

0028457

From: [Fox, Lori](mailto:Lori.Fox@nps.gov)
To: [Cyndy Holda@nps.gov](mailto:Cyndy_Holda@nps.gov); [Mike Murray@nps.gov](mailto:Mike_Murray@nps.gov); [Sandra Hamilton@nps.gov](mailto:Sandra_Hamilton@nps.gov); [Jami Hammond@nps.gov](mailto:Jami_Hammond@nps.gov);
[Doug Wetmore@nps.gov](mailto:Doug_Wetmore@nps.gov); [Byron, Rebecca](mailto:Byron_Rebecca@nps.gov); [Britta Muiznieks@nps.gov](mailto:Britta_Muiznieks@nps.gov); [Paul Stevens@nps.gov](mailto:Paul_Stevens@nps.gov);
[Thayer Broili@nps.gov](mailto:Thayer_Broili@nps.gov)
Subject: RE: Conference Call Monday, Sept. 20 Internal Review Draft
Date: 09/19/2010 06:02 PM
Attachments: [Pages for Discussion.pdf](#)
[September 20 Call Agenda.docx](#)

Mike, Sandy, Doug, and all:

To assist with the call tomorrow, attached is an agenda of items to discuss. Also attached is a PDF with the pages that we will discuss so that we are all looking at the same thing. If you have any questions on the attached, please let me know.

Take care,
Lori

Lori Fox
Deputy Director, Denver Operations/Senior Planner

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-----Original Message-----

From: Cyndy_Holda@nps.gov [mailto:Cyndy_Holda@nps.gov]
Sent: Friday, September 17, 2010 6:50 AM
To: Fox, Lori; Mike_Murray@nps.gov; Sandra_Hamilton@nps.gov; Jami_Hammond@nps.gov;
Doug_Wetmore@nps.gov; Byron, Rebecca; Britta_Muiznieks@nps.gov; Paul_Stevens@nps.gov;
Thayer_Broili@nps.gov
Cc: Cyndy_Holda@nps.gov
Subject: Conference Call Monday, Sept. 20 Internal Review Draft
Importance: High

Good Morning to All:

Just a reminder of a scheduled conference call, Monday, September 20th from 1:00 pm to 5:00 pm (ET) 11:00 am to 3:00 pm (MT) to review CAHA ORV Mgmt. Plan revisions.

The dial in #: 877-531-9176

Participant #: 5327219#

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September 20, 2010

Comments on the CAHA First Internal Draft FEIS

Agenda:

1. Global Issues
 - a. Impairment – will this document follow the interim guidance? If yes, how will we convey the impairment findings for alternatives other than the preferred (for example, alternative A)
 - b. Pg 56, line 20 – Comment from MM regarding alternative F incorporating elements from other alternatives “Is this last sentence true and do we need to say it this way? Does it invite questions about which elements from which other alternatives were incorporated? Not sure I could answer such a question easily, if asked. It seems more true to say it was modified in response to comments.” Leads to a broader discussion on how we changed alternative F any why.
 - c. Alternatives A and B – use the language “the entire Seashore” to discuss where ORV use is permitted, discuss if this should be revised and how.
 - d. Chapter 4 uses the term “numerous VFAs” to discuss alternative F – this term “numerous” is not a descriptor used in Chapter 2 – do we want to revise this text throughout?

2. Specific Comments to Discuss
 - a. Pg 62/63 – expand the staffing discussion to state what the staff duties would be, not just list staff positions. Group to discuss what these duties would be.
 - b. Pg 105 – Alternative Table, discuss what areas to include under the Village, Campground and Day Use Area heading.
 - c. Pg 106 – Discuss desired language, “spits” vs. “flats”
 - d. Pg 111 – Discuss how to describe vehicle and axel lengths in alternatives C and F
 - e. Pg118 - Discuss Britta’s comments on Table 10-1 and how they impact this section
 - f. Pg131 – Discuss comments from Britta regarding where pedestrians can go in regards to pre-nesting closures
 - g. Pg133 – Discuss how this element should be revised, does the Seashore plan to reduce walk-throughs?
 - h. Pg152 – Discuss rationale for upgrading impact to ORV users under visitor use to “major”
 - i. Pg211, lines 38-41 – Will violation numbers for species closures be available for the FEIS?
 - j. Pg263 – Discuss how we want to use visitor use data in this section
 - k. Pg307, line 28 – Discuss the difference between foot trails and pedestrian trails

Chapter 2: Alternatives

- 1 • **Alternative E: Variable Access and Maximum Management.** Alternative E would provide use
2 areas for all types of visitors to the Seashore with a wide variety of access for both ORV and
3 pedestrian users, but often with controls or restrictions in place to limit impacts on sensitive
4 resources. Interdunal road and ramp access would be improved, and more pedestrian access
5 would be provided through substantial additions to parking capacity at various key locations that
6 lend themselves to walking on the beach.
- 7 • **Alternative F: The NPS Preferred Alternative.** The NPS considered a variety of concepts and
8 measures that either originated during the negotiated rulemaking process from members of the
9 negotiated rulemaking advisory committee (Committee) or were discussed during Committee,
10 subcommittee, or work group sessions. Although the Committee as a whole did not reach a
11 consensus on a recommended alternative, in creating this action alternative the NPS made
12 management judgments as to which combination of concepts and measures would make an
13 effective overall ORV management strategy. This alternative is designed to provide visitors to the
14 Seashore with a wide variety of access opportunities for both ORV and pedestrian users.
15 Alternative F would provide a reasonably balanced approach to designating ORV routes and
16 vehicle-free areas and providing for the protection of park resources. To support access to both
17 vehicle-free areas and designated ORV routes, alternative F would involve the construction of
18 new parking areas, pedestrian access trails, ORV ramps, and improvements and additions to the
19 interdunal road system. Based on public and agency comments on the draft plan/EIS, this
20 alternative has been modified to incorporate elements from the other alternatives evaluated.

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Comment [dw1]: Need to make clear that the balance between ORV routes and VFAs and NOT between recreation and resources.

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Comment [mbm2]: Is this last sentence true and do we need to say it this way? Does it invite question s about which elements from which other alternatives were incorporated? Not sure I could answer such a question easily, if asked. It seems more true to say it was modified in response to comments.

21 **ELEMENTS COMMON TO ALL ALTERNATIVES**

22 The following describes elements of the alternatives that are common to all alternatives, including the no-
23 action alternatives.

24 **Vehicle/Operator Requirements**

- 25 • **Vehicle Requirements.** All vehicles operating in any area of the Seashore must comply with the
26 following:
27 - Meet all requirements to operate legally on state highways where the vehicle is registered,
28 including any required vehicle equipment.
29 - Have a valid vehicle registration, insurance, and license plate.
- 30 • **Operator Requirements.** Any person operating a vehicle in any area of the Seashore must
31 comply with the following:
32 - Observe any law applicable to vehicle use on a paved road in the state of North Carolina.
33 - Hold a current driver's license (Superintendent's Compendium, Section 4.2(a)).
34 - Use a seatbelt.
- 35 • **Operator and Passenger Requirements.** Any vehicle operator and/or passenger in a vehicle
36 operating in any area of the Seashore must comply with the following:
37 - Open containers of any type of alcoholic beverage are prohibited in vehicles.
38 - ORV drivers and/or passengers are prohibited from sitting on the tailgate or roof or hanging
39 outside of moving vehicles. Those in truck beds must be seated on the floor with the tailgate
40 closed; children in truck beds must be accompanied by an adult.

Chapter 4: Environmental Consequences

Impacts to wetland areas where ORVs are used include rutting and compaction of soils from ORV use by visitors or by staff during species management activities; however, due to the dynamic nature of the intertidal area, impacts would be expected to be short-term negligible adverse. These impacts would be short-term due to the continuous movement and deposition of sand in the intertidal areas and the ability of the shoreline to “restore” itself in the long term. Due to the nature of the impacts and the consistent regeneration of wetland soils impacted by ORV use due to wave action, impacts on marine intertidal wetlands are not discussed in detail under each alternative below; rather, it was assumed that impacts from ORV driving to non-vegetated marine intertidal wetlands would be short-term negligible adverse across all alternatives. The impact analysis therefore focuses on impacts to vegetated estuarine (soundside and interior) wetlands and addresses impacts to marine intertidal wetlands in the conclusions only.

Impacts to marine wetland habitats also affect invertebrate species that reside there, and are discussed in detail in the “Wildlife and Wildlife Habitat” section.

Impacts of Alternative A: No Action—Continuation of Management under the Interim Protected Species Management Strategy

Under alternative A, there would be no new construction of ramps or roads and, therefore, no direct adverse impacts to wetlands in the Seashore as a result of construction activities. The only other actions associated with this alternative that could result in wetland impacts would be impacts from the continued use of ORVs throughout the Seashore.

Under alternative A, Seashore staff would continue to survey for various species as identified in the FONSI for the Interim Protected Species Management Plan/EA. Seashore staff would use ATVs/UTVs and occasionally ORVs to conduct species surveys and to establish resource closures as required based on species behavior. There would be no impacts to estuarine wetlands, however, because species surveying and management would not typically occur in any areas where vegetated wetlands are located.

Under this alternative, visitors would be allowed to operate ORVs in all areas of the Seashore 24 hours per day year-round, subject to temporary resource closures, seasonal ORV closures in front of the villages, and temporary ORV safety closures (see figure 2, chapter 2, alternative A and B maps). Anecdotal evidence from Seashore staff has demonstrated that some areas of estuarine wetlands at the Seashore have been denuded of vegetation from ORV use along the soundside shoreline. Studies at Cape Cod National Seashore also have noted the impacts from ORV use on vegetation (Broadhead and Godfrey 1977). Wetlands are also damaged when drivers attempt to avoid standing water on interior ORV routes at Cape Hatteras and, instead, drive over vegetation adjacent to these routes, as noted by Seashore staff. This use has the potential to result in wider roads and crushed or dead wetland vegetation. Long-term minor adverse impacts to estuarine vegetated wetlands at the Seashore would continue to occur under alternative A, as ORV drivers would continue driving over wetland vegetation along the soundside shoreline and adjacent to interior ORV routes.

Overall, under alternative A, there would be short-term negligible adverse impacts to marine intertidal wetlands due to continued ORV use in these areas and long-term minor adverse impacts to wetlands due to direct damage from ORV use in and around vegetated wetlands on the soundside and along interior ORV routes.

Cumulative Impacts. Other past, present, and future planned actions within and around Cape Hatteras National Seashore have the potential to impact wetlands. The dredging of Oregon Inlet has occurred in the past and would continue to be conducted on an annual basis by the Corps. Material from the dredging of Oregon Inlet is used primarily for replenishment of Pea Island NWR beaches. Because the dredged material is not deposited in vegetated wetlands, there should be no measurable impact to wetlands from

Comment [I1]: Example of “entire Seashore language”

Chapter 4: Environmental Consequences

- Ramp 27 to ramp 30
- Ramp 32.5 to ramp 34
- Ramp 38 to 1.5 miles south of ramp 38 (i.e., Haulover)
- 0.3 mile west of the hook (Cape Point) to 1.7 miles west of ramp 45
- Bone Road to Hatteras Inlet, along inlet shoreline to Spur Road
- Hatteras Inlet to (new) ramp 59.5
- Ramp 68 to 0.4 miles northeast of ramp 70 (includes Ocracoke Day Use area)

Pedestrian use would be permitted in these areas, and all of these areas would be subject to resource closures for breeding, nesting, and fledging activities, as detailed in table 10-1.

Piping plovers would likely experience long-term moderate benefits from the size of the resource closures under alternative F and the fact that buffers would adjust in response to chick mobility, as these action would be expected to improve the sustainability of the species at the Seashore.

Management of Wintering/Nonbreeding Populations. Management of wintering/nonbreeding populations of piping plover under alternative F would be similar to the measures described under alternative C, except nonbreeding shorebird SMAs would not be established. Under alternative F, the numerous VFAs, shown on the maps in chapter 2, would provide for additional areas for nonbreeding species to utilize. Also, an annual habitat assessment would be conducted at the points and spits after all birds have fledged from the area. Prior to removing the prenesting closures, resource closures would be established in the most sensitive portions of nonbreeding shorebird habitat in these areas, based on habitat used by winter piping plovers in more than one (i.e., two or more) of the past five years. People and pets would be prohibited within these closures. These measures would result in long-term moderate beneficial impacts to nonbreeding piping plover that would be greater than those under the other action alternatives as more area would be protected for nonbreeding piping plovers.

Education and Outreach. Under alternative F, education and outreach activities would be the same as those described under alternative A, with the addition of educational requirements as part of a permit program. A new voluntary resource education program would also be implemented that would be focused toward pedestrian beach users. This additional education would result in long-term minor to moderate benefits to species as the public is provided with more information regarding piping plover management issues.

Overall Impacts from Resources Management Activities. Overall impacts under alternative F from resources management activities (primarily resulting from the effects of surveying and field activities) would be long-term moderate and beneficial for piping plovers. As with all species management activities, minor adverse impacts would occur from human presence during monitoring activities, but on the whole the establishment, VFAs and areas seasonally closed to ORV use, monitoring activities, and establishment of prescribed buffers would provide long-term moderate beneficial impacts to the species. Long-term moderate benefits to nonbreeding populations would be greater under alternative F than under alternatives C or E because of the addition of VFAs combined with the nonbreeding closures.

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Comment [13]: "numerous VFAs" language example

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Chapter 2: Alternatives

- 1 • The NPS would not be required to expand a buffer for vandalism if the violator is apprehended. If
- 2 the buffer has been expanded and then the violator is caught, the NPS can retract the expansion.

3 All other provisions in the consent decree remain the same. Under alternative B, beaches would be closed
 4 to all ORV use between the hours of 10:00 p.m. and 6:00 a.m. from May 1 to September 15, and open to
 5 ORV use from 10:00 p.m. to 6:00 a.m. with a permit from September 16 to November 15. This permit
 6 could be obtained online or at NPS offices or local tackle shops. From March 15 to November 30, an
 7 ORV-free zone at least 10 meters wide would be located in the ocean backshore wherever there is
 8 sufficient beach width to allow an ORV corridor at least 20 meters wide above the mean high tide line.
 9 Under alternative B, buffers for protected species would be larger than those identified in alternative A,
 10 and would include a required 1,000-meter buffer for unfledged piping plover chicks. In addition to ORV
 11 use, this 1,000-meter buffer would also apply to pets, as well as to kite flying, Frisbee throwing, and
 12 similar activities. Under this alternative, beach fires would be prohibited within 100 yards of turtle nest
 13 protection areas, as specified in the Superintendent’s compendium. As in alternative A, suitable interior
 14 habitats for piping plovers at spits and at Cape Point would be closed year-round to all recreational users
 15 to provide for resting and foraging for all species. In case of a conflict between the Interim Strategy and
 16 the measures described in the consent decree, the consent decree would prevail. Details of the
 17 management actions under this alternative are described in tables 8 and 9.

18 **ACTION ALTERNATIVES**

19 | The action alternatives would establish areas that allow ORV use and vehicle-free areas where ORV use
 20 is prohibited. Although ORV areas are specifically identified, these areas do not prohibit other uses, in
 21 effect making both ORV and vehicle-free areas multi-use recreation areas.

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22 **ELEMENTS COMMON TO ALL ACTION ALTERNATIVES**

23 The action alternatives, alternatives C, D, E, and F, provide a range of reasonable alternatives. The
 24 following describes elements of the management actions common to all the action alternatives.

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25 **Ramp Configuration**

- 26 • A new ramp would be constructed at mile 32.5.
- 27 • Ramp 2 would be relocated approximately 0.5 mile south of Coquina Beach.

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28 **Off Road Vehicle Access and Routes**

29 The following would apply:

- 30 • Visitors accessing the Seashore by ORV must use only designated beach access ramps and
 31 soundside access routes to enter designated ORV routes and areas.
- 32 • ORV operators must drive only on designated and marked ORV routes and must comply with
 33 posted restrictions.

34 **Seashore Management and Operations**

- 35 • Based on experience with implementing ORV management since 2007, staffing at the Seashore
 36 would need to increase under any alternative to address basic functions of implementing an ORV
 37 management program. These positions could likely include a coordinator for the ORV

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Action Alternatives

~~management program (management-level position), science and adaptive management coordinator, resource education ranger, and a public affairs assistant.~~

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Comment [dw8]: SH: describe function, not position

Education and Outreach

The Seashore would

- Improve signage related to beach closures and Seashore resources so that it is more readily available and presented in a clear manner to the public.
- Work with local organizations and businesses, including real estate rental agencies and hotels/motels, to ensure wider distribution of ORV and resource protection educational information. This would include encouraging these businesses to provide information about removal of beach equipment from the beaches at night.
- Provide information about and encourage the use of turtle friendly lighting.
- Encourage the Visitors Bureau and local tackle shops to link their websites to the Seashore’s website to ensure that different segments of the visiting public have up-to-date information on beach closures and, if an ORV permitting system is developed, ORV permitting information.
- Develop a user-friendly ORV educational program (e.g., video ~~or DVD~~) that could be administered ~~as part of the ORV permitting process.~~
- Implement more educational programs in local schools and expand the Junior Ranger program to include more web-based options to interest youth in Seashore resources and stewardship.

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Vehicle Requirements

The following requirements would apply:

- Four-wheel drive would be recommended, although two-wheel-drive vehicles would be allowed.
- When driving on designated routes, operators would be required to lower tire pressure sufficiently to maintain adequate traction within the posted speed limit (20 pounds per square inch (psi) is recommended for most vehicles).
- Motorcycles would be prohibited on the ocean beachfront.
- There would be a ~~limit on the number of axles allowed for vehicles and trailers.~~
- ~~Only U.S. Department of Transportation listed and/or approved tires would be allowed.~~

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<#>Maximum vehicle length would be 30 feet.¶

Equipment Requirements

- Vehicles would be equipped with a jack, jack support, shovel, and low-pressure tire gauge.

Speed Limits

- The speed limit would be 15 mph, unless otherwise posted. Emergency vehicles would be exempt when responding to a call.

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Table 8. Summary of Alternative Elements

Alternative A: No Action—Continuation of Management under the Interim Strategy	Alternative B: No Action—Continuation of Management under Consent Decree	Alternative C: Seasonal Management	Alternative D: Increased Predictability and Simplified Management	Alternative E: Variable Access and Maximum Management	Alternative F: <u>NPS Preferred Alternative</u>
Village, Campground, and Day Use Area Beaches					
<p>Village beaches, as identified below, are seasonally closed to ORV use from May 15 through Sep 15:</p> <ul style="list-style-type: none"> Bodie Island from ramp 1 to 0.5 mile south of Coquina Beach. Beaches fronting the villages of Rodanthe, Waves, Salvo, and Avon. The beach fronting Buxton south to ramp 43. Beaches fronting the villages of Frisco and Hatteras. <p>Ocracoke day use area and campground beaches:</p> <p>Ocracoke Island from 0.5 mile south of ramp 67 to 0.25 mile north of ramp 70 closed to ORVs when campground is open (approx. Apr 1 to Oct 31).</p>	<p>Same as alternative A, except: The beach from ramp 43 to 0.4 mile north is open to ORVs year-round.</p>	<p>Village, campground, and day-use beaches would be managed as follows (also described in table 7):</p> <p>Seasonally restricted ORV routes: (closed to ORVs Mar 15 to Oct 14, unless otherwise indicated)</p> <ul style="list-style-type: none"> Rodanthe, Waves, Salvo, Avon, Frisco, and Hatteras Village beaches. Ocracoke campground beach, from 0.5 mile northeast to 0.5 mile southwest of ramp 68 (closed to ORVs when campground is open, which is approx. Apr 1 to Oct 31). <p>VFAs year-round:</p> <ul style="list-style-type: none"> Buxton beach S to 0.4 mile north of ramp 43. <p>Ocracoke day use area beach, from 1.2 miles northeast to 0.5 mile northeast of ramp 70.</p>	<p>Village beaches would be managed as follows (also described in table 7):</p> <p>VFAs year-round:</p> <ul style="list-style-type: none"> All village beaches would be <u>vehicle free</u> year-round. 	<p>Village beaches would be managed as follows (also described in table 7):</p> <p>Seasonally restricted ORV routes: (closed to ORVs Apr 1 to Oct 31)</p> <ul style="list-style-type: none"> Rodanthe, Waves, Salvo, and Avon beaches, and Buxton Beach south to 0.4 mile north of ramp 43. Ocracoke Campground Beach, from 0.5 mile northeast to 0.5 mile southwest of ramp 68. <p>VFAs year-round:</p> <ul style="list-style-type: none"> Bodie Island from ramp 1 to approx. 0.5 mile south of Coquina Beach. Frisco and Hatteras Village beaches. <p>Ocracoke day use area beach, from 1.2 miles northeast (of ramp 70) to 0.5 mile northeast of ramp 70.</p>	<p>Village beaches would be managed as follows (also described in table 7):</p> <p>Seasonally restricted ORV routes: (closed to ORVs as indicated below)</p> <ul style="list-style-type: none"> Rodanthe <u>(south of the pier)</u>, Waves, Salvo, and Avon, <u>Frisco and Hatteras Village</u> beaches, <u>and Ocracoke Campground Beach from 0.5 mile northeast to ramp 68 (closed to ORVs Apr 1 to Oct 31)</u>. <u>When village beaches are open to ORV use from November 1 through March 31, a safety closure would be implemented on portions of a village beach that are not consistently at least 20 meters (66 feet) wide during normal high tides.</u> <p>VFAs year-round:</p> <ul style="list-style-type: none"> <u>Coquina Beach.</u> <u>Rodanthe (north of the pier).</u> <u>Buxton Beach.</u> <u>Ocracoke day use area beach.</u>
ORV Access					
<p>Oceanside access:</p> <p>ORV access is provided via 17 oceanside ramps and access points located off NC-12.</p> <p>Ramps are numbered and identified on the Seashore's ORV route map as official vehicle access routes.</p> <p>Seashore staff maintains ramps and signage.</p>	<p>Oceanside access:</p> <p>Same as alternative A.</p>	<p>Oceanside access:</p> <p>To provide access to the designated ORV routes and <u>VFAs</u> in addition to the existing ramps, which would be maintained, new or improved ramps would be developed as identified in table 7. Toilet facilities and trash receptacles would be provided at high use locations.</p>	<p>Oceanside access:</p> <p>Same as alternative C.</p>	<p>Oceanside access:</p> <p>Same as alternative C.</p>	<p>Oceanside access:</p> <p><u>To provide access to designated ORV routes, VFAs, and existing ramps, new ramps would be developed as identified in table 7-1</u></p>

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Non-ORV

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Comment [dw8]: The heading is "Village, Campground, and Day use Beaches", so we shouldn't be describing other areas in this section.

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Alternative A: No Action—Continuation of Management under the Interim Strategy	Alternative B: No Action—Continuation of Management under Consent Decree	Alternative C: Seasonal Management	Alternative D: Increased Predictability and Simplified Management	Alternative E: Variable Access and Maximum Management	Alternative F: NPS Preferred Alternative
<p>Soundside access: ORV access is provided via 18 soundside access points located off NC-12. Seashore staff maintains ramps and signage.</p>	<p>Soundside access: Same as alternative A.</p>	<p>Soundside access: Existing soundside ramps would be designated as ORV routes and would remain open with sufficient maintenance to provide clear passage. Signage/posts would be installed at the primitive parking areas and boat launch areas to prevent damage to vegetation and other soundside resources.</p>	<p>Soundside access: Same as alternative A.</p>	<p>Soundside access: Soundside ramps to designated boat launch areas and Pole Road access to the sound via Cable Crossing and Spur Road would remain open. The remaining soundside ramps would be closed to ORV use and small parking areas would be constructed to provide pedestrian access to the water, except: - Existing Ocracoke Island access points north of village would remain open to commercial fishermen. Signage/posts would be installed at the parking areas and boat launch areas to prevent damage to vegetation and other soundside resources.</p>	<p>Soundside access: Existing off-road soundside areas would be designated as ORV routes and would remain open with sufficient maintenance to provide clear passage. Signage/posts would be installed at the primitive parking areas and boat launch areas to prevent damage to vegetation and other soundside resources. Seasonal soundside access on Ocracoke Island (open Sept 15 – March 14): - ORV route 0.6 mile south of ramp 72 from the beach route to a pedestrian trail to Pamlico Sound. - ORV route at the north end of South Point spit from the beach route to Pamlico Sound.</p>
<p>Interdunal roads: One-lane, interdunal routes have been designated as follows:</p> <p>Bodie Island District: None.</p> <p>Hatteras Island District: - Cape Point between ramp 44 and ramp 45. - Hatteras Inlet from ramp 55 to the inlet (includes Pole Road, Cable Crossing, and Spur Road).</p> <p>Ocracoke Island District: None.</p>	<p>Interdunal roads: Same as alternative A.</p> <p>Bodie Island District: Same as alternative A.</p> <p>Hatteras Island District: Same as alternative A.</p> <p>Ocracoke Island District: Same as alternative A.</p>	<p>Interdunal roads: Same as alternative A, plus: - Existing interdunal roads would be better maintained as needed to provide access to ORV areas. Pullouts or road widening would be provided where appropriate to provide safe passage.</p> <p>Bodie Island District: Same as alternative A.</p> <p>Hatteras Island District: Same as alternative A, plus: South Beach: Extend interdunal road W of ramp 45 to ramp 49. Establish new ramps 47 and 48 off of interdunal road.</p> <p>Ocracoke Island District: Same as alternative A.</p>	<p>Interdunal roads: Same as alternative A.</p> <p>Bodie Island District: Same as alternative A.</p> <p>Hatteras Island District: From ramp 55 to Bone Road (a.k.a. Fort Clark Spur); includes Pole Road, Cable Crossing, and Spur Road.</p> <p>Ocracoke Island District: Same as alternative A.</p>	<p>Interdunal roads: Same as alternative C.</p> <p>Bodie Island District: Same as alternative A.</p> <p>Hatteras Island District: Same as alternative C.</p> <p>Ocracoke Island District: Same as alternative A.</p>	<p>Interdunal roads: Existing interdunal roads would be designated as ORV routes and be better maintained as needed to provide access to ORV areas. Pullouts or road widening would be provided where appropriate to provide safe passage.</p> <p>Bodie Island District: Same as alternative A.</p> <p>Hatteras Island District: Same as alternative A, plus: - South Beach: Extend interdunal road W of ramp 45 to ramp 49. Establish new ramp 47.5 off of interdunal road. - Hatteras Inlet Spit: Establish new interdunal road from the intersection of Pole and Spur Roads southwest towards the inlet, stopping at least 100 meters from the inlet.</p> <p>Ocracoke Island District: Same as alternative A.</p>
Hours of Allowable ORV Operation on Beach (when area open to ORV use^b)					

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Comment [mbm9]: I know what this means and it makes sense to me, so it is hard for me to judge if the it will be clear to the average reader where the north end of the "spit" is? Would it be more clear to substitute "flats" for "spit" so it says north end of the South Point "flats"?

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Same as alternative C, plus:¶
Ocracoke Island: Develop a new soundside access point approx. 0.65 mile south of ramp 72 by establishing short, seasonally open ORV route perpendicular from ocean beach toward sound, ending in a small unpaved parking area with a pedestrian trail leading to the sound. Both the trail and ORV route would be subject to resource closures.

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Deleted: Re-route Pole Road toward the sound west of the Overwash Fan to provide natural barrier to bird nesting area south of road; and establish

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Deleted: North Ocracoke Spit: Establish new interdunal road parallel to the beach from ramp 59 for 0.3 mile northeast toward the inlet, with parking area at the terminus.

Table 8. Summary of Alternative Elements

Alternative A: No Action—Continuation of Management under the Interim Strategy	Alternative B: No Action—Continuation of Management under Consent Decree	Alternative C: Seasonal Management	Alternative D: Increased Predictability and Simplified Management	Alternative E: Variable Access and Maximum Management	Alternative F: <u>NPS Preferred Alternative</u>
Beach Parking					
Parking within routes is allowed in any configuration, as long as parked vehicles do not obstruct traffic.	Same as alternative A.	Same as alternative A.	Parking within ORV routes is allowed, but only one vehicle deep. Stacking of vehicles in more than one row would be prohibited.	Same as alternative A.	<u>Parking within ORV routes is allowed, but only one vehicle deep, as long as vehicles do not obstruct two-way traffic. Stacking of vehicles in more than one row would be prohibited.</u>
Vehicle Carrying Capacity Determination					
Vehicle carrying capacity would not be determined.	Same as alternative A.	Carrying capacity would be a "peak use limit" determined for all areas based on the linear feet of beachfront and the following physical space requirements ("mile" refers to miles of beach open to ORV use): Bodie Island District: - 260 vehicles/mile (20 feet/vehicle). Hatteras Island District: - 260 vehicles/mile (20 feet/vehicle). Ocracoke Island District: - 175 vehicles/mile (30 feet/vehicle). Temporary exceptions to carrying-capacity limits may be approved for short-term events operating under a special use permit. Carrying-capacity criteria would be subject to periodic review.	Carrying capacity would be addressed solely by the beach parking restriction described in the row above.	Same as alternative C, except: Hatteras Island District: - Cape Point: 400 vehicles allowed within a 1 mile area centered on Cape Point.	<u>The maximum number of vehicles allowed on any particular ORV route is the linear distance of the route divided by 6 meters (20 feet) per vehicle (i.e. the equivalent of 260 vehicles per mile).</u>
ORV Characteristic Requirements					
All vehicles operating in all areas of the Seashore must have valid vehicle registration, insurance, and license plate. Vehicles must be street legal. All-terrain vehicles (ATVs) are prohibited from beach driving.	Same as alternative A.	<u>Off-road</u> Vehicle characteristics: - All vehicles must be registered, licensed, and insured for highway use and must comply with state inspection regulations within the state, country, or province where the vehicle is registered - Four-wheel-drive vehicles are recommended. - Two-wheel-drive vehicles are allowed. - Motorcycles and ATVs are prohibited. - There is a two -axle maximum for vehicles (this is the axle maximum for the powered vehicle only and does not include the additional number of axles on towed trailers). - Any trailers are limited to no more than two axles. - The maximum vehicle length is 30 feet (this is the maximum length combined for the vehicle and towed trailer). - <u>Tires must be U.S. Dept. of Transportation –listed or approved.</u>	Same as alternative C.	Same as alternative C, except: - Motorcycles would be prohibited on ocean beaches, but allowed on soundside access areas where ORVs are allowed.	<u>Same as C, plus:</u> - Travel trailers (i.e., camping trailers) are prohibited. - UTVs are prohibited.

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- Comment [mbm11]: I think it would be better to leave the alternative C axle and maximum vehicle length requirements as it was stated in the DEIS and only make the changes in alternative F. The changes in F were made, in part, in response to comm... [7]
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Alternative A: No Action—Continuation of Management under the Interim Strategy	Alternative B: No Action—Continuation of Management under Consent Decree	Alternative C: Seasonal Management	Alternative D: Increased Predictability and Simplified Management	Alternative E: Variable Access and Maximum Management	Alternative F: NPS Preferred Alternative
Resource Protection Measures					
Breeding Season Measures					
Shorebird pre-nesting areas and ORV/pedestrian buffers for observed shorebird breeding behavior, sea turtle nests, and seabeach amaranth are established as described in the Interim Strategy FONSI (table 9).	Shorebird pre-nesting areas and ORV/pedestrian buffers for observed shorebird breeding behavior, sea turtle nests, and seabeach amaranth are established as described in the Interim Strategy FONSI (table 9), as modified by the consent decree.	Breeding Shorebird SMAs would be designated. Shorebird pre-nesting areas and ORV/pedestrian buffers for observed shorebird breeding behavior, sea turtle nests, and seabeach amaranth would be established as described in table 10. ML1 measures would be implemented at all locations (including those outside of SMAs), except at Bodie Island Spit, Cape Point, and South Point Ocracoke, where ML2 measures would be implemented. Designated SMAs would be subject to periodic review.	Same as alternative C, except: - ML1 would be implemented at all locations.	Same as alternative C, except: - ML2 areas at Bodie Island Spit, Cape Point, and South Point Ocracoke would include an ORV pass-through zone, using standard buffer distances as described in table 10.	Pre-nesting areas and buffers would be established as described in Table 10-1. Pedestrian shoreline access below the high tide line would be permitted in front of (i.e., seaward of) pre-nesting areas until breeding activity is observed, then standard buffers for breeding activity would apply.
Nonbreeding Season Measures					
As described in the Interim Strategy FONSI: Suitable interior habitats at spits and at Cape Point are closed year-round to all recreational users to provide for resting and foraging for shorebirds. Suitable habitats include ephemeral ponds and moist flats at Cape Point, Hatteras Spit, Ocracoke, and Bodie Island Spit. Actual locations of suitable foraging and resting habitat may change periodically due to natural processes and are determined based on annual habitat assessment and monitoring.	Same as alternative A.	Nonbreeding Shorebird SMAs would be established at the points and spits based on an annual habitat assessment. In addition, year-round VFAs along the ocean shoreline outside of the villages, as identified in table 7, would be managed as Nonbreeding Shorebird SMAs with recreational activity restrictions as described in table 10. Designated SMAs would be subject to periodic review.	Same as alternative C.	Same as alternative C.	VFAs throughout the Seashore would provide relatively less disturbed foraging, resting, and roosting habitat for migrating and wintering birds. These areas would be managed as described in Table 10-1.
Vegetation					
ORV use is generally restricted to minimize impacts.	Same as alternative A.	ORV use would be restricted or prohibited in locations where ORV use is causing unacceptable impacts to vegetation.	Same as alternative C.	Same as alternative C.	Same as alternative C.

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Comment [dw13]: Does this change per Britta's changes to Table 10-1?

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Deleted: Same as alternative C, plus the following areas would be managed as "floating" non-ORV areas during the nonbreeding season (i.e., as soon as breeding season closures are reduced or removed):¶
<#>"Floating" 1.5 miles of ocean shoreline habitat between ramp 23 (Salvo) and ramp 34 (Avon) would be non-ORV (in addition to ramps 27-30), based on habitat assessment and nonbreeding surveys.¶
<#>"Floating" 1.5 miles of ocean shoreline on South Beach between ramp 45 and ramp 49, based on habitat assessment and nonbreeding surveys. ORV access to be provided via interdunal road or upper beach route (where 50-meter buffer can be maintained).¶
<#>"Floating" 1.0 mile of ocean shoreline between ramp 72 and inlet, based on annual habitat assessment and nonbreeding surveys. Upper-beach ORV corridor will be used to bypass the 1.0 mile shoreline area.¶
The "floating" Nonbreeding Shorebird SMAs would be monitored as described in table 10 and would be subject to periodic review.

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^a This matrix is designed to display differences among alternatives; therefore, actions common to all alternatives are not included in it. Refer to the "Elements Common to All Alternatives" section, which begins on page 56 of chapter 2.

^b Please refer to tables 7 and 7-1 to determine when routes and areas are open to ORV use.

TABLE 10-1. SPECIES MANAGEMENT STRATEGIES FOR ALTERNATIVE F

DEFINITIONS			
<p>Breeding behavior: Shorebird behavior that includes, but is not limited to, courtship, mating, scraping, confirmed scrapes, and other breeding or nest-building activities.</p> <p>Human disturbance: Any human activity that changes the contemporaneous behavior of beach nesting birds that are breeding, nesting, foraging, or roosting, or migrating/wintering birds that are using the beach and associated habitats for foraging, resting, or roosting. Bird behaviors indicating disturbance include defensive displays; alarm calls; flushing or leaving a nest or feeding area; and diving or mobbing pedestrians, dogs, or vehicles.</p> <p>Periodic review: A systematic review of data, habitat conditions, and other information to be conducted by the NPS every 5 years, or after storms or events that Seashore management determines to be a major modification of habitat quantity or quality, or after a significant change in protected species status (e.g., listing or de-listing), in order to evaluate the effectiveness of management actions in making progress toward the accomplishment of stated objectives. Periodic review could result in changes to the management actions in order to improve effectiveness. When desired future conditions for resources are</p>		<p>met or exceeded, periodic review and adaptive management may allow for more flexible management of recreational use, provided adverse impacts of such use are effectively managed and wildlife populations remained stable. Where progress is not being made toward goals, periodic review and adaptive management may result in increased restrictions on recreational use.</p> <p>Pre-nesting closure: 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.</p> <p>Research area: Area of suitable habitat set aside on a temporary or long-term basis (such as a study site or control plot) as part of a research project authorized by NPS under a research permit.</p> <p>Resource closure: Any area posted as closed to all public entry in order to protect wildlife, such as breeding and foraging shorebirds and bird and turtle nests, or vegetation from human disturbance.</p>	
Management Activity	Shorebirds		
	Piping Plover and Wilson's Plover	American Oystercatcher	Colonial Waterbirds, including Least Terns, Common Terns, Gull-Billed Terns, and Black Skimmers
Pre-Nesting Surveys	Mar 15 to Jul 15: Pre-nesting closures will be surveyed three times per week. Outside of pre-nesting closures, suitable habitat will be surveyed twice per week, increasing to three times per week once birds are present.	Mar 15 to Jul 15: Pre-nesting closures will be surveyed three times per week. Outside of pre-nesting closures, suitable habitat will be surveyed twice per week, increasing to three times per week once breeding pairs are present.	May 1 to Jul 15: Pre-nesting closures will be surveyed three times per week. Outside of pre-nesting closures, suitable habitat will be surveyed twice per week, increasing to three times per week once breeding pairs are present.
Pre-Nesting Closures	<p>All species: By Mar 1, Seashore staff will evaluate all potential breeding habitat for piping plover, Wilson's plover and American oystercatcher and recommend pre-nesting closures for those species based on that evaluation. CWB breeding habitat will be evaluated by Apr 1. Areas of newly created habitat will also be evaluated during the annual habitat assessment. Areas of suitable habitat that have had individual PIPL, WIPL or AMOY nests, or concentrations of more than 10 CWB nests in more than one of the past five years and new habitat that is particularly suitable for shorebird nesting, such as the habitat at new inlets or overwash areas, will be posted as pre-nesting closures using symbolic fencing (string between posts) or with other closure signs by Mar 15 at sites involving piping plover, Wilson's plover, and/or American oystercatcher; and by Apr 15 at sites involving only colonial waterbirds. Because CWB colonies may shift locations from year to year, ramps that have had colonies in more than one of the past five years will remain open until scraping or nesting is observed. Pre-nesting closures will still be established in these areas, however, the closure will allow vehicle access through the areas until scraping or nesting is documented at which point the appropriate buffer will be established. The NPS will determine the configuration of specific pre-nesting closures based on an annual habitat assessment. Pre-nesting closures would be removed if no breeding activity is seen in the area by Jul 31 (or Aug 15 if black skimmers are present), or 2 weeks after all chicks have fledged, whichever comes later. Nonbreeding shorebird habitat protection would be implemented, as described later in this table, before pre-nesting areas are removed. Pedestrian access along ocean and inlet shorelines below the high tide line will be permitted in front of (i.e., seaward of) pre-nesting areas until breeding activity is observed, then the pre-nesting area will be closed to pedestrians. Pets and horses are prohibited in pedestrian shoreline access areas in front of pre-nesting areas. ORVs, pedestrians, pets and horses are prohibited within all resource closures, including pre-nesting closures.</p> <p>ORV corridors at Cape Point and South Point: When pre-nesting closures are implemented, the ORV access corridor at Cape Point and South Point will be reduced from 50 meters (164 ft) during the non-breeding season to 35 meters (115 ft). Once established, the pre-nesting closure will not be modified if the beach erodes into the ORV corridor or into the protected habitat. Once breeding activity is observed, standard buffers for breeding activity will apply. The ORV corridor width will be restored to 50 meters (164 ft) after breeding activity is completed at the site and pre-nesting closures are removed.</p>		
Courtship/Mating Surveys	All species: Pre-nesting closures would be surveyed three times per week. Outside of pre-nesting closures, potential suitable habitat would be surveyed three times per week once breeding pairs are present.		
Courtship/Mating Buffers	All species: The Seashore retains the discretion to expand courtship/mating buffers depending on bird behavior. In unprotected areas, a buffer will be established within 12 daylight hours when courtship or mating by piping plover, Wilson's plover or American oystercatchers is observed. When courtship or mating is observed in the immediate vicinity of paved roads, parking lots, campgrounds, buildings, and other facilities, such as within the villages or at NPS developed sites, NPS retains the discretion to provide resource protection to the extent possible while still allowing those facilities to remain operational. NPS shall not reduce buffers to accommodate ORV corridors or ORV ramp access.		

Comment [mbm15]: Comment from Britta: I think we want to limit pedestrian access to the ocean and inlet shorelines.

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Comment [dw16]: Or "soundward"? "Waterward"? Should we just say "adjacent to and below the high tide line"?

Comment [mbm17]: Comment from Britta: I would prefer that pedestrians not be allowed into the pre-nesting closures after breeding activity has been observed. This would allow our techs to concentrate on the birds rather than worrying about whether or not pedestrians are in an open or closed area. Replace with "then the pre-nesting areas will be closed to pedestrians." Otherwise staff will be out there constantly shifting pedestrian buffers just like we are currently doing for ORVs.

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Management Activity	Shorebirds		
	Piping Plover and Wilson's Plover	American Oystercatcher	Colonial Waterbirds, including Least Terns, Common Terns, Gull-Billed Terns, and Black Skimmers
Unfledged Chick Surveys	<p>PIPL: Brood will be observed at least one hour each in a.m. and p.m. daily.</p> <p>WIPL: Observe brood once daily.</p> <p>All: Observations will end once chicks have fledged. Chicks are considered fledged at 35 days of age or when observed in sustained flight of at least 15 meters.</p>	<p>Brood will be observed at least once daily. If the brood cannot be located, at least one-half hour will be spent in efforts to locate the brood/chick.</p> <p>Observations will end once the chicks have fledged. Chicks are considered fledged if they have been observed to be proficient in flying or observed in sustained flight of at least 30 meters.</p>	<p>Colony will be observed daily.</p> <p>Observations will end after no unfledged chicks have been observed on three consecutive surveys. Chicks are considered fledged if they have been observed to be proficient in flying or observed in sustained flight of at least 15 meters.</p>
Unfledged Chick Buffers	<p>PIPL: A 1,000-meter ORV buffer and, where disturbance can be minimized, a 300-meter pedestrian buffer will be established on either side of the nest when unfledged chicks are present. Buffers move with chicks.</p> <p>The buffer should extend 1,000 meters for ORVs (or 300 meters for pedestrians) on each side of a line drawn through the nest site and perpendicular to the long axis of the beach. The resulting area (2,000 meters wide for ORVs or 600 meters wide for pedestrians) of protected habitat for piping plover chicks would extend from the oceanside low water line to the soundside low water line or to the farthest extent of dune habitat if no soundside intertidal habitat exists.</p> <p>WIPL: A 200-meter buffer will be established around the unfledged chicks' location. Foraging and roosting habitat will be included from the ocean (low water line) to the dune (or sound shoreline, if accessible). Buffers will be adjusted/increased as needed when chicks are mobile. Buffers move with chicks.</p>	<p>A 200-meter buffer will be established around the unfledged chicks' location. Foraging and roosting habitat will be included from the ocean (low water line) to the dune (or sound shoreline, if accessible). Buffers will be adjusted/increased as needed when chicks are mobile. Buffers move with chicks.</p> <p>In areas designated for ORV use, buffers will remain until 2 weeks after American oystercatcher chicks have fledged (observed flight of 30 meters); a pedestrian corridor may be established prior to the end of the 2-week waiting period for permitting access to the points and spits.</p>	<p>A 200-meter buffer will be established around the chicks' location. Buffers will be adjusted as needed when chicks are mobile.</p>
	<p>All Species: Vehicles and/or pedestrians may be allowed to pass through portions of the buffers or closures that are considered inaccessible to chicks because of steep topography, dense vegetation, or other naturally occurring obstacles. Access corridors outside of the pre-nesting area will be reopened after chicks fledge (except for American oystercatchers, where the area will remain closed for an additional 2 weeks). Pre-nesting closures can be removed after Jul 31, or 2 weeks after all breeding activity has ceased or chicks have fledged, whichever is later.</p>		
Breeding Data Collection/Reporting	<p>The following data will be recorded:</p> <p>Date, time, location of breeding pair, courtship behavior, foraging, scrape, nest, or brood observations; identity of observer.</p> <p>Pair, nest, and brood identification number.</p> <p>Number, location, and status of territorial pairs, nesting pairs, nests, eggs, and chicks. GPS will be used to document nest location.</p> <p>Status of eggs/nest and presence/behavior of adults (laying, incubating, lost, abandoned, hatching, hatched).</p> <p>Status of chicks (age, behavior, fledge status) and presence/behavior of adults.</p> <p>Indications of potential predators, humans, pets, or ORVs within posted areas.</p> <p>Indications of cause of nest or chick loss, if apparent.</p> <p>Reproductive rate (chicks fledged per breeding pair).</p>	<p>The following data will be recorded:</p> <p>Date, time, and location of breeding pair, scrape, nest, or brood observations; identity of observer.</p> <p>Pair number; color band (if applicable).</p> <p>Number, location, and status of pairs, scrapes, nests, eggs, and chicks. Use GPS to document nest location.</p> <p>Status of eggs/nest and presence/behavior of adults (laying, incubating, lost, abandoned, hatching, hatched).</p> <p>Status of chicks (age, behavior, fledge status) and presence/behavior of adults.</p> <p>Indications of potential predators, humans, pets, or ORVs within posted areas.</p> <p>Indications of cause of nest or chick loss, if apparent.</p> <p>Reproductive rate (chicks fledged per breeding pair).</p>	<p>The following data will be recorded:</p> <p>Date, time, location, and species of nest/colony observations; identity of observer.</p> <p>Number and location of birds, nests, chicks, and fledglings. GPS will be used to document colony location.</p> <p>Status of colony and presence/behavior of adults (laying, incubating, lost, abandoned).</p> <p>Status of chicks (behavior, fledge status) and presence/behavior of adults.</p> <p>Indications of potential predators, humans, pets, or ORVs within posted areas.</p> <p>Indications of cause of nest or chick loss, if apparent.</p>
Nonbreeding Survey	<p>The NPS will monitor and document the presence, abundance, and behavior of migrating and wintering shorebirds from July through May. The NPS will obtain data similar to International Shorebird Survey data. The following information will be recorded: Date, time, and location of observations; identity of observer; species and number of birds observed; weather variables and tidal stage; habitat; behavior of the majority of birds in the flock (foraging, resting, disturbed [source will be recorded], other); site management in effect where birds are seen; and number of pedestrians, pets, ORVs and other potential disturbances. Species to be surveyed include piping plover, American oystercatcher, Wilson's plover, red knot, and other selected species. Species recently added to the surveys include whimbrel, sanderling, and black-necked stilt.</p>		

Comment [mbm18]: Comment from Britta: This year we really cut back on the number of colony walkthroughs. The statewide surveys used to be done every other year but Chuck Hunter thought that that was even too much disturbance which is why they went to every third year now.

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A follow-up survey (perimeter count) should be conducted during the peak fledge, which should fall 20 days after hatch counts.¶

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Impact Topic	Alternative A: No Action—Continuation of Management under the Interim Strategy	Alternative B: No Action—Continuation of Management under Consent Decree	Alternative C: Seasonal Management	Alternative D: Increased Predictability and Simplified Management	Alternative E: Variable Access and Maximum Management	Alternative F: NPS Preferred Alternative
Visitor Use and Experience	<p>Impacts of the Alternative: Those looking for an experience at the Seashore that includes ORV use would have long-term negligible to minor adverse impacts as some areas would be closed for resource protection, but alternative A would provide the most ORV access of any alternative. Should there be extensive resource closures in a given year, the potential for long-term moderate impacts exists. Those looking for a <u>vehicle free</u> experience at the Seashore would experience long-term moderate adverse impacts as alternative A does not provide for a specific separation of uses or designation of <u>VFAs</u>. Since night driving would be permitted under alternative A, there would be short-term minor adverse impacts to night skies.</p> <p>Cumulative Impacts: Cumulative impacts would be long-term negligible to minor adverse for ORV users and long-term, moderate, and adverse for <u>visitors wanting a vehicle free beach experience</u>.</p>	<p>Impacts of the Alternative: Those looking for an experience at the Seashore that includes ORV use would have long-term moderate to major adverse impacts as one or more spit or point would be closed for an extended period of time during the breeding season. During the remainder of the year, there would be negligible to minor adverse impacts to ORV users as limited areas would be closed for resource protection. Those looking for a <u>vehicle free</u> experience at the Seashore would experience long-term moderate adverse impacts as alternative B does not provide for a specific separation of uses outside of seasonal ORV closures of village beaches and no <u>VFAs</u> would be designated. Since night driving would be seasonally restricted under alternative B, there would be long-term negligible to minor adverse impacts to night skies, with long-term beneficial impacts during times of seasonal night-driving restrictions.</p> <p>Cumulative Impacts: Cumulative impacts would be long-term moderate to major adverse for ORV users, and long-term moderate adverse for <u>visitors wanting a vehicle free beach experience</u>.</p>	<p>Impacts of the Alternative: Those looking for an experience at the Seashore that includes ORV use would have long-term moderate to major adverse impacts as the designation of <u>VFAs</u> and the establishment of the SMAs would seasonally preclude ORV use from some areas of the Seashore that are popular ORV use areas. While three areas managed under ML2 procedures would have pedestrian access corridors, no ORV corridors would be provided in the SMAs, resulting in greater impacts to ORV users. Those looking for a <u>vehicle free</u> experience at the Seashore would experience long-term benefits as alternative C provides for pedestrian corridors in three SMAs under ML2 procedures, as well as providing additional <u>VFAs</u>. Since night driving would be seasonally restricted under alternative C, there would be long-term negligible to minor adverse impacts to night skies, with long-term beneficial impacts during times of seasonal night-driving restrictions.</p> <p>Cumulative Impacts: Cumulative impacts would be long-term moderate to major adverse to ORV users, and long-term beneficial for <u>visitors wanting a vehicle free beach experience</u>.</p>	<p>Impacts of the Alternative: Those looking for an experience at the Seashore that includes ORV use would have long-term major adverse impacts as all SMAs and village beaches would be designated as <u>VFAs</u> year-round, which would prohibit the use of ORV in many popular visitor use areas. Those looking for a <u>vehicle free</u> experience at the Seashore would experience long-term benefits as alternative D provides for many designated <u>VFAs</u> throughout the Seashore, although pedestrian access would be prohibited in the SMAs during the breeding season. Since night driving would be seasonally restricted under alternative D, there would be long-term negligible to minor adverse impacts to night skies, with long-term beneficial impacts during times of seasonal night-driving restrictions.</p> <p>Cumulative Impacts: Cumulative impacts would be long-term major and adverse to ORV users, and long-term beneficial for <u>visitors wanting a vehicle free beach experience</u>.</p>	<p>Impacts of the Alternative: Those looking for an experience at the Seashore that includes ORV use would have long-term moderate adverse impacts as the designation of <u>VFAs</u> and the establishment of the SMAs would preclude ORV use, either seasonally or year-round, from some areas of the Seashore that are popular visitor use areas. Three SMAs under ML2 management procedures would provide an ORV pass-through corridor at the start of the breeding season, subject to resource closures, lessening the impacts to this user group. Additional recreational opportunities such as park-and-stay and SCV camping would provide long-term benefits. Those looking for a <u>vehicle free</u> experience at the Seashore would experience long-term benefits as alternative E provides for designated year-round <u>VFAs</u>, as well as seasonal ORV closures in areas such as village beaches and some of the SMAs. Since night driving would be seasonally restricted, but allowed until 10:00 p.m., under alternative E, there would be long-term moderate adverse impacts to night skies due to the hours of night driving allowed, implementation of park-and-stay opportunities, with long-term beneficial impacts during times of seasonal night-driving restrictions.</p> <p>Cumulative Impacts: Cumulative impacts would be long-term moderate to major adverse to ORV users, and long-term beneficial for <u>visitors wanting a vehicle free beach experience</u>.</p>	<p>Impacts of the Alternative: <u>Those looking for an experience at the Seashore that includes ORV use would have long-term moderate to major adverse impacts as the designation of VFAs and carrying capacity limits could or would preclude ORV use, either seasonally or year-round, from some areas of the Seashore that are popular visitor use areas. Additional access would be provided to the soundside under this alternative. Those looking for a vehicle-free experience at the Seashore would experience long-term benefits as alternative F provides for year-round VFAs, as well as seasonal ORV closures in areas such as village beaches, four new pedestrian trails, 14 new or improved parking areas with associated foot trails or boardwalks. Since night driving would be seasonally restricted on designated ORV routes under alternative F, there would be long-term negligible to minor adverse impacts to night skies, with long-term beneficial impacts year-round in VFAs and seasonally on ORV routes during times of night-driving restrictions.</u></p> <p>Cumulative Impacts: Cumulative impacts would be long-term moderate to major and adverse to ORV users, and long-term beneficial for <u>visitors wanting a vehicle free beach experience</u>.</p>

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Federally Listed Threatened or Endangered Species

1 two-egg nest discovered on May 22 on South Point, Ocracoke, was incubated well past its expected hatch
2 date and was eventually predated by ghost crabs (Muiznieks pers. comm. 2009).

3 **Human Activity.** Human disturbance, both direct and indirect, can adversely affect piping plovers at the
4 Seashore. Studies on piping plovers have demonstrated that reproductive success is lower in areas with
5 high human disturbance (Burger 1991, 1994). Research has shown that piping plover and snowy plover
6 (*Charadrius alexandrinus*) behavior is altered by the presence of humans, which ultimately results in
7 chicks exhibiting less time feeding, brooding, and conserving energy (Lafferty 2001a, 2001b; Page et al.
8 2009). Piping plovers that are subject to human disturbance spend less than 50% of their foraging time
9 searching for prey and feeding, where undisturbed plovers can spend up to 90% of that time feeding
10 (Burger 1994). These human-caused behavioral changes result in depleted energy reserves (Nudds and
11 Bryant 2000), which could leave chicks more susceptible to predation or other stresses (Flemming et al.
12 1988; Loegering and Fraser 1995; Lafferty 2001a, 2001b; Page et al. 2009; Thomas et al. 2002). At other
13 sites, it was documented that fledging success did not differ between areas with and without recreational
14 ORV use (Patterson et al. 1991), although pedestrians caused a decrease in brood-foraging behavior in
15 New Jersey (Burger 1994).

16 Pedestrian and non-motorized recreational activities can be a source of both direct mortality and
17 harassment of piping plovers. Potential pedestrians on the beach include those individuals driving and
18 subsequently parking on the beach, those originating from off-beach parking areas (hotels, motels,
19 commercial facilities, beachside parks, etc.), and those from beachfront and nearby residences. Vehicle
20 impacts can extend to remote stretches of beach where human disturbance would be very slight if access
21 were limited to pedestrians only (USFWS 1996a, 2009a).

22 Even with resource closures in place, protected species are still at risk.
23 Approximately 50 to 60 occurrences of ORVs entering protected areas at the
24 Seashore were recorded each year from 2000 to 2002. In 2003, 13 bird closure
25 posts/signs were driven over by an ORV, and several instances of ORVs within the
26 protected area were observed (NPS 2003d, 2004e, 2005a). A total of 105
27 occurrences of ORVs entering posted bird closures were recorded in 2003. This
28 number represents a substantial increase as compared to 52 recorded in 2001 and
29 63 in 2002 (NPS 2004e). In 2004, 227 pedestrians and 65 vehicle tracks were
30 reported within posted bird resource closures, including those for piping plovers.
31 However, no plover nests were known to be disturbed, and no plover chicks were
32 known to be lost, although four other bird species were killed by ORVs in 2004
33 (NPS 2005a). In 2005, 135 pedestrian, 57 ORV, and 13 illegal dog entries into
34 posted bird closures were recorded (NPS 2006d). In 2006 resource staff recorded 255 pedestrian, 47
35 ORV, 22 dog, and 5 horse violations of bird closures (NPS 2007c). In 2007, resource staff recorded 249
36 pedestrian, 25 ORV, 17 dog, and 1 horse violation of bird closures (NPS 2008c). During the 2008
37 breeding season, resource staff recorded 80 pedestrian, 11 ORV, 5 dog, and 1 boat violation of nesting
38 plover closures (NPS 2009b). During the 2009 breeding season, resource staff documented 192
39 pedestrian, 8 ORV, 19 dog, 3 horse and 3 boat violations in the prenesting closures (Muiznieks pers.
40 comm. 2009). Most illegal entries were not witnessed but documented based on vehicle, pedestrian, or
41 dog tracks left behind.

42 Disturbance from vehicles, pedestrians, and pets can cause incubating shorebirds to be flushed from their
43 nests and in some cases pets elicited a stronger response than people (Lafferty 2001a, 2001b; Thomas
44 2002; Peters and Otis 2006). Flushing can affect plover behavior and viability in a number of ways
45 (Hoopes 1993; Peters and Otis 2006). Flushing of incubating plovers from nests can expose eggs to avian
46 predators or excessive temperatures (Hoopes 1993). Repeated exposure of eggs to direct sunlight on hot
47 days can cause overheating, which can kill avian embryos (Bergstrom 1989). In Texas, piping plovers

*Symbolic Fencing—
Posts with string
tied between them
intended to signify
that an area has
been closed to
protect resources.*

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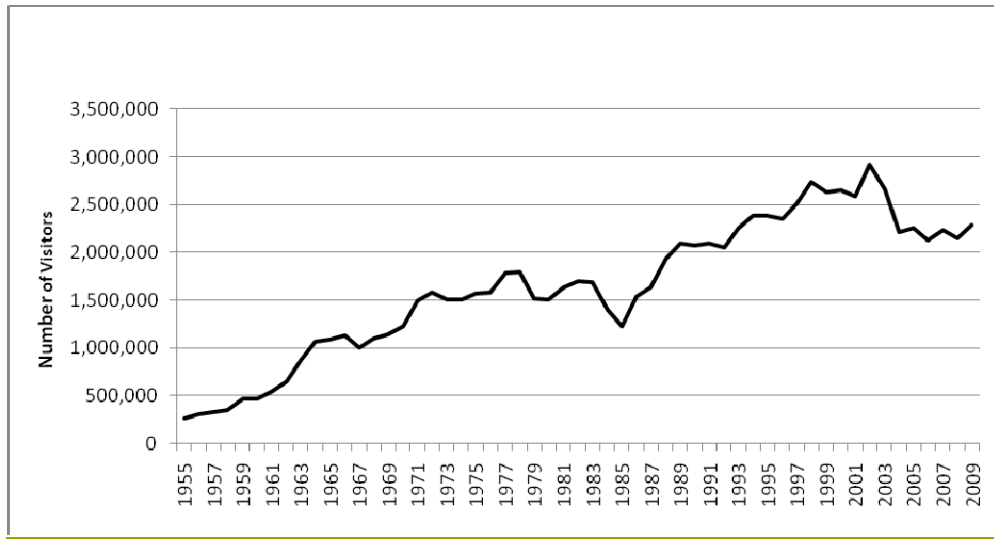
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VISITOR USE AND EXPERIENCE

Visitation to the Seashore has shown a relatively steady increase, with occasional dips, particularly in the mid-1980s and recently from 2003 to the present. More than 2 million visitors have recreated at the Seashore every year since 1990 (see figure 21). Figure 22 illustrates visitor use data for 2005 through July 2010, which indicate that highest use occurs during June, July, and August; this accounts for approximately 47% of the annual recreation visits (based on 2009 data). Another 20% of annual visitation occurs during the fall (September, October, and November), 24% in the spring (March, April, and May), and 9% in the winter (December through February) (NPS 2008e). Overall, visitation at the Seashore in 2009 has been higher than 2008, with July 2009 visitation of 407,754 being the highest since 2003 (Murray pers. comm. 2009b).



Source: NPS 2008e

FIGURE 21. ANNUAL RECREATIONAL VISITATION AT CAPE HATTERAS NATIONAL SEASHORE, 1955-2009

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Wetlands and Floodplains

alternative E would avoid wetland areas and use materials and management practices that would reduce surface runoff, resulting in indirect long-term negligible adverse impacts to wetlands.

Cumulative impacts under alternative E would be long-term minor to moderate adverse.

Impairment Determination. Implementation of alternative E would not impair wetlands because of the low magnitude of impacts to wetlands. Species management activities would not typically occur in wetland areas; and effects on the size, integrity, or connectivity of marine intertidal wetlands from ORVs crossing these areas would not be measurable or perceptible. ORV damage to soundside vegetation would continue to be confined to small areas, and would not affect the overall viability of the Seashore’s wetlands. Where driving on limited portions of the soundside is allowed, generally on sandy beach areas, incidental driving on vegetation at the fringes of these sandy areas may occur when vehicles are passing each other, turning around, or during periods of high water because the soundside sandy beach areas tend to be narrow and bordered by vegetation. Incidental driving on vegetation along the margins of interior ORV routes may occur at times to avoid standing water. Under alternative E some currently open soundside areas would be closed to driving and the vegetation would recover. The effects of the small amount of damage to soundside wetland vegetation were deemed to be negligible in the plan/EIS analysis. Parking area and ramp construction would avoid wetland areas and would use materials and management practices that would reduce surface runoff. The effects of this construction on the size, integrity, or connectivity of wetlands would not be measurable or perceptible and were deemed to be negligible in the plan/EIS analysis. Cumulative impacts from combining the effects of alternative E with effects of other past, present, and future planned actions in and around the Seashore would likely result in a small permanent loss of wetlands, mostly from the construction of the Bonner Bridge, which would affect 3.1 acres. Large areas would not be affected and wetland functions would not be affected over the long term. Therefore, the wetland effects would not result in impairment.

Impacts of Alternative F: NPS Preferred Alternative

Implementation of alternative F would include the construction of 4 ORV access ramps and the relocation of 2 ramps, 2 new interdunal roads, and 14 new or expanded parking areas (12 surfaced, and 2 un-surfaced off of interdunal roads), with associated foot trails or boardwalks, that would add a total of approximately 135 parking spaces along the Seashore. All new access ramps and parking areas would be located exclusively in upland areas, thereby avoiding impacts to wetlands. Ramps and parking areas would be constructed using environmentally sensitive standards to minimize stormwater runoff, as detailed under alternative C. Under alternative F, new interdunal roads are proposed from ramp 45 to ramp 49 (with a new ramp at 47.5) and on Hatteras Inlet spit from the intersection of Pole and Spur Roads southwest toward the inlet (stopping 100 meters from the inlet). Wetland maps indicate that there is a sufficient upland area in which to develop these interdunal roads. Therefore, direct wetland impacts from the interdunal road extensions would be avoided, although heavy use of the roads could result in inadvertent wetland damage if vehicles were to leave the road surface for any reason. The proposed pedestrian trail and interdunal road extensions would not require any formal surfacing or removal of vegetation and would avoid all wetland features.

To protect soundside wetlands and vegetation under alternative F, protective signage would be installed at all soundside access points to reduce the potential for resource damage from ORV use, thereby resulting in a beneficial impact. Although alternative F includes additional measures for wetland protection on the soundside, long-term negligible adverse impacts to wetlands would occur due to the potential for ORVs driving over wetland vegetation along and adjacent to interior routes (including the expanded interdunal road network) and access roads that lead to soundside destinations.

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- Comment [I2]: Language to discuss, note Seashore changed language from 1st draft, foot trails are used, not pedestrian trails
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