacts if signs of hatching are observed. If signs of hatching are observed, buffers will be expanded. Also, for late nests that do not block ORV passage, the buffer may be expanded to provide full protection for potentially emerging hatchlings.

Duration of Buffers

The end point for the duration of buffers around chicks is defined as the date that the chicks fledge based on the capability of sustained flight. In the ORV FEIS, fledging was defined as sustained flight of 30 meters for American oystercatchers and 15 meters for all other species. This definition is retained and adopted with respect to the selected alternative.

Additional Elements

The following additional elements are part of the selected alternative. (They are also part of the other alternative considered in the EA.)

1. Prenesting closures would continue as described in the ORV FEIS. These closures would apply to both pedestrians and ORVs. Prenesting closures are defined as a kind of resource closure in which an area of suitable habitat is proactively closed at the start of the shorebird breeding season to provide undisturbed habitat for breeding activities to occur

(NPS 2012). Currently, by March 1, Seashore staff evaluates all potential breeding habitat for piping plover, Wilson's plover, and American oystercatcher and recommends prenesting closures for those species based on that evaluation. Colonial waterbird breeding habitat is evaluated by April 1. Areas of newly created habitat are also evaluated during the annual habitat assessment. These activities would continue under both alternatives. As at present, areas of suitable habitat that have had (a) individual piping plover, Wilson's plover, or American oystercatcher nests, (b) concentrations of more than 10 colonial waterbird nests in more than one of the past five years, or (c) new habitat that is particularly suitable for shorebird nesting, such as the new habitat at new inlets or overwash areas, would be posted as prenesting closures using symbolic fencing or with closure signs. Closures would be marked by March 15 at sites involving piping plover, Wilson's plover, and/or American oystercatcher and by April 15 for those sites involving colonial waterbirds. Because colonial waterbirds may shift from year to year, ORV ramps and pedestrian access points that have had colonies in more than one of the past 5 years would remain open until nesting or scraping is observed. Prenesting closures would be removed if no breeding activity is seen in the area by July 31 or by August 15 if black skimmers are present or two weeks after all chicks have fledged, whichever comes later.

2. North Carolina is the only state along the Atlantic Coast to support both breeding and wintering populations of piping plovers. Neither alternative proposes changes that would affect designated critical habitat units for wintering piping plovers. The proposed changes in resource protection buffers in the selected alternative apply only to breeding piping plovers at the Seashore.
3. To facilitate access to ORV routes, both alternatives would continue to implement the ramp construction, ramp relocation, and interdunal road projects described in the ORV FEIS and *Proposal to Facilitate Additional Public Beach Access Environmental Assessment* of June 2013 (2013 EA) (NPS 2013). Likewise, both alternatives would continue the addition of new parking areas with associated foot trails or boardwalks to facilitate pedestrian access at a number of locations, as described in the ORV FEIS and the 2013 EA.
4. Under both alternatives, in cases where resource management personnel documented adverse impacts to resources greater than those described herein, the Seashore would retain the discretion to implement more restrictive measures to ensure resource protection.

Costs

Under the selected alternative, the Seashore will incur additional costs in order to perform the intensive and increased monitoring necessary to implement the modified buffers and additional corridors. Preliminary cost estimates are as follows:

Action	Preliminary Cost Estimate
Intensive monitoring for turtles (4 additional qualified employees)	\$80,000
Intensive and increased monitoring for birds (6 additional qualified employees)	\$120,000
Law enforcement/ORV management (3 additional qualified employees)	\$60,000
Total Recurring	\$260,000

Determining the degree to which human use affects the success of beach nesting wildlife can be challenging due to the many other external factors affecting these species, such as weather and storm events. To help refine monitoring and research of these species in a manner that guides adaptive management of the Seashore, the NPS will implement under the selected alternative a series of science workshops open to the public to ensure that current research and monitoring activities are appropriate to help understand the impacts of human use of beaches on nesting wildlife. The workshops will evaluate desired future conditions, trends in wildlife nesting success, factors affecting success and use of habitat, and put forward a plan with recommendations for future monitoring and research. These workshops will lead to an improved understanding of the impacts of recreation and seashore management on wildlife in order to implement an effective adaptive management program. A work plan growing out of the workshops, including actionable management recommendations will be completed within two years of the date of execution of this FONSI.

Other Alternative Considered

In addition to the selected alternative, a “No-Action” alternative was fully analyzed in the EA. Under this alternative (Alternative A), the specific species management strategies described in Table 10-1 of the ORV FEIS (“Species Management Strategies for Alternative F”) would provide for species protection during both the breeding and nonbreeding seasons. In particular, a single set of standard buffers would be established for protection of birds and turtles.

Environmental Consequences

The environmental consequences of the two alternatives were assessed using the following impact topics:

- Federally-listed threatened or endangered species
- State-listed and special status species
- Visitor Use and Experience
- Seashore Management and Operations

All impacts were determined to be of moderate or less intensity.

Chapter 3 of the EA provides a detailed description of the environmental consequences of each alternative. Direct, indirect, and cumulative impacts were assessed.

Basis for the Selected Alternative

The NPS has selected alternative B for implementation because it meets the legislative objective of (a) providing buffers that are of the shortest duration and cover the smallest area necessary to protect a species, as determined in accordance with peer-reviewed scientific data, and (b) designating pedestrian and vehicle corridors around areas of the Seashore closed because of wildlife buffers, to allow access to areas that are open. The proposed buffer sizes for the protection of beach nesting species at CAHA are informed by the scientific literature, data collected at the seashore, and expert opinion. A description of the rationale behind the buffer revisions in the selected alternative follows:

American oystercatcher

A range of buffer recommendations for American oystercatchers was considered in the ORV FEIS (see NPS 2010, Table 28 and Appendix A of the EA). Based on their research on breeding American oystercatcher at Cumberland Island National Seashore, Sabine et al. (2008) recommend that the pedestrian buffer size during nesting be at least 137 meters, and that the buffer size should increase to at least 150 meters for pedestrians when unfledged chicks are present. They found that vehicular activity altered American oystercatcher behavior, but not to the extent that pedestrians did. The vehicular activity on Cumberland Island was much less than occurs at CAHA. Given the number of vehicles and pedestrians at CAHA, the buffer size proposed in the EA for pedestrians and ORVs during incubation was the higher number suggested by Sabine et al. (2008) (i.e., 150 meters). Based on the observations from Sabine et al. (2008) and Simons et al. (2015), a vehicle corridor at the water's edge of 50 meters and not less than 25 meters from the nest will allow passage of vehicles with minimal disturbance to nesting American oystercatchers. Under the selected alternative, this corridor will be for pass-through traffic only; there will be no parking within the 150 meter buffer.

Buffers to protect mobile chicks will be larger than those to protect incubating adults and nests. Observations of unfledged chick movement at CAHA show that chicks may move large distances soon after hatching (CAHA unpublished data). Sabine et al. (2008) found that oystercatcher families moved 100-200 meters to less disturbed areas for brood rearing at Cumberland Island National Seashore. Additionally, Cohen et al. (2010) recommends that corridors should be reduced or closed during the hatchling stage to reduce chick mortality, and recommends that signs be placed 200 meters from nesting birds to warn of nesting areas. For these reasons, the NPS has chosen a 200 meter minimum buffer size to protect most American oystercatchers from disturbance by vehicles and pedestrians. Thus, under the selected alternative, there will be no ORV corridor within 200 meters of unfledged chicks.

Piping plover

Proposed buffer sizes for piping plover are consistent with the recommendations included in Appendix G of the Piping Plover Recovery Plan (USFWS 1996) which calls for buffers around nests of at least 50 meters, and buffers around unfledged chicks of 1000 meters for ORVs, unless

intensive monitoring and data from past years show that a smaller buffer around chicks is sufficient to protect them from disturbance.

The 100 meter pedestrian buffer is consistent with the recommendations in Appendix G of the Piping Plover Recovery Plan (USFWS 1996). A standard 500 meter ORV buffer is based on the mean maximum movements of piping plover chicks recorded at the Seashore between 2010 and 2014 (398 meters; NPS 2010-2014). To encompass the high variability of the chick movement data (i.e., chick movements ranging from 15 meters to 1118 meters), the NPS will implement a standard 500 meter buffer only when intensive monitoring can be performed. Data show that 85 percent of the chick movements recorded during this time was less than 500 meters, thereby indicating that even without intensive monitoring and moving buffers, most piping plover broods would be protected by a standard 500 meter buffer. However, the 500 meter buffer will only be in place when it can be dynamically managed with additional staff that is able to adjust the buffer as necessary to protect mobile chicks. Where ORV access may be blocked by this standard buffer, the buffer may be reduced to no less than 200 meters, as consistent with the Piping Plover Recovery Plan (USFWS 1996). These smaller buffers for unfledged chicks require intensive monitoring to ensure protection of the chicks, as recommended in the Piping Plover Recovery Plan (USFWS 1996). Intensive monitoring requires that all chicks are observed during the time that ORVs are on the beach and that a contingency plan be in place if chicks move toward the access corridor while vehicles are on the beach. Under the selected alternative, if intensive monitoring is not possible, buffer sizes will remain the same as those identified in the ORV FEIS (NPS 2010).

Wilson's plover

Because few studies were found that document necessary buffer sizes to protect Wilson's plover nests and unfledged chicks, the NPS has deferred to the buffer sizes proposed for the piping plover. At CAHA, most Wilson's plover nests are found in proximity to piping plovers and, as a result, they receive protection by the buffers created for piping plovers. In cases where Wilson's plover nests or chicks are outside of existing piping plover buffers, buffers will be created to ensure that nests have a 50 meter buffer and chicks have a 100 meter buffer for pedestrians and no less than 200 meter buffer for ORVs, consistent with measures recommended for piping plovers in the Piping Plover Recovery Plan (USFWS 1996).

Least tern

A range of buffer recommendations for least terns was considered in the ORV FEIS (NPS 2010, Table 31). For least terns, the proposed pedestrian and ORV buffer for nests remains unchanged at 100 meters based on information in Erwin (1989). Unlike piping plover chicks, least tern chicks are altricial and remain in or near the nest cup for a day or two after hatching while adults forage and bring food to the chicks at the nest. As chicks mature, they become more mobile, but typically stay within 200 meters of the nest site (Massey 1974). Accordingly, least tern chicks require a less restrictive buffer than those species with precocial chicks (i.e., those chicks which can move about freely soon after hatching). Based on basic biological information, and that presented in Erwin (1989), 100 meters was chosen as the ORV and pedestrian buffer for unfledged chicks that would provide sufficient protection for most unfledged least tern chicks from recreational disturbance.

Colonial nesting waterbirds

A range of buffer recommendations for colonial nesting waterbirds was considered in the ORV FEIS (see NPS 2010, Table 31 and Appendix A of this EA). Other than least tern colonies described above, mixed-species colonies at CAHA often include black skimmers. Black skimmer and other tern species' chicks are altricial and remain in or near the nest cup after hatching while adults forage and bring food to the chicks at the nest. As chicks mature, they become more mobile and begin to move further away from the nest site however they remain completely dependent on the adults for food, shelter and safety. Accordingly, these species require a less restrictive buffer than those species with precocial chicks (i.e., those chicks which can move about freely soon after hatching). The smallest buffer size recommendation for mixed colonies that included black skimmers is from Rodgers and Smith (1995). They studied mixed tern/black skimmer responses to pedestrian and motor boat disturbance in Florida and determined that a 180 meter buffer would be sufficient to protect nesting birds and chicks from human disturbance. Because no ORV specific data were available to base buffers on, these data were used, making the assumption that boats would have similar disturbance levels to nesting birds and their chicks as ORVs.

Sea turtles

Under the selected alternative, as nests reach the time period when they might hatch, the buffer will be expanded in a manner modified from the recommendations in the North Carolina Wildlife Resources Commission's "Handbook for Sea Turtle Volunteers in North Carolina" (NCWRC 2006). The handbook calls for a 15.2 meter (50 feet) buffer around nest for areas with ORVs. During the hatch window, the buffer will be expanded to 15 meters out from the sides of the nest, down to the high tide line (i.e., water and/or wet sand), and back from the nest 5 meters. The shorter buffer behind the nest will allow ORVs and pedestrians to travel behind the nest where sufficient beach width exists. When there is not room for ORVs to travel behind the nest, and when no alternate route or access points exists, vehicles will be allowed to drive seaward of the expanded sea turtle closure as close as practicable to the surf line, as long as personnel are available to closely monitor the nest for signs of hatching and to eliminate vehicle tire ruts from the beach at the end of each day.

Park data show that early season nests (nests laid prior to June 1) incubate longer due to cooler sand temperatures early in the incubation period (CAHA Annual Reports 2010, 2012-2014). Therefore NPS will change the expansion time for these early nests to day 60 of incubation, unless signs of hatching are observed. This will allow ORV routes to remain open longer. Nests laid after August 1 are considered late season nests. The predicted hatch date for these nests occurs in the cooler fall months and development slows. Data collected at the Seashore from 2010-2014 indicate that no hatchlings emerge from nests laid on or after August 19th (see Figure 1 on p. 24 of the EA; CAHA Annual Reports 2010-2014). Therefore, under the selected alternative, the Seashore will retain the option of not implementing buffer expansion for turtle nests laid prior to August 20, where such nests were blocking ORV access. However, all such nests will be monitored daily for signs of hatching by park staff. Should signs of hatching be observed, nest buffers will be expanded as outlined for nests laid prior to August 20.

The selected alternative provides the most desirable combination of actions for meeting the legislative objectives, while fulfilling the park's mission to protect and preserve its natural and cultural resources and having limited adverse environmental impacts (see "Impacts that may be both Beneficial and Adverse" below).

Environmentally Preferable Alternative

The environmentally preferable alternative, as defined by the Department of the Interior NEPA regulations, is the alternative that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources. The environmentally preferable alternative is identified upon consideration and weighing by the Responsible Official of long-term environmental impacts against short-term impacts in evaluating what is the best protection of these resources (43 CFR 46.30).

The NPS is required to identify the environmentally preferable alternative in its NEPA documents for public review and comment. The NPS, in accordance with the U.S. Department of the Interior policies contained in the Department Manual (515 DM 4.10) and CEQ's Forty Questions, defines the environmentally preferable alternative (or alternatives) as the alternative that best promotes the national environmental policy expressed in NEPA (section 101(b)) (516 DM 4.10). The CEQ's Forty Questions (Q6a) further clarifies the identification of the environmentally preferable alternative stating, "this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources."

Alternative A is the environmentally preferable alternative because it affords more protection to natural resources, specifically, to threatened, endangered, and special status species that nest at the Seashore. While it is believed that the buffers and corridors in the selected alternative will be adequately protective of all species, alternative A would provide an extra measure of safety since it provides wider protective buffers than those in the selected alternative.

Why the Selected Alternative Will Not Have a Significant Effect on the Human Environment

Consideration of the effects described in the EA, and a finding that they are not significant, are necessary and critical parts of this FONSI, as required by 40 CFR §1508.13. Significance criteria are defined in 40 CFR § 1508.27. These criteria direct NPS to consider direct, indirect, and cumulative impacts of the proposed action, as well as the context and intensity of impacts:

Context. This measure of significance considers the setting within which an impact was analyzed in the EA, such as the affected region, society as a whole, affected interest, and/or a locality. The selected alternative affects only the immediate local area, in terms of resources, employees, and/or visitors. Therefore, that is the context in which the NPS has assessed the potential significance of impacts resulting from the implementation of the selected alternative.

Intensity. This measure of significance refers to the severity of impacts, which may be both beneficial and adverse, and considers measures that will be applied to minimize or avoid

impacts. As directed by 40 CFR § 1508.27, intensity is evaluated by considering the following factors:

Impacts that may be both Beneficial and Adverse

Modifying buffers and providing new access corridors at the Seashore will have no significant impact on the Federally-listed piping plover. Response to disturbance could be expected by some individuals as a result of reduced buffer size and new access corridors, with negative impacts to feeding, reproduction, resting, or other factors; however, those disturbances are not likely to affect local population levels at the Seashore. Impacts would be minimized via intensive monitoring by Seashore staff, i.e., regular visual confirmation of chick location by qualified staff members from the time the chicks are located in the morning until the beach closes to driving at night. Some impacts might occur during critical periods of reproduction or in key habitats in the Seashore and result in harassment, injury, or mortality to one or more individuals. However, population numbers and habitat in the Seashore would remain functional and the effects of modifying buffers and providing access corridors will not affect the sustainability of the population at the Seashore. Implementation of the selected alternative will not result in any additional effects to piping plovers than were already examined in the Biological Opinion issued by the USFWS on November 15, 2010 and pertinent amendments for activities proposed by the preferred alternative in the ORV FEIS.

With respect to critical habitat for piping plover, the only changes to the ORV FEIS under the selected alternative are changes to size and duration of wildlife buffers during the nesting season (critical habitat for the piping plover was designated at the Seashore to protect wintering habitat). Thus, implementation of the selected alternative will not result in any effects to critical habitat.

Modifying buffers and providing new access corridors at the Seashore will have no significant impact on Federally-listed sea turtles. Complete or partial nest loss due to human activities could occur rarely as a result of the reduced buffers and new corridors. Impacts would be minimized via intensive monitoring by Seashore staff, i.e., by regularly monitoring nests and removing ruts between the nest and the shoreline. Sufficient population numbers of turtles and habitat in the Seashore would remain functional to maintain a sustainable population.

Modifying buffers and providing new access corridors at the Seashore will have no significant impact on state-listed shorebirds. As with piping plovers, reduced buffer size and new access corridors could result in occasional to frequent response to disturbance of some individuals, with negative impacts to feeding, reproduction, resting, or other factors affecting local populations. However, impacts would be minimized via increased monitoring by Seashore staff, similar to what will be performed for piping plovers. Some impacts might occur during critical periods of reproduction or in key habitats in the Seashore and result in harassment, injury, or mortality to one or more individuals. However, sufficient numbers of birds and habitat in the Seashore would remain functional to maintain a sustainable population of state-listed shorebirds.

Modifying buffers and providing new access corridors will have no significant impact on visitor use and experience. The number of visitors to the Seashore is not likely to be affected by the modified buffers and additional access corridors. Given that visitors using ORVs to access the

beach constitute a small portion of the total visitation to the Seashore (based on ORV permit sales), the buffers and corridors are not expected to affect overall visitation and associated visitor experience. However, the modified buffers and new access corridors would allow pedestrian and ORV access to some areas now closed due to resource closures, with resulting enhancement of the visitor experience for many visitors.

Modifying buffers and providing new access corridors will have no significant impact on Seashore operations and management. The Seashore would incur additional staff costs in order to perform the intensive and increased monitoring necessary to implement the modified buffers and new access corridors. However, these costs would be covered by the revenue generated by the sale of ORV permits. There would still be impacts to Seashore operations and management because funds used for the expanded monitoring program could not be used for other aspects of managing the ORV program. However, the result would be a delay in implementation of certain management programs at the Seashore, not their elimination.

Degree of Effect on Public Health and Safety

Under the selected alternative, threats to public health and safety will not change from the level of risk that currently exists under the ORV FEIS. Some level of risk will result from the new pedestrian and ORV corridors that will be provided in specified circumstances to increase opportunities for access along the beach. However, the nature and level of risk will not increase from current levels. Seashore staff will only open new corridors when the corridors are deemed to be safe for the public. The resulting impacts to public health and safety will be direct, long-term, and beneficial.

Unique Characteristics of the Geographic Area such as Proximity to Historic or Cultural Resources, Park Lands, Prime Farmlands, Wetlands, Wild and Scenic Rivers, or Ecologically Critical Areas

The selected alternative will not affect cultural resources, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas. The beach-nesting species are a unique characteristic of this geographic area that is affected by the selected alternative, but as discussed above, the NPS has determined that there will be no significant impacts to these species.

Degree to which Effects on the Quality of the Human Environment are Likely to be Highly Controversial

Department of the Interior regulations implementing NEPA provide that the term “controversial” refers to “circumstances where a substantial dispute exists as to the environmental consequences of the proposed action and does not refer to the existence of opposition to a proposed action, the effect of which is relatively undisputed.” 46 CFR § 46.30.

Though considerable disagreement exists about how large wildlife protection buffers should be at the Seashore, and where they should be located, the 2014 Act requires NPS to take action with respect to buffers and access corridors. There is general agreement about the universe of

scientific studies and research that is available to inform a decision about modifying the existing buffers and establishing new access corridors. Based on a review of that literature, and on the substantive comments received on the EA, there is no substantial dispute on what the effects of the selected alternative will likely be on listed and special status species. There is likely to be no long-term adverse effect on local population levels of listed and special status species at the Seashore. Therefore, the effects from the selected alternative are not likely to be highly controversial within the meaning of applicable regulations.

Degree to which the Possible Effects on the Human Environment are Highly Uncertain or Involve Unique or Unknown Risks

Assuming that NPS has the resources to implement the intensive and increased monitoring called for in the selected alternative to protect shorebirds and sea turtles, possible effects of the selected alternative should be straightforward and not involve unique or unknown risks. However, in the event that such monitoring is not possible, or where resource management personnel document adverse impacts to resources greater than those described in the EA, the Seashore retains the discretion to implement more restrictive measures to ensure resource protection, including reverting to the resource protection measures in the ORV FEIS. Therefore, the NPS has determined that with respect to the selected alternative, the extent and degree of uncertainty regarding impacts or unique or unknown risks is not significant.

Degree to which the Action Establishes a Precedent for Future Actions with Significant Effects or Represents a Decision in a Principle about a Future Consideration

Nothing in the proposed action establishes a precedent that would result in significant future effects in other areas of the National Park System. The selected alternative is driven in significant part by an express Congressional mandate directing the NPS to prescribe buffers that are of “the shortest duration and cover the smallest area necessary to protect a species and to designate pedestrian and vehicle corridors around areas of the National Seashore closed because of wildlife buffers, to allow access to areas that are open.” This mandate, plus the inherent uncertainty of the available science, is why the NPS is now implementing different buffers than under the ORV FEIS, despite drawing on essentially the same science. The selected alternative is tailored to the unique circumstances of the Seashore as dictated by the 2014 Act. It should be noted that observations made in the three years since the ORV FEIS went into effect suggest that some of the changes in the selected alternative would have been considered after the five year review called for in the ORV FEIS.

Whether the Action is Related to Other Actions with Individually Insignificant but Cumulatively Significant Impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact to the environment.

As described in the EA, overall cumulative impacts for Federal- and state-listed species depend primarily on the intensity and duration of unpredictable factors such as storm events and the efficacy of predator management within the Seashore. The foregoing forces play the predominant role in population gains and losses for listed and special status species within the Seashore. Impacts from the selected alternative will play a role in population gains and losses for these species, but their contribution to cumulative impacts will be relatively small. For visitor use

and experience, it will be other actions, primarily construction-related, that will have the greatest impact on access to parts of the Seashore, and thus to visitor use and experience. The smaller buffers and additional corridors will increase access, but their impact will not be as great as beach ramps, interdunal roads, and related infrastructure. Similarly, the selected alternative will result in increased operating costs for the Seashore, but the costs are not great as compared to the total cost of the ORV program overall Seashore budget. Thus, there are no significant cumulative impacts associated with the selected alternative.

Degree to which the Action may Adversely Affect Districts, Sites, Highways, Structures, or Objects Listed or Eligible for Listing in the National Register of Historic Places (NRHP) or may Cause Loss or Destruction of Significant Scientific, Cultural or Historic Resources

Under Section 110 of the NHPA, the NPS, as a Federal land-holding agency, is required to identify, inventory, and nominate properties to the National Register of Historic Places, and to exercise caution to protect such properties (16 U.S.C. § 470). Section 106 of the NHPA requires the agency to consider the effects of its actions on National Register-listed or eligible properties.

Under the selected alternative, impacts to cultural resources would be nonexistent to negligible. In compliance with Section 106 of NHPA, the NPS has determined that implementation of the selected alternative will not have an adverse effect on historic properties, as defined in 36 CFR Part 800.5(d)(1). On May 29, 2015, (see Appendix A), the North Carolina State Historic Preservation Officer (SHPO) concurred with this determination.

Degree to which the Action May Affect a Threatened or Endangered Species or Critical Habitat

Impacts of the selected alternative on threatened and endangered species are described above under “Impacts that may be both Beneficial and Adverse.” After applying the relevant criteria from the Endangered Species Act, the NPS concludes that implementation of the preferred alternative *may affect, is likely to adversely affect* piping plover and federally-listed sea turtles. In response to this conclusion, the USFWS issued an Amended Biological Opinion dated June 4, 2015 (see Appendix B, letter amending Biological Opinion of November 15, 2010). In particular, the USFWS has found that the level of incidental take that would occur from implementation of the selected alternative would not exceed that authorized under the November 2010 Incidental Take Statement for piping plover, loggerhead, green, or leatherback sea turtles. The NPS will comply with the terms and conditions in the Amended Biological Opinion. For the reasons discussed above, the selected alternative will not otherwise have a significant effect on these species.

Whether the Action Threatens a Violation of Federal, State, or Local Law or Requirements Imposed for the Protection of the Environment

The selected alternative for the modification of buffers and designation of corridors (Alternative 2) does not threaten a violation of any Federal, State, or local law or requirement imposed for the protection of the environment.

Impairment

In addition to reviewing the list of significance criteria, the NPS has determined that implementation of the selected alternative will not constitute an impairment to CAHA's resources and values. A non-impairment determination is attached hereto as Appendix B.

Public Involvement

The EA was released for public review on April 29, 2015. The document remained available for review until May 14, 2015, which is less than the standard 30-day review period. This shortened review period was made necessary by the legislative deadline for completing the EA process. The availability of the EA was announced through local and regional news media and through the NPS Planning, Environment, and Public Comment (PEPC) website at: <http://parkplanning.nps.gov/caha>. A series of five public meetings were held due to widespread public interest.

A total of 9,255 correspondences were received by the NPS during the EA comment period. This correspondence included 6,770 comments, of which 129 were substantive. A variety of views were expressed by commenters, ranging from support for the existing buffers in the ORV FEIS (alternative A), to qualified support for the selected alternative (the NPS preferred alternative), to suggestions that NPS establish smaller or larger buffers than those proposed in the selected alternative. The majority of comments were from individual citizens, but comments were also submitted by organizations and government agencies. Letters from the USFWS, the NCWRC, and the NC SHPO are attached in Appendix A.

Substantive comments consisted of questions about or challenges to the selected alternative and suggestions for clarifying and improving the modified buffers and corridors. Responses to substantive comments are found in Appendix C.

Conclusion

The selected alternative (Modify Buffers and Provide Additional Access Corridors) does not constitute an action that normally requires preparation of an Environmental Impact Statement (EIS). The selected alternative will not have a significant effect on the human environment. Some short-term adverse environmental impacts will likely occur, but these will be limited in extent and partially offset by management activities designed to minimize impacts. There are no unmitigated adverse impacts on public health, public safety, threatened or endangered species, sites or districts listed in or eligible for listing in the NRHP or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, cumulative effects or elements of precedent were identified. Implementation of modified buffers and corridors at the Seashore will not violate any Federal, State or local environmental protection laws. Based on the foregoing, it has been determined that an EIS is not required for this project and thus will not be prepared.

APPENDIX A

CORRESPONDENCE

**UNITED STATES FISH AND WILDLIFE SERVICE
(Amendment to Biological Opinion)**

And

NORTH CAROLINA WILDLIFE RESOURCES COMMISSION

And

NORTH CAROLINA STATE HISTORIC PRESERVATION OFFICER



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh ES Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

June 4, 2015

David Hallac
Superintendent
Cape Hatteras National Seashore
National Park Service
1401 National Park Drive
Manteo, North Carolina 27954

Subject: Amendment to the Biological Opinion for Cape Hatteras National Seashore's Off-Road Vehicle Management Plan

Dear Superintendent Hallac:

This letter constitutes an amendment to the U.S. Fish and Wildlife Service's (USFWS) Biological Opinion (BO), dated November, 15, 2010, on the Cape Hatteras National Seashore's (Seashore) Off-Road Vehicle Management Plan (Plan), in accordance with section 7(a)(2) of the Endangered Species Act of 1973 (Act), as amended (16 United States Code [U.S.C.] 1531 *et seq.*). This opinion assessed the effects of implementation of the Seashore's Off-Road Vehicle Management Plan on the piping plover (*Charadrius melodus*) of the Atlantic Coast, Great Lakes and Great Plains populations and critical habitat for the wintering population of the piping plover in North Carolina; seabeach amaranth (*Amaranthus pumilus*); and loggerhead (*Caretta caretta*), green (*Chelonia mydas*), and leatherback (*Dermochelys coriacea*) sea turtles.

On May 4, 2015, the USFWS received your letter (dated April 30, 2015) requesting reinitiation of consultation. The basis of your request is the requirement for the National Park Service (NPS) to meet a directive in the National Defense Authorization Act (NDAA) for Fiscal Year 2015, Public Law 113-291 to review wildlife protection buffers established pursuant to the ORV Management Plan Final Rule. Specifically, the 2014 NDAA directs the NPS "to ensure that the buffers are of the shortest duration and cover the smallest area necessary to protect a species, as determined in accordance with peer-reviewed scientific data."

In January 2012, NPS published the Special Regulations, Areas of the National Park System, Cape Hatteras National Seashore Off-Road Vehicle (ORV) Management Final Rule. This rule designates ORV routes and authorizes limited ORV use within the Seashore in a manner that will protect and preserve natural and cultural resources, provide a variety of safe visitor experiences, and minimize conflicts among various users. The directive in Public Law 113-291 requires NPS to review wildlife protection buffers established pursuant to the ORV Final Rule.

NPS has completed an environmental assessment (EA) (April 2015) to address the review and modification of wildlife protection buffers at the Seashore. The EA was developed in consultation with the Raleigh Field Office in compliance with the National Environmental Policy Act (NEPA), and includes an analysis that serves as a Biological Assessment for review of the

proposed action on threatened and endangered species. A complete administrative record of this consultation is on file in the USFWS' Raleigh Field Office.

The EA tiers off of the Off-Road Vehicle Final Environmental Impact Statement of November 2010 (ORV FEIS). The USFWS's November, 15, 2010 BO evaluated impacts of the initial proposed action based on the project description outlined in alternative F of the ORV FEIS. The April 2015 EA explores a no-action alternative (alternative A) which is the continuation of current management—implementation of alternative F contained in the ORV FEIS.

The preferred alternative (and proposed action for section 7 review) described in the EA is identified as alternative B. The proposed action would modify the size of wildlife protection buffers in use in the Seashore and designate additional access corridors around temporary resource protection closures. Apart from buffers and corridors, all other elements addressed in alternative F of the ORV FEIS would remain unchanged. Vehicle-free areas, seasonal closures, pre-season habitat assessments, prenesting closures, and surveys would continue as in accordance with current practice. However, the proposed action would provide species protection buffers that are of the shortest duration and cover the smallest area necessary to protect a species (as determined in accordance with peer-reviewed scientific data), as required by the 2014 NDAA.

Tables 2.3 (beginning on page 28) and 2.4 (beginning on page 30) of the EA provide a comparison between the current and proposed buffer distances for shorebirds and sea turtles. This letter contains an adaptation of these two tables for reference as enclosures. The following summarizes the description of the proposed action contained in the April 2015 EA as it pertains to federally listed species.

For piping plover, the buffer during nesting would be reduced from 75 meters to 50 meters for both pedestrians and ORVs. For unfledged chicks, the buffer would be reduced from 300 meters to 100 meters (pedestrians) and from 1,000 meters to 500 meters (ORVs). Where the standard 500-meter buffer would block ORV access, the buffer may be reduced to no less than 200 meters to allow an access corridor along the shoreline. Modified buffers for unfledged chicks under alternative B are contingent on the Seashore's ability to conduct intensive monitoring. "Intensive monitoring" means that qualified staff members maintain regular visual confirmation of chick location from the time the chicks are located in the morning until the beach closes to driving at night. If staffing requirements cannot be met, buffers will revert to the buffers established in the ORV FEIS. In addition, piping plover chicks will need to be located prior to opening an area or providing/ establishing a corridor in the morning to ORVs to ensure that adequate buffers are being maintained. When chicks cannot be located, areas will remain closed to all ORV access until chicks are observed, or the fate of the chicks has been determined.

For sea turtles, the expansion buffer would be adjusted to 30 meters (15 meters in either side), and, when light-filtering fencing is installed, five meters minimum behind the nest. This buffer would be the same for vehicle-free areas, village areas, and ORV routes. Visitors would be able to walk behind the buffer or in front of the nest, walking as close as practicable to the surf line. For ORVs, visitors would use an existing corridor around the nest, if available. In the absence of an existing corridor, the shorter buffer behind the nest would allow ORVs to travel behind a nest

where sufficient beach width exists. Where a turtle nest blocks access from an ORV area to another and no way around the nest exists, visitors could drive in front of the nest if NPS resources exist to monitor the nest and remove ruts.

Based on years of data on sea turtle nest incubation rates, the Seashore has identified the “hatch window” which is the point in time when the NPS can expect sea turtle hatchlings to begin emerging from the nest. The hatch window for a Seashore turtle nest is reached between day 50 and 55. Typically, protective buffers for a sea turtle nest are expanded from the nest to the waterline once the hatch window is met. For nests laid prior to June 1, the Seashore would retain the option of not expanding the buffer until day 60, unless signs of hatching prior to day 60 were detected. For nests laid after August 20, the Seashore would retain the option of not expanding the buffer for nests that block access to ORV passage. Nests laid after August 20 would be monitored daily for signs of hatching and managed appropriately to avoid impacts if signs of hatching are observed. Where signs of hatching are observed (e.g., depression), buffers would be expanded as outlined for nests laid prior to August 20.

On May 28, 2015, the NPS informed this office via email of a change to the proposed action relative to sea turtle nesting. Specifically, the plan would be modified such that, “On the rare occasion that a sea turtle nest is laid in such a location as to completely block ORV ramp access to and from an open section of beach where there is no ability to provide a corridor or other route around the nest (i.e., the nest is laid in a ramp itself or immediately adjacent to the ramp such that the buffer would completely close the ramp and no corridor or other access route is possible), that nest may be relocated following existing relocation protocols described in the ORV FEIS (Table 10-1) to an area that does not block access. Based on observations from previous years, it is anticipated that only a single nest might require relocation each season due to completely blocking ramp access.” We have hereby incorporated this change into our assessment of the proposed action.

The buffers and corridors proposed in alternative B are contingent on NPS having the resources (funding and staff) to carry out the intensive or increased monitoring needed to protect species. In cases where resource management personnel document adverse impacts to resources greater than those described in the April 2015 EA, the Seashore would retain the discretion to revert to the resource protection measures in the ORV FEIS.

The USFWS designated critical habitat for wintering piping plover on July 10, 2001. The Seashore contains four critical habitat units. Since the changes proposed in alternative B pertain to the size and duration of buffers during the breeding season and do not involve conservation of piping plovers on wintering habitat, we concur with the NPS’s determination that implementation of alternative B would not result in any additional effects to critical habitat than were already examined in the November 15, 2010 BO.

The 100-meter pedestrian buffer for unfledged piping plover chicks proposed under alternative B is consistent with the recommendations Appendix G of the Piping Plover Atlantic Coast Population Recovery Plan (USFWS 1996). The 500-meter ORV buffer is proposed based on the mean maximum movements of piping plover chicks recorded at the Seashore between 2010 and 2014 (398 meters; NPS 2010-2014). Chick movements ranged from 15 meters to 1,118 meters;

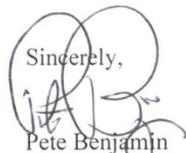
85 percent of chick movements recorded during this period were less than 500 meters. NPS has determined that a 500-meter standard buffer should be adequate to protect the majority of the piping plover broods.

Where ORV access may be blocked by a 500-meter buffer, the buffer may be reduced to no less than 200 meters. These smaller buffers for unfledged chicks will require intensive monitoring to ensure protection of the chicks. Intensive monitoring requires that all chicks are observed during the time that ORVs are on the beach and that a contingency plan be in place if chicks move toward the access corridor while vehicles are on the beach. Under alternative B, if intensive monitoring is not possible, buffer sizes would remain the same as those identified in the ORV FEIS (NPS 2010). These measures to some extent follow the guidelines for managing recreational activities in piping plover breeding habitat contained in Appendix G of the Piping Plover Atlantic Coast Population Recovery Plan (USFWS 1996). Whereas the guidelines are intended to help beach managers avoid incidental take of nesting piping plovers related to recreational activities, our November 15, 2010 BO anticipated that the ORV management plan would result in some limited incidental take of piping plovers to the extent that the ORV management plan deviates from the guidelines.

The April 2015 EA demonstrates that NPS has carried out an effective review where buffer distances and periods during which protective buffers are in place can be reduced to promote access to features in the Seashore considered vital to the visitor's experience. To minimize the potential for new adverse impacts that might occur as a result of the proposed action, NPS would put in place sufficient monitoring to recognize the critical time and place where these new effects might occur and will be able to employ appropriate minimization and avoidance measures to ensure incidental take does not surpass the level assessed in the Incidental Take Statement contained in the USFWS's November 15, 2010 BO.

Based on our review of the April 2015 EA, discussions with the NPS and subsequent modifications to the proposed action as discussed above, the USFWS concurs with the NPS's determination that the proposed implementation of alternative B, described in the Seashore's April 2015 EA may affect but is not likely to adversely affect seabeach amaranth (*Amaranthus pumilus*), rufa red knot (*Calidris canutus rufa*), or the Kemp's Ridley sea turtle (*Lepidochelys kempii*). The Service believes that it is likely that the level of incidental take that would occur from implementation of alternative B of the April 2015 EA would not exceed that authorized under the November 15, 2010 Incidental Take Statement for piping plover, loggerhead, green or leatherback sea turtles. All the Reasonable and Prudent Measures, Terms and Conditions, reporting requirement and reinitiation triggers from the November 15, 2010 BO remain in effect.

If you have any questions please contact John Hammond at (919) 856-4520 extension 28 or via email at john_hammond@fws.gov.

Sincerely,

Pete Benjamin
Field Supervisor

4

Enclosures

Literature Cited

- National Park Service. 2010a (March). Cape Hatteras National Seashore Off-road Vehicle Management Plan, Draft Environmental Impact Statement. U. S. Department of the Interior, National Park Service, Cape Hatteras National Seashore, North Carolina. NPSDEIS 10-12. 688 pp. + Appendix A. Available at <<http://parkplanning.nps.gov/document.cfm?parkID=358&projectId=10641&documentID=32596>>.
- National Park Service. 2010 - 2014. Piping plover (*Charadrius melodus*) monitoring, Cape Hatteras National Seashore, Annual Reports. Cape Hatteras National Seashore, Manteo, NC.
- U.S. Fish and Wildlife Service. 1996. Piping plover (*Charadrius melodus*), Atlantic Coast population, revised recovery plan. Hadley, Massachusetts. 245 pp.

Reproduced from Table 2.3 of the April 2015 Environmental Assessment: Comparison of Buffer Distances – Shorebirds

Species	Behavior	Disturbance	Seashore - Now	Seashore - Modified	Comments on Seashore - Modified
American oystercatcher (AMOY)	Nesting	Pedestrian	150 meters	150 meters	Pedestrians can walk behind buffer (as is currently allowed).
		ORV	150 meters	A. 150 meters B. ORV corridor at waterline (where nest is at least 25 meters from vehicle corridor)	Proposed ORV corridor only when no alternate route available and where nest is at least 25m from vehicle corridor. Pass through traffic only; no parking in corridor. Safety concerns may preclude pass through corridors in some of these areas.
	Unfledged chicks	Pedestrian	200 meters	200 meters	Pedestrians can walk behind buffer (as is currently allowed).
		ORV	200 meters	200 meters	
Piping plover (PIPL)	Nesting	Pedestrian	75 meters	50 meters	Consistent with PIPL Recovery Plan
		ORV	75 meters	50 meters	
	Unfledged chicks	Pedestrian	300 meters	100 meters	Symbolically fenced area would be provided as a refuge. Modified CAHA buffers for unfledged chicks are contingent on ability to do intensive monitoring.

Species	Behavior	Disturbance	Seashore - Now	Seashore - Modified	Comments on Seashore - Modified
		ORV	1,000 meters	<p>A. 500 meters if there is an existing corridor</p> <p>B. No less than 200 meters if corridor does not exist</p>	<p>Modified CAHA buffers for unfledged chicks are contingent on ability to do intensive monitoring. If staffing requirements cannot be met, buffers will revert to 1000m buffer established in the ORV FEIS.</p> <p>Chicks will need to be located prior to opening an area or providing/establishing a corridor in the morning to ORVs to ensure that adequate buffers are being maintained. When chicks cannot be located, areas will remain closed to all ORV access until chicks are observed, they are no longer in the area, or their fate has been determined.</p>

Wilson's plover (PIPL)	Nesting	Pedestrian	75 meters	50 meters	Consistent with PIPL Buffer
		ORV	75 meters	50 meters	
	Unfledged chicks	Pedestrian	200 meters	100 meters	WIPL chicks are generally protected by PIPL closure. Where WIPL and PIPL occur together, default to whichever buffer is greater
		ORV	200 meters	<p>A. 500 m if there is an existing corridor</p> <p>B. No less than 200 m if corridor does not exist</p>	

Species	Behavior	Disturbance	Seashore - Now	Seashore - Modified	Comments on Seashore - Modified
Least tern	Nesting	Pedestrian	100 meters	100 meters	Seashore buffer from Erwin 1989 (100 meters) pedestrian
		ORV	100 meters	100 meters	Seashore buffer from Erwin (100 meters)(no ORV citation available)
	Unfledged chicks	Pedestrian	200 meters	200 meters	Modified Seashore buffer from Erwin 1989 (100 meters) pedestrian
		ORV	200 meters	200 meters	Seashore buffer from Erwin (100 meters)(no ORV citation available)
Common tern, gull-billed tern and black skimmer	Nesting	Pedestrian	200 meters	180 meters	Modified CAHA buffers from Rodgers and Smith 1995
		ORV	200 meters	180 meters	
	Unfledged chicks	Pedestrian	200 meters	180 meters	Modified CAHA buffers from Rodgers and Smith 1995
		ORV	200 meters	180 meters	

Reproduced from Table 2.4 of the April 2015 Environmental Assessment: Comparison of Buffer Distances – Sea Turtles

Expansion	Seashore - Now	Seashore - Modified	Comments on Seashore - Modified
Vehicle-Free Area Expansion	25 meters (12.5 meters on either side)	30 meters (15 meters on either side) 5 meters minimum behind nest when light filtering fencing is installed.	Pedestrian corridor during expansion period: Visitors can walk in front of turtle nests -- walking as close as practicable to the surf line – although occasionally, where signed, people may be asked to walk behind nest closures. There may be exceptions where nest is near dune line and high tide line simultaneously.
Village Expansion	50 meters (25 meters on either side)	30 meters (15 meters on either side) 5 meters minimum behind nest when light filtering fencing is installed.	Same as above
ORV Route Expansion	105 meters (52.5 meters on either side) 10-15 meters closed behind nest	A. 30 meters (15 meters on either side) 5 meters minimum behind nest when light filtering fencing is installed B. Utilize corridor around nest if one exists C. Drive behind nest D. Drive in front of Nest	ORV corridor: For turtle nests that block access from one ORV area to other and no way around the nest exists, driving may be permitted in front of nest if resources exist to monitor nest and remove ruts. Driving may continue to 9 pm only if resources are there during high risk times associated with hatching to protect hatchlings and remove ruts. Where access is affected, nests laid after August 20 would not be expanded, but would be closely monitored. Where hatching takes place, buffers would be expanded.

Note: The North Carolina Wildlife Resources Commission Handbook calls for a 50-foot (15.2-meter) buffer around nests for areas with ORVs. Under alternative B, NPS would continue to mark nests during incubation so that vehicles and pedestrians do not travel in the immediate vicinity of incubating eggs. During the hatch window, the buffer would be expanded to 15m out from the sides of the nest, down to the high tide line (i.e., water and/or wet sand, and back from the nest 5m. The shorter buffer behind the nest would allow ORVs and pedestrians to travel behind the nest where sufficient beach width exists. Pedestrian and ORV buffers are the same during the hatch window to minimize the effects of tire ruts and footprints on emerging hatchlings.

For nests laid prior to June 1, the Seashore would retain the option of not expanding the buffer until day 60, unless signs of hatching prior to day 60 were detected.

The Seashore would retain the option of not expanding the buffer for nests laid after August 20 that block access to ORV passage. Where access is affected, nests laid after August 20 would be monitored daily for signs of hatching and managed appropriately to avoid impacts if signs of hatching are observed. As noted, where hatching takes place, buffers would be expanded.



☒ North Carolina Wildlife Resources Commission ☒

Gordon S. Myers, Executive Director

May 14, 2015

Mr. David Hallac
Superintendent, Cape Hatteras National Seashore
1401 National Park Drive
Manteo, NC 27954

Dear Superintendent Hallac:

Staff from the North Carolina Wildlife Resources Commission (NCWRC) have reviewed the "*Environmental Assessment / Assessment of Effect - Review and Adjustment of Wildlife Buffers*" from the National Park Service (NPS) with regard to changes in wildlife buffer distances on the Cape Hatteras National Seashore for pedestrian and off-road vehicle access. The requirement for preparing this plan was established in Public Law 113-291, which also specified coordination with the State of North Carolina regarding appropriate buffer protections for species not listed under the Endangered Species Act. Accordingly, our agency submitted comments (Myers, April 15, 2015) that provided guidance with regard to wildlife species under the state's purview. We appreciate the NPS's consideration of our guidance and inclusion of our letter within the environmental assessment (EA).

The NCWRC values the opportunity the NPS has provided through the recent public hearings and EA review process. We look forward to continued cooperation between our agencies to implement adaptive management approaches to insure the protection of wildlife resources and the enhancement of public access to the seashore. Please do not hesitate to contact our staff or myself if additional information is needed.

Sincerely,

Gordon Myers
Executive Director

Mailing Address: Director's Office • 1701 Mail Service Center • Raleigh, NC 27699-1701
Telephone: (919) 707-0010 • Fax: (919) 707-0020



**North Carolina Department of Cultural Resources
State Historic Preservation Office**

Ramona M. Bartos, Administrator

Governor Pat McCrory
Secretary Susan Klutz

Office of Archives and History
Deputy Secretary Kevin Cherry

May 29, 2015

Jami Lanier
Cape Hatteras NS/Fort Raleigh NHS/Wright Brothers NM
1401 National Park Drive
Manteo, NC 27954

Re: Environmental Assessment (EA), Review and Adjustment of Wildlife Protection Buffers,
Cape Hatteras National Seashore Final Off-Road Vehicle Management Plan,
Dare County, ER 10-0173

Dear Ms. Lanier:

Thank you for your email of May 18, 2015, transmitting the Environmental Assessment for the above project. We believe the EA adequately addresses our concerns for historic resources.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-807-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

 Ramona M. Bartos

Location: 109 East Jones Street, Raleigh NC 27601 **Mailing Address:** 4617 Mail Service Center, Raleigh NC 27699-4617 **Telephone/Fax:** (919) 807-6570/807-6599

APPENDIX B

IMPAIRMENT ANALYSIS

IMPAIRMENT DETERMINATION

The Prohibition on Impairment of Park Resources and Values

NPS Management Policies 2006, Section 1.4.4, explains the prohibition on impairment of park resources and values:

While Congress has given the Service the management discretion to allow impacts within parks, that discretion is limited by the statutory requirement (generally enforceable by the federal courts) that the Park Service must leave park resources and values unimpaired unless a particular law directly and specifically provides otherwise. This, the cornerstone of the Organic Act, establishes the primary responsibility of the Nation Park Service. It ensures that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities for enjoyment of them.

What is Impairment?

NPS *Management Policies 2006*, Section 1.4.5, *What Constitutes Impairment of Park Resources and Values*, and Section 1.4.6, *What Constitutes Park Resources and Values*, provide an explanation of impairment.

Impairment is an impact that, in the professional judgment of the responsible National Park Service manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values.

Section 1.4.5 of *Management Policies 2006* states:

An impact to any park resource or value may, but does not necessarily, constitute impairment. An impact would be more likely to constitute impairment to the extent that it affects a resource or value whose conservation is:

- Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park
- Key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or
- Identified as a goal in the park's general management plan or other relevant NPS planning documents as being of significance.

An impact would be less likely to constitute an impairment if it is an unavoidable result of an action necessary to preserve or restore the integrity of park resources or values and it cannot be further mitigated.

Per Section 1.4.6 of *Management Policies 2006*, park resources and values that may be impaired include:

- the park's scenery, natural and historic objects, and wildlife, and the processes and condition that sustain them, including, to the extent present in the park: the ecological, biological, and physical processes that created the park and continue to act upon it; scenic features; natural visibility, both in daytime and at night; natural landscapes; natural soundscapes and smells; water and air resources; soils; geological resources; paleontological resources; archeological resources; cultural landscapes; ethnographic resources; historic and prehistoric sites, structure, and objects; museum collections; and native plants and animals;
- appropriate opportunities to experience enjoyment of the above resources, to the extent that can be done without impairing them;
- the park's role in contributing to the national dignity, the high public value and integrity, and the superlative environmental quality of the national park system, and the benefit and inspiration provided to the American people by the national park system; and
- any additional attributes encompassed by the specific values and purposes for which the park was established.

Impairment may result from NPS activities in managing the park, visitor activities, or activities undertaken by concessionaires, contractors, and others operating in the park. Impairment may also result from sources or activities outside the park, but this would not be a violation of the Organic Act unless the NPS was in some way responsible for the action.

How is an Impairment Determination Made?

Section 1.4.7 of *Management Policies 2006* states, "[i]n making a determination of whether there would be an impairment, an NPS decision-maker must use his or her professional judgment. This means that the decision-maker must consider any environmental assessments or environmental impact statements required by the National Environmental Policy Act of 1969 (NEPA); consultations required under Section 106 of the National Historic Preservation Act (NHPA); relevant scientific and scholarly studies; advice or insights offered by subject matter experts and others who have relevant knowledge or experience; and the results of civic engagement and public involvement activities relating to the decision.

Management Policies 2006 further defines "professional judgment" as "a decision or opinion that is shaped by study and analysis and full consideration of all the relevant facts, and that takes into account the decision-maker's education, training, and experience; advice or insights offered by subject matter experts and others who have relevant knowledge and experience; good science and scholarship; and, whenever appropriate, the results of civic engagement and public involvement activities relative to the decision.

Impairment Determination for the Selected Alternative

This determination on impairment has been prepared for the selected alternative described in Chapter 2 of the environmental assessment entitled "Review and Adjustment of Wildlife Protection

Buffers.” An impairment determination is made for all resource impact topics analyzed for the selected alternative. An impairment determination is not made for “Visitor Use and Experience” and “Seashore Management and Operations” because those two impact areas are not generally considered to be park resources or values according to the Organic Act, and cannot be impaired in the same way that an action can impair park resources and values.

Findings on Impairment for Federally Listed Threatened or Endangered Species

Federally-listed species and their habitat are necessary to fulfill the purposes for which the Seashore was created. They are also key to providing public enjoyment of the park. A range of planning documents, including the Seashore’s General Management Plan, Strategic Plan, and Interim Protected Species Management Strategy include Federally-listed species and their habitat as significant resources. The Seashore protects the Federally-listed piping plover as well as four Federally-listed species of sea turtle.

For piping plovers, the modification (reduction) of buffer sizes under the selected alternative will place pedestrians and ORVs in greater proximity to nests and chicks. The reduced size of the buffers creates the potential for disturbance from direct short-term contact with people and vehicles. Response to disturbance could be expected by some individuals, with negative impacts to feeding, reproduction, resting, or other factors. However, the modified buffers are consistent with both the 1996 Recovery Plan for piping plovers (USFWS 1996) and the amended Biological Opinion issued by the U.S Fish and Wildlife Service on June 4, 2015, and hence disturbances are not likely to affect local population levels at the Seashore. Moreover, the impacts from the modified buffers would be offset to a large extent by intensive monitoring. “Intensive monitoring” means that qualified staff members maintain regular visual confirmation of chick location from the time the chicks are located in the morning until the beach closes to driving at night. Intensive monitoring will allow Seashore managers to have current information on the location of piping plover chicks and continually manage buffer distances and corridor locations to minimize disturbance and the potential for injury. If (a) staffing requirements cannot be met, (b) the location and fate of the chicks cannot be determined, or (c) best efforts of staff appear unlikely to prevent harm to chicks in a given instance, buffers will revert to those established in the ORV FEIS. In addition, piping plover chicks will need to be located prior to opening an area in the morning to ORVs, piping plover chicks must be located to ensure that adequate buffers are being maintained. When chicks cannot be located, areas will remain closed to all ORV access until chicks are observed, they are no longer in the area, or their fate has been determined. These measures will help ensure adequate protection of piping plover chicks.

For sea turtles, the reduction of buffer sizes and identification of new access corridors under the selected alternative will place pedestrians and ORVs in greater proximity to nests and hatchlings. Complete or partial nest loss due to human activities could occur rarely as a result of the reduced buffers and new corridors. The reduced size of the buffers creates the potential for disturbance and nest failure from direct short-term contact with people and vehicles. In particular, driving in front of a nest will be permitted under the selected alternative where the nest blocks access from one ORV area to another and no way around the nest exists. Nevertheless, driving in front of a nest would be permitted *only if* resources exist to do intensive monitoring for sea turtles, i.e., monitor nests and remove ruts between the nest and the shoreline. Moreover, buffers would continue to be expanded 50 to 55 days after nests were laid in most instances, and ORVs and

pedestrians would be restricted from entering established buffers, greatly reducing the chances that hatchlings may be killed by recreational activities. The combined effects of intensive monitoring and buffer expansion will serve to substantially limit turtle injury and mortality from recreational activities. Should resources be lacking to do the intensive monitoring called for in the selected alternative, buffers will revert to those established in the ORV FEIS.

The protection measures set forth in the selected alternative will ensure that sufficient population numbers and habitat remain functional in the Seashore to maintain sustainable populations of piping plovers and sea turtles. Therefore, the selected alternative will **not impair** Federally-listed threatened or endangered species.

Findings on Impairment for State-Listed and Special Status Species

State-listed and special status species and their habitat are necessary to fulfill the purposes for which the Seashore was created. They are also key to providing public enjoyment of the park. A range of planning documents, including the Seashore's General Management Plan, Strategic Plan, and Interim Protected Species Management Strategy include state-listed and special status species and their habitat as significant resources.

The Seashore protects various state-listed and special status shorebird species. These consist of the American oystercatcher, Wilson's plover, least tern, common tern, gull-billed tern, and black skimmer. For these state-listed and special status species, the reduction of buffer sizes and additional access corridors called for under the selected alternative will place pedestrians and ORVs in greater proximity to nests and chicks. The reduced size of the buffers creates the potential for disturbance and nest abandonment from direct short-term contact with people and/or vehicles. However, the buffers in the selected alternative are consistent with the available literature (see Chapter 2 and Appendix A) and the impacts from the modified buffers would be offset to a large extent by increased levels of monitoring by Seashore staff. Specifically, increased monitoring would be conducted where Wilson's plovers are found outside of a piping plover buffer, and where least tern colonies have chicks. The increased monitoring would ensure that adequate buffers are being maintained for these species. For least tern colonies, monitoring would be conducted at least two times a day. This increased monitoring would allow the Seashore to keep better track of chicks within a colony, or when a colony shifts locations, thereby enabling staff to adjust the buffers in a timely manner. Where the reduction of the buffer allows vehicles to pass in front of a least tern colony, then intensive monitoring (similar to the monitoring proposed for piping plovers) may be warranted. In any event, where the intensive or increased monitoring presupposed by the selected alternative is not possible, the buffers established under the ORV FEIS will apply. For colonies consisting of a mix of state-listed and special status species, the largest applicable buffer would apply, thereby increasing protection for all.

The protection measures set forth in the selected alternative will ensure that sufficient population numbers and habitat remain functional in the Seashore to maintain sustainable populations of American oystercatcher, Wilson's plover, least tern, common tern, gull-billed tern, and black skimmer. Therefore, the selected alternative will **not impair** State-listed and special status species.

APPENDIX C

ERRATA SHEETS and RESPONSE TO PUBLIC COMMENTS

CAPE HATTERAS NATIONAL SEASHORE
ENVIRONMENTAL ASSESSMENT

REVIEW AND ADJUSTMENT OF WILDLIFE PROTECTION BUFFERS

ERRATA

The following substantive changes are made to the environmental assessment entitled “Review and Adjustment of Wildlife Protection Buffers” in response to public comment:

Page 3

The next-to-last paragraph of the Summary is revised as follows:

The following wording is deleted:

In cases where resource management personnel document adverse impacts to resources greater than those described in this EA, the Seashore would retain the discretion to revert to the resource protection measures in the ORV FEIS.

And replaced with:

In cases where resource management personnel document adverse impacts to resources greater than those described herein, or where adequate resources to implement alternative B are lacking, the Seashore would retain the discretion to implement more restrictive measures to ensure resource protection.

Pages 20-23

The “Modified Buffers and Additional Corridors” discussion is modified by combining the individual buffer and corridor descriptions with the corresponding discussion of applicable conditions. Additional revisions to the text are made throughout. The text on pages 20-23 is deleted and replaced with the following:

1. Buffer modification and new corridor for **American oystercatcher**: alternative B provides NPS with the ability to implement an ORV corridor at the waterline during *nesting*, (defined to include courtship, mating, and scrapes) in cases where the beach is wide enough to allow for a vehicle corridor at least 50 meters from the nest. However, where 50 meters from a nest to the high tide line (i.e., water and/or wet sand) will still not allow passage around an oystercatcher nest during nesting, NPS could allow an ORV corridor of no less than 25 meters from the nest. The vehicle

corridor would allow pass through traffic only; no parking would be allowed within the standard 150 meter buffer. Safety concerns may preclude pass through corridors in some locations when the beach is narrow and only a small area exists between the nest and waterline. The distance between the corridor and nest could be adjusted based on the results of ongoing monitoring and future research, using the adaptive management strategy outlined in the ORV FEIS.

Increased monitoring would be conducted at American oystercatcher nests with chicks to ensure that adequate buffers are being maintained. Monitoring would be conducted no less than two times a day, once in the morning and again in the late afternoon, for the entire nesting period. Monitoring would be increased as the hatching window approaches. This increased monitoring would allow the Seashore to identify when chicks have hatched so it can change the buffer to protect unfledged chicks.

2. New buffers for **pipng plover**: The buffer for piping plover during nesting would be reduced from 75 meters to 50 meters for both pedestrians and ORVs. For unfledged chicks, the buffer would be reduced from 300 meters to 100 meters (pedestrians) and from 1,000 meters to 500 meters (ORVs). However, where the 500 meter buffer blocks ORV access and no alternate route is available, the buffer may be reduced to no less than 200 meters to allow an access corridor along the shoreline. All modifications made to piping plover buffers are consistent with the Piping Plover Recovery Plan (USFWS 1996).

Modified buffers for unfledged chicks are contingent on the Seashore's ability to perform intensive monitoring.³ "Intensive monitoring" means that qualified staff members maintain regular visual confirmation of chick location from the time the chicks are located in the morning until the beach closes to driving at night. Intensive monitoring would allow park managers to have current information on the location of piping plover chicks and continually manage buffer distances and corridor locations to minimize disturbance and the potential for injury. If (a) staffing requirements could not be met, (b) the location and fate of the chicks could not be determined, or (c) best efforts of staff appeared unlikely to prevent harm to chicks in a given instance, buffers would revert to the buffers established in the ORV FEIS. In addition, piping plover chicks would need to be located prior to opening an area in the morning to ORVs to ensure that adequate buffers are being maintained. When chicks could not be located, areas would remain closed to all ORV access until chicks were observed, they were no longer in the area, or their fate had been determined.

3. New buffers for **Wilson's plover**: The buffer for Wilson's plover during nesting

³ Current buffers provide protection for nesting species given current staffing levels and current workload. For beach nesting species which are highly mobile, such as piping and Wilson's plovers and American oystercatchers, any decrease in buffer size increases the risk of negative impacts, given the current level of staffing. To minimize that risk, intensive or increased monitoring, as appropriate, would be necessary to achieve a level of confidence that species protection has not been compromised. Workloads and current staffing levels cannot achieve this. Therefore, the number of staff would need to be increased.

would be reduced from 75 meters to 50 meters for pedestrians and ORVs. The pedestrian buffer for unfledged chicks would be reduced from 200 meters to 100 meters, the same as for piping plovers. The ORV buffer for unfledged chicks would increase from 200 meters to a standard 500 meters; however, where the standard 500 meter buffer blocked ORV access and no alternate route was available, the buffer could be reduced to 200 meters to allow an access corridor along the shoreline.

Wilson's plover chicks would generally be protected by the piping plover buffers. Where Wilson's plover and piping plover occur together, the buffer would default to whichever buffer was greater. In those cases where Wilson's plovers were found outside of a piping plover buffer, the park would implement increased monitoring, similar to the monitoring proposed for piping plovers.

4. New buffer for **least tern**: The buffer for unfledged chicks of least tern would be reduced from 200 meters to 100 meters for both pedestrians and ORVs. (The buffer for nests would stay the same.)

Increased monitoring would be conducted at least tern colonies with chicks to ensure that adequate buffers are being maintained. Monitoring would be conducted no less than two times a day, once in the morning and again in the late afternoon. This increased monitoring would allow the Seashore to keep better track of chicks when they moved within the colony or when the colony shifted locations, thereby enabling staff to adjust the buffers in a timely manner. If colonies consist of mixed species, the largest buffers necessary to protect the species would apply and increased monitoring for least terns might not be necessary. On the other hand, if the reduction of the buffer allowed for vehicles to pass in front of a colony, then increased monitoring might be warranted.

5. New buffers for **common tern, gull-billed tern, and black skimmer**: The buffer for these species during nesting would be reduced from 200 meters to 180 meters for both pedestrians and ORVs. Likewise, the buffer for unfledged chicks would be reduced from 200 meters to 180 meters for both pedestrians and ORVs.
6. New buffers and corridor for **sea turtles**: Sea turtles at the Seashore have an average incubation period of 62 days (over the last three seasons). Currently, an initial 10 meter x 10 meter buffer is placed around all newly-laid sea turtle nests. Then, under the ORV FEIS, sea turtle nest protection buffers are expanded down to the waterline to protect hatchlings. In most cases, buffer expansion takes place between day 50 and 55 after nests are laid. Under the selected alternative, the size of these "expansion" buffers for sea turtles would be reduced (in all but one instance), and additional corridors provided, as follows:
 - o For nests in *vehicle-free areas*: The expansion buffer would be increased from 25 meters (12.5 meters on either side) to 30 meters (15 meters on either side) and, when light filtering fencing is installed, 5 meters minimum behind the nest. A pedestrian corridor during the expansion period would be available: Visitors

would be able to walk in front of turtle nests – as close as practicable to the surf line – although occasionally, where signage exists, people might be asked to walk behind nest closures. There may exist conditions from time to time that would preclude passage around a nest, as when a nest is so close to the dune line and the high tide line simultaneously that passage could endanger the nest.

- For nests in *village areas*: The expansion buffer would be reduced from 50 meters (25 meters on either side) to 30 meters (15 meters on either side) and, when light filtering fencing is installed, 5 meters minimum behind the nest. A pedestrian corridor during the expansion period would be available: Visitors would be able to walk in front of turtle nests – as close as practicable to the surf line – although occasionally, where signage exists, people might be asked to walk behind nest closures. There may exist conditions from time to time that would preclude passage around a nest, as when a nest is so close to the dune line and the high tide line simultaneously that passage could endanger the nest.
- For nests in *ORV routes*: The expansion buffer would be reduced from the current 105 meters (52.5 meters on either side) and 10-15 meters behind nests. The new buffer would be 15 meters on the sides and, when light filtering fencing is installed, a minimum of 5 meters behind the nest. Corridors: The first option would be to use an existing corridor around that part of the beach where a nest occurs, if available. Second, in the absence of an existing corridor, the shorter buffer behind the nest would allow ORVs and pedestrians to travel behind a nest where sufficient beach width exists. A third option, where a turtle nest blocks access from one ORV area to another and no way around the nest exists, would permit driving in front of the nest if resources existed to monitor the nest and remove ruts. When nests were nearing hatching and hatchlings were likely to emerge, driving could continue to 9 p.m. only if funding and staffing existed to protect hatchlings and remove ruts.
- For nests laid prior to June 1, the Seashore would retain the option of not expanding the buffer until day 60, unless signs of hatching prior to day 60 were detected.
- For nests laid after August 20, the Seashore would retain the option of not expanding the buffer for nests that block access to ORV passage. Nests laid after August 20 would be monitored daily for signs of hatching and managed appropriately to avoid impacts if signs of hatching were observed. Where signs of hatching were observed (e.g., depression), buffers would be expanded as outlined for nests laid prior to August 20.
- On the rare occasion that a sea turtle nest was laid in such a location as to completely block ORV ramp access to and from an open section of beach where there was no ability to provide a corridor or other route around the nest (i.e., the nest was laid in a ramp itself or immediately adjacent to the ramp such that the buffer would completely close the ramp and no corridor or other access route was

possible), that nest could be relocated following existing relocation protocols described in the ORV FEIS (Table 10-1) to an area that did not block access. Based on observations from previous years, it is anticipated that only a single nest might require relocation each season due to completely blocking ramp access.

Driving in front of a nest would be permitted where the nest blocks access from one ORV area to another and no way around the nest exists, but *only if* resources exist to perform intensive monitoring for sea turtles, i.e., monitor nests and remove ruts that may be present between the nest and the waterline and could prevent hatchlings from reaching the ocean.

When nests laid after August 20 blocked access to ORV passage, the Seashore could consider not expanding the buffer size. Seashore data show that these late nests rarely, if ever, hatch. Therefore, late nests would be marked and monitored for signs of hatching, but generally would not be expanded where they block access to ORV passage. However, nests laid after August 20 would be monitored daily when they enter the hatch window for signs of hatching and managed appropriately to avoid impacts if signs of hatching were observed. If signs of hatching were observed, buffers would be expanded. Also, for late nests that do not block ORV passage, the buffer could be expanded to provide full protection for potentially emerging hatchlings.

Page 24

Under the heading “Duration of Buffers”:

After the first sentence (“The end point for the duration of buffers around chicks is defined as the date that the chicks fledge based on the capability of sustained flight.”) the following language is deleted:

An exception to this definition is made for American oystercatchers, which take longer to become proficient fliers. In the ORV FEIS, fledging was defined as sustained flight of 30 meters for American oystercatchers and 15 meters for all other species. The American Oystercatcher Working Group (2012) defined fledging (i.e., flight capable) as when an oystercatcher chick can fly 100 meters and the chick is strong enough to use flight to escape ground predators. Although chicks are considered to have fledged at this point, they are still unable to fly well (100+ meters), and are susceptible to predation. For this reason, the American Oystercatcher Working Group (2012) suggests that in areas of high disturbance (such as areas near vehicle traffic), buffers should remain in place until the chicks are 45 days old and flying well. CAHA data from 2010-2013 show the average chick fledging (able to fly 30 meters) to occur at about 43 days (with a range of 31-65 days), which is slightly longer than the 35-40 days documented in other areas.

And replaced with:

The end point for the duration of buffers around chicks is defined as the date that the chicks fledge based on the capability of sustained flight. In the ORV FEIS, fledging was defined as sustained flight of 30 meters for American oystercatchers and 15 meters for all other species. This definition is retained and adopted with respect to the selected alternative.

Page 25, Table 2.2a

Change the title of the table from “Buffer provisions and scientific references from which buffers were developed under the Selected Alternative: Birds” to “Buffer provisions and scientific references considered in the development of buffers under the Selected Alternative: Birds”

In the “Buffer” column for American Oystercatcher (applicable to ORV disturbance during nesting), the following language is changed by deleting “25m” and revising as follows (new language in italics):

B. ORV corridor at water line (where nest is at least *50m* from vehicle corridor)

In the “Buffer” column for American Oystercatcher (applicable to ORV disturbance during nesting), the following language is added:

C. Corridor no less than 25m may be instituted when no alternate route available.

In the “Comments” column for American oystercatcher (applicable to ORV disturbance during nesting), the following language is deleted:

ORV corridor at water line. Only available when no alternate route available and where nest is at least 25m from vehicle corridor. Pass through traffic only; no parking in corridor. Safety concerns may preclude pass-through corridors in some of these areas.

And replaced with:

ORV corridor at water line when nest is at least 50 meters from vehicle corridor. When no alternate route available, a corridor no less than 25m may be instituted. Pass through traffic only; no parking in corridor. Safety concerns may preclude pass-through corridors in some of these areas.

In the “Reference” column for American oystercatcher (applicable to ORV disturbance during nesting), add the following references to buffer sizes:

Borneman et al. 2014

Referring to:

Borneman, T. E., Rose, E. T., & Simons, T. R. (2014). Minimal changes in heart rate of incubating American oystercatchers (*Haematopus palliatus*) in response to human activity. *Condor*, 116(3), 493-503. doi:10.1650/CONDOR-14-48.1

In the “Reference” column for American oystercatcher (applicable to ORV disturbance during nesting), add an asterisk (*) next to Simons et al. 2015, and a footnote below the table that reads:

*Note: Simons et al. 2015 reports preliminary results from year one of a multi-year study and does not make recommendations regarding buffer sizes for nesting American oystercatchers.

In the “Reference” column for American oystercatcher (applicable to ORV disturbance while unfledged chicks are present), add the following references to buffer sizes:

Cohen, J.B., R.M. Erwin, J.B. French Jr., J.L. Marion, and J.M. Meyers. 2010. *Recommendations for Management of Endangered Species at Cape Hatteras National Seashore*. U.S. Geological Survey Open-File Report 2009-1262.

Page 28 Table 2.2b

The note denoted with a * is modified as follows (new wording is italicized):

The Seashore retains the option of not expanding the buffer for nests laid after August 20 that block access to ORV passage. Where access is affected, nests laid after August 20 would be monitored daily *when they enter the hatch window* for signs of hatching and managed appropriately to avoid impacts if signs of hatching are observed. *If hatching takes place, buffers would be expanded.*

Page 28 Table 2.2b

The following paragraph is added to the double asterisk below Table 2.2b:

On the rare occasion that a sea turtle nest is laid in such a location as to completely block ORV ramp access to and from an open section of beach where there is no ability to provide a corridor or other route around the nest (i.e., the nest is laid in a ramp itself or immediately adjacent to the ramp such that the buffer would completely close the ramp and no corridor or other access route is possible), that nest may be relocated following existing relocation protocols described in the ORV FEIS (Table 10-1) to an area that does not block access. Based on observations from previous years, it is anticipated that only a single nest might require relocation each season due to completely blocking ramp access.

Page 28 Table 2.3 (Comparison of Buffer Distances - Shorebirds)

In the “CAHA Modified” column for American Oystercatcher (applicable to ORV disturbance during nesting), the following language is deleted:

B. ORV corridor at water line (where nest is at least 25m from vehicle corridor)

And replaced with:

B. ORV corridor at water line (where nest is at least 50m from vehicle corridor)

C. A corridor no less than 25m may be instituted when no alternate route available

In the “Comments” column for American oystercatcher (applicable to ORV disturbance during nesting), the following language is deleted:

Proposed ORV corridor only when no alternate route available and where nest is at least 25m from vehicle corridor.

And replaced with:

ORV corridor at water line when nest is at least 50m from vehicle corridor. When no alternate route available, a corridor no less than 25m may be instituted.

Page 31, Table 2.4 (Comparison of Buffer Distances - Sea Turtles)

In the “Comments on CAHA Modified” column (applicable to ORV Route Expansion), the following language is added:

When a sea turtle nest completely blocks ORV ramp access to and from an open section of beach where there is no ability to provide a corridor or other route around the nest (i.e., the nest is laid in a ramp itself or immediately adjacent to the ramp such that the buffer would completely close the ramp and no corridor or other access route is possible), that nest may be relocated following existing relocation protocols described in the ORV FEIS.

Page 32

Under American oystercatcher, the underlined language in the following paragraph is deleted:

A range of buffer recommendations for American oystercatchers was considered in the ORV FEIS (see NPS 2010, Table 28 and Appendix A of this EA). Based on their research on breeding American oystercatcher at Cumberland Island National Seashore, Sabine et al. (2008) recommend that the pedestrian buffer size during nesting be at least 137 meters, and that the buffer size should increase to at least 150 meters for pedestrians when unfledged chicks are present. They found that vehicular activity altered American oystercatcher behavior, but not to the extent that pedestrians did. It is important to note

that the vehicular activity on Cumberland Island was much less than occurs at CAHA. Given the number of vehicles and pedestrians at CAHA, the buffer size proposed in this EA for pedestrians and ORVs during incubation is the higher number suggested by Sabine et al. (2008) (i.e., 150 meters). Based on the observations from Sabine et al. (2008) and Simons et al. (2014), a vehicle corridor at the water's edge and at least 25 meters from the nest will allow passage of vehicles with minimal disturbance to nesting American oystercatchers. Under alternative B, this corridor would be allowed only when no alternate ORV route exists, and it would be for pass-through traffic only; there will be no parking within the 150 meter buffer. Observations of unfledged chick movement show that chicks may move large distances soon after hatching (CAHA unpublished data). For this reason, along with the suggestions made in Sabine et al. (2008) and USGS (2010; Open File Report 2009-1262), the NPS chose a 200 meter minimum buffer size to protect most American oystercatchers from disturbance by vehicles and pedestrians. Thus, under alternative B, there would be no ORV corridor within 200 meters of unfledged chicks.

The deleted language is replaced with the italicized language below:

A range of buffer recommendations for American oystercatchers was considered in the ORV FEIS (see NPS 2010, Table 28 and Appendix A of this EA). Based on their research on breeding American oystercatcher at Cumberland Island National Seashore, Sabine et al. (2008) recommend that the pedestrian buffer size during nesting be at least 137 meters, and that the buffer size should increase to at least 150 meters for pedestrians when unfledged chicks are present. They found that vehicular activity altered American oystercatcher behavior, but not to the extent that pedestrians did. The vehicular activity on Cumberland Island was much less than occurs at CAHA. Given the number of vehicles and pedestrians at CAHA, the buffer size proposed in this EA for pedestrians and ORVs during incubation is the higher number suggested by Sabine et al. (2008) (i.e., 150 meters). Based on the observations from Sabine et al. (2008) and Simons et al. (2015), *a vehicle corridor at the water's edge of 50 meters and not less than 25 meters from the nest will allow passage of vehicles with minimal disturbance to nesting American oystercatchers. Under alternative B, this corridor would be for pass-through traffic only; there would be no parking within the 150 meter buffer.*

Buffers to protect mobile chicks would be larger than those to protect incubating adults and nests. Observations of unfledged chick movement at CAHA show that chicks may move large distances soon after hatching (CAHA unpublished data). Sabine et al. (2008) found that oystercatcher families moved 100-200 meters to less disturbed areas for brood rearing at Cumberland Island National Seashore. Additionally, Cohen et al. (2010) recommends that corridors should be reduced or closed during the hatchling stage to reduce chick mortality, and recommends that signs be placed 200 meters from nesting birds to warn of nesting areas. For these reasons, the NPS proposes a 200 meter minimum buffer size to protect most American oystercatchers from disturbance by vehicles and pedestrians. Thus, under the selected alternative, there would be no ORV corridor within 200 meters of unfledged chicks.

Pages 37-38

The following language is deleted:

The NPS is required to identify the environmentally preferable alternative in its NEPA documents for public review and comment. The NPS, in accordance with the U.S. Department of the Interior policies contained in the Department Manual (515 DM 4.10) and CEQ's Forty Questions, defines the environmentally preferable alternative (or alternatives) as the alternative that best promotes the national environmental policy expressed in NEPA (section 101(b)) (516 DM 4.10). The CEQ's Forty Questions (Q6a) further clarifies the identification of the environmentally preferable alternative stating, "this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources."

And replaced with the following:

The environmentally preferable alternative, as defined by the Department of the Interior NEPA regulations, is the alternative that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources. The environmentally preferable alternative is identified upon consideration and weighing by the Responsible Official of long-term environmental impacts against short-term impacts in evaluating what is the best protection of these resources (43 CFR 46.30).

The NPS has identified alternative A as the environmentally

RESPONSE TO COMMENTS

As required by the National Park Service (NPS) Director's Order No. 12, the NPS has responded to all substantive comments submitted on the document entitled "Review and Adjustment of Wildlife Protection Buffers/Environmental Assessment" for Cape Hatteras National Seashore (the Park, the Seashore or CAHA).

Director's Order No. 12 defines a "substantive" comment as one that does one or more of the following:

- Question, with reasonable basis, the accuracy of the information in the EA.
- Question, with reasonable basis, the adequacy of the environmental analysis in the EA.
- Present reasonable alternatives other than those presented in the EA.
- Cause changes or revisions in the proposal.

Substantive comments from various individuals and organizations are addressed in this document. Where the same or similar comment has been raised by multiple commenters, NPS has consolidated and paraphrased the comments for brevity, and responded only once. The comments, with NPS' response, are set forth below.

1. Pre-nesting closures are a form of resource protection buffer and are subject to the requirements that they be of the shortest duration and provide the smallest closure required to protect a species.

The Park does not consider prenesting closures to be buffers. The ORV FEIS defines prenesting closures as: "A kind of resource closure in which an area of suitable habitat is proactively closed at the start of the shorebird breeding season to provide undisturbed habitat for bird breeding activities to occur." Prenesting closures are in place to protect suitable breeding habitat. These prenesting closures tend to be modified in size and shape by the placement of breeding buffers once breeding activity has been observed.

2. The EA should clearly state that in accordance with NDAA section 3057, pre-nesting closures will not be installed in a manner that prevents pedestrian or ORV access to areas otherwise open to access.

Prenesting closures are not buffers, and do not result in the prevention of ORV or pedestrian access except when there are safety concerns due to the narrowness of the beach. Under the current plan, corridors are to be provided in front of prenesting closure specifically to allow access for ORVs and pedestrians. Between ramps 43 and 44 near Cape Point, a prenesting closure does prevent drive through access as the conformation of the beach provides suitable habitat all the way to the beach berm. (It should be noted that sufficient room does not exist there to allow safe passage around this habitat.) However, the beach is accessible by ramp 43 to the north and ramp 44 to the south.

3. The NPS should provide the public the scientific data used by the American oystercatcher group to recommend this new definition for "fledged" [i.e., buffers should remain in place until the chicks are 45 days old and flying well (100+ meters)].

The NPS proposed a change to the definition of “fledged” based on the definition used by the American Oystercatcher Working Group. The purpose of this definition was to establish the duration of the buffer. However, after further review, we have determined that the proposed definition would be too difficult to implement at CAHA due to the difficulty of observing chicks flying 100+ meters. Therefore, we have reverted to the ORV FEIS duration of chick buffers for American oystercatcher (i.e., 30 meters of flight, plus 2 weeks). This is the approach that has been in place since the 2010 ORV FEIS and has worked well to adequately protect chicks and provide a consistent management tool.

4. *In the EA Objectives for Taking Action: The EA must be clear that the purpose of NDAA section 3057 is to enhance access to the beaches at the Seashore, and that actions taken by NPS must comply with the statute just as they comply with other applicable laws.*

Subsection (1) states "...the Secretary shall review and modify wildlife buffers in the National Seashore in accordance with this subsection and any other applicable law." Alternative B proposes modification to the existing buffers thereby complying with NDAA section 3057. Modifications proposed in alternative B will provide access to areas that may be open but otherwise inaccessible due to a resource closure.

5. *In the EA “How Alternatives Meet Objectives”: The statement of How Alternatives Meet Objectives (page 34) focuses on resource protection objectives and fails to provide a clear discussion of whether the objective of NDAA section 3057 to improve access will be met by the proposed actions.*

Subsection (1) states "...the Secretary shall review and modify wildlife buffers in the National Seashore in accordance with this subsection and any other applicable law." Alternative B proposes modification to the existing buffers thereby complying with section 3057 of the 2014 Act. Changes proposed in alternative B would increase access with drive through corridors and reductions in buffer size.

6. *Process Used to Review Scientific Literature (page 36): The citations provided to justify the boundaries are as indicated based on "earlier literature, data collected at the Seashore, and expert opinion." Much of that information does not indicate a peer reviewed science basis for how the boundary distances were actually calculated. For example the boundaries "recommended" in the often cited U.S. Fish and Wildlife Service (USFWS) 1996 Plover recovery plan do not link boundary distances with specific published data. The same holds true for the 2007 U.S. Geological Survey (USGS) Protocols.*

National Park Service Management Policies (2006) require that park management decisions be supported by not only public involvement, but the best available information, and analysis. These management policies further explicitly state that all “planning for park operations, development, and management activities that might affect natural resources will be guided by high-quality, scientifically acceptable information, data, and impact assessment.” Where existing information is inadequate, new information and data may be required before decision-

making, which may require long-term research and monitoring in order to fully understand the effects of management actions in natural resources (NPS Management Policies 2006). As further required by NDAA section 3057, the NPS was directed “to ensure that the buffers are of the shortest duration and cover the smallest area necessary to protect a species, as determined in accordance with peer-reviewed scientific data.” In the EA, best available information and analysis were used to determine the proposed actions, including peer-reviewed scientific data when available. Where peer-reviewed scientific literature (e.g., the results of a scientific study published in a scientific journal) was not available we used sources whose information was based on peer-reviewed scientific data (e.g., Recovery Plan for a listed species written and published by the U.S. Fish and Wildlife Service). In our evaluation of the best available science, we sometimes found that peer-reviewed scientific data or literature was not available that provided specific recommendations on buffer sizes. In some cases we used actual biological data from Cape Hatteras National Seashore monitoring and research activities that were collected under reviewed protocols and has undergone quality assurance and quality control procedures.

7. *Budgetary Constraints: Non-compliance with NDAA section 3057 is not an option. The law does not say it should be executed only if implementation costs are acceptable to the NPS.*

The 2014 Act directs the NPS to designate buffers that are of “the shortest duration and cover the smallest area *necessary to protect a species*” (emphasis supplied). NPS must comply with its legal obligations to protect species. If at some point NPS lacks the resources to implement the measures in the preferred alternative, then it must revert to measures that will allow it to meet its legal obligations.

Additional budget must be identified and accessible for use. More intensive monitoring requires additional staff to accomplish this. If budget is not adequate for intensive monitoring, NPS would default to measures adequate for protection to ensure compliance with the Migratory Bird Treaty Act, Endangered Species Act, NPS Management Policy (2006) 4.4.2.3., and the Biological Opinion issued by USFWS.

8. *Commenter recommends that NPS survey the beaches within the Seashore to identify areas where temporary bypasses may be appropriate and determine how to establish a program to construct bypasses in those locations when resource buffers would close access to areas otherwise open.*

The NPS has begun an identification process for appropriate bypasses. This process will be expanded during the second phase of planning required by the statute, which will begin in July 2015.

9. *In its April 15, 2015 letter to NPS, the North Carolina Wildlife Resources Commission (NCWRC) proposed a forward thinking iterative process to manage the application of buffers for American oystercatcher and colonial waterbirds. NPS chose not to recommend this process as part of alternative B and offered no discussion within the EA concerning*

this decision to reject NCWRC's comments and recommendations. Commenter recommends that additional and meaningful consideration be given to the NCWRC proposal, as intended by the NDAA.

The NCWRC comments and recommendations were reviewed; however, we found that some of the recommendations were not supported by peer reviewed science. As required by the 2014 Act, we were to provide species protection buffers that are of the shortest duration and cover the smallest area necessary to protect a species, as determined in accordance with peer-reviewed scientific data. NCWRC did not provide citations of peer reviewed literature to support their recommended changes.

Regardless of how the state would manage these species on non-federal lands, the NPS is obligated to protect species on its own lands in accordance with the NPS Organic Act, NPS Management Policies (2006), and the Endangered Species Act. Ultimately, NPS retains the authority to protect species, as needed, within its own boundaries.

10. Although not allowed by the ORV FEIS, the commenter believes that judicious use of temporary man-made barriers such as dunes or ditches could provide opportunities to protect resources from predators while simultaneously providing greater access options than what is currently available.

The use of barriers and ditches would be contrary to NPS policy (NPS Management Policies 2006), which requires protection of natural processes. The current NPS predator management program aims at reducing non-native and over-abundant native predators from in and around nesting areas, which is consistent with NPS policy.

11. NPS should aggressively remove vegetation that has encroached upon former active nesting and foraging sites.

Dr. Kevin Noon, an NPS wetland scientist, provided a report (2010) and recommendations to the Seashore regarding wetland manipulation at Cape Point. The following is an excerpt from this report: "Past attempts to eliminate vegetation in the potential nesting areas by mechanical means at Cape Hatteras National Seashore have failed because these were attempts to treat the symptoms of a problem instead of solving the problem. The problem is: Hydric conditions exist that support plant growth within areas that could be appropriate for nesting. The key to expanding plover habitat is in artificially manipulating hydrologic conditions that are typically manipulated naturally through geomorphologic drivers such as storm events. Site conditions can be engineered to mimic storm event changes and create greater areas of temporary nesting and feeding habitat. Since the active beach environment is constantly changing, active manipulation of hydrologic conditions would require annual or semiannual post-storm-event maintenance." The report also states that, "It should be noted that any attempt to manipulate habitat conditions will interrupt the natural beach dune-grass habitat restoration processes at Cape Point. Coastal parks, including Cape Hatteras, routinely spend a significant amount of money restoring dune grass areas after ORV impacts. Therefore, the loss of physical and biological functions of early succession dune grass habitat should be justified by the grass eradication for the creation of plover habitat." Habitat restoration projects may be considered in the future.

12. Nests [sea turtle] which enter the hatch window after September 15, when ORV night driving reopens, must be protected using light penetration barriers in a manner that will allow the night driving buffer to be reduced from the current 1/2 mile to 50 meters or less. / Night-driving buffers around nests within the hatch window should remain at the 50 feet on either side of the nest recommended for daytime driving buffers.

Light pollution, whether from ORVs, highways, flashlights or the village glow, could result in disorientation to sea turtle hatchlings. Filter fencing is used to reduce the amount of ambient light affecting sea turtles, but it cannot completely eliminate the risk. The Seashore must minimize that risk by eliminating, to the extent practicable, lights on the beach at night. Once the hatchlings emerge from beyond the filter fence, disorientation remains a possibility. Hatchlings might be found on the beach along water's edge beyond the reach of filter fencing. Vehicles approaching within 50 meters of a nest at night could lead to disorientation of hatchlings due to headlights or could result in direct mortality of hatchlings from crushing by vehicle.

13. Nests [sea turtle] which are relocated to mitigate the risk of ocean overwash under current NPS resource protection procedures must be placed in a location that will not impede pedestrian or ORV access.

As described in Table 10-1 of the ORV FEIS, "if a choice for a relocation site must be made among adjacent areas that are equally suitable biologically, then accommodation of ORV access to a popular location may be considered as a factor in choosing an appropriate relocation site." To the extent possible, relocation sites will be chosen that do not block pedestrian or ORV access.

14. An "Option of Last Resort" to relocate nests which would prevent pedestrian or ORV access even after the new procedures are in place must be adopted. An example would be a nest laid directly in front of a ramp high on the beach which would prevent passage on either side.

On the rare occasion that a sea turtle nest is laid in such a location as to completely block ORV ramp access to and from an open section of beach where there is no ability to provide a corridor or other route around the nest (i.e., the nest is laid in a ramp itself or immediately adjacent to the ramp such that the buffer would completely close the ramp and no corridor or other access route is possible), that nest may be relocated following existing relocation protocols described in the ORV FEIS (Table 10-1) to an area that does not block access. Based on observations from previous years, it is anticipated that only one nest each season might require relocation due to completely blocking ramp access.

15. The 500 meter [piping plover] buffers installed to protect unfledged chicks must be removed promptly after fledging occurs. Scientific justification for the two week delay currently imposed has not been presented.

Piping plover buffers that block access corridors are currently removed promptly after fledging occurs as described in Table 10-1 in the ORV FEIS. This will not change under the selected alternative (see Table 10-1 in ORV FEIS -- page 36 of Handbook).

16. [Wilson's plover:] NPS should engage in further analysis for the species to ensure compliance with NDAA section 3057 should nesting occur, rather than assuming the piping plover buffers and management processes are appropriate.

NPS will continue to monitor Wilson's plovers to inform future management activities for this species.

17. The NPS should follow NCWRC recommendations for Superintendent's discretion to reduce unfledged American oystercatcher chick buffer from 200 meters to as little as 50 meters. Two locations likely to benefit from this procedure are Cape Point and South Point. These two locations will already be highly monitored due to piping plover activity. Resource management personnel should be able to monitor American oystercatcher and piping plover chicks simultaneously to insure adequate resource protection occurs.

The NPS found no peer reviewed literature or best available science that would justify a buffer reduction to as little as 50 meters for unfledged oystercatcher chicks.

18. For colonial waterbirds and least terns: NPS should provide the scientific data for the recommendation it chose and provide an analysis of why that recommendation fulfills the requirements of NDAA section 3057 better than the Blodget and Melvin study recommendation [50 yards for common tern and least tern nesting; 100 yards for chicks].

Literature citations and a discussion of least tern and colonial waterbird buffers are provided in Chapter 2 of the EA in the section entitled "Rationale for Buffers Proposed in Alternative B." While the Blodget and Melvin handbook contains a description of smaller buffers than those identified in alternative B, they explicitly state that "refuge areas around nests should be expanded if deemed inadequate to protect incubating adults or unfledged chicks from harm or disturbance." The buffers proposed for alternative B are based on information from peer-reviewed literature, including Erwin (1989) and Rodgers and Smith (1995), in which researchers evaluated and documented flushing distances in response to human disturbance. See also Table 31 in the ORV FEIS.

19. Isolated colonial waterbird nests must be individually evaluated to determine the appropriate protection practice to use. Survival of any isolated colonial waterbird nest is compromised without the benefit of a colony, yet an isolated nest or chick may close access to entire beaches.

By NPS Management Policies and the Migratory Bird Treaty Act, we must afford protection to isolated colonial waterbird nests. We found no evidence to suggest that isolated colonial waterbird nests require a less protective buffer than those found in colonies. As such, isolated nests will receive the same protective buffer as birds nesting in colonies; however, the buffer

likely will result in a smaller overall beach closure since the buffer distance will be measured from a single nest rather than from the edge of a colony.

20. Commenter recommends using the minimum piping plover buffers in the Recovery Plan.

As described in Appendix G of the Piping Plover Recovery Plan for the Atlantic Coast Population, "data from various sites distributed across the plover's Atlantic Coast range indicates that larger buffers may be needed in some locations" and that buffers should be "based on the mobility of broods observed on the site in past years." Piping plover chick movement data observed during past years at the Seashore and presented in the EA were used to determine the buffers included in alternative B.

21. It has been proven all throughout the world that moving turtle nests creates far more successful hatch rates than leaving said nest(s) unattended in higher populated areas.

The Seashore follows the guidance provided by USFWS in the Recovery Plan for the Northwest Atlantic Population of the Loggerhead Sea Turtle (2008) regarding nest relocation. While nest relocation is still used to manipulate hatch success rates on some beaches, "increased understanding of the potential adverse effects associated with nest relocation, restraint of hatchlings, and concentrated hatchling releases has resulted in less manipulative management strategies to protect nests and hatchlings" (USFWS 2008).

22. The EA addresses the 2014 Act and claims to achieve the purposes of NEPA. This is not correct. Under NEPA the NPS is a trustee of the environment and should adhere to the objective of the ESA, i.e., NPS as a government agency should work toward the recovery of ESA listed species. The EA does not do this. It equates species protection solely with control of possible human disturbance wherever wildlife may frequent the Hatteras beaches. This is a fallacy. Cape Hatteras National Seashore (CAHA) wildlife performance is controlled by weather and some predation, not by human disturbance. Obviously CAHA cannot control the weather but they can manage the wildlife and habitat to mitigate its effects on these dynamic beaches. CAHA has chosen to ignore these facts. Their programs are closely aligned with SELC agendas.

Disturbance by humans is a risk factor we are able to mitigate to a greater extent than other risk factors. In addition to this factor, the Seashore also works to control unnatural levels of predators of beach nesting species, and strives to allow natural processes to shape the shoreline habitat that is essential for these species.

23. CAHA has proposed no changes to the pre-nesting program. This position precludes any positive change in birdlife production and obviates all consideration of buffer size. Birds will continue to be attracted to beaches e.g. spits and points where there has been no fledging success. The improved program should encourage nesting in more productive areas, some of which may have to be constructed.

Data from past years show that there has been fledging success at the spits and points. These areas of the Seashore continue to provide the dynamic shoreline habitat required by these species. The NPS is not proposing to construct habitat at this time, in accordance with Management Policies (2006), which direct the Seashore to rely on natural processes whenever possible. Available habitat for beach nesting species does not appear to be a limiting factor at the Seashore.

24. The NPS mentions the desirability of a sustainable loggerhead sea turtle population in the Seashore. NPS should define “sustainable.” What part of the (p. 61) annual 2000 nests for North Carolina are to be the CAHA share? How can CAHA achieve this goal under this current Natural Nesting management with the consistent 35-45% loss of nests each year?

Please see information provided in the ORV FEIS, Table 2: Desired Future Conditions for Nesting Sea Turtles which provides the long-term (50 year) target of 201 nests. Although numbers do fluctuate from year to year, we have already reached that target in 2012 and 2013, with 222 and 254 nests and expect the upward trend to continue with some fluctuation. We will be evaluating this further during our five year review of the ORV FEIS.

25. CAHA claims that the current prohibition of ORV use from 9pm to 7am has virtually eliminated potential impacts to adult turtles and hatchlings caused by night driving. This is false.

Phase two of the implementation of the 2014 Act will be completed in a separate environmental review and public involvement process. Night driving, including timing of night driving restrictions and its effectiveness, will be evaluated during this next process. We plan to start this work in July/August of 2015.

26. In all these references there is no inclusion of the annual resource reports published by CAHA. This data is the most pertinent to the regulation in Cape Hatteras... Analysis of these reports shows that wildlife performance in CAHA will not be improved even if the buffers closed all the beaches to public use.

All available annual reports are available on the park website: <http://nps.gov/caha/learn/nature/annualreports.htm>. Other environmental factors (e.g., hurricanes, temperature fluctuations, etc.) do affect nesting wildlife populations worldwide, not just within the Seashore boundaries, and thereby would have an effect on wildlife performance outside of beach use. However, beach use can be managed to improve wildlife nesting attempts and success whereas weather and climate conditions and other external factors cannot. These external factors make determination of the cause of wildlife populations' stability difficult without more in depth research. Our annual reports do not typically include this level of detail. We will be evaluating this further during our five year review of the ORV FEIS.

27. The EA is not a simple response to the 2014 law for changes in buffers. Such response would have been much shorter and direct. The NPS made proclamations that the EA and public comments are to be restricted to that subject. In spite of this the NPS broadened the

EA with incursions into founding legislations, NEPA, ESA, recovery plans and two discussions of Cape Lookout.

The type of information contained in the EA is required by NPS Director's Order-12. For more information, see:

http://www.nature.nps.gov/protectingrestoring/DO12site/01_intro/011_intro.htm

28. Define how "intensive monitoring" will be accomplished in a visible manner (such as via the Superintendent's Compendium) such that the Public may review and be knowledgeable regarding how these monitoring activities will be conducted, and the expected results of said monitoring.

Additional staff will be stationed on the beach to monitor shorebird and sea turtle activity as described in the EA.

29. A more appropriate starting point for examining buffer adjustments would be the "Interim Plan" as it was more flexible and adaptive in balancing resource management and visitor enjoyment, and most importantly, was the last plan supported by a Finding of No Significant Impact for the resource.

The starting point for this EA ("no action," alternative A) is the current management of the Seashore as described in the ORV FEIS. The "Interim Plan" was replaced by the preferred alternative described in the ORV FEIS.

30. The literature used for black skimmer (BLSK) buffers was done twenty years ago and did not apply to CAHA and ORVs, which is the object of the current proposal. Rodgers and Smith recommended BLSK buffers of 180 meters; however the work of these researchers was of flushing distance of walking and motor boats in Florida. The study found that pedestrians caused more disturbance than motorboats. This does not justify the NPS choice of 180 meters for ORVs as most literature concludes that ORVs can approach birds closer than pedestrians. In fact, other seashores recommend staying in vehicles in order to view birds at a closer range.

We used the best available data applicable to this species after exhaustive literature search. We found no literature or best available science that would justify a smaller ORV buffer for black skimmers. While pedestrians may cause disturbance of birds at a greater distance than ORVs, ORVs are more likely to result in direct harm to adults, eggs, and chicks than pedestrians.

31. It is recognized by other seashores that dredge spoil islands are significant locations for waterbirds. These are the previous locations for our populations. NPS could explore this with NCWRC and the NC legislature.

Creating spoil islands is not within the scope of this project.

32. *Pre-nesting closures for birds should be delayed until the target species actually appear and typical courting behavior is actually observed. Pre-nesting closures should be based on the previous year's nests, not the previous five years.*

This proposal is outside scope of the document. As to prenesting closures, the ORV FEIS remains controlling. It contains the requirement for basing pre-nesting closures on the previous five-year time period.

33. *After nests are lost, the period allowed for renesting should be reduced to seven days, after which, if no nesting or breeding behavior is documented, the closure should be removed.*

We have found no scientific documentation that suggests seven days is adequate for renesting American oystercatchers. Staff observations at the Seashore indicate that American oystercatchers often reneest on day 9 and 10 after nest failure.

34. *Turtle nests laid in September or later should be moved to a temperature controlled environment.*

The Seashore is following the recommendations of the Recovery Plan for the NW Atlantic Population of the Loggerhead Sea Turtle (2nd Revision) (Plan) by not considering hatcheries as an appropriate management technique for nests laid at the Seashore in September (or any other time of year). According to the Plan's Recovery Action Outline, the use of hatcheries as a nest management technique should be discontinued. "Historically, the relocation of sea turtle nests to higher beach elevations or into hatcheries was a regularly recommended conservation management activity throughout the southeast U.S. However, advances in our knowledge of the incubation environment have provided important information to guide nest management practices."

The Seashore is aware that late season nests have an extremely low probability for nest success and is not expanding nests down to the shoreline for nests laid after August 20. Because of this, ORV access should not be an issue with late season nests unless the nest show signs of hatching.

35. *Turtle nests laid in locations known to be historically subject to overwash or erosion events should be routinely relocated to a central location in a vehicle free area that is unlikely to be flooded or eroded, as is done at Padre Island National Seashore.*

Park-collected data indicate that turtle nests can withstand some overwash. Accordingly, the NPS follows guidance from the USFWS and State of North Carolina to leave nests in place (see response to comment 21 above). Furthermore, it is not possible to predict where overwash will occur in any given year. The turtle species managed at Padre Island National Seashore (Kemp's ridley) is a critically endangered species with a different life strategy than the sea turtle species occurring at Cape Hatteras. A different management strategy and protocol was developed for this species based on its life strategy and behavior. This species rarely occurs at Cape Hatteras.

36. Vehicle-free areas should be reviewed with an objective of expanding the areal extent of CAHA accessible to ORVs. / There are many hiking trails in the wooded or interdunal zones which are not only well suited to pedestrian access but are functionally inaccessible to ORVs, and those areas should be for exclusively pedestrian access.

A reconsideration of vehicle-free areas is outside the scope of this EA. Vehicle-free areas will be re-examined in the next phase of the process mandated by the 2014 Act.

37. If chick movements (regardless of species) require changes in buffer location, the buffer perimeter should move accordingly and not be merely enlarged.

The buffer is currently enlarged because birds can move back to their original point of dispersal. Buffers need to encompass foraging area for the brood. With implementation of alternative B, the buffer would move with the foraging brood.

38. In the interest of getting better bird behavior, both choosing a nesting location and a productive feeding area, the NPS can do what USFWS and State agencies do in other States where the PIPING PLOVER also makes poor nesting choices. USFWS, US Army Corp of Engineers, the State of Nebraska and some NC WRC members have successfully steered plovers and terns to nest where they would not interfere with human activities. [commenter cites Macrus et al. and provides the following abstract]: Endangered interior least terns and threatened piping plovers nest in Nebraska at gravel mines where they are vulnerable to disturbance and nest loss. Conflicts occur when their nesting and protected status delay mining activities. The possibility of shifting nesting from active to inactive mining areas by using a deterrent (mylar flagging), an attractant (gravel and driftwood spread on bare sand), and a control (untreated sand) was evaluated. / NPS could steer bird nesting away from the east beach of Cape Point from ramp 43 down to the tip of the point.

In keeping with NPS Management Policies, birds at the Seashore are allowed to choose nesting locations on their own. As required by the Organic Act, NPS balances the conflict between resource protection (including protection of natural processes) and visitor use by protecting natural resources. Thus, as a matter of policy NPS does not interfere with natural processes in order to favor recreation. (See NPS Management Policies Section 4.4.2). The Nebraska site mentioned was man-made and did not have resource protection as one of its principal management goals. The study also occurred in a different population of piping plovers (Great Plains), which is covered under a different Recovery Plan than the Atlantic Coast population, and has differing management recommendations than those made for the East Coast population.

39. Create ephemeral swales on the south and west side of the pond down towards Salt Pond Road; all the shore nesting birds that feed at the Point could be drawn up and away from the beach, freeing the area for human uses.

By policy, NPS does not manipulate habitat in this way. See previous responses to comments 10 and 11 above. Habitat restoration projects may be considered in the future.

40. The proposed 500-meter buffer for piping plovers is contrary to the Recovery Plan. The buffer in the Recovery Plan is 200 meters for ORVs.

The Recovery Plan calls for larger than 200 meter buffers in locations having highly mobile chicks. The chicks at the Seashore are considered highly mobile based on data collected within Seashore boundaries.

41. Nighttime restrictions should begin Tuesday after Memorial Day weekend. Not enough nests are laid in May to warrant full closure. There is less than a 1% chance of a nest being laid in an ORV area at this time. This unnecessarily closes the red drum fishery. The same analysis should apply to nests laid after August 15. Nighttime restrictions after August 15 should be lifted.

Night-driving restrictions are not within the scope of the present EA. Night driving will be reviewed in the second phase of implementation of the 2014 Act.

42. The NPS should place a sign at the Buxton campground indicating whether the ramp on the other end is closed or not so people don't have to drive out there and drive all the way back.

NPS makes ramp closure information publicly available in real time via the Seashore's website.

43. NPS should only consider ways in which creating a corridor will allow visitors to pass a wildlife protection buffer to reach an area that would otherwise be open but for the fact that the buffer prevents access. NPS should not contemplate implementing additional corridors to reach "open" areas that are already accessible via an existing alternative route (road, ramp, interdunal road) that does not involve encroachment on wildlife protection. The only "open" areas per the 2014 Act are Cape Point, South Ocracoke, and Bodie Island Spit. EA should state more clearly that any new corridors may only be implemented in the latter area, and not as a matter of course in front of each and every nest, nor where there are alternate routes to an area.

The suggestion that corridors not be implemented in front of nests as a matter of course is consistent with the proposed actions in alternative B: see page 19 for definition of "alternative routes," and page 20 where we note that the buffer would be used "where no other ORV corridor exists." To further clarify, corridors would be implemented in a step-wise approach with alternative routes being implemented first (e.g., routing traffic out one ramp and back onto the beach at another ramp that diverts traffic around a wildlife closure where available), and where no other option is possible and access is obstructed by a closure, a corridor around the buffer would be implemented.

44. Piping plover numbers still fall short of Recovery Plan goals for the Seashore. The Recovery Plan says nesting buffers larger than 50 meters may be needed in some locations.

The NPS should disclose any park-specific data that support buffer reduction to 50 meters, 75 meters, or some other distance. NPS should confirm it retains discretion to expand nesting buffers as necessary to protect resources, and that it will increase buffers in 50 meter increments if human disturbance occurs, as contemplated by the ORV FEIS.

See page 3 of the revised EA Summary, “In cases where resource management personnel documented adverse impacts to resources greater than those described herein, the Seashore would retain the discretion to implement more restrictive measures to ensure resource protection.”

45. The reduction of the PIPING PLOVER unfledged chick buffer from 1,000 meters to 500 meters, and particularly the 200 meter buffer, is not supported by peer-reviewed science. Chicks at CAHA likely move much greater distances in the first two weeks after hatching, so a 500 meter buffer is likely inadequate then. A decision that will “probably” protect the majority of birds (85%) will surely violate NPS’ obligations under the ESA and other laws. NPS should reveal data for movement of remaining 15% of chicks. If greater than 500 meters, different minimum buffer may be appropriate. Based on CAHA 2013 annual report, a 500 meter buffer would have failed to protect chicks in 2013. The 200 meter buffer is not supported by science. Citation to the Recovery Plan is not appropriate because Recovery Plan is based on plover populations that are more resilient to human disturbance, while park-specific data show that 200 meters is inadequate and will fail to protect chicks. NPS should reveal data on chick movements before fledging. A larger initial buffer may be necessary.

The 1,000 meter buffers described in the Revised Piping Plover Recovery Plan are fixed buffers based on the nest site location and not the actual chick location. Our proposed buffers will be dynamic and will move with the chicks. Intensive monitoring would ensure that the buffer is adequately adjusted to protect chicks as they move. By modifying the buffer to move with the chicks and closely monitoring chick movements with intensive monitoring, the size of the buffer can be decreased without endangering the chicks. Even though we are decreasing the plover chick buffers to 200 meters to 500 meters, we are protecting the actual foraging and resting areas by having the buffers move with the chicks. We are not proposing a fixed buffer, and are instead proposing a mobile buffer that would protect all chicks. The proposed buffers would move with the chicks, so at any given time, the chicks would have at least a 200 meter and up to a 500 meter buffer at all times.

46. NPS provides an inadequate explanation of why the unfledged piping plover chick buffer for pedestrians should be reduced from 300 meters to 100 meters, giving only a single citation to the recovery plan. Some studies show pedestrians and their pets can be perceived to be as much of a predation threat or more as ORVs. NPS fails to assess impacts from this reduced buffer and fails to cite peer-reviewed science in its support.

The Piping Plover Recovery Plan was used to establish the buffers proposed in alternative B. This recovery plan was written by species experts using the best available science to recommend

measures to best protect the species. In addition, alternative B has undergone consultation with the USFWS as required by Section 7 of the Endangered Species Act. The USFWS has determined that the actions proposed in alternative B will not lead to any additional incidental take of piping plovers or other listed species.

47. NPS interprets piping plover buffers as a circle that, if reduced for unfledged chicks, may allow ORVs on the beach to bypass broods to reach other areas of the Seashore without endangering chicks. However, under the Recovery Plan, buffers are not measured as the radius of a circle emanating from the nest, but more of a rectangle extending from the ocean-side low water line to the bay-side low water line (or the dune habitat line) for the length of the buffer distance. Under the recovery Plan, ORVs cannot circumvent a buffer extending from one low-water line to another (or to the toe of the dune), but must use a corridor around any dunes or obstacles, such as NC 12, an interdunal road, or a bypass corridor.

Yes, we are implementing the piping plover buffers as a circle; however, that circle would not be stationary around the nest, but would be centered around the chicks and would be mobile with the chicks. Intensive monitoring would ensure that the buffer is adequately adjusted to protect the chicks. The Recovery Plan gives several scenarios for protection of unfledged chicks, which includes buffers of rectangular or other shapes. Consultation with the USFWS has been completed, and the USFWS determined that the level of take associated with the proposed action (including the newly proposed chick buffers) would not exceed the level of incidental take that was authorized in the 2010 Biological Opinion for the ORV FEIS.

48. The EA is unacceptably vague about whether intensive monitoring applies only to the 200 meter reduction, or to the 500 meter buffer as well. Any buffer less than 1000 meters should trigger intensive monitoring. Intensive monitoring should mean: presence of well-qualified on-site biologist at all times vehicles allowed within 1000 meters of a brood's location; access to a law enforcement ranger who can shut down traffic at any times chicks cannot be located; closures can be shifted any time chick movements require it.

The NPS has chosen to implement a standard buffer of 500 meters and a reduced buffer of 200 meters (only when no other access point exists) with intensive monitoring, as consistent with the Piping Plover Recovery Plan and Section 7 Endangered Species Act Consultation with the USFWS. Hiring additional law enforcement and interpretive staff is also a part of alternative B to support its implementation. Law enforcement staff as well as any other trained staff will have the ability to shut down traffic at any time the chicks cannot be located. Closure boundaries will shift with the chicks as they move into new areas. All staff responsible for conducting intensive chick monitoring will be provided with information on how to respond to various situations that may be encountered during observations.

49. The EA should be clarified that any reduction from the standard 1,000 meter buffer will only occur when (assuming NPS persists in treating buffers as a circle rather than a linear length down the beach): [suggested revised language:] "Where the sole ORV access to an

area of the Seashore that is otherwise open for beach driving is blocked by the 1,000 meter standard buffer, the buffer may be reduced to no less than 500 meters, with intensive and constant monitoring by trained biological staff and if law enforcement staff is present on site, as consistent with the Piping Plover Recovery Plan."

The NPS has chosen to implement a standard buffer of 500 meters and a reduced buffer of 200 meters (only when no other access point exists) with intensive monitoring, as consistent with the Piping Plover Recovery Plan and Section 7 Endangered Species Act Consultation with the USFWS. Hiring additional law enforcement and interpretive staff is also a part of alternative B to support its implementation.

50. Wilson's plovers should be afforded the same protection as outlined in alternative A for piping plovers. Changes in protection provided for Wilson's plovers are not supported by peer-reviewed scientific data.

Because there are little scientific data available for Wilson's plovers, we have relied on science available for a similar species, the piping plover. In most cases, Wilson's plover are expected to be contained within existing piping plover buffers, but where they are not, they would have their own buffer, consistent with the management of piping plovers in the Recovery Plan.

51. NPS should disclose all of the relevant data regarding chick movements at the Seashore over the last 10 years and take that data into account, as well as requirements of applicable law, before reducing any buffers for unfledged plover chicks.

We have considered chick movement information that we have collected at the Seashore in recent years as well as recommendations in the Revised Piping Plover Recovery Plan for modifying the buffer sizes in alternative B. We do not have 10 years of chick movement information but do have limited chick movement data (e.g., maximum movements) that have been collected since 2010 (see annual reports, 2010-2014). A grid system has been established to use as reference points for documenting chick locations that is used for mapping chick home ranges in our annual reports. We have used these data to modify recommendations in the Revised Recovery Plan. For example, we are using moving buffers instead of fixed buffers and intensive monitoring on a continual basis as opposed to twice daily observations proposed in the Recovery Plan.

Maximum movements of piping plover chicks are recorded in the Seashore's annual reports that can be found on our website at: <http://www.nps.gov/caha/learn/nature/annualreports.htm>. The data that were used in the EA were those maximum movements that are recorded in the annual reports between 2010 and 2014.

52. Projected staffing costs appear unrealistically low, both in terms of salary per individual, and number of persons required. To justify and refine the numbers, NPS should disclose data showing how many plover and other nests have been located in such a way that they cut off access in recent years to areas otherwise open to ORVs.

We are unable to completely predict the number of birds or turtles that will nest on the Seashore in the future, nor their exact locations and whether they will affect ORV access. For example, in 2013, we documented and monitored 254 sea turtle nests, and the following year (2014), we only documented and monitored 124 sea turtle nests. Conditions, such as weather and predation, vary from year to year and will affect the number of staff necessary to implement alternative B. We will adjust the number of staff as needed into the future years. If we are unable to hire the appropriate number of qualified staff necessary to fully implement the plan, we will have to prioritize the areas where the reduced buffers can be implemented. If we cannot adequately protect the nesting birds (and their chicks) and nesting turtles (and their hatchlings) we would default to buffers in the original ORV Plan to ensure compliance with the Migratory Bird Treaty Act, Endangered Species Act, NPS Management Policy (2006) 4.4.2.3., and the amended Biological Opinion issued by USFWS.

Under the selected alternative, ten additional biological staff would be hired. Salaries are standard rates based upon the GS level of the position.

53. The proposed American oystercatcher buffer is not supported by science. The buffer provides "Minimum Protection" as defined by USGS Open File Report, leading to eventual extirpation, which cannot be considered protective under the Organic Act, the Seashore's enabling legislation, or the Migratory Bird Treaty Act. The proposed buffer is based on a single 2015 report deemed unreliable by its own authors, and which does not overcome the peer-reviewed analysis in the USGS Open File Report or other published peer-reviewed data. Moreover, it is clear that that the 25 meter buffer would put newly hatched chicks in danger, based on NPS' own data. Newly hatched chicks could move four times as far as the proposed 25 meter buffer before they are ever detected, almost certainly putting them in the ORV corridor.

When the hatch window of a particular nest is reached, monitoring of the nest is increased so that the occurrence of hatching is not missed by biological staff. When a nest is in the hatch window, staff look for "starring" on the eggshell(s) which is an excellent indicator that a nest is about to hatch. The 25 meter buffer would not put newly hatched chicks in danger since the expanded 200 meter buffer will be implemented when chicks have been detected. We have modified the buffer for American oystercatcher nests to a preferred distance of 50 meters with an option to go no less than 25 meters where other means of access are not available. Additional staff proposed in this alternative would also help increase the amount of monitoring we are able to do.

54. Reducing least tern buffer to 100 meters creates unnecessary risk because least tern chicks are highly mobile. Monitoring only twice daily and (apparently) not moving the buffer in response to movement of chicks places chicks at risk of being trapped in tire ruts once they wander outside the closed area.

Least tern chicks are not as mobile as other ground-nesting shorebirds (e.g., piping plover, American oystercatcher), and are considered semi-precocial to altricial, meaning they have feathers and are able to move soon after hatching, but stay near the nest and are fed by their parents. Chick movement studies in other areas of the country (e.g., interior populations) have

shown movements of 5 to 14 meters per hour and typically moved toward a permanent water source. Whittier, J.B. and D.M. Leslie, Jr. 2009. Survival and movement of chicks of the least tern (*Sterna antillarum*) on an alkaline flat. *The Southwestern Naturalist*. 54(2): 176-181.

Buffers would not be fixed, but would be moved based on increased monitoring of chicks. If chick movements are detected, the buffers will be moved in response to their movements. Buffers would be monitored at a minimum of two times per day (see page 23 of the EA). As with other species, buffers would be adjusted accordingly based on monitoring to ensure adequate protection of the chicks. Tire ruts should not be an issue, as there will be a 100 meter buffer around all chicks at all times.

55. NPS has not proposed an effective adaptive management strategy for shorebirds and waterbirds. Three components are required: research question(s) with desired goal; a management approach to determine causality; and monitoring component to determine changes associated with the action. NPS should strictly follow adaptive management recommendations provided by USGS Open File Report for CAHA and re-initiate consultation with USFWS.

This EA does not propose to change the current adaptive management strategy that was outlined in the ORV FEIS. Alternative B would enhance information collection relevant to adaptive management through additional monitoring and by conducting science workshops.

56. NPS should clarify that proposed buffer reductions for sea turtles and drive-through corridors do not apply to turtle nests that are laid before August 20 and that reach the hatch window between September 16 and November 15. The existing buffers for these late-season, but viable, turtle nests are science-based and cannot be reduced to allow ORV use closer to nests in the hatch window.

No changes to night driving rules are proposed with alternative B. Existing night driving restrictions would still apply to those nests that were laid after May 20. Corridors around nests would only be implemented where no other access is available, and staff are available to monitor and manage these nests (e.g., raking ruts).

57. The NPS must modify its proposal to allow driving in front of turtle nests within the hatch window. The NCWRC handbook states that "a corridor from nest to the ocean must be created and kept vehicle free from late afternoon to dawn. During expected emergence all tire ruts between the nest and ocean must be smoothed at the end of each afternoon." NPS cannot allow ORV use in front of turtle nests to continue until 9:00 without causing unnecessary risks to hatchlings. This threat cannot be mitigated by the presence of a monitor. Closing at 9:00 does not provide adequate time to remove accumulated ruts before potential hatching. A 5:00 p.m. closure is recommended since all vehicles must be off the beach by 9:00 p.m. (May 1 - Sept. 15) and vehicles will be required to pass through hatch window corridors well before 9:00 p.m. to ensure they are off the beach during prohibited hours.

No changes to night driving rules are proposed with alternative B. We anticipate that the number of sea turtle nests with an ORV corridor that would require raking would be adequately managed by the additional staff identified in the EA. Where staffing limitations preclude the ability to complete required monitoring and additional work (i.e., raking), the NPS retains the discretion to revert to the resource protection measures in the ORV FEIS (page 3, EA).

58. The NPS should clarify that buffers set by the ORV FEIS will continue in effect if conditions precedent for the new buffers are not satisfied.

We have modified the Summary to indicate that when resources are lacking (staffing, etc.) we retain the discretion to implement more restrictive measures to ensure resource protection. Also, we have changed the language regarding documenting adverse impacts to make clear that NPS has the discretion to implement "more restrictive measures," as in item #4 in Elements Common to all Alternatives.

59. The science workshops/reviews should be integrated into the five-year review rather than become a separate process. The measures in the ORV FEIS must be given time to take effect before they are analyzed.

We agree that the science workshops will complement the five year review process and will have similar goals. However, the NPS plans to conduct these workshops in advance to ensure that the most appropriate research and monitoring protocols are in place as we implement the selected alternative.

60. Turtle nest monitors as well as bird-nest and chick monitors must have authority (with law enforcement support) to close beaches immediately when necessary to protect chicks and hatchlings.

Hiring additional law enforcement and interpretive staff are also part of alternative B to support its implementation. Additionally, resource monitors all receive appropriate training and currently have the authority to act immediately to protect chicks and turtle hatchlings following existing protocols. Staff have the authority to immediately close an area if they believe nest(s), chick(s), or turtle hatchlings are in imminent danger.

61. There are numerous observations of PIPING PLOVER chick movements at CAHA documented in the annual reports for 2006-2014 that strongly suggest that PIPING PLOVER chicks tend to make their maximum movement at CAHA within a few days of hatching, typically when they make their initial move from the nest to a distant foraging area. It is well documented that young, highly mobile PIPING PLOVER chicks can be very difficult to see and are at grave risk when even limited ORV use occurs nearby (Melvin et al., 1994). For these reasons, we strongly recommend a 7-day waiting period after PIPING PLOVER chicks have hatched before reducing the 500 meters to 200 meters. This would be consistent with the Appendix G recommendation of using a more protective buffer "during the first week following hatching," and would greatly reduce the risk of

take caused by ORVs for chicks whose maximum movement within the first week is 200 meters or greater.

Preliminary evaluation of existing NPS data do not support that chick movement in the first seven days is any greater than movements in subsequent days; however, a complete analysis is underway. In no case will the buffers around chicks be less than 200 meters, and the buffer will also be mobile with the chicks. Intensive monitoring will ensure that the buffers are adequately adjusted with the chick movements. The USFWS has reviewed alternative B and has not indicated that any additional take will occur due the implementation of alternative B (see Appendix A).

62. The proposal does not adequately justify the reduction in buffer distances for nesting American oystercatchers.

We have modified our selected alternative to include a corridor of 50 meters from the nest, with an option of 25 meters where no other access option is available (Sabine et al. 2008, Simons et al. 2015).

The proposal considered preliminary data from Simons et al. (2015) for research conducted at CAHA and Borneman et al. (2014) for research conducted at Cape Lookout National Seashore to arrive at the 25 meter ORV corridor in front of some American oystercatcher nests. Simons et al. did not recommend a 25 meter buffer in their first year annual report (2015); however, 25 meters was the distance at which the study chose to observe disturbance levels. The study will be expanded to Cape Lookout National Seashore and continued at CAHA in 2015. Additional information provided by the continuation of this study would be used to adaptively manage buffers around American oystercatchers. The reduced buffer will be enacted only for those nests that prevent access to otherwise open sections of beach and NPS has modified alternative B to include an intensive monitoring requirement as is being proposed for piping plover.

63. Regarding the American oystercatcher 25 meter nest buffer using Simons et al.: This is a very small sample size on which to base the proposed change. Not mentioned in the EA are the many references in American oystercatcher literature and field observations regarding the variability in reaction (i.e., sensitivity) to disturbance of individual American oystercatchers. Given this variability, it is conceivable, perhaps even likely, that under some circumstances or with some birds a 25 meter buffer will be insufficient to prevent repeated disturbance of (some) nesting American oystercatchers.

We are basing our changes in management on more than Simons et al. (2015) preliminary results. Borneman et al. (2014) conducted a disturbance study on American Oystercatchers at Cape Lookout and concluded that "Provided that human activity is not lethal and does not render habitat unsuitable, many species of wildlife, including American Oystercatchers, may habituate and adapt to some forms of human disturbance, allowing them to coexist in close proximity to humans." Additionally, Sabine et al. (2008) was used to slightly modify our buffer for American oystercatcher during nesting. We intend to continue conducting studies at the Seashore to help us better understand the effects of disturbance (pedestrian and ORV) on nesting shorebirds. See response to comment 53 above for more information.

We are not claiming that there will not be any disturbance from vehicles and also realize that some individual birds may be more prone to disturbance than others. Many nests are further than 25 meters from the shoreline and vehicles would only be allowed to travel along the water's edge often resulting in a buffer greater than 25 meters. Berms and other natural barriers may block the vehicles from the view of incubating birds, thereby minimizing the perceived threat. Implementation of the pass-through corridors will not be possible at all American oystercatcher nests as other restrictions will prevent this from occurring (e.g. other nesting species, vehicle-free areas). In the last three years (2012-2014), only 18 out of 111 nests (16%) occurred outside of vehicle-free areas. During this time period, only 5 to 7 nests occurred yearly in ORV areas where pass through corridors may be considered as an option.

Pass-through corridors will not be allowed when chicks are on the ground.

We have modified our selected alternative to include a corridor of 50 meters from the nest, with an option of 25 meters where no other access option is available (Sabine et al. 2008, Simons et al. 2015).

64. With the proposed 25 meter American oystercatcher buffer, early detection of eggs hatching is essential to ensure the safety of newly hatched American oystercatcher chicks when ORV traffic is allowed so close to the nest. The Seashore has previously experienced the reality that newly hatched American oystercatcher chicks are in immediate danger if there is any delay in expanding a small nest buffer into a full-sized chick buffer (Hatteras Spit incident, May 2006, 2 chicks died). To proceed with the proposed 25 meter buffer to allow ORV corridors without addressing the possibility, perhaps even likelihood, of similar incidents occurring would be irresponsible. We recommend that monitoring at such nests occur at least twice daily, in the morning and late afternoon, for a period of at least 30 minutes each and for as long as the reduced buffer and ORV corridor are in effect. The increased monitoring will allow NPS to document disturbance and to detect hatching as soon as possible.

We agree and have modified the proposed action to include at least twice per day monitoring for the entire nesting period. However, we have a good understanding of where oystercatchers are going to nest based on the many years of nesting history we have for banded individuals. We have birds that were banded as nesting adults in 2004 that are still nesting. By knowing when and where to search for scrapes and nests, staff have a good estimate for when nests are due to hatch. Staff look for "starring" on the eggshell(s) which is a good indicator that an egg is about to hatch. From experience, we also know that the majority of chicks will stay in the nest cup for a day before moving away from the nest site. Staff will be very vigilant during the hatch window for any changes in adult behavior that may indicate that chicks are present. Although there will be some risk involved in this type of buffer, it will be minimal.

65. Historically, plover have scraped and nested on the east side of Cape Point, just past the narrows. In most years, 50 meters easterly of the scrape or nest would be a point in the inter-tidal zone, where it is impossible to maintain signage parallel (to the surf), making

violations of the closure unenforceable. How will this issue be dealt with moving forward? Will buffers be reduced to the current high-tide line, or will the corridor be closed and the closure signed to the low-tide line, which sometimes can be another 20-30 meters? In this situation, allowing any corridor or only allowing a corridor at low tide will equal trapped visitors at mid-to-high tide. At any rate, unless this is dealt with and explained in advance, visitors will look at all of the open space at low tide, and not understand why it's inaccessible.

We will attempt to make signage as clear as possible so that visitors will know whether or not an area is accessible. Details on how such instances will be handled will be addressed during the implementation phase of the selected alternative.

66. I have zero doubts that with the smaller buffers, exponentially more hatchlings will regularly end up in tire tracks on the sides of the closures and never make it to the surf, unless those areas too are raked each day. Needless to say, unless the NPS purchases tractors and commercial beach raking technology, depending on the number of nests, it could take all night long to rake in front of, and out 40-50 meters on both sides of multiple closures.

The issues will be much the same in the Village areas as far as raking in front of, and on the sides, as well as filling (deep) holes next to the expansions, with an additional issue. Prior to 2006, nests in the hatch windows were just expanded to the current high-tide line, and when there was open beach between the nests and the surf when it wasn't high tide, visitors would set up in those areas for the day. That wouldn't be an issue if high tide occurred prior to a hatch event, but the holes and disturbed beach may not be restored prior to a hatch event. So even with appropriate signage that the areas between the nests and the surf are "pass through" only, until visitors are educated, these areas will need to be monitored and contact with visitors made multiple times daily and checked again at dusk as visitors will only see people walking through "open" swaths of beach and think it's the perfect place to set up for the day.

My suggestion is two part, one, to continue with the current width of the sea turtle hatch window expansions, while allowing for pass-through corridors below the nests, all of which need to be raked daily, and two, prior to reducing the buffers, develop a nest-watching (local/VIP/SCA) volunteer program which monitors all nests in the hatch windows from dusk to dawn. These volunteers would be present to rake out tracks and remove or help hatchlings out of tire tracks and point them in the right direction and perform sign/closure/filter fence maintenance as well as serve an interpretive function. If there are no volunteers available for all the nests, nests without monitors would receive the standard (current) buffer width, but the corridors below the nests would still require raking. Obviously ORV and then village beaches would be the priority.

We understand that raking in front of nests will place an additional burden on staff and we will be hiring additional staff and volunteers to accomplish this task. Staff will evaluate the level of raking required for each turtle nest and plan appropriately. The 30 meter wide corridors in front of nests will be pass-through corridors only and vehicles and pedestrians must continue through the area at an appropriate speed/pace. These areas will be appropriately signed.

67. No mention was made in the EA of how the NPS would monitor for day-time hatch events, which have occurred at CAHA in the past (late summer on cloudy days), in ORV areas with corridors in front of the nests, or what actions the agency would take in that event.

We realize that there is some risk of daytime hatching events on cooler, overcast days but believe this risk is very small. We will continue to rely on staff who are on the beach during the day time to make observations and will promptly respond to any reports from the public. If any signs of hatching are detected, the area will be immediately closed to vehicles. Qualified staff will determine which nests might require additional monitoring or modified management during the hatch window.

68. American oystercatchers: An ORV-only pass-through corridor sounds reasonable during scraping and nesting, but both incubating adults should be monitored to see how they individually react to ORVs - that means they must be continually observed through a couple of cycles of nest exchanges. And at any time if, one, or both birds bump off the nest, or the non-incubating bird alarm calls when ORVs pass through, the corridor should be closed for the duration of incubation until the nest is lost or the chicks are lost or have fledged. Individuals of this species have different tolerances, some will tolerate a moving ORV at 20 meters, while others (e.g. a pair on Ocracoke) will bump off at 150 meters.

To clarify, the pass-through corridor is only proposed during the incubation phase and only for those nests where there are no other access options. Preliminary data suggest that a vehicle driving 25 meters from a nest does not cause more disturbance than nests with no driving (Simons et al. 2015). Borneman et al. (2014) studied American oystercatcher heart-rate response to a variety of human disturbance events at Cape Lookout National Seashore and found no significant reaction to ORVs. Ongoing research will assist in adaptively managing recreation use while maintaining resource protection.

We have slightly modified our selected alternative to include a preferred 50 meter corridor from the nest (Sabine et al. 2008), with an option of 25 meters where no other access option is available.

Ongoing research will continue to inform appropriate buffer sizes.

69. Colonial waterbirds: Again, dynamics between colonies are different. Least tern- only colonies should be monitored for reactions to ORVs and pedestrians at 100 meters. If disturbance is repeatedly observed, buffers should be increased in 50 meter increments for colonial waterbirds.

Ongoing research will assist in adaptively managing recreation use while maintaining resource protection. Current guidelines in the ORV FEIS will continue to be followed.

70. *With the approval of the Wildlife Biologist and Superintendent, field staff should be allowed to reduce buffers to a reasonable distance in areas in which the physical characteristics of the beach preclude visual or actual disturbance to incubating American oystercatcher/colonial waterbird pairs (≥ 70 meters), or where physical characteristics exist which preclude the movement of any species' chicks into other areas.*

This is allowed in the ORV FEIS and is not a change included in the proposed action.

71. *Regarding relying on Cumberland Island National Seashore (CUIS) data for American oystercatcher buffers: There are more vehicles at CAHA than what are found at the CUIS study site. Is it known what difference this will make?*

We did not rely solely on Cumberland Island National Seashore data (Sabine et al. 2008) for American oystercatcher buffers. It is not known what difference this will make; ongoing research will assist in adaptively managing recreation use while maintaining resource protection.

72. *The EA states that the least tern buffer would be checked no less than twice a day - early morning and late afternoon - to insure chicks were not in an ORV corridor. In my experience, chicks tended to move outside posted areas and towards the cooler shore during the heat of the day and return to the colony core when the sun was lower. During one breeding season in the 1990s, chicks at the Hatteras spit colony made such a move. Resource management staff was stationed there to stop vehicles, point out where chicks were present in ORV tracks and request that they proceed through the area with caution. It was totally ineffective and my fear is that NPS could potentially revert to such a situation under pressure to keep beaches open to vehicles.*

As chicks move within a closure, the closure boundaries will be expanded to maintain an appropriate buffer. When chicks are observed outside of established buffer, the buffer will be expanded to include the larger foraging area. See response to comment 54.

73. *The American Oystercatcher Working Group recommends that closures remain in place until chicks are 45 days old and have sustained flights of 100 meters. Since such flights have not been observed in 45-day-old fledglings at CAHA, buffers may be opened prematurely.*

The NPS proposed a change to the definition of “fledged” based on the definition used by the American Oystercatcher Working Group. The purpose of this definition was to establish the duration of the buffer. However, after further review, we have determined that the proposed definition would be too difficult to implement at CAHA due to the difficulty of observing chicks flying 100+ meters. Therefore, we have reverted to the ORV FEIS duration of chick buffers for

American oystercatcher (i.e., 30 meters of flight, plus 2 weeks). This is the approach that has been in place since the 2010 ORV FEIS and has worked well.

74. Reducing piping plover buffers to 200 meters to allow ORV passage could contribute to the loss of piping plover chicks. Past NPS annual reports have documented extensive brood movement at Cape Point and Ocracoke spit during the 1990s. In both cases, the brood moved over 0.5 miles to alternate foraging sites. Technicians would need to be at breeding sites from dawn to dusk to monitor chick movements.

Reduced piping plover buffers that allow for an ORV corridor to be established will only be implemented when staff are observing chicks and ensuring that an adequate buffer is maintained.

75. No citation was available to support reducing least tern buffers to 100 meters [for ORVs]. The EA seems to imply that it has to do with altricial chicks. Since all terns have altricial young, why do least tern get a much narrower buffer than other colonial waterbirds?

More species-specific peer-reviewed literature was available for least terns than was for other colonial nesting waterbird species. Literature citations and a discussion of least tern and colonial waterbird buffers are provided in Chapter 2 of the EA in the section entitled "Rationale for Buffers Proposed in Alternative B." While the Blodgett and Melvin handbook contains a description of smaller buffers than those identified in alternative B, they explicitly state that "refuge areas around nests should be expanded if deemed inadequate to protect incubating adults or unfledged chicks from harm or disturbance." The buffers proposed for alternative B are based on information from peer-reviewed literature, including Erwin (1989) and Rodgers and Smith (1995), in which researchers evaluated and documented flushing distances in response to human disturbance. See also Table 31 in the ORV FEIS.

76. Expanded turtle closures should vary in size according to the site use. They should be larger in ORV areas to protect wandering hatchlings from getting trapped in tire tracks. Similarly, beaches adjacent to villages require larger closures due to numerous footprints, sand pits, light pollution and nighttime pedestrian traffic. Filer cloth, erected to block human generated light at nests, should never be used to fence hatchlings from potential threats, such as nearby tire tracks.

Turtle buffers are consistent with NCWRC guidelines. Qualified staff will determine the appropriate level of raking required at each nest. Night driving is not permitted during much of the turtle nesting season allowing for smaller buffers around turtle nests than before the ORV FEIS. Nests will be checked for hatchling emergence prior to allowing vehicles in the area. Filter cloth is used to block human-generated lighting, and not to "fence" hatchlings.

77. Some nests have been known to hatch out during the day on cloudy days. Similarly, some late season nests have been known to hatch out in the daytime. Monitors with rakes would need to be stationed all day at some nests.

We realize that there is some risk of daytime hatching events on cooler, overcast days but believe this risk is very small. We will continue to rely on staff who are on the beach during the daytime to make observations and will promptly respond to any reports from the public. If any signs of hatching are detected, the area will be immediately closed to vehicles. Qualified staff will determine which nests might require additional monitoring or modified management during the hatch window.

78. *The EA states, pedestrians will be allowed to walk in front of expanded turtle closures "as close to the surf as practicable." This is too subjective and appropriate signage should be used.*

Pedestrian corridors will be clearly marked.

79. *A 5 meter buffer between emerging [sea turtle] hatchlings and passing ORV traffic is too narrow. Hatchlings don't always go the way you expect them to go.*

Most turtles will emerge at night when vehicles are not permitted on the beach. All nests will also be protected with filter fencing. Nests will be checked for hatchling emergence prior to allowing vehicles in the area.

80. *I am very concerned that the practical, day to day implementation challenges of monitoring these species in the field are not adequately addressed by the EA; the adverse effects will be greater than acknowledged by the EA; and the financial costs to monitor the proposal will be higher than acknowledged in the EA....It is arbitrary and capricious for the NPS to use the Simons et al. (2015) report in a manner for which it is not intended. It is disappointing that the NPS would misuse the report in this way, especially given the clearly stated qualifications that are highlighted above. A carefully controlled vehicle, driven by a limited number of times, at constant speed, with none of the other related impacts (loud music, barking dog with head out window, yelling people) that can be associated with driving at the Seashore, is not representative of typical vehicle use or use levels at the Seashore.*

We will only implement the modified buffers if staff is available to conduct the required monitoring. In some instances this may require prioritizing areas where modified buffers can be implemented and other areas where the original ORV FEIS buffers will remain in place.

We are basing our changes in management on more than Simons et al. (2015) preliminary results. Borneman et al. (2014) conducted a disturbance study on American oystercatchers at Cape Lookout and concluded that "Provided that human activity is not lethal and does not render habitat unsuitable, many species of wildlife, including American oystercatchers, may habituate and adapt to some forms of human disturbance, allowing them to coexist in close proximity to humans." We intend to continue conducting studies at the Seashore to help us better understand the effects of disturbance (pedestrian and ORV) on nesting shorebirds. See response to comment 53 above.

NPS plans to implement an education program to minimize additional disturbance from vehicles related to loud music, flags, barking dogs, etc.

81. *The EA proposes to reduce the nest buffer for piping plover from 75 meters to 50 meters. I urge the NPS not to reduce the buffer. While the Recovery Plan does allow a 50 meter buffer, it also notes that such a buffer may be inadequate (1996: 192). 75 meters would be more appropriate, given the flushing distances in the Southern Recovery Unit referenced in the Recovery Plan (1996: 12). However, at a minimum, the NPS proposal should be modified to track the language in the Recovery Plan, which allows an increase in the buffer distance if the 50 meter distance is not sufficient to protect incubating adults from disturbance (1996: 192).*

The 50 meter buffer is the smallest recommended buffer supported by literature. The 2014 Act directs the NPS “to ensure that the buffers are of the shortest duration and cover the smallest area necessary to protect a species, as determined in accordance with peer-reviewed scientific data.” The additional language in the ORV FEIS will remain in place. The ORV FEIS states "Buffers will be increased in 50-meter increments if human disturbance occurs."

82. *Piping plover chicks, even when they are only a few days old, are highly mobile, and can quickly move from bayside feeding habitats across the beach to oceanside feeding habitats. Allowing an oceanside ORV corridor ignores the basic biology of piping plover chicks. Allowing such a corridor is not only inconsistent with biology and the Recovery Plan - which is a peer-reviewed document - but it is also inconsistent with the recommendations of Melvin et al. (1994), another peer-reviewed document.*

Chicks will be monitored closely for movements and buffers will be modified accordingly. Buffers will be expanded so that all foraging areas being used will be protected.

83. *"Modified buffers for unfledged chicks are contingent on the park's ability to do intensive monitoring. Intensive monitoring means that qualified staff members maintain regular visual confirmation of chick location from the time the chicks are located in the morning until the beach closes to driving at night. Intensive monitoring would allow park managers to have current information on the location of piping plover chicks and continually manage buffer distances and corridor locations to minimize disturbance and the potential for injury. If (a) staffing requirements cannot be met, (b) the location and fate of the chicks cannot be determined, or (c) best efforts of staff appear unlikely to prevent harm to chicks in a given instance, buffers will revert to the buffers established in the ORV FEIS. In addition, piping plover chicks will need to be located prior to opening an area in the morning to ORVs to ensure that adequate buffers are being maintained. When chicks cannot be located, areas will remain closed to all ORV access until chicks are observed, they are no longer in the area, or their fate has been determined."*

First, it is unclear why the NPS is proposing this action, while, as acknowledged in the EA,

the NPS doesn't even have adequate staffing levels. Proposing such an action before the NPS can implement the action may unrealistically raise hopes that the buffers can be modified. Second, the language indicates that if the location of the chicks can't be determined, buffers will revert to the buffers established in the ORV FEIS. This "will revert" language suggests the NPS will drop the buffer distance first, then find the chicks second, then revert to the larger buffers only if the chicks are not found. Such a process is backwards.

Third, while the approach may sound, in the abstract, reasonable to someone who is unfamiliar with plover biology, there are many practical issues in safely implementing this approach:

There are numerous challenges to locating piping plover chicks. Especially when the chicks are small, their plumage provides excellent camouflage, so the chicks blend in very well with their surrounding habitat. These challenges are magnified by the extremely large search area at some Seashore beaches, such as Bodie Island, or South Beach, or South Point. If it is a windy day, or a rainy day, or the chicks are being brooded by an adult, or if a predator or person has disturbed the chicks so the chicks are hiding, they may not be moving. And if they are not moving, especially when they are young, the chicks are almost impossible to see, especially from a distance. What then? Does the field person search for 1/2 hour, or 1 hour, or 3 hours, or 5 hours? And what will be the impacts of a field monitor having to do intensive searching for the chicks, if the chicks cannot be seen?

How does the NPS actually post the closure area? Does the NPS have two sets of closure posts up - one at 1000 m and one at 500 or 200 m, and go back and forth between the two distances, depending on whether the chicks are seen or not? Of course, that doubles the amount of post movements that have to be done when the chicks move. It takes a fair amount of time to move posts around, even with the augers.

Most importantly, let us assume, for the sake of discussion, that the NPS monitor actually sees the chick starting to move towards the vehicle corridor. What does the NPS biotech do then? Immediately close the ORV corridor without any discussion? Call and get permission from Manteo to do the closure (as was required at one time)? Wait for a law enforcement person to show up to ask the people to leave before the closure could be moved (as occurred at one time)? What if a law enforcement person is not available, or there is a long delay due to the location of the ranger, or the ranger being busy? If there is any delay in closing the corridor, that could sharply increase the risk of take.

What if the NPS field tech sees the chick, and tries to stop vehicles, but the ORV driver refuses to stop? What then? The biotechs are not trained law enforcement rangers. Either

the NPS can wait for a LE person to show up, which could result in a long delay, or the biotech could be placed in an uncomfortable position of having to interact with a person who could be hostile or violent.

If an area is closed immediately, what about the vehicles on the other side of a closure? Do the vehicles have to remain on the other side of the closure until the chicks move an adequate distance from the corridor? What if the chicks don't move out of the area for several hours? Or days? Due to the linear nature of many seashore beaches, a closure could trap vehicles in a location (such as Bodie Island, or South Point), where they have no physical means of exiting, except for driving through the corridor area that has chicks. Then what? Will the NPS knowingly allow vehicles to drive in close proximity to unfledged chicks so a vehicle can return through a corridor area?

By having additional staffing to conduct observations, we hope to have the flexibility to allow ORVs through areas that would otherwise be closed if the larger buffers were in effect. Modified buffers for unfledged chicks are contingent on the park's ability to perform intensive monitoring. Staff must be able to locate piping plover chicks before smaller buffers can be implemented. If staffing requirements cannot be met, the location and fate of the chicks cannot be determined, or best efforts of staff appear unlikely to prevent harm to chicks in a given instance, buffers will revert to the buffers established in the ORV FEIS.

Staff will be responsible for maintaining buffers that will adequately protect the species. They will closely monitor chick movements to determine preferred foraging areas and whether a change in closure size is warranted.

NPS will take steps to implement and enforce compliance with all resource protection measures. This will require the hiring of additional resource management staff as well as law enforcement rangers. Contingency plans will be in place to safely move people off the beach while protecting resources based on the totality of all circumstances.

84. In addition to my concerns, the EAs reliance on monitors to allow a vehicle corridor is inconsistent with peer reviewed scientific data. First, there is a clear risk of direct take. As Melvin et al. (1994: 411) note:

“Piping plover chicks were killed by vehicles even on beaches with relatively little vehicle use or where intensive management sought to protect chicks from vehicles. Nine of 18 chicks were killed on beaches where vehicle traffic was estimated at 20 passes per day (Table 1). Chicks were run over during the day at Fire Island NS in 1991, on Chappaquiddick Island in 1992, and on Duxbury Beach in 1993 despite monitors stationed on the beach to guide vehicles safely past. In these instances, chicks were run over and killed after monitors left them unattended or lost sight of them for 4 hours, 15 minutes, and 45 minutes, respectively. Chicks were run over at Fire Island NS in 1991 and 1992 despite provisions that required a "look-out" walk in front of all vehicles. On Chappaquiddick Island in 1991 and Napeague Beach in 1993, chicks were killed despite

warning signs posted nearby. A family of 3 chicks and 2 adults was run over and killed on Nauset Beach in 1993 at a time when the beach was closed to all but monitoring and law enforcement vehicles.”

The EA does not adequately address this impact, and does not acknowledge that the proposal is inconsistent with peer reviewed scientific data.

Second, in addition to the risk of direct take, there are other indirect, but nonetheless significant, impacts, from ORV use in close proximity to plover chicks. As FWS (1996: 40, 41) notes:

Beaches used by vehicles during nesting and brood-rearing periods generally have fewer breeding plovers than available nesting and feeding habitat can support. In contrast, plover abundance and productivity has increased on beaches where vehicle restrictions during chick rearing periods have been combined with protection of nests from predators (Goldin 1993b, S.M. Melvin pers. obs.).

We have proposed an ORV buffer around piping plover chicks of no less than 200 meters only when qualified staff are present to observe chicks in order to move the buffer as needed. Vehicle restrictions and predator control will continue to be implemented. We realize that there is some risk involved in our proposed actions but we believe adequate protections are in place to minimize these risks. The level of take has been determined through the Endangered Species Act Section 7 Consultation process with USFWS on the ORV FEIS and this EA. Based on this process, the USFWS has determined that the implementation of alternative B would not result in any additional take than was issued with the Biological Opinion and Incidental Take Statement associated with the ORV FEIS. Piping plover chicks will be monitored regularly in order to implement buffers under alternative B. The NPS is required to stop action and re-consult with the USFWS in the event that unanticipated take or impacts occur.

85. The EA states that 6 additional people will be added for bird monitoring. I question the accuracy of this number...Thus, 2 people will be required for each 8 hour monitoring period. As the beach would be open for more than 8 hours, 4 people will be required each day. And as those 4 people will typically work a 40 hour week, 4 additional people will be required for the remainder of the work week. And these assumptions are based on just the plover corridors. Additional monitoring will be necessary for the other species, which will result in additional increases for staffing levels...The EA does not adequately address, with limited staffing increases, how the NPS will avoid the same problems it has had in the past with staffing levels. The failure of the EA to adequately address this known staffing issue is a significant shortcoming in the analysis.

NPS has proposed an additional 13 staff members to implement alternative B and has identified a fund source in the form of ORV permit fees. Substantial increase in staff is forecasted to allow

for the implementation of alternative B. However, if adequate staffing is not available the EA states that some parts of alternative B would not be implemented.

86. I also believe that the proposal is a major federal action significantly affecting the environment. As such, the EA is not adequate to review the impacts under NEPA. The NPS should prepare an Environmental Impact Statement.

The NPS respectfully disagrees for the reasons set forth in the FONSI.

87. Significant changes to the existing regulations should first be done on a controlled trial basis where data is collected, analyzed and then enacted in sets of rolling openings for specific areas. / There should be clearly defined benchmarks that will delineate how NPS biologists will monitor the new regulations to determine their impact on the resources in question.

With this action NPS is not proposing any changes to the existing ORV regulations. Rolling openings are outside the scope of this EA. Phase two of the implementation of the 2014 Act will be completed in a separate environmental review and public involvement process. The concept of rolling openings will be evaluated during this next process. We plan to start this “phase two” of the 2014 Act in July/August of 2015.

Should new guidance be adopted for changing buffer sizes, intensive monitoring or increased monitoring, as appropriate, would be implemented and NPS monitoring protocols and desired future conditions would remain in place (see ORV FEIS). Desired future conditions are a learning tool in the context of periodic review and management. They provide a basis for evaluation of progress and for the research hypotheses set forth in an adaptive management plan. The process of developing the desired future conditions points out what is known and unknown about the resource and where additional research and adaptive management are appropriate.

88. Specific peer reviewed research should be conducted within the confines of CAHA to account for specific conditions here.

In addition to ongoing data collection by NPS staff, ORV permit funds have been made available to research questions regarding piping plover, American oystercatcher, and sea turtles.

89. The EA states: "As a result, ORVs have long served as a primary form of access for many portions of the beach within the Seashore, and continue to be the preferred available means of access and parking for many visitors." This is a subjective statement and is not germane to management of resources and buffers nor is it in the confines of the National Defense Authorization Act. It could be perceived as a bias for ORV access over other forms of access. Any similar statements should be stricken from the EA and any subsequent EAs concerning this bill. Having stayed in the Park campground in the late 1950s into the early 1970s, it is my recollection that the majority of visitors did not access the beach with a

vehicle. Does the NPS have data that shows that ORVs were the primary form of access to the beaches and when and which beaches of the Seashore?

NPS sells approximately 30,000 ORV permits each year. The EA does state that ORVs are a primary form of access. It is important to note the distinction between "the primary form of access" and "a primary form of access," the latter of which is the case at the Seashore. NPS acknowledges that pedestrians on foot encompass the majority of beach access for the 2 million visitors that spend time at CAHA each year. Horseback riding and access by motorboats and kayaks also occur at the Park.