

0028177

From: [Mike Murray](#)
To: [Sandra Hamilton](#)
Cc: [Doug Wetmore](#); [Thayer Broili](#)
Subject: FEIS comments
Date: 09/16/2010 10:37 AM
Attachments: [02b_Chapter-2-tables- 1st_Draft_FEIS_090110\[1\].mbm.doc](#)

Sandy,

Here are park comments on the Chapter 2 tables, with Britta's comments incorporated. She suggested some edits to Table 10-1 that may affect Alternative F wording in the Chapter 2 narrative. I'll try to send you Chapters 3 and 4 today, (without Britta's comments), except that I will take one last look at any mention of Alternative F in those chapters and make any changes needed to be consistent with Britta's edits for Table 10-1. (In other words, I'll incorporate Brita's Table 10-1 edits into Chapters 3 and 4, if you or LB could do it in the Chapter 2 narrative.)



02b_Chapter-2-tables- 1st_Draft_FEIS_090110[1].mbm.doc

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▼ [Sandra Hamilton/DENVER/NPS](#)

**Sandra
Hamilton/DENVER/NPS**

To: Mike Murray/CAHA/NPS@NPS
cc: Doug Wetmore/DENVER/NPS@NPS

09/16/2010 11:43 AM Subject: Re: FEIS comments

Hi Mike,

Would you go ahead and send us your edits/comments for these now? We'll catch up with Britta's later. Thanks.

Sandy

Sandy Hamilton
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0028178

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▼ Doug Wetmore/DENVER/NPS

**Doug
Wetmore/DENVER/NPS** To Mike Murray/CAHA/NPS@NPS
cc Sandra Hamilton/DENVER/NPS@NPS
09/15/2010 04:42 PM Subject Re: FEIS comments

Thanks Mike.

Let's wait and see how Britta's coming along with her revisions before you send them along. If it gets too late, we may have to send separate files over to Berger.

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▼ Mike Murray/CAHA/NPS

**Mike
Murray/CAHA/NPS** To Doug Wetmore/DENVER/NPS@NPS
cc
09/15/2010 03:43 PM Subject Re: FEIS comments

Doug,

I have made comments on Chapters 1, 3 and 4, and the Chapter 2 Tables, but have been waiting for Britta's comments on the following:

Chapter 1 (CWB DFCs only)
Chapter 2 Tables (Table 10-1 only)
Chapter 3 (entire)
Chapter 4 (entire)

I'll check with Britta in the morning and see where she stands on the review. If you want, I can send you Chapter 1 and the Chapter 2 Tables with my comments tomorrow, with the caveat that I haven't received or incorporated Britta's comments yet. Presumably her comments/edits will be a smaller subset than mine.

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▼ [Doug Wetmore/DENVER/NPS](#)

**Doug
Wetmore/DENVER/NPS** To Mike Murray/CAHA/NPS@NPS
cc
09/15/2010 04:08 PM Subject Re: FEIS comments

Hi Mike.

Did you have any comments on Chapter 1? I didn't see an email from you on that chapter, but wanted to make sure you didn't have a note at the bottom about CH1.

Thanks

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▼ [Mike Murray/CAHA/NPS](#)

**Mike
Murray/CAHA/NPS** To Sandra Hamilton/DENVER/NPS@NPS, Doug
Wetmore/DENVER/NPS@NPS
cc Thayer Broilli/CAHA/NPS@NPS
09/13/2010 12:16 PM Subject FEIS comments

Sandy and Doug,

Table 7. Off-Road Vehicle Routes and Areas – Alternatives A, B, C, D and E

TABLE 7. OFF-ROAD VEHICLE ROUTES AND AREAS – ALTERNATIVES A, B, C, D AND E

Oceanside Location	Mileage ^a	Alternatives A and B: No Action	Alternative C: Seasonal Management	Alternative D: Increased Predictability and Simplified Management	Alternative E: Variable Access and Maximum Management
Bodie Island (north to south) Ramp 1 to north end of Coquina Beach	0.9	OPEN ^b Seasonally closed May 15 to Sep 15 (longstanding safety closure).	ORV route—Mar 15 to Oct 14 Non-ORV Vehicle free area VFA —Oct 15 to Mar 14	X	X Parking at ramp 1 expanded.
North end of Coquina Beach to 0.5 mile south of Coquina	0.8	OPEN ^b Seasonally closed May 15 to Sep 15 (longstanding safety closure). South of ramp 2 at Coquina Beach open seasonally.	X Ramp 2 relocated approx. 0.5 mile south of Coquina Beach.	X Ramp 2 relocated approx. 0.5 mile south of Coquina Beach.	X Ramp 2 relocated approx. 0.5 mile south of Coquina Beach. Parking at Coquina Beach expanded.
0.5 mile south of Coquina to 0.2 mile south of ramp 4 (Includes beach in front of Oregon Inlet Campground. If Bonner Bridge construction closes ramp 4, new ramp 3 will be constructed north of campground and day-use parking and trailhead near campground will be provided.)	2.1	OPEN YR ^b	ORV route YR	ORV route YR	ORV route YR ORV pass-through zone established on upper beach in front of campground when campground is open.
0.2 mile south of ramp 4 to inlet to southwest edge of Bait Pond (Species Management Area)	1.9	OPEN YR ^b	ORV route—Oct 15 to Mar 14 Non-ORV Vehicle free area VFA —Mar 15 to Oct 14 Area closed to ORVs from March 15 to October 14. When pre-nesting area is established, a pedestrian access corridor would be allowed along ocean shoreline to the inlet. When shorebird breeding activity is observed, standard buffers would apply, which depending upon the circumstances could close the access corridor. (ML2)	X (ML1)	ORV route YR With expected limited access Mar 15 to Aug 31 When pre-nesting area is established, ORV corridor with pass-through zone would be allowed along ocean shoreline to the inlet. When shorebird breeding activity is observed, standard buffers would apply, which depending upon the circumstances could close the access corridor. Pedestrian trail to inlet from new parking near campground established. Trail subject to resource closures. NPS would allow water taxi service to spit from Oregon Inlet Fishing Center, subject to designated landing zone and to resource closures. (ML2)
Hatteras Island (north to south) Rodanthe–Waves–Salvo to ramp 23 (includes Tri-Village beaches)	5.3	OPEN ^b Seasonally closed May 15 to Sep 15.	ORV route—Oct 15 to Mar 14 Non-ORV Vehicle free area VFA —Mar 15 to Oct 14 Parking at ramp 23 expanded.	X	ORV route—Nov 1 to Mar 31 Non-ORV Vehicle free area VFA —Apr 1 to Oct 31 Parking at ramp 23 expanded.
Ramp 23 to ramp 27	4.3	OPEN YR ^b	ORV route YR	ORV route YR	ORV route YR One new ramp with parking established at 24 or 26.
Ramp 27 to ramp 30 (Species Management Area)	2.2	OPEN YR ^b	ORV route—Oct 15 to Mar 14 Non-ORV Vehicle free area VFA —Mar 15 to Oct 14 (ML1)	X (ML1)	X (ML1)
Ramp 30 to (new) ramp 32.5	2.5	OPEN YR ^b	ORV route YR New ramp with parking established at 32.5.	ORV route YR New ramp established at 32.5.	ORV route YR New ramp with parking established at 32.5.

Oceanside Location	Mileage ^a	Alternatives A and B: No Action	Alternative C: Seasonal Management	Alternative D: Increased Predictability and Simplified Management	Alternative E: Variable Access and Maximum Management
(New) ramp 32.5 to ramp 34 (Species Management Area)	1.8	OPEN YR ^b	ORV route—Oct 15 to Mar 14 Non-ORV Vehicle free area VFA —Mar 15 to Oct 14 (ML1)	X (ML1)	ORV route—Sep 1 to Mar 14 Non-ORV Vehicle free area VFA —Mar 15 to Aug 31 (ML1)
Ramp 34 to ramp 38 (includes Avon Village Beach)	3.9	OPEN ^b Seasonally closed May 15 to Sep 15.	ORV route—Oct 15 to Mar 14 Non-ORV Vehicle free area VFA —Mar 15 to Oct 14	X	ORV route—Nov 1 to Mar 31 Non-ORV Vehicle free area VFA —Apr 1 to Oct 31 Parking at ramp 34 expanded.
Ramp 38 to approx. 1.7 miles south	1.7	OPEN YR ^b	ORV route YR	ORV route YR	ORV route YR Parking at ramp 38 expanded.
Approximately 1.7 miles south of ramp 38 (i.e., Haulover) to Buxton line (Species Management Area)	2.0	OPEN YR ^b (Current 3.8-mile safety closure from 1.8 miles south of ramp 38 to 0.4 mile north of ramp 43.)	ORV route—Oct 15 to Mar 14 Non-ORV Vehicle free area VFA —Mar 15 to Oct 14 (ML1)	X (ML1)	ORV route—Sep 1 to Mar 14 Non-ORV Vehicle free area VFA —Mar 15 to Aug 31 (ML1)
Buxton Village Beach to 0.4 mile north of ramp 43	1.9	OPEN ^b Seasonally closed May 15 to Sep 15 (longstanding safety closure).	X NPS or Dare County to establish new parking at old Coast Guard Station site.	X	ORV route—Nov 1 to Mar 31 Non-ORV Vehicle free area VFA —Apr 1 to Oct 31 NPS or Dare County to establish new parking at old Coast Guard Station site.
0.4 mile north of ramp 43 to ramp 43	0.4	OPEN ^b Subject to seasonal closure May 15 to Sep 15.	ORV route—Oct 15 to Mar 14 Non-ORV Vehicle free area VFA —Mar 15 to Oct 14	X	ORV route—Mar 15 to Aug 31 Non-ORV Vehicle free area VFA —Sep 1 to Mar 14 Open to ORVs only when east side of Cape Point is closed.
Ramp 43 to 0.2 mile south of ramp 44	0.6	OPEN YR ^b	ORV route YR	ORV route YR	ORV route YR
0.2 mile south of ramp 44 to Cape Point to approx. 0.2 mile west of the hook (Species Management Area)	1.0	OPEN YR ^b	ORV route—Oct 15 to Mar 14 Non-ORV Vehicle free area VFA —Mar 15 to Oct 14 When pre-nesting area is established, a pedestrian access corridor would be allowed along ocean shoreline to the point. When shorebird breeding activity is observed, standard buffers would apply, which depending upon the circumstances could close the access corridor. (ML2)	X (ML1)	ORV route YR With expected limited access Mar 15 to Aug 31 When pre-nesting area is established, ORV access corridor with pass-through zone would be allowed along ocean shoreline to the point. When shorebird breeding activity is observed, standard buffers would apply, which depending upon the circumstances could close the access corridor. (ML2)
Cape Point 0.2 mile west of the hook to ramp 45 (Species Management Area)	1.2	OPEN YR ^b	ORV route—Oct 15 to Mar 14 Non-ORV Vehicle free area VFA —Mar 15 to Oct 14 (ML1)	X (ML1)	ORV route—Sep 1 to Mar 14 Non-ORV Vehicle free area VFA —Mar 15 to Aug 31 (ML1)
Ramp 45 to (new) ramp 47 (Species Management Area)	1.7	OPEN YR ^b	ORV route—Oct 15 to Mar 14 Non-ORV Vehicle free area VFA —Mar 15 to Oct 14 Interdunal road extended and new ramp 47 established. (ML1)	X (ML1)	ORV route—Sep 1 to Mar 14 Non-ORV Vehicle free area VFA —Mar 15 to Aug 31 Interdunal road extended and new ramp 47 established. (ML1)

Table 7. Off-Road Vehicle Routes and Areas – Alternatives A, B, C, D and E

Oceanside Location	Mileage ^a	Alternatives A and B: No Action	Alternative C: Seasonal Management	Alternative D: Increased Predictability and Simplified Management	Alternative E: Variable Access and Maximum Management
(New) ramp 47 to ramp 49 (includes beach in front of Frisco Campground)	1.7	OPEN YR ^b	ORV route YR Interdunal road extended to ramp 49 and new ramp 48 established.	ORV route YR	ORV route YR ORV pass-through zone established on upper beach in front of campground (or bypass beach in front of campground via new interdunal road) when campground is open. Interdunal road extended west of new ramp 47 to ramp 49 and new ramp 48 established.
Ramp 49 to East Frisco boundary	1.2	OPEN YR ^b	ORV route YR	ORV route YR	ORV route YR
Frisco Village Beach (east village boundary to west boundary)	1.1	OPEN ^b Seasonally closed May 15 to Sep 15 (longstanding safety closure).	ORV route—Oct 15 to Mar 14 Non-ORV Vehicle free area VFA—Mar 15 to Oct 14	X	X Parking at day use area expanded.
Sandy Bay / Frisco day use area (west Frisco boundary to east Hatteras Village boundary)	1.4	OPEN ^b Seasonally closed May 15 to Sep 15 (longstanding safety closure).	ORV route—Oct 15 to Mar 14 Non-ORV Vehicle free area VFA—Mar 15 to Oct 14	X	X
Hatteras Village Beach (east boundary to ramp 55)	2.2	OPEN ^b Seasonally closed May 15 to Sep 15 (longstanding safety closure).	ORV route—Oct 15 to Mar 14 Non-ORV Vehicle free area VFA—Mar 15 to Oct 14	X	X
Ramp 55 along ocean beach to 0.2 mile southwest of Bone Road	1.8	OPEN YR ^b	ORV route YR Parking expanded at ramp 55.	ORV route YR	ORV route YR Parking expanded at ramp 55.
Pole Road from NC-12 past Cable Crossing access to Spur Road	2.3	OPEN YR ^b	ORV route YR	ORV route YR	ORV route YR
Cable Crossing along sound shoreline to Spur Road	0.8	Varies	X	X	X
Spur Road along sound shoreline to Hatteras Inlet	0.2	OPEN YR ^b	ORV route YR Pedestrian access to the “rip” permitted from soundside during breeding season, subject to resource closures.	X	ORV route YR Pedestrian access to the “rip” permitted from soundside during breeding season, subject to resource closures.
Ocean shoreline from 0.2 mile southwest of Bone Road (a.k.a. Fort Clark Spur) to inlet (Species Management Area)	1.0	OPEN YR ^b	ORV route—Oct 15 to Mar 14 Non-ORV Vehicle free area VFA—Mar 15 to Oct 14 (ML1)	X (ML1)	ORV route—Sep 1 to Mar 14 Non-ORV Vehicle free area VFA—Mar 15 to Aug 31 (ML1)
Ocracoke Island (north to south) Inlet to 0.25 mile northeast of ramp 59 (Species Management Area)	1.1	OPEN YR ^b	ORV route—Oct 15 to Mar 14 Non-ORV Vehicle free area VFA—Mar 15 to Oct 14 Parking area at ramp 59 expanded. (ML1)	X (ML1)	X Parking area at ramp 59 expanded. Pedestrian access corridor(s) provided, subject to resource closures during breeding season. Pedestrian boardwalk access from ferry terminal parking developed. (ML1)
0.25 mile northeast of ramp 59 to 0.25 mile southwest of ramp 59	0.5	OPEN YR ^b	ORV route YR	ORV route YR	ORV route YR
0.25 mile southwest of ramp 59 to new ramp 62 at 3.0 miles northeast of Pony Pen area	2.4	OPEN YR ^b (Longstanding safety closure.)	ORV route YR	ORV route YR	ORV route YR

Oceanside Location	Mileage ^a	Alternatives A and B: No Action	Alternative C: Seasonal Management	Alternative D: Increased Predictability and Simplified Management	Alternative E: Variable Access and Maximum Management
New ramp 62 to new ramp 64 at 1.0 mile northeast of Pony Pen	2.0	OPEN YR ^b (Longstanding safety closure.)	ORV route YR New ramps 62 and 64 established. Parking established at ramp 64.	ORV route YR New ramps 62 and 64 established.	ORV route YR New ramps 62 and 64 established. Parking established at ramp 64.
New ramp 64 at 1.0 mile northeast of Pony Pen to 0.75 mile northeast of ramp 67	2.3	OPEN YR ^b (Longstanding safety closure.)	X Parking at Pony Pen expanded.	X	X Parking at Pony Pen expanded.
0.75 mile northeast of ramp 67 to 0.5 mile northeast of ramp 68	1.4	OPEN YR ^b	ORV route YR	ORV route YR	ORV route YR
0.5 mile northeast of ramp 68 to 0.5 mile southwest of ramp 68 (Ocracoke Campground area)	1.0	OPEN YR ^b Seasonally closed when campground open.	Seasonal ORV route Open when campground closed.	X	ORV route—Nov 1 to Mar 31 Non-ORV Vehicle free area VFA —Apr 1 to Oct 31
0.5 mile southwest of ramp 68 to 1.2 miles northeast of ramp 70 (Species Management Area)	0.9	OPEN YR ^b Seasonally closed when campground open.	ORV route—Oct 15 to Mar 14 Non-ORV Vehicle free area VFA —Mar 15 to Oct 14 (ML1)	X (ML1)	X (ML1)
1.2 miles northeast of ramp 70 to 0.5 mile northeast of ramp 70 (includes Ocracoke day use area)	0.8	OPEN YR ^b Seasonally closed when campground open.	X	X	X
0.5 mile northeast of ramp 70 to 0.5 mile southwest of ramp 72	2.7	OPEN YR ^b	ORV route YR	ORV route YR	ORV route YR
0.5 mile southwest of ramp 72 to inlet (Species Management Area)	3.0 1.3	OPEN YR ^b	ORV route—Oct 15 to Mar 14 Non-ORV Vehicle free area VFA —Mar 15 to Oct 14 When pre-nesting area is established, a pedestrian access corridor would be allowed along ocean shoreline to the inlet. When shorebird breeding activity is observed, standard buffers would apply, which depending upon the circumstances could close the access corridor. (ML2)	X (ML1)	ORV route YR With expected limited access Mar 15 to Aug 31 When pre-nesting area is established, ORV access corridor with pass-through zone would be allowed along ocean shoreline to the inlet. When shorebird breeding activity is observed, standard buffers would apply, which depending upon the circumstances could close the access corridor. NPS would also allow water taxi service to spit from Silver Lake, subject to designated landing zone and resource closures. (ML2)
<u>Inlet shoreline along South Point</u>	<u>1.0</u>	<u>OPEN YR^b</u>	<u>X</u>	<u>X</u>	<u>X</u>

NOTES: Details on soundside access provided in table 8.

^a All mileages are approximate.

^b Area(s) open to ORV use, except when resource, seasonal, or safety closures are in effect.

Designated ORV routes and areas (X = ~~No ORV use permitted VFA (no ORV use permitted)~~; YR = ORV use permitted year-round).

All ORV routes and areas subject to temporary resource closures.

Species Management Areas (SMAs): ML1 and ML2 are the two proposed strategies for species management. See table 10 for a detailed description of these strategies. All areas outside of designated SMAs would be managed under ML1 protocols.

(ML1) Once pre-nesting closures are established, ORV and pedestrian access would be prohibited until breeding activity is completed.

(ML2) Once pre-nesting closures are established, ORV or pedestrian access corridor(s) and/or boat landing areas (as indicated in the respective alternatives) would be permitted. Upon the first observation of breeding activity, standard ML2 buffers would apply, which depending upon the circumstances may close the access corridor.

Designated ORV Route Mileage (Approximate)	Alternatives	<u>Alternative B^c</u>	Alternative C	Alternative D	Alternative E
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Table 7-1. Off-Road Vehicle Routes and Areas – Alternative F

	A and B ^c				
Designated as closed to ORVs (X) ^e	0 ^d	1.0	4412.9	40-840.1	4415.5
Designated for seasonal ORV use	17.9	16.2	28-727	0	20.2
Designated as ORV route YR	50-449.4	50.1	27.4	27.2	33-331.6
Total	67.3-68-0	67.3	67.3-68-0	67.3-68-0	67.3-68-0

^c Routes under alternatives A and B have not been officially designated for ORV use. The mileages shown in this table are based on areas open to ORV use under the Interim Protected Species Management Strategy and the consent decree.

^d Does not include mileage closed for safety reasons.

^e Miles designated as closed to ORV year-round does not include the 12-miles at Pea Island National Wildlife Refuge where vehicles are not permitted. Including the mileage of Pea Island, areas designated closed to ORVs year-round would be as follows: Alternative C = 23.9; Alternative D = 52.8; Alternative E = 26.5

TABLE 7-1. OFF-ROAD VEHICLE ROUTES AND AREAS – ALTERNATIVE F

Oceanside Location	Mileage ^a	Alternative F: Preferred Alternative
Bodie Island (north to south) Ramp 1 to 0.5 miles south of Coquina Beach	1.7	X
0.5 mile south of Coquina to 0.2 mile south of ramp 4	2.1	ORV route YR New ramp with parking at 2.5.
0.2 mile south of ramp 4 to southeast corner of Bodie Island spit	1.1	ORV route—Sep 15 to Mar 14 X—Mar 15 to Sep 14 New parking area and trailhead near ramp 4, with pedestrian trail to the “flats” on the northeast side of the Bait Pond.
Southeast corner of Bodie Island spit along inlet shoreline to southwest edge of Bait Pond (near bridge)	0.8	X
Hatteras Island (north to south) Rodanthe boundary to 0.1 mile south of Rodanthe pier	1.6	X
0.1 mile south of Rodanthe Pier—Waves—Salvo to ramp 23	3.7	ORV route—Nov 1 to Mar 31 X—Apr 1 to Oct 31
Ramp 23 to 1.5 miles south of ramp 23	1.5	X New parking 1.0 mile south of ramp 23.
1.5 miles south of ramp 23 to ramp 27	2.8	ORV route YR. New ramp with parking at 25.5.

Comment [mbm1]: On the 8/30/10 version of this table, this mileage was listed as 0.6 (not 0.8). I don't know which is correct, but someone should confirm the correct mileage.

Comment [mbm2]: On the 8/30/10 version of this table, this mileage was listed as 2.2 (not 2.8). I don't know which is correct, but someone should confirm the correct mileage.

Oceanside Location	Mileage ^a	Alternative F: Preferred Alternative
Ramp 27 to ramp 30	2.2	X New parking near soundside ramp 48.
Ramp 30 to (new) ramp 32.5	2.3	ORV route YR New ramp with parking at 32.5.
(New) ramp 32.5 to ramp 34	2.0	X New parking near soundside ramp 52.
Ramp 34 to ramp 38 (includes Avon Village Beach)	3.9	ORV route—Nov 1 to Mar 31 X—Apr 1 to Oct 31
Ramp 38 to 1.5 miles south of ramp 38 (i.e., Haulover)	1.5	ORV route YR
1.5 miles south of ramp 38 (i.e., Haulover) to 0.4 mile north of ramp 43 (includes Buxton)	4.1	X
0.4 mile north of ramp 43 to Cape Point to 0.3 miles west of the hook	2.1	ORV route YR
0.3 mile west of the hook (Cape Point) to 1.7 miles west of ramp 45	2.8	X
1.7 miles west of ramp 45 to the east Frisco boundary (includes ramp 49)	2.9	ORV route YR Interdunal road extended from ramp 45 to ramp 49, with new ramp 47.5.
Frisco Village Beach (east village boundary to west boundary)	1.1	ORV route—Nov 1 to Mar 31 X—Apr 1 to Oct 31
Sandy Bay / Frisco day use area (west Frisco boundary to east Hatteras Village boundary)	1.4	X
Hatteras Village Beach (east boundary to ramp 55)	2.2	ORV route—Nov 1 to Mar 31 X—Apr 1 to Oct 31
Ramp 55 along ocean beach to Bone Road	1.6	ORV route YR
Bone Road to Hatteras Inlet, along inlet shoreline to Spur Road	1.0	X
Pole Road from NC-12 to Spur Road	2.3	ORV route YR
Cable Crossing route (from Pole Road to sound)	0.2	ORV route YR ORV parking at or near sound shoreline as shoreline width allows.

Comment [mbm3]: On the 8/30/10 version of this table, this mileage was listed as 2.2 (not 2.3). I don't know which is correct, but someone should confirm the correct mileage.

Comment [mbm4]: On the 8/30/10 version of this table, this mileage was listed as 2.0 (not 2.1). I don't know which is correct, but someone should confirm the correct mileage.

Oceanside Location	Mileage ^a	Alternative F: Preferred Alternative
Spur Road route (from Pole Road to sound)	0.4	ORV route YR ORV parking at or near sound shoreline as shoreline width allows.
(New) interdunal road from eastern portion of Spur Road west toward inlet	0.2	ORV route—Sep 15 to Mar 14 X—Mar 15 to Sep 14
Ocracoke Island (north to south) Inlet to (new) ramp 59.5	1.6	X
(New) ramp 59.5 to (new) ramp 63	3.9	ORV route YR
(New) ramp 63 to 1.0 mile northeast of ramp 67	2.5	X
1.0 mile northeast of ramp 67 to 0.5 mile northeast of ramp 68	1.7	ORV route YR
0.5 mile northeast of ramp 68 to ramp 68 (Ocracoke Campground area)	0.5	ORV route—Nov 1 to Mar 31 X—Apr 1 to Oct 31
Ramp 68 to 0.4 miles northeast of ramp 70 (includes Ocracoke Day Use area)	2.2	X
0.4 mile northeast of ramp 70 to Ocracoke Inlet (includes ramp 72)	4.1	ORV route YR
Inlet shoreline along South Point	1.0	X

Comment [mbm5]: On the 8/30/10 version of this table, this mileage was listed as 1.2 (not 1.6). I don't know which is correct, but someone should confirm the correct mileage.

NOTES: Details on soundside access provided in table 8.
 All mileages are approximate.
 Designated ORV routes and areas (ORV route = ORV use permitted; X = VFA (no ORV use permitted); YR = year-round).
 ORV routes are subject to safety closures and temporary resource closures. VFAs are subject to temporary resource closures.
 Due to updated base mapping, the shape of the inlets and spits was updated for alternative F maps, resulting in a slight difference in mileage between alternative F and the other alternatives.

Designated ORV Route Mileage (Approximate)	Alternative F
Designated as Vehicle Free YR (X) ^a	26.4
Designated for seasonal ORV use	12.7
Designated as ORV YR	27.9
Total	67

^a

Miles designated as closed to ORV year-round does not include the 12-miles at Pea Island National Wildlife Refuge where vehicles are not permitted. Including the mileage of Pea Island, areas designated closed to ORVs year-round would equal 38.5 miles under alternative F.

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: Management-Based on Advisory Committee Input <u>NPS Preferred Alternative</u>
ORV Routes, Use Areas, and Corridors					
<p>ORV use areas: All areas of the Seashore are potentially open to ORV access, except when closed as described in Superintendent's Order 7. Visitors accessing the Seashore by ORV must drive only on marked ORV routes and must comply with posted restrictions. Refer to table 7.</p> <p>ORV corridors: The ORV corridor on the ocean beach is marked by posts placed approx. 150 feet landward from the average, normal high tide line, or if less than 150 feet of space is available, at the vegetation or the toe of the remnant dune line, except as noted in the Interim Strategy. The corridor width will fluctuate over time due to the dynamic nature of beach and surf.</p>	<p>ORV use areas: Same as alternative A.</p> <p>ORV corridors: Same as alternative A, except: Mar 15 to Nov 30: In all locations not in front of the villages that are open to ORV use, NPS shall provide an ORV-free zone in the ocean backshore at least 10 meters wide, wherever there is sufficient beach width to allow an ORV corridor of at least 20 meters above the mean high tide line.</p>	<p>ORV routes: ORV access would be prohibited in all areas of the Seashore except where an ORV route is specifically designated. An <i>ORV route</i> is a designated location, typically linear in nature (e.g., from point A to point B), where ORV travel may be authorized by the Superintendent, but which may be temporarily closed to ORV use to protect Seashore resources, provide for visitor safety, or prevent user conflicts. Refer to table 7.</p> <p>ORV corridors: An <i>ORV corridor</i> is the actual physical demarcation of the ORV route in the field. The ORV corridor on the ocean beach would be marked by posts seaward of the toe of dune or vegetation line to the high tide line (the seaward side of the corridor would not be posted). ORV routes through vegetated areas, such as interdunal roads and ramps, would be posted on both sides of the corridor.</p> <p>Seasonally designated ORV routes: These would occur as indicated in table 7.</p>	<p>ORV routes: ORV access would be prohibited in all areas of the Seashore except where an ORV route is specifically designated. The definition of ORV route is same as for alternative C.</p> <p>ORV corridors: Same as alternative C.</p> <p>Seasonally designated ORV routes: No seasonal designations under this alternative.</p>	<p>ORV routes: ORV access would be prohibited in all areas of the Seashore except where an ORV route is specifically designated. The definition of ORV route is same as for alternative C.</p> <p>ORV corridors: Same as alternative C, except: Mar 15 to Aug 31: Where the ocean beach is at least 30 meters wide above the high tide line, the corridor would be posted 10 meters seaward of the toe of the dune to provide an ocean backshore closure.</p> <p>Seasonally designated ORV routes: These would occur as indicated in table 7.</p>	<p>ORV routes: ORV access would be prohibited in all areas of the Seashore except where an ORV route is specifically designated. The definition of ORV route is same as for alternative C.</p> <p>ORV corridors: Same as alternative C, except: Year-round: Where the ocean beach is at least 30 meters wide above the high tide line, the corridor would be posted 10 meters seaward of the toe of the dune to provide an ocean backshore closure.</p> <p>Seasonally designated ORV routes: These would occur as indicated in table 7-1.</p>

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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:</p> <p>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>Non-ORV Vehicle-free areas 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>Non-ORV Vehicle-free areas VFAs year-round:</p> <ul style="list-style-type: none"> - All village beaches would be non-ORV vehicle free 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>Non-ORV Vehicle-free areas 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 (south of the pier), Waves, Salvo, and Avon, Frisco and Hatteras Village beaches, and Ocracoke Campground Beach from 0.5 mile northeast to ramp 68 (closed to ORVs Apr 1 to Oct 31). - 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. <p>(closed to ORVs May 15 to Sep 15).</p> <p>Frisco and Hatteras Village beaches would be closed to ORVs Mar 1 to Nov 30.</p> <ul style="list-style-type: none"> - Ocracoke Campground Beach, from 0.5 mile northeast to 0.5 mile southwest of ramp 68 (closed to ORVs Apr 1 to Oct 31). - Ocracoke day use area beach, from 1.2 miles northeast to 0.5 mile northeast of ramp 70 (closed to ORVs Apr 1 to Oct 31). <p>Non-ORV Vehicle-free areas VFAs year-round:</p> <ul style="list-style-type: none"> - Bodie Island from ramp 1 to approx. 0.5 mile south of Coquina Beach. - Rodanthe (north of the pier) - Buxton Beach south to 0.4 mile north of ramp 43. - Ocracoke day use area beach from Ramp 68 to 0.4 mile northeast of ramp 70.

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ORV Access					
<p>Oceanside access: ORV access is provided via 17 oceanside ramps and access points located off NC-12. Ramps are numbered and identified on the Seashore's ORV route map as official vehicle access routes. Seashore staff maintains ramps and signage.</p>	<p>Oceanside access: Same as alternative A.</p>	<p>Oceanside access: To provide access to the designated ORV routes and non-ORV vehicle-free areas <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: Same as alternative C.</p>	<p>Oceanside access: Same as alternative C.</p>	<p>Oceanside access: Same as alternative C.</p>
<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: <u>Existing off-road soundside areas would be designated as ORV routes and would remain open with sufficient maintenance to provide clear passage.</u> <u>Signage/posts would be installed at the primitive parking areas and boat launch areas to prevent damage to vegetation and other soundside resources.</u> <u>Seasonal soundside access on Ocracoke Island (open Sept 15 – March 14):</u> — <u>ORV route 0.6 mile south of ramp 72 from the beach route to a pedestrian trail to Pamlico Sound.</u> — <u>ORV route at the north end of South Point spit from the beach route to Pamlico Sound.</u> <u>Same as alternative C, plus:</u> — <u>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.</u></p>
<p>Interdunal roads: One-lane, interdunal routes have been designated as follows:</p> <p>Bodie Island District: None.</p>	<p>Interdunal roads: Same as alternative A.</p> <p>Bodie 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>Interdunal roads: Same as alternative A.</p> <p>Bodie 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>Interdunal roads: <u>Same as alternative C. 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.</u></p> <p>Bodie Island District: Same as alternative A.</p>

Comment [mbm6]: 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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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: Management-Based on Advisory Committee Input <u>NPS Preferred Alternative</u>
<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>Hatteras Island District: Same as alternative A.</p> <p>Ocracoke 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>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>Hatteras Island District: Same as alternative C.</p> <p>Ocracoke 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. — Same as alternative E, plus: — Hatteras Inlet Spit: Establish 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 new interdunal road, with southwest and northeast extensions parallel to the beach, from the southern terminus of Pole Road to provide access to False Point and inlet, 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: 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. Same as alternative A.</p>
Hours of Allowable ORV Operation on Beach (when area open to ORV use^b)					
<p>All areas of the Seashore open 24 hours a day year-round.</p>	<p>Nov 16 to Apr 30: All beaches open to ORV use 24 hours a day. May 1 to Nov 15: All potential sea turtle nesting habitat (ocean intertidal zone, ocean backshore, and dunes) closed to non-essential ORV use from 10:00 p.m. to 6:00 a.m., except that from Sep 16 to Nov 15 ORV use is allowed from 10:00 p.m. to 6:00 a.m. subject to terms and conditions of a permit.</p>	<p>Nov 16 to Apr 30: Designated ORV routes would be open to ORV use 24 hours a day. May 1 to Nov 15: Designated ORV routes in potential sea turtle nesting habitat (ocean intertidal zone, ocean backshore, and dunes) would be closed to non-essential ORV use from 7:00 p.m. to 7:00 a.m. Hours of night-driving prohibition would be established in the Superintendent's Compendium and subject to periodic review.</p>	<p>Same as alternative C, except: — No periodic review.</p>	<p>Nov 16 to Apr 30: Designated ORV routes would be open to ORV use 24 hours a day. May 1 to Nov 15: Designated ORV routes in potential sea turtle nesting habitat (ocean intertidal zone, ocean backshore, and dunes) would be closed to non-essential ORV use from 10:00 p.m. to 6:00 a.m. Sep 16 to Nov 15: ORV routes with no or low density of turtle nests would reopen to ORV use between 10:00 p.m. and 6:00 a.m., subject to terms and conditions of permit. Hours of night-driving prohibition would be established in the Superintendent's Compendium and subject to periodic review.</p>	<p>Nov 16 to Apr 30: Designated ORV routes would be open to ORV use 24 hours a day. May 1 to Nov 15: Designated ORV routes in potential sea turtle nesting habitat (ocean intertidal zone, ocean backshore, and dunes) would be closed to non-essential ORV use from 9:00 p.m. <u>4-hour after sunset</u> until 7:00 a.m. <u>turtle patrol has checked the beach in the morning (by approx. one-half hour after sunrise).</u> Sep 16 to Nov 15: ORV routes with no or low density of turtle nests remaining would reopen for night driving, subject to terms and conditions of an ORV permit <u>subject to terms and conditions of the standard ORV permit.</u> Hours of night-driving prohibition would be established in the Superintendent's Compendium and subject to periodic review.</p>

Comment [mbm7]: Hours of night driving would be "fixed" in the regulation.

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ORV Safety Closures					

Table 8. Summary of Alternative Elements

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<p>ORV safety closures are established as needed to address safety conditions such as debris on the beach or narrow beaches. Narrow beaches are reopened as the beach widens. Safety closures are applicable only to ORV access; pedestrian access is maintained.</p> <p>Existing ORV safety closures include:</p> <ul style="list-style-type: none"> - Ramp 1 to ramp 2 - 1.8 mile south of ramp 38 to 0.4 mile north of ramp 43. - Buxton to Lighthouse Beach. - Northern boundary of Frisco to Hatteras Village. - Hatteras Village Beach. <p>1.5 mile north of ramp 67 to 1 mile south of ramp 59.</p>	<p>Same as alternative A.</p>	<p>ORV safety closures would be established on designated ORV routes as needed to address ORV and pedestrian safety considerations, including the following:</p> <ul style="list-style-type: none"> - Debris on the beach. - Narrow beaches. - Congested areas. <p>Safety closures would preclude ORV access, while pedestrian and commercial fishing access would generally be maintained through safety closures.</p> <p>NPS law enforcement staff would monitor ORV safety closures on a weekly basis. Sufficient reduction or elimination of the conditions prompting the closure, so there is no longer an imminent hazard, would constitute the trigger for reopening an ORV safety closure.</p>	<p>ORV safety closures would not be established. ORV drivers would be responsible for recognizing and avoiding ORV safety hazards and would drive at own risk.</p>	<p>Same as alternative C.</p>	<p><u>ORV safety closures would be implemented in the event of a threat of significant bodily injury or death, and/or damage to personal property, including vehicles and their contents. ORV safety closures would preclude ORV access, while pedestrian and commercial fishing access would be maintained through most safety closures.</u></p> <p><u>Triggers that could justify an ORV safety closure include, but are not limited to:</u></p> <ul style="list-style-type: none"> - <u>Deep beach cuts that block the beach from dune to surf with no obvious way around.</u> - <u>Obstacles, such as exposed stumps, shipwrecks, or debris, that cannot be safely bypassed or that block the entire width of the beach and cannot be easily removed.</u> - <u>Severe beach slope that puts vehicles in an unsafe gradient position and increases the chances of the loss of vehicular control.</u> - <u>A high concentration of pedestrian users coupled with a narrow beach.</u> - <u>A narrow beach where there is insufficient width to safely exit the beach in the vehicle corridor during normal (non-storm) high tides.</u> - <u>Between November 1 and March 31 portions of a village beach that are not consistently at least 20 meters (66 feet) wide during normal high tides.</u> <p><u>Triggers do not include:</u></p> <ul style="list-style-type: none"> - <u>Hazards blocking only a portion of the beach, where safe passage is available around the hazard.</u> <p><u>Same as alternative C, plus:</u></p> <p><u>An ORV safety closure would be implemented in the event of a clear and imminent threat of significant bodily injury or death, and/or damage to personal property, including vehicles and their contents.</u></p> <p><u>Triggers that could justify a safety closure include, but are not limited to:</u></p> <ul style="list-style-type: none"> - <u>Deep beach cuts that block the beach from dune to surf with no obvious way around.</u> - <u>Obstacles, such as exposed stumps, shipwrecks, or debris, that cannot be safely bypassed or that block the entire width of the beach and cannot be easily removed.</u> - <u>Severe beach slope that puts vehicles in an unsafe gradient position and increases the</u>

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Pedestrian Safety					
<p>36 CFR 4.20, Right-of-Way: An operator of a motor vehicle shall yield the right of way to pedestrians (as well as saddle and pack animals, and vehicles drawn by animals). Failure to yield the right of way is prohibited.</p> <p>36 CFR 4.22, Unsafe Operation: (b) The following are prohibited:</p> <p>(3) Failing to maintain that degree of control of a motor vehicle necessary to avoid danger to persons, property, or wildlife.</p> <p>No additional measures apply.</p>	Same as alternative A.	Same as alternative A.	Same as alternative A.	Same as alternative A, plus: -- For village beaches that are open to ORV use during the winter season, the village beaches must be at least 20 meters (66 feet) wide from the toe of the dune seaward to mean high tide line in order to be open to ORV use.	Same as alternative A, plus: -- Vehicles must yield to pedestrians on all ORV routes. -- When approaching or passing a pedestrian on the beach, ORVs shall move to the landward side of the available ORV corridor in order to yield the wider portion of the beach corridor to the pedestrian. -- ORVs shall slow to 5 mph (or the slowest possible speed to maintain traction without exceeding the overall speed limit) when traveling within 30.5 meters (100 feet) or less of pedestrians at any location on the beach at any time of year. -- Pedestrians should not block access ramps and should use pedestrian ramps/boardwalks where available. If a pedestrian walkover is not available, pedestrians should walk to the side of ORV ramps, not in the tire tracks.
Administrative ORV Closures					
The beach in front of the former site of Cape Hatteras Lighthouse is closed to ORV access. Buxton Woods Road is closed to ORV access.	Same as alternative A.	No administrative closures would be established. ORV routes and non-ORV vehicle-free areas VFAs would be designated as described in table 7.	Same as alternative C.	Same as alternative C.	Same as alternative C.
Temporary Emergency ORV Closures					
Temporary emergency ORV closures established per Superintendent's Compendium and NPS policy.	Same as alternative A, plus: -- NPS retains the authority to implement a temporary emergency ORV closure if any of the following conditions are observed: -- ORV traffic is backing up on the beach access ramps, either on- or off-beach bound, which threatens to impede traffic flow. -- ORV traffic on the beach is parked in such a way that two-way traffic is impeded. Multiple incidents of disorderly behavior are observed or reported.	Same as alternative B, plus: -- Beaches would be temporarily closed to additional ORV use if/when carrying capacity is reached or exceeded.	Same as alternative B.	Same as alternative C.	Same as alternative C-B , plus: - Beaches would be temporarily closed to additional ORV use if/when carrying capacity or one-vehicle-deep beach parking limit is reached or exceeded.

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Ramp Characteristics					
Ramp width and construction details vary. Current practice is to use shell/clay base material to provide firm driving surface where ramps cross dune line.	Same as alternative A.	Ramps would be two lanes wide with shell/clay base and have: <ul style="list-style-type: none"> — Standard regulatory signs and information boards at all ramps. — Gates at all ramps and access points. — Designated “air down” area with hardened surface (e.g., shell/clay base). 	Same as alternative C.	Same as alternative C.	Same as alternative C, plus: <ul style="list-style-type: none"> — Preferably, each ORV route would have an access ramp at either end of the route.
Permit Requirements					
No permit required.	Night-driving permit required for ORV use from 10:00 p.m. to 6:00 a.m. Sep 16 to Nov 15.	ORV permit required.	Same as alternative C.	Same as alternative C.	Same as alternative C.
Permit Distribution					
N/A	Available in person at various locations and online.	Available in person at designated permit issuing stations and online.	Same as alternative C.	Same as alternative C.	Same as alternative C. <u>Available in person at designated NPS permit issuing stations.</u>
Permit Issuance Requirements					
N/A	ORV owner must sign permit to acknowledge understanding of the rules and must carry permit when beach driving during the restricted period.	ORV owners must complete a short education program in person or online and pass a basic knowledge test. Owners would sign for their permits to acknowledge understanding of the rules and regulations governing ORV use at the Seashore.	ORV owners must read an information brochure and sign the permit to acknowledge understanding of the rules and regulations governing ORV use at the Seashore.	Same as alternative C.	Same as alternative C. <u>ORV owners must complete a short education program in person and sign for the permit to acknowledge understanding of the rules and regulations governing ORV use at the Seashore.</u>
Permit Types					
N/A	Night-driving permit for Sep 16 to Nov 15.	Annual ORV permits would be valid for 12 months from date of purchase.	Annual ORV permits would be valid for the calendar year.	Weekly (7-day) and annual (12-month) ORV permits would be valid from date of purchase. Permits would include night-driving component for September 16 to November 15. In addition, a separate permit would be required for the following activities: <ul style="list-style-type: none"> — Park-and-stay overnight. — Self-contained vehicle (SCV) camping. 	Weekly (7-day) and ORV permits would be valid from date of purchase. Annual (12-month) ORV permits would be valid for the calendar year, would be valid from date of purchase. Permits would include night-driving component for September 16 to November 15.
Permit Number Limits					
N/A	No limit on night-driving permits.	No limit on ORV permits.	Same as alternative C.	Same as alternative C, except: <ul style="list-style-type: none"> — Use limits would be established for park-and-stay and SCV camping. — Use limits would be subject to periodic review. 	Same as alternative C.
Permit Fees					
N/A	None	ORV permit fee would be based on cost recovery as described in NPS Director’s Order and Reference Manual 53.	Same as alternative C, except: <ul style="list-style-type: none"> — Amount of fee would be lower than alternative C due to decreased management costs under this alternative. 	Same as alternative C, except: <ul style="list-style-type: none"> — Fee for weekly ORV permit would be less than fee for annual permit. — Fees for park-and-stay and SCV permits would be determined separately. 	Same as alternative C, except: <ul style="list-style-type: none"> — Fee for <u>7-day weekly</u> ORV permit would be less than fee for annual permit.

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Permit Form					
N/A	Night-driving permit is an informational brochure that the user signs and places on dash of vehicle.	ORV permit would be affixed to vehicle in a manner approved by the NPS.	Same as alternative C.	Same as alternative C.	Same as alternative C.
Permit Revocation					
N/A	Night-driving permit may be revoked for violation of applicable park regulations or terms and conditions of the permit.	ORV permit may be revoked for violation of applicable park regulations or terms and conditions of the permit.	Same as alternative C.	Same as alternative C.	Same as alternative C.
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.	Same as alternative A. 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.
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.	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 Same as alternative E, except: Ocracoke Island District: 260 vehicles per /mile (20 feet/vehicle) .

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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: Management-Based on Advisory Committee Input NPS Preferred Alternative
ORV Characteristic Requirements					

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: Management-Based on Advisory Committee Input <u>NPS Preferred Alternative</u>
<p>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.</p>	<p>Same as alternative A.</p>	<p>Off-road Vehicle characteristics: — 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 threetwo-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 powered vehicle and does not include the additional length of a and towed trailer). — Tires must be U.S. Dept. of Transportation –listed or approved. — Tires must be U.S. Dept. of Transportation –listed or approved. 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 three-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 for the powered vehicle and does not include the additional length of a towed trailer).</p>	<p>Same as alternative C.</p>	<p>Same as alternative C, except: — Motorcycles would be prohibited on ocean beaches, but allowed on soundside access areas where ORVs are allowed.</p>	<p>Same as C, plus: — Travel trailers (i.e., camping trailers) are prohibited. — UTVs are prohibited. — — Same as alternative C. Off-road 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, ATVs, and UTVs are prohibited. — The vehicle must have no more than two axles. — Towed boat trailers are allowed and must have no more than two axles. Travel trailers (i.e., camping trailers) are prohibited. — Vehicle tires must be U.S. Dept. of Transportation listed or approved.</p>
<p>114</p>					<p>Cape Hatteras National Seashore</p>

Comment [mbm8]: 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 comments expressing concerns about maximum vehicle length and NPS's realization that the previous wording would allow some incredibly large and long vehicles-trailer combination, such as a 3-axle, 30 ft long vehicle pulling a 2-axle unrestricted length trailer. The idea behind authorizing trailers in the first place was to allow the towing/launching of small boats from the ORV corridor.

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: Management-Based on Advisory Committee Input <u>NPS Preferred Alternative</u>
Equipment Requirements					
None	Same as alternative A.	Equipment requirements: -- All vehicles shall contain a low-pressure tire gauge, shovel, jack, and jack stand. -- A full-sized spare tire, first-aid kit, fire extinguisher, trash bag or container, flashlight (if night driving), and tow strap are recommended.	Same as alternative C.	Same as alternative C.	Same as alternative C.
Tire Pressure					
Recommend air down of tires before driving on the beach.	Same as alternative A.	When driving on designated routes, tire pressure must be lowered sufficiently to maintain adequate traction within the posted speed limit. Tire pressure of 20 psi is <i>recommended</i> for most vehicles. The softer the sand, the lower the pressure needed. Re-inflate tires to normal pressure as soon as possible after vehicle returns to paved roads.	Same as alternative C.	Same as alternative C.	Same as alternative C.
Speed Limit					
Speed limit is 25 mph (unless otherwise posted) on park beaches for public and private vehicles. Speed limit is 10 mph when ORV corridor is less than 100 feet wide. Speed limit in front of villages during off season (Sep 16 to May 14) on park beaches posted at 10 mph. Emergency vehicles exempt when responding to a call.	May 15 to Sep 15: Speed limit is 15 mph (unless otherwise posted). Sep 16 to May 14: Speed limit is 25 mph (unless otherwise posted).	Speed limit is 15 mph (unless otherwise posted). Emergency vehicles exempt when responding to a call.	Same as alternative C.	Same as alternative C.	Same as alternative C.
Essential Vehicles					
Essential vehicles are allowed in non-ORV vehicle free areas VFAs and within resource closures subject to guidelines in the “Essential Vehicles” section of appendix G of the USFWS <i>Piping Plover, Atlantic Coast Population, Revised Recovery Plan</i> . To the extent practicable, emergency response vehicle operators will consult with trained resource management staff regarding protected species before driving into or through resource closures; however, prior consultation may not always be practical.	Same as alternative A.	Same as alternative A.	Same as alternative A.	Same as alternative A.	Same as alternative A.
Non-ORV Vehicle Free Areas VFAs					
None designated. ORVs are temporarily prohibited in seasonal (village) closures, safety closures, administrative closures, and resource closures, including some areas that have been closed to ORV use for many years.	Same as alternative A.	Non-ORV Vehicle free areas VFAs would be designated as indicated in table 7.	Non-ORV Vehicle free areas VFAs would be designated as indicated in table 7.	Non-ORV Vehicle free areas VFAs would be designated as indicated in table 7.	Non-ORV Vehicle free areas VFAs would be designated as indicated in table 7-1.

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>Management-Based on Advisory Committee Input</u> NPS Preferred Alternative
Resource Education					
Information is available to the general public through the park website, newspaper, information brochures, and interpretive programs. However, there is no targeted education program for beach users.	Same as alternative A, except: -- Night-driving permit has basic education component. -- Protected species information is available at ORV access points. -- There is a 24-hour citizen phone line. -- The beach access brochure is to be redesigned.	General information would remain available as described in alternative A. There would be a new required education program for ORV users, as described under ORV Permit Issuance Requirements.	Same as alternative C.	Same as alternative C.	Same as alternative C, plus: -- There would be a new voluntary resource education program targeted toward non-ORV pedestrian beach users.
Temporary ORV Use of Non-ORV Vehicle free AreasVFAs					
Beach access would be provided through the issuance of special use permits for areas in front of the villages to allow ORVs to transport visitors with disabilities to the beach and then return the vehicle back to the street. N/A	Beach access would be provided through the issuance of special use permits for areas in front of the villages to allow ORVs to transport visitors with disabilities to the beach and then return the vehicle back to the street. N/A	Under the terms and conditions of a special use permit, the Superintendent could authorize the following: -- Beach access would be provided through the issuance of special use permits for areas in front of the villages to allow ORVs to transport visitors with disabilities to the beach and then return the vehicle back to the street. -- Temporary emergency ORV use of non-ORV vehicle free areas VFAs if needed to bypass sections of NC-12 that are closed for repairs. This could apply to all vehicles, including private vehicles, and would require a special use permit during the temporary emergency situation. -- Temporary non-emergency ORV use of non-ORV vehicle free areas VFAs traditionally used for fishing tournaments that were established prior to Jan 1, 2009. -- Temporary non-emergency ORV use of non-ORV vehicle free areas VFAs in front of villages to transport mobility-impaired individuals to join their family or friends on an open beach that is otherwise closed to ORVs. ORV use would be limited to the shortest, most direct distance between the nearest designated ORV route and the location of the gathering. Temporary non-emergency use by <i>nonessential</i> vehicles would not be permitted within resource closures.	Same as alternative A.	Same as alternative C.	Same as alternative C. The superintendent may issue a special use permit for temporary off-road vehicle use to: - Authorize the North Carolina Department of Transportation to use Seashore beaches as a public way when necessary to by-pass sections of NC Highway 12 that are impassible or closed for repairs. - Allow participants in a regularly-scheduled fishing tournament to drive in an area not designated for off-road use, if off-road use was allowed in that area for that tournament before January 1, 2009. - Allow vehicular transport of mobility-impaired individuals to a predetermined location in a designated VFA in front of villages via the shortest most direct distance from the nearest designated off-road route or Seashore road to a predetermined location in a designated vehicle free areaVFA; the vehicle must return to the designated off-road route or Seashore road immediately after the transport. Temporary non-emergency use by <i>nonessential</i> vehicles would not be permitted within resource closure.
Parking Areas for Non-ORV Vehicle free Access					

Comment [mbm9]: The deleted item is redundant with the third bullet below it. Should stick with the DEIS wording with the clarification that it applies only to VFAs in front of villages.

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: Management-Based on Advisory Committee Input NPS Preferred Alternative
Parking is currently provided in 32 park-maintained parking lots throughout the Seashore, totaling approx. 1,000 spaces.	Same as alternative A.	New or expanded parking would be established to support pedestrian access to non-ORV vehicle-free areas (VFAs) as identified in table 7. NPS would use environmentally appropriate design standards to minimize stormwater runoff and other resource impacts. Toilet facilities and trash receptacles would be provided at high-use locations.	Same as alternative C.	Same as alternative C.	Same as alternative C.
Alternative Transportation					
None	Same as alternative A.	NPS would consider applications for commercial use authorization to offer beach shuttle services.	Same as alternative A.	Same as alternative C, plus: — NPS would designate and post boat landing zones (drop-off) near the inlet at Bodie Island Spit and South Point Ocracoke that could be used to drop off pedestrians if/when the inlet shoreline is not otherwise closed to protect Seashore resources. NPS would encourage a commercial water shuttle service for this purpose; however, the drop-off points would be subject to closure on short notice if needed to protect Seashore resources.	Same as alternative C. NPS would consider applications for commercial use authorizations to offer beach and water shuttle services. NPS would apply for funding to conduct an alternative transportation study to evaluate the feasibility of alternative forms of transportation to popular sites, such as inlets and Cape Point.

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: Management-Based on Advisory Committee Input NPS Preferred Alternative
Camping and Nighttime Beach Use					
<p>Per 36 CFR 2.10: Camping^a is prohibited except in designated areas. In the Superintendent's Compendium, camping is prohibited on Seashore beaches. In areas open to ORV use, ORVs are allowed on the beach overnight if someone associated with the vehicle is actively fishing.</p> <p>^aCamping is defined in 36 CFR 1.4 as the erecting of a tent or shelter of natural or synthetic material, preparing a sleeping bag or other bedding material for use, parking of a motor vehicle, motor home, or trailer, or mooring of a vessel for the apparent purpose of overnight occupancy.</p>	<p>Same as alternative A, plus:</p> <ul style="list-style-type: none"> -- Nighttime use of ORVs is seasonally restricted as described under the Hours of Allowable ORV Operation section. 	<p>Same as alternative B, plus:</p> <ul style="list-style-type: none"> -- Unattended beach equipment (e.g., chairs, canopies, volleyball nets, watersports gear) is prohibited on the Seashore at night. Turtle patrol and law enforcement will tag equipment found at night. Owners have 24 hours to remove equipment before it is removed by NPS staff. 	<p>Same as alternative C.</p>	<p>Same as alternative C, plus:</p> <p>SCV camping would be authorized as follows:</p> <ul style="list-style-type: none"> -- The following campgrounds and use limits would be designated for SCV camping from Nov 1 to Mar 31: Oregon Inlet—100 spaces; Cape Point—100 spaces; and Ocracoke—50 spaces. Use limits would be established in the Superintendent's Compendium and subject to periodic review. -- SCV permits would be required, in addition to an ORV permit for beach driving, and would be available in weekly or seasonal increments. -- There would be a 7-consecutive-day / 6-night-stay limit during any one visit and a limit of one visit per month. -- SCVs would be required to have a self-contained toilet and a separate, permanently installed holding tank for both black and grey water, each with a min. capacity of 3 days' waste. -- Holding tanks must be dumped at an appropriate facility every 72 hours during a visit. <p>Between May 1 and September 16, ORV park-and-stay overnight would be allowed with a permit at selected spits and points, if not otherwise closed to protect resources. The following park-and-stay use limits would be established: Inlet spits—15 vehicles each; Cape Point and South Point Ocracoke—25 vehicles each.</p> <p>Park-and-stay use limits and hours of night-driving prohibition would be established in the Superintendent's Compendium and subject to periodic review.</p>	<p>Same as alternative C.</p>

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: Management-Based on Advisory Committee Input <u>NPS Preferred Alternative</u>
Beach Fires					
<p>Per 36 CFR 2.13: Fires are prohibited except in designated areas. In the Superintendent's Compendium, beach fires are authorized year-round, with the following restrictions:</p> <ul style="list-style-type: none"> -- Fires are prohibited from midnight to 6:00 a.m. year-round. -- Fires are prohibited within resource closures. 	<p>Same as alternative A.</p>	<p>Same as alternative B, plus:</p> <ul style="list-style-type: none"> -- A non-fee educational fire permit is required for any beach fire year-round. -- The hours that beach fires are permitted are subject to periodic review. 	<p>Same as alternative A.</p>	<p>Same as alternative C.</p>	<p><u>Beach fires are authorized year-round, with the following restrictions:</u></p> <ul style="list-style-type: none"> - <u>A non-fee educational fire permit is required for any beach fire.</u> - <u>Fires are prohibited from 10:00 p.m. to 6:00 a.m. year round.</u> - <u>Fires are prohibited within resources closures.</u> - <u>Same as alternative C, except:</u> -- <u>May 1 to Nov 15: Beach fires would be permitted only in front of Coquina Beach, Rodanthe, Waves, Salvo, Avon, Buxton, Frisco, Hatteras Village, and Ocracoke day use area during the sea turtle nesting season.</u>
Pets					
<p>Per 36 CFR 2.15: The following are prohibited:</p> <ul style="list-style-type: none"> -- Possessing a pet in an area closed to the possession of pets by the Superintendent. -- Failing to crate, cage, restrain on a leash which shall not exceed 6 feet in length, or otherwise physically confine a pet at all times. <p>In the Superintendent's Compendium, pets are prohibited in all resource closures. Pets are prohibited, even if on a leash, from the landward side of the posts delineating the ORV corridor at the spits (Bodie, Hatteras, Ocracoke) and Cape Point.</p>	<p>Same as alternative A.</p>	<p>Same as alternative A, except :</p> <ul style="list-style-type: none"> -- Pets would be prohibited within all designated Breeding Shorebird Species Management Areas (SMAs) from Mar 15 to Oct 15. -- Pets would be prohibited within all Nonbreeding Shorebird SMAs that are otherwise open to recreational use. 	<p>Same as alternative C, except :</p> <ul style="list-style-type: none"> -- Pets would be prohibited in all designated SMAs year-round. -- This policy would not be subject to periodic review. 	<p>Same as alternative C, except:</p> <ul style="list-style-type: none"> -- Pets would be prohibited within all designated Breeding Shorebird SMAs, including pass-through zones, from Mar 15 to Aug 31. 	<p>Same as alternative C, except :</p> <p><u>Pets would be prohibited in all designated Breeding Shorebird SMAs from Mar 15 to Jul 31, or 2 weeks after all shorebird breeding activities have ceased or all chicks in the area have fledged, whichever comes later.</u></p> <p><u>Same as alternative A, plus:</u></p> <ul style="list-style-type: none"> - <u>Pets arewould be prohibited in pedestrian shoreline access areas in front of (i.e., seaward of) bird pre-nesting areas.</u>
Horses					

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: Management-Based on Advisory Committee Input NPS Preferred Alternative
<p>Per 36 CFR 2.16: The use of horses or pack animals is prohibited outside of trails, routes, or areas designated for their use.</p> <p>In the Superintendent's Compendium, horse use is prohibited in resource closures and on lifeguarded beaches, and is allowed only in the following locations:</p> <ul style="list-style-type: none"> -- On the beach seaward of the existing dunes and only on beaches open to ORV use. -- Along road shoulders or across paved roads where travel is necessary to cross to and from beach access routes. -- On trails or in areas as authorized by commercial-use authorization or special use permit. 	<p>Same as alternative A.</p>	<p>Same as alternative A, except:</p> <ul style="list-style-type: none"> -- Horse use would be allowed in some non-ORV vehicle-free areas VFAs, except for SMAs, and on a limited number of trails to be designated in the Superintendent's Compendium after ORV routes are determined. -- Horse use would be allowed on village beaches from Sep 16 to May 14. -- The designated horse use trails and areas would be subject to periodic review. 	<p>Same as alternative A.</p>	<p>Same as alternative C.</p>	<p>Same as alternative C, except:</p> <ul style="list-style-type: none"> - Horse use would be allowed in some vehicle-free areas VFAs and on a limited number of trails to be designated in the Superintendent's Compendium after ORV routes are determined. - Horse use would be allowed on village beaches from Sep 16 to May 14. - Horses are prohibited in resource closures and in pedestrian shoreline access areas in front of (i.e., seaward of) bird pre-nesting areas. <p>Horse use would be authorized in any upper beach ORV corridor(s), if such is provided at "floating" Nonbreeding Shorebird SMAs as described in the final section of this table.</p>
<p>Authorized Commercial Fishing Vehicles</p>					
<p>Commercial fishing at the Seashore is authorized and managed under a special use permit in accordance with 36 CFR 7.58(b). Commercial fishing vehicles are considered <i>non-essential vehicles</i> and are not authorized to enter resource closures. Permitted commercial fishermen are authorized to enter other areas that are closed to recreational ORV use, including seasonal closures and safety closures, but are not authorized to enter lifeguarded beaches.</p>	<p>Same as alternative A, plus:</p> <ul style="list-style-type: none"> -- Commercial fishing vehicles are subject to the night-driving restriction in the consent decree. -- Under the modified consent decree, commercial fishermen would be granted access to beaches at 5:00 a.m. instead of 6:00 a.m. <u>provided certain conditions from the modified consent decree are met.</u> 	<p>Same as alternative A, except:</p> <ul style="list-style-type: none"> -- Commercial fishermen would not be required to obtain an ORV permit that would be required for recreational ORVs. -- Commercial fishing vehicles would be authorized to enter non-ORV vehicle free areas VFAs, except for full resource closures and lifeguarded beaches. -- In areas outside of existing resource closures, the Superintendent would be able to modify the hours of night-driving restrictions by +/- two hours, subject to terms and conditions of the fishing permit, for commercial fishermen who are actively engaged in authorized commercial fishing activity and can produce fish house receipts from the past 30 days. Such modifications would be subject to periodic review. 	<p>Same as alternative C.</p>	<p>Same as alternative C.</p>	<p>Same as alternative C. Use of vehicles off-road under the terms of a commercial use authorization or commercial fishing permit issued by the superintendent would be as follows. A separate ORV off-road permit is not required.</p> <ul style="list-style-type: none"> - When driving off-road, a commercial use authorization (CUA) holder is restricted to the designated off-road routes open for use. - A commercial fishing permit holder may drive on designated off-road routes and, when actively engaged in authorized commercial fishing activities, on beaches not designated for off-road use, except for resource closures and lifeguarded beaches. - The superintendent may allow commercial fishing vehicles to enter the beach at 5 a.m. when night driving restrictions are in effect for the general public, for those actively engaged in authorized commercial fishing activity involving haul seine and gill nets and able to present fish house receipts for the previous 30 days.
<p>Periodic Review</p>					

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: Management-Based on Advisory Committee Input NPS Preferred Alternative
None	Same as alternative A.	Every 5 years NPS would conduct a systematic review of the ORV management measures that are identified in this plan as being subject to Periodic Review. This could result in changes to those management actions in order to improve effectiveness.	Same as alternative A.	Same as alternative C.	Same as alternative C.
Staffing and Material Costs (annual costs based on 2009 dollars)					
Protection: \$1,147,500	Protection: \$1,481,500	Protection: \$1,706,900	Protection: \$1,768,500	Protection: \$2,204,300	Protection: \$1,956,100 202,078,300
Management/Administration: \$428,750	Management/Administration: \$483,950	Management/Administration: \$380,100	Management/Administration: \$360,850	Management/Administration: \$383,100	Management/Administration: \$274,150 383,100
Resource Mgmt: \$508,500	Resource Mgmt: \$813,000	Resource Mgmt: \$704,000	Resource Mgmt: \$649,500	Resource Mgmt: \$924,200	Resource Mgmt: \$943,950 850,700
Facilities: \$55,600	Facilities: \$178,600	Facilities: \$198,800	Facilities: \$178,600	Facilities: \$211,400	Facilities: \$194,100 211,400
Interpretation: \$68,500	Interpretation: \$193,500	Interpretation: \$193,500	Interpretation: \$193,500	Interpretation: \$193,500	Interpretation: \$263,850 193,500
Total: \$2,208,850	Total: \$3,150,550	Total: \$3,183,300	Total: \$3,150,950	Total: \$3,916,500	Total: \$3,632,150 717,000
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 will would be established as described in Table 10-1. Pedestrian shoreline access below the high tide line will would be permitted in front of (i.e., seaward of) pre-nesting areas until breeding activity is observed, then standard buffers for breeding activity will would apply Same as alternative C, except: ML2 area at Bodie Island Spit would include a pedestrian access corridor, and ML2 areas at Cape Point and South Point Ocracoke would include an ORV access corridor, using standard buffer distances as described in table 10.
Nonbreeding Season Measures					

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: Management-Based on Advisory Committee Input NPS Preferred Alternative
<p>As described in the Interim Strategy FONSI:</p> <p>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.</p>	<p>Same as alternative A.</p>	<p>Nonbreeding Shorebird SMAs would be established at the points and spits based on an annual habitat assessment. In addition, year-round non-ORV vehicle-free areas VFA 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.</p> <p>Designated SMAs would be subject to periodic review.</p>	<p>Same as alternative C.</p>	<p>Same as alternative C.</p>	<p>Vehicle-free areas VFAs throughout the Seashore will would provide relatively less disturbed foraging, resting, and roosting habitat for migrating and wintering birds. These areas will would be managed as described in Table 10-1. 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):</p> <ul style="list-style-type: none"> —“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. <p>The “floating” Nonbreeding Shorebird SMAs would be monitored as described in table 10 and would be subject to periodic review.</p>
Vegetation					
<p>ORV use is generally restricted to minimize impacts.</p>	<p>Same as alternative A.</p>	<p>ORV use would be restricted or prohibited in locations where ORV use is causing unacceptable impacts to vegetation.</p>	<p>Same as alternative C.</p>	<p>Same as alternative C.</p>	<p>Same as alternative C.</p>

^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 9. Species Observation and Management Under the Interim Protected Species Management Strategy, Consent Decree, and Modified Consent Decree

TABLE 9. SPECIES OBSERVATION AND MANAGEMENT UNDER THE INTERIM PROTECTED SPECIES MANAGEMENT STRATEGY, CONSENT DECREE, AND MODIFIED CONSENT DECREE

Note: This table represents actions from the FONSI for the Interim Protected Species Management Strategy (alternative A). Additions in bold, italic font indicate changes made by the consent decree or modified consent decree as indicated (alternative B).

SPECIES OBSERVATION ACTIVITY	
Survey Time and Frequency Pre-Nesting	<p>Piping plover: March 15 – March 31 survey recent breeding areas at Bodie Island Spit, Cape Point and South Beach, Hatteras Spit, and the northern and southern ends of Ocracoke one time per week. April 1 – June 15 survey recent breeding areas at Bodie Island Spit, Cape Point and South Beach, Hatteras Spit, and the northern and southern ends of Ocracoke three times per week (or every other day) and potential new habitat two times per week. Survey for Wilson's plover during piping plover surveys. American oystercatcher: March 15 – June 15 survey recent breeding areas two times per week. Colonial waterbirds: May 1 – June 15 survey recent breeding areas two times per week.</p> <p>CONSENT DECREE</p> <ul style="list-style-type: none"> <i>Survey Cape Point, South Beach, Hatteras Spit, North Ocracoke, and Ocracoke South Point at least once every two days from March 15 to April 15, and daily from April 16 to July 15, to determine if any birds are exhibiting prenesting and/or breeding behavior. The NPS shall monitor Bodie Island Spit at least daily from March 15 to July 15.</i>
Survey Time and Frequency Life Stages	<p><u>Courtship/Mating:</u> If species are observed exhibiting territorial or courtship behavior during two consecutive surveys in historic habitat, observe three times per week. If scrapes or eggs are observed, survey three times per week. Survey potential new habitat two times per week.</p> <p><u>Nesting:</u> Piping plover: Observe nests from a distance that does not disturb the birds, based on professional judgment, one time daily. Approach nests once per week to observe and record data. American oystercatcher and colonial waterbirds: Observe nests at least three times per week. Wilson's plover: Observe nests incidental to piping plover monitoring.</p> <p><u>Unfledged Chicks:</u> Piping plover: During the first week, observe continually during daylight hours. After the first week, if the closure is reduced or remains the same size, keep continuous observation. If the closure is enlarged, observe once daily. American oystercatcher: Observe once daily. Colonial waterbirds: Observe broods at one-day to two-day intervals and record data. Wilson's plover: Observe broods incidental to piping plover monitoring. All Species: When broods are mobile, provide more frequent observation and enforcement presence. All observations end when all chicks have fledged.</p> <p><u>Nonbreeding/Wintering:</u> Piping plover: As provided in the USFWS Amended Biological Opinion (2007) (attachment 1 to the FONSI), the NPS will monitor the presence, abundance, and behavior of migrating and wintering piping plovers from August 1 – March 31 of each year. At each session, specific observations include vehicle, pedestrian, and pet tracks in posted habitat; any signs of predators, including species; specific management measures in place at the time of the observation; observed behaviors; and reactions to disturbance by pedestrians, pets, or vehicles. American oystercatcher, red knot, Wilson's plover: Survey with piping plover. Colonial waterbirds: Winter/Nonbreeding habitat not surveyed.</p>
Data Collected	<p>Piping plover: Use GPS to document breeding areas and nest locations. Record locations where territorial/courtship behavior occurs. Record presence and abundance of birds. American oystercatcher and colonial waterbirds: Use GPS to document nest and colony locations. Record presence and abundance of pre-nesting birds.</p>
Sea Turtles	
Survey Time and Frequency	<p>May 1 – September 15 Conduct daily morning surveys by ATV and some ORVs for crawls and nests on all beaches before onset of heavy public ORV use. Daily surveys for nests end September 15. Periodic monitoring (e.g., every two to three days) for unknown nesting and emerging hatchlings will continue, especially in areas of high visitation, September 16 – November 15. Monitoring will also occur for post-hatchling washbacks during periods when there are large quantities of seaweed washed ashore or following severe storm events. Nest observations stop when all nests have hatched or excavation indicates that the nest was not viable. Once a light filter fence is installed, monitor nests daily for signs of hatchling emergence.</p>

SPECIES OBSERVATION ACTIVITY	
Data Collected	Follow the North Carolina Wildlife Resources Commission Handbook and record: <ul style="list-style-type: none"> -Turtle species -Nest vs. false crawl -Location (physical description and GPS location) -If nest needs to be relocated and, if so, why and where (new physical description and GPS location), number of eggs relocated, and time of day -Necessary protective measures for nest and hatchlings -Information regarding any post hatching nest excavation and analysis Examine all nests after hatching to determine productivity rates. Excavate nests at a minimum of 72 hours after hatching event. In cases where hatching events or dates were unknown, unearth nest cavities 80–90 days after the lay date.
Seabeach Amaranth	
Survey Time and Frequency	April 1 During bird and turtle surveys, note any seedlings or plants and record location. August Annual survey of potential habitat (some bird closure areas may not be surveyed due to potential to disturb nesting birds). April – September Before opening any species closure or identifying alternate ORV corridors, survey for seedling/plants. End observations when all plants have died back.
Data Collected	Record location of all individual plants or plant clusters using a GPS and note if the plant is located in an area open or closed to recreational use.
Essential Vehicle Use	
Bird Surveys	Piping plover: During bird surveys, NPS vehicles will remain outside of established resources closures.
SPECIES MANAGEMENT ACTIVITY	
Closures/Buffers	<p><u>Pre-Nesting:</u></p> <p>American oystercatcher: March 15 Activate closures if a territory is established or a nest located. Closures removed when areas have been abandoned for a two-week period.</p> <p>Piping plover: April 1 In February or March of each year, NPS natural resource staff to conduct an annual assessment of piping plover breeding habitat to plan pre-nesting closures in recent breeding areas that are adapted to current habitat and physiographic conditions. Close recent breeding areas by posting symbolic fencing by April 1. Remove closures if no bird activity is seen by July 15 or when area has been abandoned for a two-week period, whichever comes later.</p> <p>Colonial waterbirds: May 1 Activate closures if a territory is established or a nest located. Closures removed when areas have been abandoned for a two-week period.</p> <p>All Species: Designate a 100-foot-wide ORV and pedestrian corridor. Outside of ORV corridor, prohibit pedestrian access to breeding areas beyond the symbolic fencing. Delineate the corridor with posts placed up to 100 feet above the high tide line. In areas of reduced corridor width (i.e., narrower than 100 feet), post a reduced speed limit of 10 mph.</p> <p>CONSENT DECREE</p> <ul style="list-style-type: none"> • <i>All-species: Pre-nesting areas established on Bodie Island Spit, Cape Point, South Beach, Hatteras Spit, North Ocracoke, and Ocracoke South Point. The pre-nesting areas shall remain in place until the later of July 15 or two weeks after the last tern, black skimmer, American oystercatcher, piping plover, or Wilson's plover chick within the area has fledged, as determined by two consecutive monitoring events. Pre-nesting areas would be delineated to incorporate to the maximum extent the areas delineated in the 2008 pre-nesting closure maps and would include to the maximum extent possible the soundside intertidal zone, areas of moist soil habitat, ocean backshore, dunes, dry sand flats, overwashes, blowouts, and areas of the ocean tidal zone consistent with these areas.</i> • <i>If NPS observes prenesting and/or breeding behavior of colonial waterbirds, piping plovers, or American oystercatchers, NPS shall establish the appropriate buffer as quickly as possible, but always within 8 daylight hours.</i>

Table 9. Species Observation and Management Under the Interim Protected Species Management Strategy, Consent Decree, and Modified Consent Decree

SPECIES MANAGEMENT ACTIVITY	
Closures/Buffers (continued)	<p><u>Courtship/Mating:</u> Piping plover: If courtship or copulations are observed outside of existing closures on two consecutive survey days, establish or expand buffer to ensure 150-foot buffer for the observed birds. If additional closures are created around courtship/mating areas, adjust the ORV corridor whenever possible to allow vehicle passage. Allow management to be responsive to individual bird behavior when determining adequacy of closure size. American oystercatcher and colonial waterbirds: If territorial or courting birds are observed outside of existing closures, based on bird behavior and suitable habitat, expand buffers to accommodate the birds. Provide ORV/pedestrian corridor above the high tide line.</p> <p>CONSENT DECREE</p> <ul style="list-style-type: none"> • Piping Plover: 50-meter buffer. • Least Tern: 100-meter buffer. • Other Colonial Waterbirds: 200-meter buffer. • American Oystercatcher: 150-meter buffer. • When multiple species present, greatest applicable buffer distance shall be used.
	<p><u>Nesting:</u> Piping plover: Establish 150-foot buffer/closure around piping plover nests occurring outside existing closures. Expand closures, if necessary, using flexible increments dependent on observed bird behavior. When resource closures are created around nests, adjust the ORV corridor whenever possible to allow vehicle passage. Reduce the width of the ORV corridor if necessary. In areas in which the buffer zone would eliminate the ORV corridor, identify alternate ORV routes if available or provide a bypass (see "Short-term Bypass Route Criteria" on page 11 of the FONSI) if possible. American oystercatcher: Establish buffer/closure based on adult's reaction to human disturbance. Closures vary in size dependent on best professional judgment. (from alternative D) When resource closures are created around nests, adjust the ORV corridor whenever possible to allow ORV passage. Reduce width of ORV corridor if necessary. In areas in which the buffer zone would eliminate the ORV corridor, identify alternate ORV routes if available, or provide a bypass (see "Short-term Bypass Route Criteria" on page 11 of the FONSI) if possible. Allow observations to be responsive to individuality in bird behavior when determining adequate size of closure zones around nests. Colonial waterbirds: Establish a buffer/closure of 150 feet to 300 feet around the nest or colony based on observed bird behavior, while maintaining ORV/pedestrian corridor. If the buffer and the corridor overlap each other, then staff will reduce corridor width if necessary. In areas in which the buffer zone would eliminate the ORV corridor, identify alternate ORV routes if available, or provide a bypass (see "Short-term Bypass Route Criteria" on page 11 of the FONSI) if possible. Allow observations to be responsive to individuality in bird behavior when determining adequate size of closure zones around nests. Reduced width of ORV/pedestrian corridors for American oystercatcher and colonial waterbirds will be approached as a research opportunity to gather data useful for the long-term ORV management plan/EIS to test for the distance at which vehicle disturbance to nesting American oystercatcher and colonial waterbirds occurs. All species: Allow observations to be responsive to individuality in bird behavior when determining adequate size of closure zones around nests. If nest is lost, buffers remain in place 2–3 weeks after nest is lost to determine if pair will re-nest, if no other species nesting in area.</p> <p>CONSENT DECREE</p> <ul style="list-style-type: none"> • Piping Plover: 50-meter buffer. • Least Tern: 100-meter buffer. • Other Colonial Waterbirds: 200-meter buffer. • American Oystercatcher: 150-meter buffer. • When multiple species present, greatest applicable buffer distance shall be used. • Upon discovery of an active nest outside an existing closure, protective measures shall be taken immediately to close and establish the buffers described above. Symbolic fencing with the applicable buffer distances stated above shall be installed as soon as NPS staff can reasonably be mobilized to erect the fencing, but always within 6 daylight hours.
	<p><u>Adult Foraging:</u> Piping plover: For adults foraging outside of a closure on two consecutive surveys, expand buffer to include foraging site. These closures are intended to provide foraging opportunities close to breeding sites. Colonial waterbirds, American oystercatcher, and Wilson's plover: No additional buffers/closures.</p> <p>CONSENT DECREE</p> <ul style="list-style-type: none"> • If no piping plover are observed utilizing such a foraging closure over a two-week period of time, the closure will be removed.

SPECIES MANAGEMENT ACTIVITY	
Closures/Buffers (continued)	<p>Unfledged Chicks:</p> <p>Piping plover: Establish a minimum 600-foot buffer on either side of brood based on observation of bird behavior and terrain conditions at site. Based on observed behavior, buffer area may require expansion up to 3,000 feet if chicks are highly mobile. Based on observed behavior (i.e., mobility of the brood) and the capability to continually observe mobility and behavior, buffer zone can be reduced after the first week to no less than 300 feet, but may require expansion up to 3,000 feet if chicks are highly mobile. Buffer moves with chicks. Close bypass route at night if buffer zone is less than 600 feet (as identified on p. 8 of the USFWS Amended Biological Opinion (2007) [attachment 1 to the FONSI]).</p> <p>When resource closures are created around broods, adjust the ORV corridor whenever possible to allow vehicle passage. Reduce ORV corridor if necessary. In areas in which the buffer zone would eliminate the ORV corridor identify alternate ORV routes if available. If there are no alternate ORV routes, then if possible establish a bypass (see "Short-term Bypass Route Criteria" on page 11 of the FONSI). Close beach to recreation access down to the waterline, if necessary, to allow chicks access to foraging areas.</p> <p>American oystercatcher: Establish 150-foot to 300-foot buffer zone when unfledged chicks are present. Adjust buffer zone as needed when chicks are mobile. Provide alternate ORV/pedestrian access route or bypass to open areas beyond the closure, if possible.</p> <p>Colonial waterbirds: Establish 150-foot to 300-foot buffer zone when unfledged chicks present. Adjust buffer zone as needed when chicks are mobile. Provide alternate ORV/pedestrian access route or bypass to open areas beyond the closure, if possible.</p> <p>For all species: Allow observations to be responsive to individuality in bird behavior when determining adequate size of closure zones around broods.</p> <p>Reopen 100-foot-wide ORV corridor in recent or current nesting areas after chicks fledge. Areas outside of corridor, including the upper beach remain available for protected species use. Re-establish 150-foot ORV corridor after August 31.</p> <p>CONSENT DECREE</p> <ul style="list-style-type: none"> • <i>Piping Plover: 1,000-meter buffer, although it would be reduced to 300 meters for pedestrians during daylight hours only. Two-weeks after hatching, the NPS may allow ORV access within the 1,000-meter buffer down to 300 meters, although the NPS may re-establish the 1,000-meter buffer based on plover movement or behavior. Vehicles may be allowed to pass through portions of the protected area, where the protected area is considered by NPS natural resource management staff to be inaccessible to piping plover chicks because of steep topography, dense vegetation, or other naturally occurring obstacles. All of the ocean beach at Cape Point, South Beach, and North Ocracoke and all of the bayshore and ocean beach at Bodie Island Spit and Ocracoke South Point will be considered accessible to piping plover chicks in these areas. Within the 1,000-meter piping plover unfledged chick buffer at Hatteras Spit, all of the ocean beach and that part of the bayshore beach at the overwash fans and from the inlet east to a point 200 meters east of the point where the Spur Road from the Pole Road meets the bayshore will be considered accessible to piping plover chicks in these areas.</i> • <i>All other species: 200-meter buffer.</i> • <i>Locations of buffers are adjusted to accommodate chick movement. The NPS retains discretion to enforce greater restrictions as necessary to protect the species.</i> • <i>When multiple species present, greatest applicable buffer distance shall be used.</i> • <i>Upon discovery of chicks outside an existing closure, protective measures shall be taken immediately to close and establish the buffers described above. Symbolic fencing with the applicable buffer distances stated above shall be installed as soon as NPS staff can reasonably be mobilized to erect the fencing, but always within 6 daylight hours.</i>
Disturbance from ORVs or Pedestrians	<p>CONSENT DECREE</p> <ul style="list-style-type: none"> • <i>If NPS staff observes disturbance from ORVs and/or pedestrians, buffers would be expanded in 50-meter increments until no disturbance occurs. If a deliberate violation occurs that disturbs wildlife or vandalizes nests or fencing, the buffer would be expanded by 50 meters on the first offense. If there are multiple occurrences in the same area, the buffer would be expanded by 100 meters and 500 meters for the second and third violations, respectively.</i> <p>MODIFIED CONSENT DECREE</p> <ul style="list-style-type: none"> • <i>If a violator is apprehended, the NPS would not be required to institute expanded buffers. If the buffer has been expanded and then the violator is caught, the NPS can retract the expansion.</i>
Non Breeding/Wintering Closures	<p>For piping plover: Suitable interior habitats at spits and at Cape Point closed year-round to all recreational users to provide for resting and foraging for all species. For example, at present, such 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.</p>
Sea Turtles	
Nest Closures/Buffers	<p>Establish a buffer approximately 30 feet by 30 feet with symbolic fencing and signage around nest.</p> <p>Approximately 50–55 days into incubation, closures expanded to the surf line. The width of the closure based on the type and level of use in the area of the beach where the nest was laid:</p> <ol style="list-style-type: none"> vehicle-free areas/VFAs with little or no pedestrian traffic – 75 feet wide (total width); villages or other areas with high levels of day use –150 feet wide (total width); areas with ORV traffic – 350 feet wide (total width). <p>Opposite the surf line on the upper end of the closure, the closed area expanded to 50 feet where possible, but no less than 30 feet duneward from the nest. Traffic detours behind the nest area clearly marked with signs and reflective arrows.</p> <p>Where present within closure, vehicle tracks manually smoothed with rakes or a steel mat attached to an ATV, so as not to impede hatchlings attempting to reach the surf.</p> <p>Use light filtering fence behind nests nearing hatch dates to block light pollution from the villages and vehicles operating on the beach after dark.</p> <p>CONSENT DECREE</p> <ul style="list-style-type: none"> • <i>After September 15 all remaining unhatched turtle nests, once they reach their hatch window, shall be protected by full beach closures.</i> <p>MODIFIED CONSENT DECREE</p> <ul style="list-style-type: none"> • <i>After September 15, all unhatched turtle nests would only require full beach closures from sunset until 6:00 a.m. instead of 24 hours a day.</i>

Table 9. Species Observation and Management Under the Interim Protected Species Management Strategy, Consent Decree, and Modified Consent Decree

SPECIES MANAGEMENT ACTIVITY	
Nest Relocation	When a nest is found, staff assesses need for nest relocation and follows relocation guidance identified in the NCWRC handbook. If it is determined the nest will not be relocated, it will be immediately protected with a symbolic fence measuring approximately 30 feet by 30 feet and signage. If a nest is threatened by a storm event, the NPS will consult NCWRC to determine appropriate action.
Light Management	Establish turtle friendly lighting standards for all Seashore (NPS) structures. Encourage concessioners to install turtle friendly lighting.
Research	Support research efforts looking at the sex ratios of turtles.
Seabeach Amaranth (SBA)	
Buffers	April 15 – November 30 If a plant/seedling is found outside of an existing closure, the Seashore will erect symbolic fencing with signage creating a 30-foot by 30-foot buffer around the plant. If plants are located next to each other, the area will be expanded to create one enclosure protecting several plants. If a SBA is found during the survey prior to reopening a bird closure to ORV and pedestrian use, the Seashore will protect the SBA as described above and reopen the areas of the bird closure where no plants exist. Areas reopened if no plants are present by September 1. Where plants occur, the closed areas will be reopened after the plants have died.
Predator Management	Trappers will target red and gray fox, raccoons, cats and other predators for removal. Piping plover: Nests surveyed to count eggs and look for predator tracks. As applicable, predator exclosures are erected when nest found with eggs. American oystercatcher and colonial waterbirds: Nests surveyed to count eggs and look for predator tracks. Sea Turtle: Nests surveyed to count eggs and look for predator tracks. Predator exclosures may be placed over nests if predator tracks or nest predation is evident. SBA: No predator management.
Conservation Measures	Conservation measures are discretionary activities intended to minimize or avoid adverse effects of an action on listed species or critical habitat, to help implement recovery plans, or to develop information. Conservation measures outlined in the USFWS Amended Biological Opinion (2007) (attachment 1 to the FONSI) will be considered for implementation. The Seashore will notify the USFWS when any of these conservation measures are implemented.

TABLE 10. SPECIES MANAGEMENT STRATEGIES FOR ACTION ALTERNATIVES C, D AND E

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 one or more individuals of breeding, nesting, foraging, or roosting colonial waterbirds, piping plover, Wilson’s plover, or American oystercatcher. 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, <u>after storms or events that Seashore management determines to be a major modification of habitat quantity or quality after a major hurricane</u>, 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 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 <u>goals, periodic review and adaptive management may result in increased restrictions on recreational use</u> the attainment of desired future conditions, periodic review and adaptive management may provide for additional management including appropriate restrictions on recreational use.</p> <p>Pre-nesting closure: A kind of resource closure in which an area of suitable habitat is proactively closed to ORVs and pedestrians 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> <p>Species Management Area (SMA): Area of suitable habitat that has had concentrated and recurring use by multiple individuals and/or multiple species of protected shorebirds during the breeding season or nonbreeding season, or concentrations of seabeach amaranth specimens, in more than one (i.e., two or more) of the past 5 years and is managed to reduce or minimize human disturbance. Currently designated SMAs are listed at the end of this table. SMAs will be re-evaluated and re-designated every 5 years, or <u>after storms or events that Seashore management determines to be a major modification of habitat quantity or quality, or if necessitated by a significant change in protected species status (e.g., listing or de-listing), after major hurricanes</u>, as part of the periodic review process described at the end of this table.</p>	<ul style="list-style-type: none"> • Breeding Shorebird and Seabeach Amaranth SMA: Area of suitable breeding habitat that has had multiple nests of individuals and/or multiple species of protected shorebirds, or concentrations of seabeach amaranth specimens, in more than 1 (i.e., 2 or more) of the past 5 years and is managed to minimize human disturbance during the breeding season. Focal species for Breeding Shorebird SMAs include piping plover, Wilson’s plover, American oystercatcher, least tern, common tern, gull-billed tern, and black skimmer; however, there will be ongoing evaluation of the breeding shorebird species addressed by this plan, as part of the periodic review process described at the end of this table. The following areas have been initially designated as Breeding Shorebird SMAs: <ul style="list-style-type: none"> • Bodie Island Spit: 0.2 mile south of ramp 4 to inlet Ramp 27 to ramp 30 New ramp 32.5 to ramp 34 Approximately 1.7 miles south of ramp 38 to north boundary of Buxton Cape Point: 0.2 mile south of ramp 44 to ramp 45 South Beach: ramp 45 to new ramp 47 Hatteras Inlet Spit: Ocean shoreline south of Pole Road to soundside of inlet North Ocracoke Spit: Inlet to 0.25 mile northeast of ramp 59 0.5 mile southwest of ramp 68 to 1.2 miles north of ramp 70 South Point Ocracoke: 0.5 mile southwest of ramp 72 to inlet • Nonbreeding Shorebird SMA: Area of suitable nonbreeding habitat that has had concentrated foraging by migrating/wintering shorebirds in more than 1 (i.e., 2 or more) of the past 5 years and is managed to reduce human disturbance during the nonbreeding season. This may include portions of breeding SMAs that provide suitable nonbreeding habitat during periods of overlap between the breeding and migrating season and designated ORV <u>ORV vehicle free areas/VFAs</u> that are set aside to provide pedestrians with the opportunity for a natural beach experience. • Areas outside of SMAs would be managed under ML1 measures. <p>Management Level 1 (ML1): An approach to shorebird protection during the breeding season that will use larger, longer-lasting buffers with less monitoring to reduce the need for more frequent monitoring and fencing changes.</p> <p>Management Level 2 (ML2): An approach to shorebird protection during the breeding season that will use smaller buffers and will require more frequent monitoring and fencing changes when an ORV or pedestrian access corridor is open at designated locations during the breeding season.</p>

Comment [mbm10]: This language doesn’t belong here in the Definitions section, but could be added in sections below.

Management Activity	Shorebirds		
	Piping Plover	American Oystercatcher and Wilson’s Plover	Colonial Waterbirds, including Least Terns, Common Terns, Gull-Billed Terns, and Black Skimmers
Pre-Nesting Surveys	By Mar 1: NPS staff will evaluate all potential breeding habitat and recommend piping plover pre-nesting closures based on that evaluation. 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.

Table 10. Species Management Strategies for Action Alternatives C, D and E

Management Activity	Shorebirds		
	Piping Plover	American Oystercatcher and Wilson's Plover	Colonial Waterbirds, including Least Terns, Common Terns, Gull-Billed Terns, and Black Skimmers
Pre-Nesting Closures	<p>All species: All designated Breeding Shorebird SMAs will be posted as pre-nesting closures using symbolic fencing 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. The NPS will determine the configuration of specific pre-nesting closures based on an annual habitat assessment. Pre-nesting closures would be adjusted to the configuration of the Nonbreeding Shorebird SMAs for the respective sites (as described later in this table) if no breeding activity is seen in the area by Jul 31, or 2 weeks after all chicks have fledged, whichever comes later. Pre-nesting closures will not be modified in cases where the beach erodes into the buffered habitat. ORVs, pedestrians, and pets are prohibited within all resource closures, including pre-nesting closures.</p> <p>ML1: SMAs managed using ML1 measures would not allow ORV or pedestrian access when pre-nesting closures are in effect. Areas outside of SMAs would be managed under ML1 measures.</p> <p>ML2: The Bodie Island Spit, Cape Point, and South Point Ocracoke SMAs would be managed using ML2 measures in action alternatives C, E, and F. Once pre-nesting closures are implemented at these sites, a narrow ORV access corridor (where ORV use is permitted) or a pedestrian access corridor (where ORV use is not permitted) would be established. Upon the first observation of breeding activity, the standard buffers (please refer to table 11, Shorebird/Waterbird Buffer Summary) will apply, which depending upon the circumstances may close the access corridor. The Bodie Island Spit access corridor would follow the ocean shoreline to the inlet. The Cape Point access corridor would follow the ocean shoreline from ramp 44 south to the point, then west approximately 0.2 mile along the ocean shoreline. The South Point Ocracoke access corridor would follow the ocean shoreline south from ramp 72 to the inlet. Exact configuration of the corridor would be determined by NPS staff based on the annual habitat assessment. The ORV access corridor at ML2 sites will generally be no more than 50 meters wide above the high tide line (alternative E may include a designated pass-through zone where no stopping or recreation would be permitted in order to minimize disturbance). An ML2 pedestrian access corridor would generally be below the high tide line and would in no case be more than 10 meters above the high tide line. Pets, as well as kite flying, ball and Frisbee tossing, and similar activities, will be prohibited in the access corridors or pass-through zones (in alternative E only) while the pre-nesting closure is in effect.</p>		
Courtship/Mating Surveys	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	<p>All species: The Seashore retains the discretion to expand courtship/mating buffers under ML1 and ML2 depending on staffing and bird behavior. Areas outside of SMAs would be managed under ML1 measures. In unprotected areas, a buffer will be established immediately when courtship or mating is observed. When courtship or mating is observed in the immediate vicinity of paved roads, parking lots, campgrounds, buildings, and other facilities, the NPS retains the discretion to provide resource protection to the maximum extent possible while still allowing those facilities to remain operational. The NPS shall not reduce buffers to accommodate ORV ramp access.</p>		
	<p>ML1/ML2: If breeding activity is observed outside of an existing closure, a buffer will be established or expanded to ensure a 75-meter buffer for the observed birds.</p> <p>Buffers will be increased in 50-meter increments if human disturbance* occurs.</p> <p>Outside of pre-nesting areas, closures will be removed if no breeding activity is observed for a 2-week period, or when associated breeding activity has concluded.</p> <p>*Buffers are not expanded for incidental disturbance associated with required NPS protected species monitoring.</p>	<p>ML1: If breeding activity is observed outside of an existing closure, a buffer will be established or expanded to ensure a 300-meter buffer for the observed birds.</p> <p>ML2: If breeding activity is observed outside of an existing closure, a buffer will be established or expanded to ensure a 150-meter buffer for the observed birds.</p> <p>Buffers will be increased in 50-meter increments if human disturbance occurs.</p> <p>All: Outside of pre-nesting areas, closures will be removed if no breeding activity is observed for a 2-week period, or when associated breeding activity has concluded.</p>	<p>ML1: If scraping is observed outside an existing closure, a buffer will be established or expanded to ensure a 300-meter buffer for the observed birds.</p> <p>ML2: If scraping is observed outside a resource closure, a 100-meter buffer will be established around the scrape location for least terns (if only least terns are present), or a 200-meter buffer when other colonial waterbird species are present. Buffers will be increased in 50-meter increments if human disturbance occurs.</p> <p>All: Buffer establishment will be based on the location of scrape(s) and not location of copulation or "fish flashing."</p> <p>Outside of pre-nesting areas, buffers will be removed if no breeding activity is observed for a 2-week period, or when associated breeding activity has concluded.</p>
Nest Surveys	<p>A walk-through will be conducted to look for nests every 3 days. Once nests are found, nests will be observed daily from a distance that does not disturb the birds, based on professional judgment. Nests will be approached once per week to observe and record data.</p>	<p>A walk-through will be conducted to look for nests when observations suggest a nest is present.</p> <p>ML1: Nests will be observed at least three times per week from a distance that does not disturb the birds, based on professional judgment. For incubating birds that cannot be observed from a distance, nests will be checked on a weekly basis (or as staff is available).</p> <p>ML2: Nests will be observed daily from a distance that does not disturb the birds, based on professional judgment. For incubating birds that cannot be observed from a distance, nests will be checked every 3 days.</p>	<p>Colonies will be surveyed during the peak nesting period for each species, which generally is during the last week of May and the first week of June, but could be later, especially for black skimmers.</p> <p>ML1: Colonies will be observed at least three times per week from a distance that does not disturb the birds. For incubating birds that cannot be observed from a distance, colonies will be checked on a weekly basis.</p> <p>ML2: Nests will be observed daily from a distance that does not disturb the birds, based on professional judgment. For incubating birds that cannot be observed from a distance, colonies will be checked every 3 days.</p>
Nest Buffers	<p>All species: The Seashore retains the discretion to expand nest buffers under ML1 and ML2 depending on staffing and bird behavior. In unprotected areas, a buffer will be established immediately when a nest with egg(s) is found. Areas outside of SMAs would be managed under ML1 measures. Prior to hatching, vehicles may pass by such areas within designated ORV access corridors that have been established along the outside edge of nesting habitat, provided that buffers adequate to prevent human disturbance are maintained. When nests or chicks occur in the immediate vicinity of paved roads, parking lots, campgrounds, buildings, and other facilities, the NPS retains the discretion to provide resource protection to the maximum extent possible while still allowing those facilities to remain operational. The NPS shall not reduce buffers to accommodate ORV ramp access. Buffers will remain in place for 2 weeks after a nest is lost to determine if pair will re-nest. Outside of pre-nesting areas, buffers will be removed if no breeding activity is seen in the area for 2 weeks, or 2 weeks after all chicks have fledged, whichever comes later.</p>		
	<p>ML1 and ML2: A 75-meter buffer/closure will be established around nest(s). Buffers will be increased in 50-meter increments if human disturbance occurs.</p> <p>If a buffer falls within the intertidal zone, a full-beach closure will result.</p>	<p>ML1: A 300-meter buffer/closure will be established around nest(s).</p> <p>ML2: A 150-meter buffer/closure will be established around nest(s). Buffers will be increased in 50-meter increments if human disturbance occurs.</p> <p>If a buffer falls within the intertidal zone, a full-beach closure will result.</p> <p>For nests that occur inside a pre-nesting closure and require a buffer expansion of the pre-nesting area, the buffer expansion may be removed to the original pre-nesting closure after 2 weeks with no breeding activity if the nest is lost to overwash or predation.</p>	<p>ML1: Buffers will be the same as for courtship and mating: 300 meters.</p> <p>ML2: A 100-meter buffer/closure will be established around a least tern nest or colony. A 200-meter buffer/closure will be established around the nest or colony if any common terns, gull-billed terns, or black skimmers are present. Buffers will be increased in 50-meter increments if human disturbance occurs.</p> <p>If a buffer falls within the intertidal zone, a full-beach closure will result.</p> <p>For a colony that occurs inside a pre-nesting closure and requires a buffer expansion of the pre-nesting area, the buffer expansion may be removed after 2 weeks with no breeding activity if the nest is lost to overwash or predation.</p>

Management Activity	Shorebirds		
	Piping Plover	American Oystercatcher and Wilson's Plover	Colonial Waterbirds, including Least Terns, Common Terns, Gull-Billed Terns, and Black Skimmers
Adult Foraging Surveys and Buffer	Suitable breeding habitat will be surveyed three times per week to monitor for adults with an associated scrape or nest territory foraging outside of an existing closure. If birds are observed foraging outside an existing closure, the site will be surveyed daily. If birds are observed foraging outside of a closure on two consecutive surveys, the buffer will be established or expanded using flexible increments based on observed bird behavior to include the foraging site. These closures are intended to provide foraging opportunities close to breeding sites. The closure will be removed if no foraging is observed for a 2-week period during the breeding season, or when associated breeding activity has concluded.	No additional buffers/closures.	No additional buffers/closures.
Unfledged Chicks Surveys	<p>ML1: Brood will be observed once daily.</p> <p>ML2: Brood will be observed at least one hour each in a.m. and p.m. daily. Monitor(s) will be present during periods of ORV or pedestrian access.</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>ML1: Brood will be observed every other day.</p> <p>ML2: Brood will be observed at least once daily. If the brood cannot be located, at least a one-half hour would be spent in efforts to locate the brood/chick.</p> <p>All: Observations will end once the chicks have fledged. American oystercatcher chicks are considered fledged if they have been observed to be proficient in flying or observed in sustained flight of at least 30 meters. Wilson's plover chicks are considered fledged if they are observed in sustained flight of at least 15 meters.</p>	<p>ML1: Colony will be observed every other day.</p> <p>ML2: Colony will be observed daily.</p> <p>All: Colonies will be surveyed during the peak hatching period, which should fall 21 days after initial nest observations. A follow-up survey (perimeter count) should be conducted during the peak fledge, which should fall 20 days after hatch counts. Observations will end after no unfledged chicks have been observed on three consecutive surveys.</p>
Unfledged Chick Buffers	<p>ML1: A minimum 1,000-meter buffer will be established on either side of the nest when unfledged chicks are present.</p> <p>ML2: 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>All: The buffer should extend 1,000 meters for ORVs (or 300 meters for pedestrians under ML2) 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>ML1: A 300-meter buffer will be established around the nest when unfledged chicks are present. If chicks move outside of the buffer, it will be adjusted to include an additional 200 meters from the chicks' location. Closures will be removed 2 weeks after fledging.</p> <p>ML2: 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>Buffers will remain until Wilson's plover chicks have fledged or 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>ML1: A 300-meter buffer will be established around nests or colony. If chicks move outside of the buffer, it will be adjusted to provide a standard buffer of 200 meters from the chicks' location.</p> <p>ML2: 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. Areas outside of SMAs would be managed under ML1 measures.</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>

Table 10. Species Management Strategies for Action Alternatives C, D and E

Management Activity	Shorebirds		
	Piping Plover	American Oystercatcher and Wilson's Plover	Colonial Waterbirds, including Least Terns, Common Terns, Gull-Billed Terns, and Black Skimmers
Nonbreeding Survey	The NPS will monitor presence, abundance, and behavior of migrating and wintering shorebirds from July through May using the SECN protocol. Survey sites will include all Nonbreeding Shorebird SMAs. 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; band combination of any banded birds; 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 representative species of colonial waterbirds.		
Nonbreeding Shorebird SMAs	<p>All Species: Nonbreeding Shorebird SMAs will be established and managed to reduce disturbance of migrating/wintering shorebirds at various locations throughout the Seashore. Such closures will be installed no later than when breeding season closures are removed at the same location(s). Pets will be prohibited within Nonbreeding Shorebird SMAs.</p> <p>Points and Spits: An annual habitat assessment will be conducted after all birds have fledged from the area. Nonbreeding resource closures will be established at the points and spits based on habitat used by wintering piping plovers in more than one (i.e., two or more) of the past 5 years, the presence of birds at the beginning of the migratory season, and suitable habitat types based on the results of the annual survey. This may include non-ORV vehicle free areas/VFAs as well as areas closed to all recreational use. Actual locations of suitable foraging and roosting habitat may change periodically due to natural processes. Access to the inlet shorelines, where permitted, will be maintained by a corridor to be determined by NPS staff based on the annual habitat assessment.</p> <p>Ocean Shoreline Areas: In addition to the nonbreeding resource closures at the points and spits described above, the NPS will establish non-ORV vehicle free areas/VFAs along the ocean shoreline that will provide relatively less-disturbed foraging, resting, and roosting areas for migrating and wintering shorebirds. These may include wider sections of beach with an upper-beach ORV corridor that has a buffer of at least 50 meters above the high tide line, and/or sections of beach that have been designated as non-ORV vehicle free for other reasons, such as to provide pedestrians with opportunities for a natural beach experience. The following activities are generally compatible with migrating/wintering shorebird use of these areas: pedestrian access for fishing, beach walking, bird-watching, kayaking, kiteboarding, paddleboarding, photography, picnicking, sailing, shelling, stargazing, sunbathing, surfing, swimming, wildlife viewing, windsurfing, and commercial fishing due to the relatively low number and frequency of occurrences. If resource protection staff determines that any single activity or collection of activities is negatively impacting shorebird use of a specific location, the NPS may implement additional restrictions on compatible activities. The location(s) of all ocean shoreline Nonbreeding Shorebird SMAs will be subject to periodic review.</p>		
Adaptive Management Initiatives	<p>The NPS would take an adaptive management approach to the species management program in order to evaluate the effectiveness of and improve the measures identified above. During the course of this plan, the NPS would seek funding and assistance to develop the following adaptive management initiatives related to shorebirds or shorebird habitat:</p> <p>Vegetation management: As a pilot project, an adaptive management study to evaluate methods for managing vegetation and improving habitat and wildlife access to available habitat in the Cape Point dredge pond area. The applicability and potential effectiveness of such measures at other locations will be determined.</p> <p>Habitat management: As a pilot project, an adaptive management study to evaluate methods of improving shorebird nesting and/or foraging habitat at one location in the Seashore by applying dredge material or by moving/manipulating sand or water at the site. The applicability and potential effectiveness of such measures at other locations will be determined.</p> <p>Enhanced predator management: An adaptive management study to evaluate whether predator management actions to be implemented under the (proposed) predator control program for protected species management are effective as is, or whether enhanced measures (such as managing avian predators or ghost crabs) would be beneficial and effective, or are necessary to achieve the desired future conditions for species protection.</p> <p>Colonial waterbird social attraction: As a pilot project, an adaptive management study to evaluate the effectiveness of using colonial waterbird decoys and audio-attraction to establish or re-establish colonial waterbird colonies in suitable habitat.</p> <p>Piping plover chick fledge rate: An adaptive management study to evaluate the short-term performance target of 1.0 chick fledged per breeding pair, as well as the 1.5 chicks fledged per pair productivity rate identified in the recovery plan, to determine what productivity rate is realistically attainable and would provide for a growing population at the Seashore over the long term. If the actual productivity rate is not sufficient to achieve the desired future conditions for piping plover, it will be determined what management actions (e.g., frequency of monitoring; size or timing of buffers) need to be changed in order to achieve the desired results. The NPS would seek funding for this study as a conservation measure to contribute to the piping plover knowledge base pursuant to its <i>Endangered Species Act</i> recovery responsibilities.</p> <p>After desired future conditions are attained, the NPS would seek funding to develop the following adaptive management initiatives related to resource protection buffers for shorebirds:</p> <p>Piping plover chick buffer distance: An adaptive management study to evaluate whether a reduced ORV or pedestrian buffer distance (i.e., less than that stated in this plan) after a certain time period, such as 2 weeks after chicks have hatched, would be adequate to prevent disturbance of piping plover chicks by ORVs and/or pedestrians using adjacent areas during daylight hours.</p> <p>Pass-through buffers during the incubation period: An adaptive management study or studies to evaluate whether a reduced buffer distance is adequate to prevent disturbance caused by ORVs driving past piping plover, American oystercatcher, or colonial waterbird nest sites if all other recreation (e.g., pedestrians, pets) is prohibited within the reduced buffer, and to determine whether a reduced buffer is adequate to prevent disturbance caused by pedestrians walking below the high tide line past piping plover, American oystercatcher, or colonial waterbird nest sites.</p>		
Research	In addition to the species management procedures outlined in this table, through the issuance of a research permit, the NPS may authorize qualified researchers associated with recognized academic or research institutions to conduct additional scientific research on the respective species that will add to the existing knowledge of shorebird species or improve resource protection within the Seashore. Establishment of Research Areas may be authorized under such a permit.		
Implementation of Adaptive Management and Research Initiatives	Should adaptive management initiatives and other research provide information that the NPS believes is an adequate basis for management changes, such changes would be evaluated and considered for implementation as part of the 5-year periodic review process described at the end of this table.		
Management Activity	Sea Turtles		

Management Activity	Sea Turtles
Survey Time and Frequency	<p>Sea turtle patrol will begin on May 1, unless leatherback nests have been reported within the state, in which case, the Seashore will follow the direction of NCWRC. Patrol will continue until Sep 15, or 2 weeks after the last sea turtle nest or crawl is found, whichever is later.</p> <p>Daily surveys will be conducted by ATV/UTV and possibly ORV for crawls and nests on all beaches, generally in the morning before onset of public ORV use. Daily surveys for nests end Sep 15, or 2 weeks after the last sea turtle nest or crawl is found, whichever is later. Periodic monitoring (e.g., every 2 to 3 days) for unknown nesting and emerging hatchlings will continue, especially in areas of high visitation, from that date until Nov 15.</p> <p>Monitoring will also occur for post-hatchling washbacks during periods when there are large quantities of seaweed washed ashore or following severe storm events. Nest observations will stop when all nests have hatched or excavation indicates that unhatched nests are not viable.</p> <p>Once a light filter fence is installed, nests will be monitored daily for signs of hatchling emergence.</p>
Sea Turtle Data Collection/Reporting	<p>At a minimum, the NCWRC handbook will be followed and the following will be recorded:</p> <ul style="list-style-type: none"> • Date, location, and species of nests and false crawls; identity of observer. • Whether nests need to be relocated and, if so, why and where (new physical description and GPS location), number of eggs relocated, and time of day. • Necessary protective measures for nests and hatchlings. • Information regarding any post-hatching nest excavation and analysis. <p>All nests will be examined after hatching to determine productivity rates. Nests will be excavated in the evening, a minimum of 72 hours after the hatching event. In cases where hatching events or dates are unknown, nest cavities will be unearthed 80–90 days after the lay date. Any live hatchlings found during excavations will be released at dusk or after dark on the same day as excavation.</p> <p>For strandings, the following will be recorded: species, location (GPS), measurements, indications of human interactions, and disposition of animal/carcass. Samples and photos will be collected when necessary. Necropsies will be conducted when possible.</p>
Nest Closures/Buffers	<p>A buffer approximately 10 × 10 meters will be established with symbolic fencing and signage around nest. Closure size may be modified depending on environmental conditions at the nest site.</p> <p>Approximately 50–55 days into incubation, closures will be expanded to the surf line. The width of the closure will be based on the type and level of use in the area of the beach where the nest was laid:</p> <ol style="list-style-type: none"> 1. Vehicle-free areas/VFAs with little or no pedestrian traffic—25 meters wide (total). 2. Village beaches or other areas with high levels of pedestrian and other non-ORV vehicle free use—50 meters wide (total). 3. Areas with ORV traffic—105 meters wide (total). <p>On the landward side of the nest, the closed area will be expanded to 15 meters from the nest where possible, but no less than 10 meters landward from the nest. If appropriate, traffic detours behind the nest area will be established and clearly marked with signs and reflective arrows.</p> <p>Light-filtering fence will be used in a U-shaped configuration around nests nearing their hatch dates, with the open face of the U oriented toward the water, to block light pollution from the villages and vehicles operating on the beach after dark.</p> <p>Once the buffer expansion is implemented, NPS staff will use rakes or a steel mat attached to an ATV to smooth any vehicle tracks between the nest and the water, so that tracks do not impede hatchlings from reaching the water.</p> <p>If multiple nests are located near each other (within 50 meters), and have similar hatch dates (within 14 days of each other), then closures will encompass all nests in the area and will not be removed until all nests within the closure have hatched.</p>
Nest Watch Program	<p>A cadre of trained volunteers will be established to watch nests that have reached their hatch windows in order to monitor hatchling emergence success and success reaching the water, and to provide for the minimization of negative impacts from artificial lighting, predation, and human disturbance. Depending on the number of nests that may be ready to hatch and the availability of volunteers, it may be necessary for NPS turtle staff to prioritize which nests are watched on any particular night. Priority will be given to watching the nests that are most likely to be negatively impacted by manageable factors.</p>
Nest Relocation	<p>By Apr 15, areas deemed unsuitable for turtle nests (e.g., those with a high erosion rate) will be identified by Seashore staff. Maps and descriptions of these areas will be analyzed by NCWRC prior to nesting season.</p> <p>When a nest is found, designated NPS staff members will assess the need for nest relocation and follow relocation guidance identified in the NCWRC handbook.</p> <p>If it is determined that the nest will not be relocated, it will be immediately protected with symbolic fencing and signs approximately 10 × 10 meters in size. Closure size may vary at the discretion of NPS staff depending on the environmental factors at a nest location.</p> <p>If a nest is threatened by an imminent storm event, NPS will consult with NCWRC to determine appropriate action.</p>
Strandings	<p>The Seashore will respond to sea turtle strandings in a timely manner, and will forward or report all information, pictures, and signs of human interaction to NCWRC.</p> <p>Necropsies of stranded turtles will be done when possible.</p>
Light Restrictions	<p>From May 1 through Nov 15:</p> <ul style="list-style-type: none"> • Portable lanterns, auxiliary lights, and powered fixed lights of any kind shining for more than 5 minutes at a time would be prohibited on Seashore ocean beaches. • Beach fires would be allowed/restricted as described in the respective alternatives.
Night-Driving Restrictions	<p>From May 1 to Nov 15, all non-essential vehicle use is restricted or prohibited as described in the respective alternatives.</p>
Light Management	<p>By May 1, 2012, turtle-friendly lighting fixtures will be installed on all Seashore structures visible from the ocean beach (except where prevented by other overriding lighting requirements, such as lighthouses, which serve as aids to navigation) and fishing piers operated by NPS concessioners.</p> <p>Educational material will be developed to inform visitors about their impact on the success of sea turtle nests.</p> <p>The Seashore will work with the USFWS, the NCWRC, and Dare County to encourage development of a turtle-friendly lighting education program for villages within the Seashore on Hatteras Island.</p>

Table 10. Species Management Strategies for Action Alternatives C, D and E

Management Activity	Sea Turtles
Adaptive Management Initiatives	<p>The NPS would take an adaptive management approach to the species management program in order to evaluate the effectiveness of and improve the measures identified above. During the course of this plan, the NPS would seek funding and assistance to develop the following adaptive management initiatives for sea turtles:</p> <ul style="list-style-type: none"> An assessment tool to measure ambient artificial lighting along the length of the Seashore, which can be used to reassess conditions after any management actions (such as a lighting ordinance) are implemented to reduce artificial lighting. After light management actions are implemented, levels of lighting will be reassessed and impacts on sea turtle nesting success will be monitored and evaluated. If supported by the findings, the NPS will work toward an incremental adjustment (i.e., increase) in nighttime ORV access to limited select locations where not in substantial conflict with turtle nesting and hatchling activity. An adaptive management study to evaluate the level of human disturbance, if any, that might be caused by designating night-driving routes to select points and spits, and to develop management tools to minimize impacts to an acceptable level. If supported by the findings, the NPS will work toward an incremental adjustment (i.e., increase) in nighttime ORV access to limited select locations where not in substantial conflict with turtle nesting and hatchling activity. An adaptive management study to determine ways to increase the number of hatchlings that emerge and reach the water. The NPS would seek funding for this study as a conservation measure to contribute to the sea turtle knowledge base pursuant to its <i>Endangered Species Act</i> recovery responsibilities.
Research	In addition to the species management procedures outlined in this table, through the issuance of a research permit, the NPS may authorize qualified researchers associated with recognized academic or research institutions to conduct additional scientific research on turtle species that will add to the existing knowledge of sea turtles or improve resource protection within the Seashore. Establishment of research areas could be authorized under such a permit.
Implementation of Adaptive Management and Research Initiatives	Should adaptive management initiatives and other research provide information that NPS believes is an adequate basis for management changes, such changes would be evaluated and considered for implementation as part of the 5-year periodic review process.
Management Activity	Seabeach Amaranth
Survey Time and Frequency	<p>Jul to Sep: Before removing any shorebird closures, surveys will be conducted for seabeach amaranth seedlings/plants.</p> <p>Aug: A Seashore-wide annual survey for seabeach amaranth will be conducted in all potential habitats. Some shorebird closures may not be surveyed until just prior to reopening an area to ORV traffic to minimize disturbance of nesting birds or chicks.</p> <p>Observations will end when all known seabeach amaranth plants have died back.</p>
Data Collection	The location of all individual plants or plant clusters will be recorded using GPS. It will be noted whether the plant is located in an area open or closed to recreational use.
Buffers/Closures	<p>Prior to Jun 1, suitable seabeach amaranth habitat will be identified at points and spits where plants have observed within the last 5 years and delineated with symbolic fencing if such areas are not already protected within existing shorebird resource closures.</p> <p>If a plant/seedling is found outside of an existing closure, symbolic fencing with signage will be erected creating a 10- x 10-meter buffer around the plant. If plants are located next to one another, the area will be expanded to create one enclosure protecting several plants.</p> <p>If a seabeach amaranth plant is found during the survey prior to reopening a bird closure to ORV and pedestrian use, the Seashore will protect the plant as described above and reopen the portions of the bird closure where seabeach amaranth plants do not exist.</p> <p>If seabeach amaranth is not present by Sep 1, seabeach amaranth buffers will be removed. If seabeach amaranth is present, buffers will remain until after the plants have senesced, which is typically around Dec 1.</p>
Adaptive Management Initiatives	<p>NPS would take an adaptive management approach to the species management program in order to evaluate the effectiveness of and improve the measures identified above. During the course of this plan, NPS would seek funding and assistance to develop the following adaptive management initiatives for seabeach amaranth:</p> <p>A study to assess the feasibility of seabeach amaranth restoration at up to four suitable sites. NPS would seek funding for this study as a conservation measure to contribute to the seabeach amaranth knowledge base pursuant to its <i>Endangered Species Act</i> recovery responsibilities.</p>
Management Activity	All Species
Periodic Review	A systematic review of data, annual reports, and other information would be conducted by NPS every 5 years, <u>after storms or events that Seashore management determines to be a major modification of habitat quantity or quality, or if necessitated by a significant change in protected species status (e.g., listing or de-listing), after a major hurricane, or if necessitated by a significant change in protected species status (e.g., listing or de-listing)</u> , 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 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 the attainment of desired future conditions, periodic review and adaptive management may provide for additional management including appropriate restrictions on recreational use.

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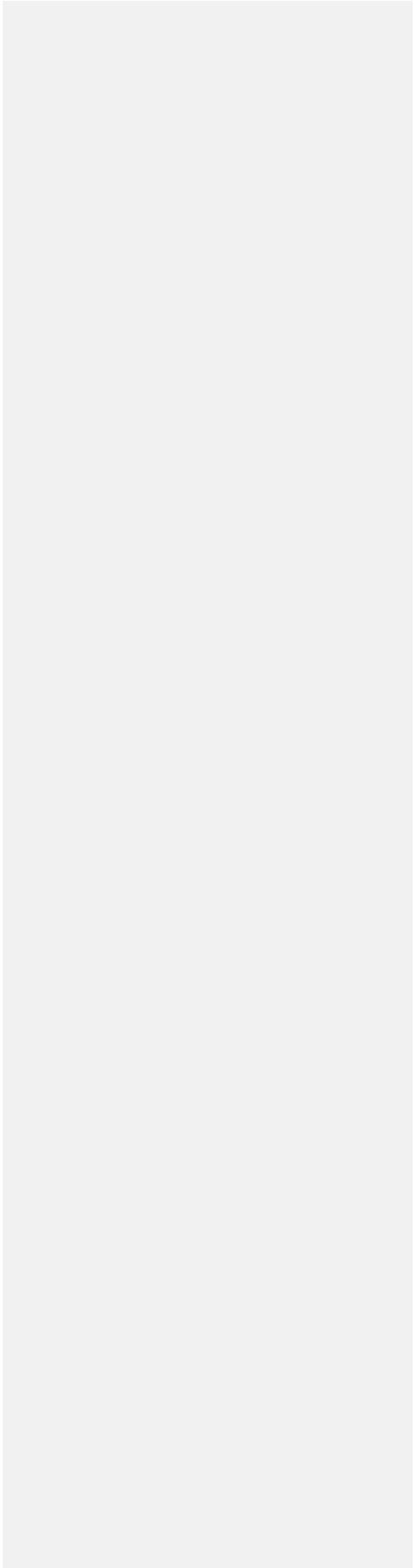


TABLE 10-1. SPECIES MANAGEMENT STRATEGIES FOR ALTERNATIVE F

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 shoreline 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. Standard buffers for breeding activity will apply. 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 [mbm11]: Comment from Britta: I think we want to limit pedestrian access to the ocean and inlet shorelines.

Comment [mbm12]: 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.

Management Activity	Shorebirds		
	Piping Plover and Wilson's Plover	American Oystercatcher	Colonial Waterbirds, including Least Terns, Common Terns, Gull-Billed Terns, and Black Skimmers
	<p>If breeding activity is observed outside of an existing closure or within a closure less than the prescribed buffer distance from the closure boundary, a buffer will be established or expanded to ensure a 75-meter buffer for the observed birds.</p> <p>Buffers will be increased in 50-meter increments if human disturbance* occurs.</p> <p>Outside of pre-nesting areas, closures will be removed if no breeding activity is observed for a 2-week period, or when associated breeding activity has concluded.</p> <p>*Buffers are not expanded for incidental disturbance associated with required NPS protected species monitoring.</p>	<p>If breeding activity is observed outside of an existing closure or within a closure less than the prescribed buffer distance from the closure boundary, a buffer will be established or expanded to ensure a 150-meter buffer for the observed birds.</p> <p>Buffers will be increased in 50-meter increments if human disturbance occurs.</p> <p>Outside of pre-nesting areas, closures will be removed if no breeding activity is observed for at least a 2-week period, or when associated breeding activity has concluded.</p>	<p>Buffer establishment will be based on the location of scrape(s) and not location of copulation or "fish flashing."</p>
Scrape/Nest Surveys	<p>A walk-through will be conducted to look for scrapes/nests every 3 days until such monitoring will disrupt other nesting species in the area. Monitoring of known and potential breeding areas will continue from a distance.</p> <p>Nests will be observed daily from a distance that does not disturb the birds, based on professional judgment.</p> <p>Nests will be approached once per week to observe and record data.</p>	<p>A walk-through will be conducted to look for scrapes/nests when observations suggest a scrape or nest is present.</p> <p>Nests will be observed daily from a distance that does not disturb the birds, based on professional judgment.</p> <p>For incubating birds that cannot be observed from a distance, nests will be checked every 3 days.</p>	<p>If scrape(s)/nest(s) are observed outside a resource closure or within a closure less than the prescribed buffer distance from the closure boundary, a 100-meter buffer will be established around the scrape location for least terns (if only least terns are present), or a 200-meter buffer when other colonial waterbird species are present.</p> <p>Buffers will be increased in 50-meter increments if human disturbance occurs.</p> <p>Colonies will be surveyed during the peak nesting period for each species, which generally is during the last week of May and the first week part of June for tern species, but could be later for species such as, especially for black skimmers.</p> <p>Nests will be observed daily from a distance that does not disturb the birds, based on professional judgment.</p> <p>For incubating birds that cannot be observed from a distance, colony activity will be checked every 3 days.</p>
Scrape/Nest Buffers	<p>All species: The Seashore retains the discretion to expand scrape or nest buffers as needed to protect resources. In unprotected areas, a buffer will be established immediately when a nest with egg(s) is found. Prior to hatching, vehicles may pass by such areas within designated ORV access corridors that have been established along the outside edge of nesting habitat where, in the judgment of Seashore resources management staff, steep topography, dense vegetation, or other naturally-occurring obstacles minimize the risk of human disturbance. Such sites will be re-evaluated for disturbance during each subsequent survey. When scrape(s), nest(s) or chick(s) occur in the immediate vicinity of paved roads, parking lots, campgrounds, buildings, and other facilities, such as within the villages or at NPS developed sites, the NPS retains the discretion to provide resource protection to the extent possible while still allowing those facilities to remain operational. Regardless of the nature of the adjacent facilities, in all cases, as a minimum, NPS would provide signs, fencing and reduced buffers to protect nest(s) and chick(s) once they occur. The NPS shall not reduce buffers to accommodate an ORV corridor or ORV ramp access. Buffers will remain in place for 2 weeks after a nest is lost to determine if the pair will re-nest. For buffers that occur outside of, or that expand, the original pre-nesting areas, the buffer or expansion will be removed if no breeding activity is observed for a 2-week period, or when associated breeding activity has concluded.</p>		
	<p>A 75-meter buffer/closure will be established around scrape(s) or nest(s). Buffers will be increased in 50-meter increments if human disturbance occurs.</p> <p>If a buffer falls within the intertidal zone, a full-beach closure will result.</p>	<p>A 150-meter buffer/closure will be established around scrape(s) or nest(s). Buffers will be increased in 50-meter increments if human disturbance occurs.</p> <p>If a buffer falls within the intertidal zone, a full-beach closure will result.</p>	<p>A 100-meter buffer/closure will be established around a least tern scrape, nest or colony.</p> <p>A 200-meter buffer/closure will be established around the scrape, nest or colony if any common terns, gull-billed terns, or black skimmers are present.</p> <p>Buffers will be increased in 50-meter increments if human disturbance occurs.</p> <p>If a buffer falls within the intertidal zone, a full-beach closure will result.</p>
Adult Foraging Surveys and Buffer	<p>PIPL: Suitable breeding habitat will be surveyed three times per week to monitor for adults with an associated scrape or nest territory foraging outside of an existing closure. If birds are observed foraging outside an existing closure, the site will be surveyed daily. If birds are observed foraging outside of a closure on two consecutive surveys, the buffer will be established or expanded using flexible increments based on observed bird behavior to include the foraging site. These closures are intended to provide foraging opportunities close to breeding sites. The closure will be removed if no foraging is observed for a 2-week period during the breeding season, or when associated breeding activity has concluded.</p> <p>WIPL: No additional buffers/closures.</p>	<p>No additional buffers/closures.</p>	<p>No additional buffers/closures.</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
Unfledged Chick Surveys	<p><u>PIPL:</u> Brood will be observed at least one hour each in a.m. and p.m. daily.</p> <p><u>WIPL:</u> Observe brood once daily.</p> <p><u>All:</u> 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>Colonies will be surveyed during the peak hatching period, which should fall 21 days after initial nest observations.</p> <p>A follow-up survey (perimeter count) should be conducted during the peak fledge, which should fall 20 days after hatch counts.</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><u>PIPL:</u> 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><u>WIPL:</u> 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><u>All Species:</u> 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 [mbm13]: 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.

Management Activity	Shorebirds		
	Piping Plover and Wilson's Plover	American Oystercatcher	Colonial Waterbirds, including Least Terns, Common Terns, Gull-Billed Terns, and Black Skimmers
Nonbreeding Shorebird Habitat Protection	<p>All Species: VFAs throughout the Seashore will provide relatively less disturbed foraging, resting, and roosting habitat for migrating and wintering birds. These areas will be open to pedestrians for recreational use. Pets on a leash in accordance with existing regulations will be permitted in VFAs, except as previously noted for pedestrian shoreline access in front of pre-nesting closures.</p> <p>Points and Spits: An annual habitat assessment will be conducted after all birds have fledged from the area. Prior to removing pre-nesting closures, resource closures will be established in the most sensitive portions of nonbreeding shorebird habitat at the points and spits based on habitat used by wintering piping plovers in more than one (i.e., two or more) of the past 5 years, the presence of birds at the beginning of the migratory season, and suitable habitat types based on the results of the annual habitat assessment. People and pets will be prohibited in these resource closures. Actual locations of suitable foraging and roosting habitat may change periodically due to natural processes. Access to the inlet shorelines, where permitted, will be maintained by a corridor to be determined by NPS staff based on the annual habitat assessment. For the nonbreeding season, the ORV corridor at Bodie Island Spit, Cape Point and South Point will be established at 50 meters (164 ft) after breeding activity is completed and pre-nesting closures are removed.</p>		
Adaptive Management Initiatives	<p>The NPS would take an adaptive management approach to the species management program in order to evaluate the effectiveness of and improve the measures identified above. During the course of this plan, the NPS would seek funding and assistance to develop the following adaptive management initiatives related to shorebirds or shorebird habitat:</p> <p>Vegetation management: As a pilot project, an adaptive management study to evaluate methods for managing vegetation and improving habitat and wildlife access to available habitat in the Cape Point dredge pond area. The applicability and potential effectiveness of such measures at other locations will be determined.</p> <p>Habitat management: As a pilot project, an adaptive management study to evaluate methods of improving shorebird nesting and/or foraging habitat at one location in the Seashore by applying dredge material or by moving/manipulating sand or water at the site. The applicability and potential effectiveness of such measures at other locations will be determined.</p> <p>Enhanced predator management: An adaptive management study to evaluate whether predator management actions to be implemented under the (proposed) predator control program for protected species management are effective as is, or whether enhanced measures (such as managing avian predators or ghost crabs) would be beneficial and effective, or are necessary to achieve the desired future conditions for species protection.</p> <p>Colonial waterbird social attraction: As a pilot project, an adaptive management study to evaluate the effectiveness of using colonial waterbird decoys and audio-attraction to establish or re-establish colonial waterbird colonies in suitable habitat.</p> <p>Piping plover chick fledge rate: An adaptive management study to evaluate the short-term performance target of 1.0 chick fledged per breeding pair, as well as the 1.5 chicks fledged per pair productivity rate identified in the recovery plan, to determine what productivity rate is realistically attainable and would provide for a growing population at the Seashore over the long term. If the actual productivity rate is not sufficient to achieve the desired future conditions for piping plover, it will be determined what management actions (e.g., frequency of monitoring; size or timing of buffers) need to be changed in order to achieve the desired results. The NPS would seek funding for this study as a conservation measure to contribute to the piping plover knowledge base pursuant to its <i>Endangered Species Act</i> recovery responsibilities.</p> <p>After desired future conditions are attained, the NPS would seek funding to develop the following adaptive management initiatives related to resource protection buffers for shorebirds:</p> <p>Piping plover chick buffer distance: An adaptive management study to evaluate whether a reduced ORV or pedestrian buffer distance (i.e., less than that stated in this plan) after a certain time period, such as 2 weeks after chicks have hatched, would be adequate to prevent disturbance of piping plover chicks by ORVs and/or pedestrians using adjacent areas during daylight hours.</p> <p>Pass-through buffers during the incubation period: An adaptive management study or studies to evaluate whether a reduced buffer distance is adequate to prevent disturbance caused by ORVs driving past piping plover, American oystercatcher, or colonial waterbird nest sites if all other recreation (e.g., pedestrians, pets) is prohibited within the reduced buffer, and to determine whether a reduced buffer is adequate to prevent disturbance caused by pedestrians walking below the high tide line past piping plover, American oystercatcher, or colonial waterbird nest sites.</p> <p>Nonbreeding shorebird management: Develop an adaptive management study to evaluate nonbreeding shorebird utilization of shoreline habitat that is open to ORV use compared to habitat that is not open to ORV use. Utilize findings in the future to determine best location and configuration of ORV corridors in areas designated for ORV use.</p>		
Research	<p>In addition to the species management procedures outlined in this table, through the issuance of a research permit, the NPS may authorize qualified researchers associated with recognized academic or research institutions to conduct additional scientific research on the respective species that will add to the existing knowledge of shorebird species or improve resource protection within the Seashore. Establishment of Research Areas may be authorized under such a permit.</p>		
Implementation of Adaptive Management and Research Initiatives	<p>Should adaptive management initiatives and other research provide information that the NPS believes is an adequate basis for management changes, such changes would be evaluated and considered for implementation as part of the 5-year periodic review process described at the end of this table.</p>		
Management Activity	Sea Turtles		
Survey Time and Frequency	<p>Sea turtle patrol will begin on May 1, unless leatherback nests have been reported within the state, in which case, the Seashore will follow the direction of NCWRC. Patrol will continue until Sep 15, or 2 weeks after the last sea turtle nest or crawl is found, whichever is later.</p> <p>Daily surveys will be conducted by ATV/UTV (and occasionally possibly by ORV) to search for crawls and nests on all oceanside beaches and spits, generally in the morning before onset of public ORV use. Daily surveys for nests end Sep 15, or 2 weeks after the last sea turtle nest or crawl is found, whichever is later. Periodic monitoring (e.g., every 2 to 3 days) for unknown nesting and emerging hatchlings will continue, especially in areas of high visitation, from that date until Nov 15.</p> <p>Monitoring will also occur for post-hatchling washbacks during periods when there are large quantities of seaweed washed ashore or following severe storm events. Nest observations will stop when all nests have hatched or excavation indicates that unhatched nests are not viable.</p> <p>Once a light filter fence is installed, nests will be monitored daily for signs of hatchling emergence.</p>		

Comment [mbm14]: Comment from Britta: We don't survey soundside beaches for example Haulover Beach. We did have a nest on the soundside of Hatteras Inlet this year.

Management Activity	Sea Turtles
Sea Turtle Data Collection/Reporting	<p>At a minimum, the NCWRC handbook will be followed and the following will be recorded:</p> <ul style="list-style-type: none"> • <u>Date, location, and species of nests and false crawls; identity of observer.</u> • <u>Whether nests need to be relocated and, if so, why and where (new physical description and GPS location), number of eggs relocated, and time of day.</u> • <u>Necessary protective measures for nests and hatchlings.</u> • <u>Information regarding any post-hatching nest excavation and analysis.</u> <p>All nests will be examined after hatching to determine productivity rates. Nests will be excavated in the evening, a minimum of 72 hours after the hatching event. In cases where hatching events or dates are unknown, nest cavities will be unearthed 80–90 days after the lay date. Any live hatchlings found during excavations will be released at dusk or after dark on the same day as excavation.</p> <p>For strandings, the following will be recorded: species, location (GPS), measurements, indications of human interactions, and disposition of animal/carcass. Samples and photos will be collected when necessary. Necropsies will be conducted when possible.</p>
Nest Closures/Buffers	<p>A buffer approximately 10 x 10 meters will be established with symbolic fencing and signage around nest. Closure size may be modified depending on environmental conditions at the nest site.</p> <p>Approximately 50–55 days into incubation, closures will be expanded to the surf line. The width of the closure will be based on the type and level of use in the area of the beach where the nest was laid:</p> <ol style="list-style-type: none"> 4. VFAs with little or no pedestrian traffic—25 meters wide (i.e., 12.5 meters on either side of the nest). 5. Village beaches or other areas with high levels of pedestrian and other non-ORV vehicle free use—50 meters wide (i.e., 25 meters on either side of the nest). 6. Areas with ORV traffic—105 meters wide (i.e., 52.5 meters on either side of the nest). <p>On the landward side of the nest, the closed area will be expanded to 15 meters from the nest where possible, but no less than 10 meters landward from the nest. If appropriate, traffic detours behind the nest area will be established and clearly marked with signs and reflective arrows.</p> <p>On the seaward side of the nest closure, pedestrians will be allowed to walk through the intertidal zone during daylight hours.</p> <p>Light-filtering fence will be used in a U-shaped configuration around nests nearing their hatch dates, with the open face of the U oriented toward the water, to block light pollution from the villages and vehicles operating on the beach after dark.</p> <p>Once the buffer expansion is implemented, NPS staff will use rakes or a steel mat attached to an ATV or UTV to smooth any vehicle tracks between the nest and the water, so that tracks do not impede hatchlings from reaching the water.</p> <p>If multiple nests are located near each other (within 50 meters), and have similar hatch dates (within 14 days of each other), then closures will encompass all nests in the area and will not be removed until all nests within the closure have hatched.</p>
Nest Watch Program	<p>A cadre of trained volunteers will be established to watch nests that have reached their hatch windows in order to monitor hatchling emergence success and success reaching the water, and to provide for the minimization of negative impacts from artificial lighting, predation, and human disturbance. Depending on the number of nests that may be ready to hatch and the availability of volunteers, it may be necessary for NPS turtle staff to prioritize which nests are watched on any particular night. Priority will be given to watching the nests that are most likely to be negatively impacted by manageable factors.</p>
Nest Relocation	<p>In general, NPS staff will follow guidance in the NCWRC handbook and FWS Loggerhead Sea Turtle Recovery Plan, which is to allow nests to incubate at their original location if there is any reasonable likelihood of survival. Relocation of a nest is considered as a last resort.</p> <p>By Apr 15, Seashore staff will conduct an annual sea turtle nesting habitat assessment to identify areas deemed unsuitable for turtle nests (e.g., those with a high erosion rate) and will discuss with NCWRC prior to nesting season to confirm the high erosion area(s) in which nest relocation would occur during the upcoming nesting season.</p> <p>When a nest is found, designated NPS staff members will assess the need for nest relocation. If it is determined that the nest will NOT be relocated, it will be immediately protected with symbolic fencing and signs approximately 10 x 10 meters in size. Closure size may vary at the discretion of NPS staff depending on the environmental factors at a nest location. If it is determined that the nest will be relocated, NPS will follow relocation procedures identified in the NCWRC handbook. A nest will be relocated only when one or more of the following situations exist:</p> <ul style="list-style-type: none"> • <u>The nest is located at or below the average high tide line, or within an existing “trough” or flooding pool above the average high tide line, where regular inundation or standing water will result in embryonic mortality.</u> • <u>The nest is laid in an area that is known to be susceptible to erosion, as identified by the annual habitat assessment. Such areas typically include the following locations where known erosion or water table issues are known to cause nest mortality, such as spits, points, manmade groins, and re-constructed beaches, as is the case between Frisco and Hatteras Villages.</u> • <u>When a nest is inspected to verify the presence of eggs and it is found that there are broken eggs in the nest resulting in yolk dripping down into the egg chamber. This situation can result from either predation or human impacts and can result in increased predation if the nest is left in place. NPS staff may “screen” a nest to further discourage additional predation from mammalian predators.</u> • <u>The nest is laid in an area in which unusual, but lawfully conducted, human activities pose a serious threat to nests, such as emergency “beach push” following a major storm event. When these situations arise, NPS will consult with NCWRC prior to conducting these activities to discuss the impact on existing turtle nests.</u> <p>If a nest is threatened by an imminent storm event, NPS will consult with NCWRC to determine appropriate action.</p>
Strandings	<p>The Seashore will respond to sea turtle strandings in a timely manner, and will forward or report all information, pictures, and signs of human interaction to NCWRC.</p> <p>Necropsies of stranded turtles will be done when possible.</p>
Light Restrictions	<p>From May 1 through Nov 15:</p> <ul style="list-style-type: none"> • <u>Portable lanterns, auxiliary lights, and powered fixed lights of any kind shining for more than 5 minutes at a time would be prohibited on Seashore ocean beaches.</u> • <u>Beach fires would be allowed/restricted as described in the respective alternatives.</u>
Night-Driving Restrictions	<p>From May 1 until Nov 15 all non-essential vehicle use is prohibited from 9:00 p.m. until 7:00 a.m., except from Sept 16 to Nov 15, ORV routes with no turtle nests remaining will reopen for night driving.</p>

Comment [mbm15]: After considering informal feedback from FWS and WRC, we've decided to stick with night driving restrictions from 9 p.m. to 7 a.m. from May 1 to November 15 (rather than "from May 15, or after the first loggerhead or green turtle nest is found, whichever is earlier..."); and to not explicitly include daytime pedestrian access below expanded turtle closures, since there are biological concerns (if tracks are not raked out each night) and operational issues (having sufficient staff or volunteer coverage to commit to always raking out the tracks each night) that we cannot currently resolve.

Comment [mbm16]: Comment from Britta: I deleted the below sentence because I thought it was too specific. This year we had a number of nests in that area. If the nest was on the flat portion of the beach it was relocated to the dune where many of them did quite well.

Management Activity	Sea Turtles
Light Management	By May 1, 2012, turtle-friendly lighting fixtures will be installed on all Seashore structures visible from the ocean beach (except where prevented by other overriding lighting requirements, such as lighthouses, which serve as aids to navigation) and fishing piers operated by NPS concessioners. Educational material will be developed to inform visitors about their impact on the success of sea turtle nests. The Seashore will work with the USFWS, the NCWRC, and Dare County to encourage development of a turtle-friendly lighting education program for villages within the Seashore on Hatteras Island.
Adaptive Management Initiatives	The NPS would take an adaptive management approach to the species management program in order to evaluate the effectiveness of and improve the measures identified above. During the course of this plan, the NPS would seek funding and assistance to develop the following adaptive management initiatives for sea turtles: <ul style="list-style-type: none"> A study to develop a protocol for conducting an artificial lighting survey along the length of the Seashore, which can be used to assess artificial conditions before and after any management actions (such as a lighting ordinance) are implemented to reduce artificial lighting. After light management actions are implemented, levels of lighting will be reassessed and impacts on sea turtle nesting success will be monitored and evaluated. An adaptive management study to evaluate the level of human disturbance, if any, that might be caused by designating night-driving routes to select points and spits, and to develop management tools to minimize impacts to an acceptable level. If supported by the findings, the NPS will work toward an incremental adjustment (i.e., increase) in nighttime ORV access to limited select locations where not in substantial conflict with turtle nesting and hatchling activity. An adaptive management study to determine ways to increase the number of male hatchlings that emerge and reach the water. The NPS would seek funding for this study as a conservation measure to contribute to the sea turtle knowledge base pursuant to its <i>Endangered Species Act</i> recovery responsibilities.
Research	In addition to the species management procedures outlined in this table, through the issuance of a research permit, the NPS may authorize qualified researchers associated with recognized academic or research institutions to conduct additional scientific research on turtle species that will add to the existing knowledge of sea turtles or improve resource protection within the Seashore. Establishment of research areas could be authorized under such a permit.
Implementation of Adaptive Management and Research Initiatives	Should adaptive management initiatives and other research provide information that NPS believes is an adequate basis for management changes, such changes would be evaluated and considered for implementation as part of the 5-year periodic review process.
Management Activity	Seabeach Amaranth
Survey Time and Frequency	Jul to Sep: Before removing any shorebird closures, surveys will be conducted for seabeach amaranth seedlings/plants. Aug: A Seashore-wide annual survey for seabeach amaranth will be conducted in all potential habitats. Some shorebird closures may not be surveyed until just prior to reopening an area to ORV traffic to minimize disturbance of nesting birds or chicks. Observations will end when all known seabeach amaranth plants have died back.
Data Collection	The location of all individual plants or plant clusters will be recorded using GPS. It will be noted whether the plant is located in an area open or closed to recreational use.
Buffers/Closures	Prior to Jun 1, suitable seabeach amaranth habitat will be identified at points and spits where plants have observed within the last 5 years and delineated with symbolic fencing if such areas are not already protected within existing shorebird resource closures. If a plant/seedling is found outside of an existing closure, symbolic fencing with signage will be erected creating a 10- x 10-meter buffer around the plant. If plants are located next to one another, the area will be expanded to create one enclosure protecting several plants. If a seabeach amaranth plant is found during the survey prior to reopening a bird closure to ORV and pedestrian use, the Seashore will protect the plant as described above and reopen the portions of the bird closure where seabeach amaranth plants do not exist. If seabeach amaranth is not present by Sep 1, seabeach amaranth buffers will be removed. If seabeach amaranth is present, buffers will remain until after the plants have senesced, which is typically around Dec 1.
Adaptive Management Initiatives	NPS would take an adaptive management approach to the species management program in order to evaluate the effectiveness of and improve the measures identified above. During the course of this plan, NPS would seek funding and assistance to develop the following adaptive management initiatives for seabeach amaranth: A study to assess the feasibility of seabeach amaranth restoration at up to four suitable sites. NPS would seek funding for this study as a conservation measure to contribute to the seabeach amaranth knowledge base pursuant to its <i>Endangered Species Act</i> recovery responsibilities.
Management Activity	All Species
Periodic Review	A systematic review of data, annual reports, and other information would be conducted by NPS every 5 years, after a major hurricane, or if necessitated by 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 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. When progress is not being made toward the attainment of desired future conditions, periodic review and adaptive management may result in increased restrictions on recreational use.

Comment [bdm17]: Why are they excluded? Can we make turtle friendly lighting a requirement of their permit? (Doug McGee's comment)

Comment [mbm18]: The intent is to exclude lighthouses, communications towers, etc (i.e., facilities that have specific lighting requirements beyond NPS control), but to include concessions facilities that are subject to NPS contracting or permitting requirements. If this is not worded clearly, perhaps editor can fix it.

Table 11. Shorebird/Waterbird Buffer Summary for Action All Alternatives

TABLE 11. SHOREBIRD/WATERBIRD BUFFER SUMMARY FOR ACTION-ALL ALTERNATIVES

Species	Alternative A		Alternative B		Alternatives C, D, and E		Revised Alternative F	
	Breeding Behavior/Nest Buffer	Unfledged Chicks	Breeding Behavior/Nest Buffer	Unfledged Chicks	Breeding Behavior/Nest Buffer (ML1 / ML2)	Unfledged Chicks (ML1 / ML2)	Breeding Behavior/Nest Buffer	Unfledged Chicks
Piping plover	46 meters	183 meters	50 meters	1000 meters ORV (300 meters for pedestrians)	75 meters / 75 meters	1,000 meters ORV / 1,000 meters (300 meters for pedestrians only)	75 meters	1000 meters ORV (300 meters for pedestrians)
Wilson's plover	n/a	n/a	n/a	n/a	300 meters / 150 meters	300 meters / 200 meters	75 meters	200 meters
American oystercatcher	Behavior-based	46-91 meters	150 meters	200 meters	300 meters / 150 meters	300 meters / 200 meters	150 meters	200 meters
Least tern	See other colonial waterbird	See other colonial waterbird	100 meters	200 meters	300 meters / 100 meters	300 meters / 200 meters	100 meters	200 meters
Other colonial waterbird species	Breeding based on behavior/nest 46-91 meters	46-91 meters	200 meters	200 meters	300 meters / 200 meters	300 meters / 200 meters	200 meters	200 meters

Note: Buffers apply to both ORVs and pedestrians, unless otherwise specified

SPECIES	BREEDING BEHAVIOR/NEST BUFFER	UNFLEDGED CHICKS
	ML1 / ML2	ML1 / ML2
PIPING PLOVER	75 METERS / 75 METERS	1,000 METERS / 1,000 METERS; 300 METERS (PEDESTRIAN ONLY)
WILSON'S PLOVER	300 METERS / 150 METERS	300 METERS / 200 METERS
AMERICAN OYSTERCATCHER	300 METERS / 150 METERS	300 METERS / 200 METERS
LEAST TERN	300 METERS / 100 METERS	300 METERS / 200 METERS
OTHER COLONIAL WATERBIRD SPECIES	300 METERS / 200 METERS	300 METERS / 200 METERS

NOTE: BUFFERS APPLY TO BOTH ORVs AND PEDESTRIANS, UNLESS OTHERWISE SPECIFIED.

TABLE 12. ANALYSIS OF HOW ALTERNATIVES MEET OBJECTIVES

Objectives	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 Management Based on Advisory Committee Input</u>
Management Methodology						
Identify criteria to designate ORV routes and areas.	Meets objective to some degree. No criteria would be developed to designate routes and areas. Entire Seashore would be route or area.	Meets objective to some degree. No criteria would be developed to designate routes and areas. Entire Seashore would be route or area.	Meets objective to a large degree. Routes and areas designated based on seasonal resource and visitor use characteristics of various areas in the Seashore.	Meets objective to a large degree. Routes and areas designated based on providing predictability for visitors and simplified management strategies.	Meets objective to a large degree. Routes and areas designated based on providing a wide variety of access opportunities for all users, while still protecting sensitive resources.	Meets objective to a large degree. Routes and areas designated based on providing a variety of access opportunities for all users, while still protecting sensitive resources. This alternative also provides more predictability than alternative E.
Establish ORV management practices and procedures that have the ability to adapt in response to changes in the Seashore's dynamic physical and biological environment.	Meets objective to a moderate degree. ORV use areas are determined by where resource management closures exist. Flexibility to adapt to changes, but lack of a framework to make these changes efficiently.	Meets objective to some degree. ORV use areas are set through resource management measures under the Consent Decree. Areas are set, but are rigid, and do not have flexibility to adapt as needed to respond to changing environment.	Meets objective to a large degree. Route, areas, and ORV management measures are established that are subject to Periodic Review of both ORV management and species management measures.	Meets objective to some degree. Route, areas, and ORV management measures are established that are subject to Periodic Review and species management measures, but not ORV management measures. The ability to implement safety closures would not be available.	Meets objective to a large degree. Route, areas, and ORV management measures are established that are subject to Periodic Review of both ORV management and species management measures.	Meets objective to a large degree. Route, areas, and ORV management measures are established that are subject to Periodic Review of both ORV management and species management measures.
Establish a civic engagement component for ORV management.	Meets objective to a moderate degree. The Seashore would conduct educational programs during bird and turtle hatching season, which would involve students from public schools, as well as other public involvement activities that engage the public.	Meets objective to a moderate degree. The Seashore would conduct educational programs during bird and turtle hatching season, which would involve students from public schools, as well as other public involvement activities that engage the public.	Meets objective to a large degree as the Seashore would implement more educational programs in local schools, expand the Junior Ranger program, and enlist volunteers for a Sea Turtle Nest Watch Program.	Meets objective to a large degree as the Seashore would implement more educational programs in local schools, expand the Junior Ranger program, and enlist volunteers for a Sea Turtle Nest Watch Program.	Meets objective to a large degree as the Seashore would implement more educational programs in local schools, expand the Junior Ranger program, and enlist volunteers for a Sea Turtle Nest Watch Program.	Meets objective to a large degree as the Seashore would implement more educational programs in local schools, expand the Junior Ranger program, and enlist volunteers for a Sea Turtle Nest Watch Program.
Establish procedures for prompt and efficient public notification of beach access status, including any temporary ORV use restrictions for such things as ramp maintenance, resource and public safety closures, storm events, etc.	Meets objective to some degree. Weekly beach access reports and online news releases provide prompt public notification.	Meets objective to a moderate degree. Weekly beach access reports, online news feeds, and Google Earth maps provide efficient beach access status updates.	Fully meets objective. Weekly beach access reports, online news feeds, and Google Earth maps provide efficient beach access status updates. Implementation of a permit system would provide ORV users with information regarding closed areas.	Fully meets objective. Weekly beach access reports, online news feeds, and Google Earth maps provide efficient beach access status updates. Implementation of a permit system would provide ORV users with information regarding closed areas.	Fully meets objective. Weekly beach access reports, online news feeds, and Google Earth maps provide efficient beach access status updates. Implementation of a permit system would provide ORV users with information regarding closed areas.	Fully meets objective. Weekly beach access reports, online news feeds, and Google Earth maps provide efficient beach access status updates. Implementation of a permit system would provide ORV users with information regarding closed areas.
Build stewardship through public awareness and understanding of NPS resource-management and visitor-use policies and responsibilities as they pertain to the Seashore and ORV management.	Meets objective to some degree. Seashore programs would continue to provide information regarding resource management and aim to build stewardship through public awareness.	Meets objective to some degree. Seashore programs would continue to provide information regarding resource management and aim to build stewardship through public awareness. Public opinion regarding the Consent Decree would detract from these efforts.	Meets objective to a large degree. Seashore programs would continue to provide information regarding resource management and aim to build stewardship through public awareness. Additional programs would be implemented and information provided through the permit system would increase awareness of Seashore resources.	Meets objective to a large degree. Seashore programs would continue to provide information regarding resource management and aim to build stewardship through public awareness. Additional programs would be implemented and information provided through the permit system would increase awareness of Seashore resources.	Meets objective to a large degree. Seashore programs would continue to provide information regarding resource management and aim to build stewardship through public awareness. Additional programs would be implemented and information provided through the permit system would increase awareness of Seashore resources.	Meets objective to a large degree. Seashore programs would continue to provide information regarding resource management and aim to build stewardship through public awareness. Additional programs would be implemented and information provided through the permit system would increase awareness of Seashore resources.

Table 12. Analysis of How Alternatives Meet Objectives

Objectives	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 Management Based on Advisory Committee Input
Natural Physical Resources						
Minimize impacts from ORV use to soils and topographic features, for example, dunes, ocean beach, wetlands, tidal flats, and other features.	Meets objective to some degree. ORV use not permitted on dunes, but permitted in all areas of Seashore 24 hours a day. Lack of defined areas likely to lead to increased non-compliance and potential for these resources to be impacted.	Meets objective to a moderate degree. ORV use not permitted on dunes, but permitted in all areas of Seashore. Night-driving restrictions reduce amount of disturbance from beach driving. Implementation of larger buffers and backshore closures would offer protection to resources.	Meets objective to a large degree, as ORV use not permitted on dunes, night-driving restrictions, and carrying capacity limits. However, a large amount of beach open to ORV use could result in impacts to physical resources.	Fully meets objective, as ORV use not permitted on dunes, night-driving restrictions, and beach parking limitations. Least amount of mileage open to ORV use year-round would minimize resource impacts.	Fully meets objectives, as ORV use not permitted on dunes, night-driving restrictions, carrying capacity limits, and soundside driving restrictions.	Meets objective to a large degree, as ORV use not permitted on dunes, night-driving restrictions, and carrying capacity. However, a large amount of beach open to ORV use would result in impacts to physical resources.
Threatened, Endangered, and Other Protected Species						
Provide protection for threatened, endangered, and other protected species (e.g., state-listed species) and their habitats, and minimize impacts related to ORVs and other uses as required by laws and policies such as the <i>Endangered Species Act</i> , the <i>Migratory Bird Treaty Act</i> , and NPS laws and management policies.	Meets objective to some degree, as temporary resource closures provide protection for sensitive species but buffers would require frequent adjustments to provide adequate protection.	Meets objective to a moderate degree, as increased buffer distances and night-driving restrictions provide increased levels of species protection.	Meets objective to a large degree with increased buffer distances, night-driving restrictions, pet regulations, and SMAs closed to ORV use 7 months per year provide proactive (prior to breeding season) protection.	Fully meets objective with increased buffer distances, night-driving restrictions, pet regulations, and SMAs closed to ORV use year-round providing large areas of resource protection.	Meets objective to a large degree with increased buffer distances, night-driving restrictions, pet regulations, and SMAs closed to ORV use 5.5 months per year provide proactive (prior to breeding season) protection.	Meets objective to a large degree with increased buffer distances, night-driving restrictions, pet regulations, and SMAs closed to ORV use 4.5 months per year and the inclusion of year-round and seasonal VFAs provide proactive (prior to breeding season) protection.
Vegetation						
Minimize impacts to native plant species related to ORV use.	Meets objective to some degree as driving on dune vegetation is prohibited, but lack of defined ORV areas or backshore closures could result in increased non-compliance and impacts to the resource.	Meets objective to a moderate degree as driving on dune vegetation is prohibited and ocean backshore closures are provided. Sensitive areas with marginal width may be open in the winter that would result in non-compliance problems.	Meets objective to a large degree by adding protective signage at soundside parking areas. Location of ORV corridor at the toe of the dune, with no buffer, may impact vegetation.	Fully meets objective as driving on dune vegetation is prohibited. Year-round SMAs protect large areas, reducing potential impacts to vegetation. ORV corridor would provide a 10 meter buffer from the toe of the dune, further protecting vegetation.	Fully meets objective by closing some soundside access areas and adding protective signage at remaining soundside parking areas. ORV corridor would provide a 10 meter buffer from the toe of the dune, further protecting vegetation.	Meets objective to a large degree by adding protective signage at soundside parking areas. However, there is the potential for damage to vegetation from new soundside access points. Location of ORV corridor at the toe of the dune, with no buffer, may impact vegetation.
Other Wildlife and Wildlife Habitat						
Minimize impacts to wildlife species and their habitats related to ORV use.	Meets objective to some degree, as temporary resource closures provide protection for other wildlife species but buffers are not as large as other alternatives and would not offer large levels of protection.	Meets objective to a moderate degree, as increased buffer distances and night-driving restrictions provide increased levels of species protection, which would include to other bird and invertebrate species.	Meets objective to a large degree with increased buffer distances, night-driving restrictions, pet regulations, and SMAs closed to ORV use 7 months per year.	Fully meets objective with increased buffer distances, night-driving restrictions, pet regulations, and SMAs closed to ORV use year-round, which would also offer protection to other bird species and invertebrates.	Meets objective to a large degree with increased buffer distances, night-driving restrictions, pet regulations, and SMAs closed to ORV use 5.5 months per year.	Meets objective to a large degree with increased buffer distances, night-driving restrictions, pet regulations, and year-round and seasonal VFAs that leave areas of the Seashore less disturbed for wildlife, SMAs closed to ORV use 4.5 months per year.

Objectives	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 Management Based on Advisory Committee Input
Cultural Resources						
Protect cultural resources, such as shipwrecks, archeological sites, and cultural landscapes, from impacts related to ORV use.	Meets objective to some degree as Seashore protections would be put in place for cultural resources, such as shipwrecks, but allowing driving at night and allowing access to large areas of the Seashore would provide for more access to these resources and more possibility for these resources to be disturbed.	Meets objective to a moderate degree as Seashore protection would be in place for cultural resources, such as shipwrecks, and seasonal restrictions on night driving would further limit access to these resources. Large areas of the Seashore would still be accessible by ORV and would provide some level of access to these resources.	Meets objective to a large degree as Seashore protection would be in place for cultural resources, such as shipwrecks, and seasonal restrictions on night driving would further limit access to these resources. Further protection would be provided by the establishment of SMAs that limit access to certain areas of the Seashore during certain times of year and the addition of a permit system that could be revoked for non-compliance, decreasing the probability of drivers taking non-compliant actions.	Meets objective to a large degree as Seashore protection would be in place for cultural resources, such as shipwrecks, and seasonal restrictions on night driving would further limit access to these resources. Further protection would be provided by the establishment of SMAs that limit access to certain areas of the Seashore during certain times of year and the addition of a permit system that could be revoked for non-compliance, decreasing the probability of drivers taking non-compliant actions.	Meets objective to a large degree as Seashore protection would be in place for cultural resources, such as shipwrecks, and seasonal restrictions on night driving would further limit access to these resources. Further protection would be provided by the establishment of SMAs that limit access to certain areas of the Seashore during certain times of year and the addition of a permit system that could be revoked for non-compliance, decreasing the probability of drivers taking non-compliant actions.	Meets objective to a large degree as Seashore protection would be in place for cultural resources, such as shipwrecks, and seasonal restrictions on night driving would further limit access to these resources. Further protection would be provided by the establishment of SMAs-year-round and seasonal VFAs that limit access to certain areas of the Seashore during certain times of year and the addition of a permit system that could be revoked for non-compliance, decreasing the probability of drivers taking non-compliant actions.
Visitor Use and Experience						
Ensure that ORV operators are informed about the rules and regulations regarding ORV use at the Seashore.	Meets objective to some degree as ORV rules are posted at visitor centers, on ORV ramp bulletin boards, in the park newspaper, and on the website. No permit system would be in place to convey information or provide a mechanism for ensuring regulations are followed.	Meets objective to a moderate degree as ORV rules are posted at visitor centers, on ORV ramp bulletin boards, in the park newspaper, on the website, and within the required night-driving permit.	Fully meets objective as ORV rules are posted at visitor centers, on ORV ramp bulletin boards, in the park newspaper, and on the website. This alternative includes a required education component as part of the ORV permit.	Fully meets objective as ORV rules are posted at visitor centers, on ORV ramp bulletin boards, in the park newspaper, and on the website. This alternative includes a required education component as part of the ORV permit.	Fully meets objective as ORV rules are posted at visitor centers, on ORV ramp bulletin boards, in the park newspaper, and on the website. This alternative includes a required education component as part of the ORV permit.	Fully meets objective as ORV rules are posted at visitor centers, on ORV ramp bulletin boards, in the park newspaper, and on the website. This alternative includes a required education component as part of the ORV permit.
Manage ORV use to allow for a variety of visitor use experiences.	Meets objective to some degree as ORV and non-ORV vehicle-free areas VFAs are not officially designated. Non-ORV Vehicle-free areas VFAs occur through seasonal and safety closures throughout the Seashore, but no defined use areas exist to provide for a variety of visitor use experiences.	Meets objective to some degree as ORV and non-ORV vehicle free areas VFAs are not officially designated. Non-ORV Vehicle free areas VFAs occur through seasonal and safety closures throughout the Seashore, but no defined use areas exist to provide for a variety of visitor use experiences.	Meets objective to a moderate degree as more defined areas for ORV and non-ORV vehicle free recreational opportunities are provided. New interdunal road access would be provided, offering additional options to ORV users. Some separation of uses and unique opportunities are provided for various user groups.	Meets objective to a moderate degree as more defined areas for ORV and non-ORV vehicle free recreational opportunities are provided. New interdunal road access would be provided, offering additional options to ORV users. Some separation of uses and unique opportunities are provided for various user groups, but large areas would be closed to all visitors for most of the year, and would not be available to provide for the visitor experience.	Meets objective to a large degree as more defined areas for ORV and non-ORV vehicle free recreational opportunities are provided. New interdunal road access would be provided, offering additional options to ORV users. Additional user opportunities would be provided including the addition of a park-and-stay options, as well as self-contained vehicle camping. The addition of pedestrian routes, additional parking on the soundside, as well as the potential for water taxi access would all contribute to offering a variety of visitor experiences.	Meets objective to a large degree as more defined areas for ORV and non-ORV vehicle free recreational opportunities are provided. New interdunal road access would be provided, offering additional options to ORV users. Additional visitor experiences would be provided through pedestrian routes, extra trails, and new parking. SMAs would offer additional flexibility that would provide for a greater variety of visitor experiences Providing some areas of the Seashore that are vehicle-free year-round or seasonally would provide for a greater variety of visitor experiences.

Table 12. Analysis of How Alternatives Meet Objectives

Objectives	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 Management Based on Advisory Committee Input
Minimize conflicts between ORV use and other visitor uses.	Meets objective to some degree as no designated areas for uses are established, which could result in real or perceived conflicts between ORV uses and other visitor uses.	Meets objective to some degree as no designated areas for uses are established, which could result in real or perceived conflicts between ORV uses and other visitor uses.	Meets objective to a large degree as designation of ORV and non-ORV vehicle-free areas VFAs would help minimize conflicts. Implementation of a permit system would provide additional education and the ability to revoke permits would likely increase compliance with ORV use regulations and further reduce conflicts. Seasonal night-driving restrictions would also reduce potential visitor use conflicts.	Meets objective to a large degree as designation of ORV and non-ORV vehicle-free areas VFAs would help minimize conflicts. Implementation of a permit system would provide additional education and the ability to revoke permits would likely increase compliance with ORV use regulations and further reduce conflicts. Seasonal night-driving restrictions would also reduce potential visitor use conflicts.	Meets objective to a large degree as designation of ORV and non-ORV vehicle-free areas VFAs would help minimize conflicts. Implementation of a permit system would provide additional education and the ability to revoke permits would likely increase compliance with ORV use regulations and further reduce conflicts. Seasonal night-driving restrictions would also reduce potential visitor use conflicts.	Meets objective to a large degree as designation of ORV and non-ORV vehicle-free areas VFAs would help minimize conflicts. Implementation of a permit system would provide additional education and the ability to revoke permits would likely increase compliance with ORV use regulations and further reduce conflicts. Seasonal night-driving restrictions would also reduce potential visitor use conflicts.
Visitor Safety						
Ensure that ORV management promotes the safety of all visitors.	Meets objective to a moderate degree as ORV safety closures would be provided, as well as right-of-way and unsafe operation regulations contained in the CFR.	Meets objective to a large degree as ORV safety closures would be provided, as well as right-of-way and unsafe operation regulations contained in the CFR. Increased signage, lower speed limits, and increased public awareness would contribute to visitor safety.	Fully meets objective as ORV safety closures would be provided. Reduced speed limits would also apply in all areas. Village beaches would be closed to ORV use during the summer. Permit requirement would provide further information for increasing visitor safety.	Fully meets objective. Although ORV safety closures would not be provided, areas where these occur would be closed year-round as SMAs. Village beaches would be closed to ORVs year-round. Reduced speed limits would also apply in all areas.	Fully meets objective as ORV safety closures would be provided. Reduced speed limits would also apply in all areas. Beach width requirements would limit some ORV use in narrow beach areas and village beaches would be closed to ORV use during the summer.	Fully meets objective. Speed limits, village beach closures, and safety closures would be provided. Also, additional pedestrian safety and right-of-way requirements would provide increased protection.
Seashore Operations						
Identify operational needs and costs to fully implement an ORV management plan.	Meets objective to a large degree as implementation costs have been identified, but carries a degree of uncertainty.	Meets objective to a large degree as implementation costs have been identified, but carries a degree of uncertainty.	Meets objective to a large degree as implementation costs have been identified, but carries a degree of uncertainty.	Meets objective to a large degree as implementation costs have been identified, but carries a degree of uncertainty.	Meets objective to a large degree as implementation costs have been identified, but carries a degree of uncertainty.	Meets objective to a large degree as implementation costs have been identified, but carries a degree of uncertainty.
Identify potential sources of funding necessary to implement an ORV management plan.	Meets objective to a moderate degree. Funding expected under annual budget, but no additional funding source provided.	Meets objective to a moderate degree. Funding expected under annual budget, but no additional funding source provided.	Meets objective to a large degree. Funding expected under annual budget, additional funding would occur by from permit fees utilizing cost recovery.	Meets objective to a large degree. Funding expected under annual budget, additional funding would occur by from permit fees utilizing cost recovery.	Meets objective to a large degree. Funding expected under annual budget, additional funding would occur by from permit fees utilizing cost recovery.	Meets objective to a large degree. Funding expected under annual budget, additional funding would occur by from permit fees utilizing cost recovery.
Provide consistent guidelines, according to site conditions, for ORV routes, ramps, and signage.	Meets objective to some degree. Guidelines are not set and conditions would not be predictable.	Meets objective to a moderate degree. Increased signage would be consistent, but no consistent guidelines for routes and ramps would exist.	Meets objective to a large degree. Guidelines for ramp establishment and maintenance, signage, and routes would be established.	Meets objective to a large degree. Guidelines for ramp establishment and maintenance, signage, and routes would be established.	Meets objective to a large degree. Guidelines for ramp establishment and maintenance, signage, and routes would be established.	Meets objective to a large degree. Guidelines for ramp establishment and maintenance, signage, and routes would be established.

Note: Objectives are measured as fully meets objective, largely meets objective, moderately meets objective, or meets objective to some degree.

TABLE 13. ENVIRONMENTAL IMPACT SUMMARY BY ALTERNATIVE

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: <u>NPS Preferred Alternative Management Based on Advisory Committee Input</u>
Wetlands and Floodplains						
Wetlands	Impacts of the Alternative on Marine Intertidal Wetlands: Under all alternatives, there would be short term, negligible adverse impacts to marine intertidal wetlands due to continued ORV use in these areas					
	<p>Impacts of the Alternative: Under alternative A, there would be long-term minor adverse impacts to wetlands due to direct damage from ORV use in and around vegetated wetlands on the sound side and along interior ORV routes.</p> <p>There would be no construction (or related impacts) under the no-action alternatives.</p> <p>Cumulative Impacts: Cumulative impacts to wetlands would be long-term minor to moderate adverse.</p>	<p>Impacts of the Alternative: Under alternative B, there would be long-term minor adverse impacts to wetlands due to direct damage from ORV use in and around vegetated wetlands on the sound side and along interior ORV routes.</p> <p>There would be no construction (or related impacts) under the no-action alternatives.</p> <p>Cumulative Impacts: Cumulative impacts to wetlands would be long-term minor to moderate adverse.</p>	<p>Impacts of the Alternative: Under alternative C, there would be long-term negligible adverse impacts to wetlands due to direct damage from ORV use in and around vegetated wetlands on the sound side and along interior ORV routes. Impacts to soundside wetlands would remain at a negligible level due to the protection provided by the installation of signage.</p> <p>Construction activities would avoid wetland areas, resulting in indirect, long-term negligible adverse impacts to wetlands.</p> <p>Cumulative Impacts: Cumulative impacts to wetlands would be long-term minor to moderate adverse.</p>	<p>Impacts of the Alternative: Under alternative D, there would be long-term negligible to minor adverse impacts to wetlands due to direct damage from ORV use in and around vegetated wetlands on the sound side, which would not be protected with signage. Impacts to vegetated wetlands along interior ORV routes would continue.</p> <p>Construction activities would avoid wetland areas, resulting in indirect long-term negligible adverse impacts to wetlands.</p> <p>Cumulative Impacts: Cumulative impacts to wetlands would be long-term minor to moderate adverse.</p>	<p>Impacts of the Alternative: Under alternative E, there would be long-term negligible adverse impacts to wetlands due to direct damage from ORV use in and around vegetated wetlands on the sound side and along interior ORV routes. Impacts to soundside wetlands would remain at a negligible level due to the protection provided by signage and closures of soundside access points.</p> <p>Construction activities would avoid wetland areas, resulting in indirect long-term negligible adverse impacts to wetlands.</p> <p>Cumulative Impacts: Cumulative impacts to wetlands would be long-term minor to moderate adverse.</p>	<p>Impacts of the Alternative: Under alternative F, there would be long-term negligible adverse impacts to wetlands due to direct damage from ORV use in and around vegetated wetlands on the sound side and along interior ORV routes. Impacts to soundside wetlands would remain at a negligible level due to the protection provided by the installation of signage.</p> <p>Construction activities would avoid wetland areas, resulting in indirect long-term negligible adverse impacts to wetlands.</p> <p>Cumulative Impacts: Cumulative impacts to wetlands would be long-term minor to moderate adverse.</p>
Floodplains	<p>Impacts of the Alternative: There would be no construction under alternative A. As a result, there would be no impacts to the functions or values of floodplains.</p> <p>Cumulative Impacts: No cumulative impacts would occur.</p>	<p>Impacts of the Alternative: There would be no construction under alternative B. As a result, there would be no impacts to the functions or values of floodplains.</p> <p>Cumulative Impacts: No cumulative impacts would occur.</p>	<p>Impacts of the Alternative: Under alternative C, there would be long-term minor adverse impacts to floodplains due to the construction or expansion of seven parking areas in the floodplain.</p> <p>Cumulative Impacts: Cumulative impacts to floodplains would be long-term minor to moderate adverse.</p>	<p>Impacts of the Alternative: Under alternative D there would be long-term negligible adverse impacts to floodplains due to the location of four ORV access ramps in the 100-year floodplain.</p> <p>Cumulative Impacts: Cumulative impacts to floodplains would be long-term minor to moderate adverse.</p>	<p>Impacts of the Alternative: Under alternative E, there would be long-term minor adverse impacts to floodplains due to the construction or expansion of 14 parking areas in the floodplain.</p> <p>Cumulative Impacts: Cumulative impacts to floodplains would be long-term minor to moderate adverse.</p>	<p>Impacts of the Alternative: Under alternative F, there would be long-term minor adverse impacts to floodplains due to the construction or expansion of 10 12 surfaced and 2 un-surfaced parking areas in the floodplain.</p> <p>Cumulative Impacts: Cumulative impacts to floodplains would be long-term minor to moderate adverse.</p>

Table 13. Environmental Impact Summary by Alternative

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: <u>NPS Preferred Alternative Management Based on Advisory Committee Input</u>
Federally Listed Threatened or Endangered Species						
Piping Plover	<p>Impacts of the Alternative:</p> <p>Overall, impacts to piping plover from resource management activities (primarily as a result of surveys and field activities) would be long-term minor to moderate adverse. Although the management of the species would provide a certain level of benefit, the manner in which buffers would be established, along with the need to adjust buffers frequently would have an adverse impact on the species.</p>	<p>Impacts of the Alternative:</p> <p>Overall, impacts under alternative B from resource management activities (primarily resulting from the effects of surveying and field activities) would be long-term minor to moderate beneficial. Buffers for piping plover would be larger and provide more protection compared to buffers under alternative A. Minor adverse impacts would occur from human presence during monitoring activities, but on the whole the establishment of prenesting closures early in the breeding season, monitoring activities, education and outreach efforts, and establishment of prescribed buffers would provide long-term minor to moderate beneficial impacts to the species.</p>	<p>Impacts of the Alternative:</p> <p>Overall impacts under alternative C from resources management activities (primarily resulting from the effects of surveying and field activities) would be long-term moderate beneficial. As with alternative B, minor adverse impacts would occur from human presence during monitoring activities, but on the whole the establishment of SMAs early in the breeding season, monitoring activities, and establishment of prescribed buffers would provide long-term moderate beneficial impacts to the species.</p>	<p>Impacts of the Alternative:</p> <p>Overall impacts to piping plover from resources management activities (primarily resulting from the effects of surveying and field activities) under alternative D would be long-term moderate to major beneficial. As with all species management activities, minor adverse impacts would occur from human presence during monitoring, but on the whole the implementation of SMAs that prohibit ORV use year-round and only allow pedestrian access outside of the breeding season, establishment of prenesting closures early in the breeding season, monitoring activities, and establishment of prescribed buffers would provide long-term moderate to major beneficial impacts to the species.</p>	<p>Impacts of the Alternative:</p> <p>Overall impacts under alternative E from resources management activities (primarily resulting from the effects of surveying and field activities) would be long-term moderate beneficial. As with all species management activities, minor adverse impacts would occur from human presence during monitoring activities, but on the whole the establishment of SMAs early in the breeding season, monitoring activities, and establishment of prescribed buffers would provide long-term moderate beneficial impacts to the species.</p>	<p>Impacts of the Alternative:</p> <p><u>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 year-round and seasonal VFAs, 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 the year-round VFAs. Overall impacts under alternative F from resources management activities (primarily resulting from the effects of surveying and field activities) would be long-term moderate 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 of SMAs early in the breeding season, 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 four miles of nonbreeding areas closed to ORV use.</u></p>

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: <u>NPS Preferred Alternative Management Based on Advisory Committee Input</u>
	<p>Overall, impacts to piping plover from ORV and other recreational use would be long-term moderate to major adverse as much of the Seashore would be open to recreational use, with an increased potential that piping plover could be impacted due to disturbance from ORV use and other recreational activities. Lack of a permit system for education and law enforcement, no night-driving restrictions, and lack of compliance with pet leash requirements would contribute substantially to these adverse impacts.</p> <p>Cumulative Impacts: Cumulative impacts to piping plover would be long-term moderate to major adverse.</p>	<p>Overall, impacts to piping plover from ORV and other recreational use would be long-term moderate adverse. While some buffers would be increased in an attempt to separate recreational uses from piping plover, access to these buffers would be provided at all Seashore beaches and could result in intentional or un-intentional non-compliance (i.e., when signs are washed out), which would impact the species. Adverse impacts would also occur due to limited pre-nesting protection outside of the points and spits, and the potential for protective buffers to be reduced during critical life stages of plover chicks.</p> <p>Cumulative Impacts: Cumulative impacts to piping plover would be long-term moderate adverse.</p>	<p>Overall, impacts to piping plover from ORV and other recreational use would be long-term minor adverse. The establishment of the SMAs which proactively reduce or preclude recreational use early in the breeding season, ORV permit requirements, seasonal night-driving restrictions, and pet and other recreational activity restrictions would all provide benefits in terms of species protection. As there would still be some opportunity for recreational use to come in contact with and impact piping plovers, and the fact that alternative C would still include some level of pedestrian access to three SMAs during a portion of the breeding season, impacts to piping plover would be long-term minor adverse.</p> <p>Cumulative Impacts: Cumulative impacts to piping plover would be long-term minor adverse.</p>	<p>Overall impacts from ORV and other recreational use would be long-term minor adverse. The establishment of SMAs that are closed to ORVs year-round and managed under ML1 procedures during the breeding season would proactively preclude recreational use early in the breeding season from large areas of the Seashore, which would reduce the potential for disturbance to plovers during critical life stages. This protection, combined with ORV permit requirements, seasonal night-driving restriction, and pet and other recreational activities restrictions would all provide benefits in terms of species protection. As there would still be some opportunity for recreational use to come in contact with and impact the species, impacts would be long-term minor adverse.</p> <p>Cumulative Impacts: Cumulative impacts to piping plover would be long-term minor adverse.</p>	<p>Overall impacts from ORV and other recreational use would be long-term minor to moderate adverse. The establishment of the SMAs which proactively reduce or preclude recreational use early in the breeding season, ORV permit requirements, and pet and other recreational activity restrictions would all provide benefits in terms of species protection. Although there would be benefits from seasonal night-driving restrictions, they would not be as great as other action alternatives because driving after dark (until 10:00 p.m.) would still be occurring, even during seasonal restrictions. The potential for adverse impacts would exist from the park-and-stay option under this alternative. As there would still be some opportunity for recreational use to come in contact with and impact the species, impacts would be long-term minor to moderate adverse.</p> <p>Cumulative Impacts: Cumulative impacts to piping plover would be long-term minor to moderate adverse.</p>	<p><u>Overall impacts under alternative F from ORV and other recreational use would be long-term minor to moderate adverse. The establishment of year-round and seasonal VFAs that preclude ORV use throughout the breeding season, ORV permit requirements, and pet and other recreational activity restrictions would all provide benefits in terms of species protection. As alternative F would provide for more flexible access to various areas of the Seashore, the potential for disturbance to piping plover is increased over alternatives C and D, resulting in long-term minor to moderate adverse impacts.</u></p> <p><u>Overall impacts under alternative F from ORV and other recreational use would be long-term minor to moderate adverse. The establishment of the SMAs which proactively reduce or preclude recreational use early in the breeding season, ORV permit requirements, and pet and other recreational activity restrictions would all provide benefits in terms of species protection. As alternative F would provide for more flexible access to various areas of the Seashore, the potential for disturbance to piping plover is increased over alternatives C and D, resulting in long-term minor to moderate adverse impacts.</u></p> <p>Cumulative Impacts: Cumulative impacts to piping plover would be long-term minor to moderate adverse.</p>

Table 13. Environmental Impact Summary by Alternative

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: <u>NPS Preferred Alternative Management Based on Advisory Committee Input</u>
Sea Turtles	<p>Impacts of the Alternative:</p> <p>Overall, resources management activities under alternative A would have long-term moderate benefits due to the protection provided to sea turtles.</p> <p>Overall, ORV and other recreational use under alternative A would result in long-term major adverse impacts to sea turtles due to the amount of Seashore available for ORV use and the lack of night-driving restrictions.</p> <p>Cumulative Impacts:</p> <p>Cumulative impacts to sea turtles would be long-term moderate to major adverse.</p>	<p>Impacts of the Alternative:</p> <p>Overall, resource management activities under alternative B would have long-term moderate benefits due to the protection provided to sea turtles.</p> <p>Although additional restrictions and regulations would help lessen some of the impacts from ORV use and other recreational activities, overall, the impacts would be long-term moderate adverse.</p> <p>Cumulative Impacts:</p> <p>Cumulative impacts to sea turtles would be long-term moderate adverse.</p>	<p>Impacts of the Alternative:</p> <p>Overall, resource management activities under alternative C would have long-term moderate to major beneficial impacts due to the added protection provided to sea turtles.</p> <p>Restrictions placed on nonessential, recreational ORV use under alternative C would provide substantial long-term benefits to sea turtles, including seasonal night-driving restrictions that close the beach before dark (7:00 p.m.), some adverse impacts would still occur in areas where their use is allowed. Therefore, overall, ORV and other recreational use would have long-term minor adverse impacts.</p> <p>Cumulative Impacts:</p> <p>Cumulative impacts to sea turtles would be long-term minor to moderate adverse.</p>	<p>Impacts of the Alternative:</p> <p>Overall, similar to alternative C, management activities under alternative D would result in long-term moderate to major beneficial impacts.</p> <p>While restrictions placed on ORV use under alternative D would provide long-term moderate to major beneficial impacts, similar to alternative C, there would still be some level of adverse impact to sea turtles in areas where ORV use and beach fires are allowed; therefore, overall impacts from ORV and other recreational use would be long-term minor adverse.</p> <p>Cumulative Impacts:</p> <p>Cumulative impacts to sea turtles would be long-term minor adverse.</p>	<p>Impacts of the Alternative:</p> <p>Management activities would provide long-term moderate to major beneficial impacts to sea turtles.</p> <p>While additional restrictions and regulations would help lessen some of the impacts from ORVs and other recreational activities, overall, the impacts would be long-term moderate adverse from allowing night driving until 10:00 p.m., and due to increased recreational access throughout the Seashore during the turtle nesting season, including a park-and-stay option for ORVs at selected points and spits.</p> <p>Cumulative Impacts:</p> <p>Cumulative impacts to sea turtles would be long-term moderate adverse.</p>	<p>Impacts of the Alternative:</p> <p>Overall, resource management activities would provide long-term moderate to major beneficial impacts to sea turtles.</p> <p><u>Because ORVs would be restricted between the hours of 9:00 pm to 7:00 am the chances are greatly reduced that adult turtles (1) may be killed or caused to abort nesting attempts; (2) nests may be run over or disturbed; and (3) hatchlings may be killed or disoriented by light pollution from vehicles and associated recreational activities. ORV use and other recreational activities occurring under alternative E would have long-term minor to moderate adverse impacts. While additional restrictions and regulations would help lessen some of the impacts from ORV and other recreational use, overall, the impacts would be long-term minor to moderate adverse, due to the earlier re-opening of SMAs (after shorebird breeding activity has concluded), resulting in increased recreational access throughout the Seashore during the sea turtle nesting season.</u></p> <p>Cumulative Impacts:</p> <p>Cumulative impacts to sea turtles would be long-term minor to moderate adverse.</p>
Seabeach Amaranth	<p>Impacts of the Alternative:</p> <p>Overall, because of the protection of seabeach amaranth habitat and plants under alternative A, resources management actions would have long-term minor to moderate beneficial impacts, if plants are detected.</p> <p>Overall, ORV and other recreational use under alternative A would have long-term moderate adverse impacts as plants may go undetected and therefore unprotected from this use.</p>	<p>Impacts of the Alternative:</p> <p>Overall, because of the protection of seabeach amaranth habitat and plants under alternative B, resources management actions would have long-term minor to moderate beneficial impacts, if plants are detected.</p> <p>Overall, ORV and other recreational use would result in long-term moderate adverse impacts. Slightly more protection would be provided for the species when compared to alternative A, due to shorebird breeding closures being larger and lasting longer.</p>	<p>Impacts of the Alternative:</p> <p>Overall, because of the protection of seabeach amaranth habitat and plants under alternative C, resources management actions would have long-term moderate beneficial impacts to seabeach amaranth as the establishment of SMAs and increased protection for the species would occur compared to alternatives A and B.</p> <p>Overall, ORV and other recreational use would result in long-term minor to moderate adverse impacts. Because of the establishment of SMAs and protection of approximately 44<u>40</u> miles of beach, the adverse impacts under alternative C would likely be long-term minor to moderate adverse.</p>	<p>Impacts of the Alternative:</p> <p>Overall, because of the increased level of protection of seabeach amaranth habitat and plants under alternative D, when compared to other alternatives, resources management actions would have long-term moderate to major beneficial impacts.</p> <p>Overall ORV and other recreational use would result in long-term minor adverse impacts. Because the establishment of SMAs closed to ORVs year-round would protect approximately 44<u>40</u> miles of beach, the adverse impacts under alternative D would be greatly reduced compared to the other alternatives and result in long-term minor adverse impacts.</p>	<p>Impacts of the Alternative:</p> <p>Overall, because of the protection of seabeach amaranth habitat and plants under alternative E, resources management actions would have long-term minor to moderate beneficial impacts as ORV access to more areas would be allowed during the germination period, than under action alternatives C and D.</p> <p>Overall, ORV and other recreational use would have long-term minor to moderate adverse impacts to seabeach amaranth due to the increased level of recreational access allowed when compared to the other action alternatives.</p>	<p>Impacts of the Alternative:</p> <p>Overall, because of the protection of seabeach amaranth habitat and plants under alternative F, resources management actions would have long-term minor to moderate beneficial impacts as ORV access to more areas would be allowed during the germination period, than under action alternatives C and D.</p> <p>Overall, ORV and other recreational use would be similar to those under alternative E and result in long-term minor to moderate adverse impacts to seabeach amaranth.</p>

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: <u>NPS Preferred Alternative Management Based on Advisory Committee Input</u>
	Cumulative Impacts: Cumulative impacts to seabeach amaranth would be long-term moderate adverse.	Cumulative Impacts: Cumulative to seabeach amaranth would be long-term moderate adverse.	Cumulative Impacts: Cumulative impacts to seabeach amaranth would be long-term minor to moderate adverse.	Cumulative Impacts: Cumulative impacts to seabeach amaranth would be long-term minor adverse.	Cumulative Impacts: Cumulative impacts to seabeach amaranth would be long-term minor to moderate adverse.	Cumulative Impacts: Cumulative impacts to seabeach amaranth would be long-term minor to moderate adverse.
State-Listed and Special Status Species						
American Oystercatcher	Impacts of the Alternative: Impacts would be long-term minor to moderate adverse as surveying and lack of specific pre-nesting closures for this species may miss early nesters. Piping plover pre-nesting closures, which could be utilized by this species as well, would not protect a number of American oystercatcher nest sites used in recent years. Also, buffer distances based on bird behavior may not provide adequate protection for the species.	Impacts of the Alternative: Establishment of piping plover pre-nesting closures earlier in the season that could be used by oystercatchers and establishment of larger, pre-set buffers would result in long-term beneficial impacts to American oystercatchers. While there would still be minor adverse impacts related to human disturbance during field activities, resources management activities on the whole would provide information and result in actions that would be beneficial to the species.	Impacts of the Alternative: Implementation of 10 SMAs that are closed to ORVs during the breeding season would provide a proactive resource closure early in the breeding season. Establishment of pre-nesting closures earlier in the season and establishment of larger, pre-set buffers would result in long-term beneficial impacts to American oystercatchers. While there would still be minor adverse impacts related to human disturbance during field activities, on the whole, resources management activities would provide information that would enable the implementation of adaptive management initiatives and contribute to better management. These activities would result in long-term beneficial impacts to the American oystercatcher, greater than those provided under alternative B.	Impacts of the Alternative: Establishment of 10 SMAs that are closed to ORVs year-round and all managed under ML1 procedures during the breeding season would provide long-term benefits to breeding and wintering American oystercatchers, greater than those under alternative C. Additional benefits would be provided from surveying and closures outside of these established SMAs, as well as from the education and outreach provided. These surveying and field activities would provide information that would enable the implementation of adaptive management initiatives and contribute to better management. These activities would result in long-term beneficial impacts to this species, greater than those provided under alternative B.	Impacts of the Alternative: Implementation of 10 SMAs, 7 of which are closed to ORVs during the breeding season, would provide a proactive resource closure early in the breeding season. Establishment of pre-nesting closures earlier in the season and establishment of larger, pre-set buffers would result in long-term beneficial impacts to American oystercatchers. While there would still be minor adverse impacts from human disturbance during field activities, resources management activities on the whole would provide information that would enable the implementation of adaptive management initiatives and contribute to better management. These activities would result in long-term beneficial impacts to this species, greater than those provided under alternative B.	Impacts of the Alternative: Implementation of 10 SMAs, 8 of which are closed to ORVs (with 4 open to pedestrians only) during the breeding season, year-round and seasonal VFAs over 39 miles of the Seashore would provide a proactive resource closure early in the breeding season. Establishment of pre-nesting closures through SMAs earlier in the season and establishment of larger, pre-set buffers would result in long-term beneficial impacts to American oystercatchers. While there would still be minor adverse impacts related to human disturbance during field activities, resources management activities on the whole would provide information that would enable the implementation of adaptive management initiatives and contribute to better management. These activities would result in long-term beneficial impacts to the species, greater than those provided under alternative B.

Table 13. Environmental Impact Summary by Alternative

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: <u>NPS Preferred Alternative Management Based on Advisory Committee Input</u>
American Oystercatcher (continued)	Impacts would be long-term moderate to major adverse as buffers that adjust frequently based on bird behavior are more subject to non-compliance. The lack of designated non-ORV vehicle free areas VFAs, a permitting system, carrying capacity, or seasonal night-driving restrictions, and allowing pets at the Seashore during breeding season would contribute to these adverse impacts.	Establishment of pre-nesting closures for piping plover earlier in the season, implementation of larger, more immediate buffers, longer lasting closures for American oystercatchers once breeding behavior occurs, and night-driving restrictions would benefit the American oystercatcher. However, recreational use, with no carrying capacity, would still occur in the vicinity of this species and the established buffers may not be large enough to afford adequate protection. Because the birds would not be under constant observation, disturbance may go undetected and implementation of adequate buffers may be delayed in some nesting locations. Compliance with closures may not be absolute, resulting in minor to moderate adverse impacts if non-compliance occurs. Further adverse impacts would result from allowing pets in the Seashore during breeding season, resulting in the possibility of non-compliance with these regulations. Because of these factors, impacts to American oystercatchers from ORV use and other recreational activities would be long term moderate adverse.	Implementation of a permit system with an educational component, larger buffer sizes, seasonal night-driving restrictions, establishment of breeding and nonbreeding SMAs, and not allowing pets in SMAs would benefit the American oystercatcher. SMAs would provide a proactive method of limiting recreational uses early in the breeding season, and limit the potential for impacts to state-listed/special status species. However, alternative C does manage three SMAs under ML2 procedures, which provide for some level of pedestrian access into these areas, and introduces the potential for impacts to the species. Although there would be some protection measures in place, ORV and other recreational use could still have impacts to the species, resulting in long-term minor to moderate adverse impacts to American oystercatchers.	Providing large SMAs that are closed year-round to ORVs and closed to pedestrians during the breeding season would provide large undisturbed areas for both breeding and nonbreeding oystercatchers. Further benefits would be provided by seasonal night-driving restrictions, the establishment of a permit system with an educational component, and prohibition of pets in SMAs year-round. With these measures in place, impacts to American oystercatchers from ORV and other recreational use would be long-term minor adverse, as the chance of disturbance still exists, but would be lower than that under the other alternatives evaluated.	Implementation of a permit system with an educational component, larger buffer sizes, seasonal night-driving restrictions, restrictions on pets in SMAs, and establishment of breeding and nonbreeding SMAs would benefit the American oystercatcher. SMAs would provide a proactive method of limiting recreational uses early in the breeding season, and limit the potential for impacts to state-listed/special status species. However, alternative E does allow an ORV access corridor at three SMAs managed under ML2 procedures during the breeding season (more than the other action alternatives), which provide for some level of pedestrian or ORV access into these areas, which introduces the potential for impacts to the species. Although there would be some protection measures in place, recreational use could still result in long-term minor to moderate adverse impacts to American oystercatchers.	Implementation of a permit system with an educational component, larger buffer sizes year-round and seasonal VFAs , seasonal night-driving restrictions, and prohibition limitation of pets in the Seashore in pre-nesting areas during breeding season including in front of the villages, and establishment of breeding and nonbreeding SMAs would benefit the American oystercatcher. SMAs Year-round and seasonal VFAs would provide a proactive method of limiting recreational uses early in the breeding season, and limit the potential for impacts to state-listed/special status species. However, alternative F does manage three SMAs under ML2 procedures, areas open to ORV use similar to the ML2 measures described under alternatives C, D and E , which provide for some level of pedestrian or and ORV access into these areas, which introduces the potential for impacts to the species. As there would be some protection measures in place, but recreational use could still have impacts to the species, impacts to American oystercatchers would be long-term minor to moderate adverse.

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: <u>NPS Preferred Alternative Management Based on Advisory Committee Input</u>
Colonial Waterbirds	<p>Impacts of the Alternative:</p> <p>Impacts would be long-term minor to moderate adverse as no pre-nesting closures would be established for colonial waterbirds. Some species, such as terns and black skimmers, may be able to utilize the pre-nesting closures established for piping plovers; however, those pre-nesting areas would not protect a number of colonial waterbird nest sites used in recent years. Also, buffer distances based on bird behavior may not provide adequate protection for the species.</p> <p>Impacts would be long-term moderate to major adverse as buffers may not be adequate to protect the species, and disturbance from recreational uses is more likely. The lack of designated non-ORV vehicle free areas VFAs, a permitting system, carrying capacity, or seasonal night-driving restrictions, and allowing pets in the vicinity of breeding birds would also contribute to adverse impacts.</p>	<p>Impacts of the Alternative:</p> <p>Establishment of piping plover pre-nesting closures earlier in the season that would be used by some colonial waterbird species and establishment of larger, pre-set buffers would result in long-term beneficial impacts to colonial waterbirds. While there would still be minor adverse impacts related to human disturbance during field activities, resources management activities on the whole would provide information and result in actions that would be beneficial to the species.</p> <p>Impacts to colonial waterbirds from ORV and other recreational use would be long-term moderate adverse, for the same reasons as American oystercatchers under this alternative.</p>	<p>Impacts of the Alternative:</p> <p>Impacts to colonial waterbirds from surveying and field activities would be long-term beneficial, for the same reasons as discussed above for American oystercatchers.</p> <p>Impacts to colonial waterbirds from ORV and other recreational use would be long-term minor to moderate adverse, for the same reasons as American oystercatchers under this alternative.</p>	<p>Impacts of the Alternative:</p> <p>Impacts to colonial waterbirds from surveying and field activities would be long-term beneficial, for the same reasons as discussed above for American oystercatchers.</p> <p>Impacts to colonial waterbirds from ORV and other recreational use would be long-term minor adverse, for the same reasons as American oystercatchers under this alternative.</p>	<p>Impacts of the Alternative:</p> <p>Impacts to colonial waterbirds from resources management activities would be long-term beneficial, for the same reasons as discussed above for American oystercatchers.</p> <p>Impacts to colonial waterbirds from ORV and other recreational use would be long-term minor to moderate adverse, for the same reasons as those discussed above for American oystercatchers under this alternative.</p>	<p>Impacts of the Alternative:</p> <p>Impacts to colonial waterbirds from resources management activities would be long-term beneficial, for the same reasons as discussed above for American oystercatchers.</p> <p>Impacts to colonial waterbirds from ORV and other recreational use would be long-term minor to moderate adverse, for the same reasons as American oystercatchers under this alternative, in addition to having some SMAs under ML2 procedures that open earlier than under other action alternatives.</p>

Table 13. Environmental Impact Summary by Alternative

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: <u>NPS Preferred Alternative Management Based on Advisory Committee Input</u>
Wilson's Plover	<p>Impacts of the Alternative:</p> <p>Impacts would be long-term minor adverse as the habitat for this species would be well surveyed during piping plover surveys and this species would be able to take advantage of management measures for piping plover as their breeding seasons and habitat requirements are similar. Also, buffer distances based on bird behavior may not provide adequate protection for the species. Some benefits may occur from incidental management of Wilson's plover during piping plover management activities, both during breeding and nonbreeding seasons.</p> <p>Impacts would be long-term moderate to major adverse as no specific management would be provided for this species, although they could utilize buffers and closures established for piping plover. The lack of designated non-ORV vehicle free areas VFAs, a permitting system, carrying capacity, or seasonal night-driving restrictions, and allowing pets at the Seashore during breeding season would contribute to these adverse impacts.</p>	<p>Impacts of the Alternative:</p> <p>Establishment of piping plover pre-nesting closures earlier in the season that could be used by other species and establishment of larger, pre-set buffers for piping plover, used by Wilson's plover, would result in long-term beneficial impacts to Wilson's plover. While there would still be minor adverse impacts related to human disturbance during field activities, species surveying and field activities on the whole would provide information and result in actions that would be beneficial to the species.</p> <p>Impacts to Wilson's plover from ORV and other recreational use would be long-term minor to moderate adverse. Although this species would face the same adverse impacts as American oystercatchers and colonial waterbirds, it also tends to utilize closures for piping plover and would therefore be provided slightly more protection than other state-listed/special status species.</p>	<p>Impacts of the Alternative:</p> <p>Impacts to Wilson's plover from surveying and field activities would be long-term beneficial, for the same reasons as discussed above for American oystercatchers, with slightly greater benefits as this species would also benefit from the management measures applied to piping plover.</p> <p>Impacts to Wilson's plover from ORV and other recreational use would be long-term minor adverse, less than those under alternative A and B. Although this species would face the same adverse impacts as American oystercatchers and colonial waterbirds, it also tends to utilize the closures for piping plover, in addition to the specific buffers/closures provided for the species, and would therefore be provided slightly more protection than other state-listed/special status species.</p>	<p>Impacts of the Alternative:</p> <p>Impacts to Wilson's plover from surveying and field activities would be long-term beneficial, for the same reasons as discussed above for American oystercatchers, with slightly greater benefits as this species would also benefit from the management measures applied to piping plover.</p> <p>Impacts to Wilson's plover from ORV and other recreational use would be long-term negligible to minor adverse. Although this species would face the same adverse impacts as American oystercatchers and colonial waterbirds, it also tends to utilize closures for piping plover, in addition to the buffers/closures provided specifically for this species, and would therefore be provided slightly more protection than other state-listed/special status species.</p>	<p>Impacts of the Alternative:</p> <p>Impacts to Wilson's plover from resources management activities would be long-term beneficial, for the same reasons as discussed above for American oystercatchers, with slightly greater benefits as this species would also benefit from the management measures applied to piping plover.</p> <p>Impacts to Wilson's plover from ORV and other recreational use would be long-term minor adverse. Although this species would face the same adverse impacts as American oystercatchers and colonial waterbirds, it also tends to utilize closures for piping plover, in addition to the buffers/closures provided specifically for this species, and would therefore be provided slightly more protection than other state-listed/special status species.</p>	<p>Impacts of the Alternative:</p> <p>Impacts to Wilson's plover from resources management activities would be long-term beneficial, for the same reasons as discussed above for American oystercatchers, with slightly greater benefits as this species would also benefit from the management measures applied to piping plover.</p> <p>Impacts to Wilson's plover from ORV and other recreational use would be long-term minor adverse. Although this species would face the same adverse impacts as American oystercatchers and colonial waterbirds, it also tends to utilize closures for piping plover, in addition to the buffers/closures provided specifically for this species, and would therefore be provided slightly more protection than other state-listed/special status species.</p>

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: <u>NPS Preferred Alternative Management Based on Advisory Committee Input</u>
Red Knot	Impacts of the Alternative Common to All: Many of the surveying and field activities for other species would occur outside of the primary time when the red knot is a resident at the Seashore. Therefore, any impacts to this species from surveying and field activities for other species would be long-term negligible adverse.					
	<p>Impacts to nonbreeding red knot would be long-term minor adverse as their prime foraging habitat (ocean shoreline) would not be afforded protection by nonbreeding closures, although the ability of this species to use wintering closures for piping plover at inlets and Cape Point would result in some benefit.</p> <p>Impacts would be long-term moderate adverse as no specific management would be provided for this species especially during a key life stage of wintering. The lack of designated non-ORV vehicle free areas VFAs, a permitting system, or night-driving restrictions when red knots are at the Seashore, and allowing pets at the Seashore during the migrating/nonbreeding season would contribute to these adverse impacts. Impacts to red knots would be lower than other species as they would not be subject to impacts during their breeding cycle and their use of the Seashore corresponds to times of lower visitation.</p>	<p>The red knot would benefit from extended breeding season closures for other species and from wintering closures for piping plover at the inlets and Cape Point. Impacts to nonbreeding red knot would be long-term minor adverse as their prime foraging habitat (ocean shoreline) would not be afforded protection by nonbreeding closures.</p> <p>Impacts to red knots from ORV and other recreational use would be long-term moderate adverse as no specific management would be provided for this species especially during a key life stage of wintering. Although this species may benefit from longer lasting breeding season closures for other species and from winter closures established for piping plovers, the lack of designated non-ORV vehicle free areas VFAs, a year-round permitting system, no night-driving restrictions when red knots are at the Seashore, and allowing pets at the Seashore during the migrating / nonbreeding season would contribute to these adverse impacts.</p>	<p>Nonbreeding Shorebird SMAs and the establishment of non-ORV vehicle free areas VFAs along the ocean shoreline would result in beneficial impacts to nonbreeding red knots. However, the ability of this species to use wintering closures that have been established for piping plover as well as the establishment of SMAs, some of which are closed to ORVs year-round, would be beneficial to those red knot that happen to use those areas, and overall result in long-term beneficial impacts to the species when compared to alternatives A and B.</p> <p>Impacts to red knot from recreation and other activities would be long-term minor adverse due to the additional nonbreeding closures provided under alternative C that offer this wintering species further protection.</p>	<p>Nonbreeding Shorebird SMAs and the establishment of non-ORV vehicle free areas VFAs along the ocean shoreline would result in beneficial impacts to nonbreeding red knots. However, the ability of this species to use wintering closures that have been established for piping plover as well as the establishment of SMAs, all of which are closed to ORVs year-round would result in long-term beneficial impacts to red knot when compared to all other alternatives.</p> <p>Impacts to red knot from recreation and other activities would be long-term negligible to minor adverse due to the additional nonbreeding closures provided under alternative D that offer this wintering species further protection, as well as the large year-round SMAs that would offer further protection during red knot wintering.</p>	<p>The ability of this species to use wintering closures that have been established for piping plover as well as the establishment of SMAs, some of which are closed year-round, would be beneficial, and overall result in long-term beneficial impacts to the species when compared to alternatives A and B.</p> <p>Impacts to red knot from ORV and other recreational use would be long-term minor adverse due to the additional nonbreeding closures provided under alternative E that offer this wintering species further protection; however, there would be greater adverse impacts than under alternatives D or F due to fewer miles of shoreline being closed to ORVs under alternative E during the nonbreeding season.</p>	<p>The ability of this species to use wintering closures that have been established for piping plover as well as the establishment of SMAs year-round and seasonal VFAs over 39 miles of the Seashore (of which 26 miles would be year-round and provide non-breeding habitat), some of which are closed year-round, would be beneficial, and overall result in long-term beneficial impacts to the species when compared to alternatives A and B. Additional benefits, when compared to the other alternatives, would be realized under alternative F from “floating” nonbreeding closures that would provide four additional miles of protection during this time.</p> <p>Impacts to red knot from ORV and other recreational use would be long-term minor adverse due to the additional nonbreeding closures provided under alternative F that offer this wintering species further protection, including four miles of “floating” closures, 26 miles of year-round VFAs that provide less disturbed non-breeding habitat.</p>
All State-Listed and Special Status Species	Cumulative Impacts (for all State-listed and Special Status Species): Cumulative impacts to state-listed and special status species would be long-term moderate to major adverse.	Cumulative Impacts (for all State-listed and Special Status Species): Cumulative impacts to state-listed and special status species would be long-term moderate adverse.	Cumulative Impacts (for all State-listed and Special Status Species): Cumulative impacts to state-listed and special status species would be long-term minor to moderate adverse.	Cumulative Impacts (for all State-listed and Special Status Species): Cumulative impacts to state-listed and special status species would be long-term minor adverse.	Cumulative Impacts (for all State-listed and Special Status Species): Cumulative impacts to state-listed and special status species would be long-term minor to moderate adverse.	Cumulative Impacts (for all State-listed and Special Status Species): Cumulative impacts to state-listed and special status species would be long-term minor to moderate adverse.

Table 13. Environmental Impact Summary by Alternative

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: <u>NPS Preferred Alternative Management Based on Advisory Committee Input</u>
Wildlife and Wildlife Habitat - Other Bird Species	Impacts of the Alternative Common to All: Many of the surveying and field activities for protected species would occur outside of the primary time when other bird species are residents at the Seashore. Therefore, any impacts to other bird species from surveying and field activities for protected species would be long-term negligible adverse.					
	<p>Impacts of the Alternative: Impacts to other bird species from resources management activities would be long-term minor adverse as nonbreeding closures would not be species-specific and therefore would not protect important habitat areas such as the ocean shoreline. Impacts of ORV and other recreational use would be long-term moderate adverse as no specific management would be provided for this species, increasing the possibility of disturbance to the species from recreational use. The lack of designated non-ORV vehicle free areas VFAs, a permitting system, or night-driving restrictions during the time period when these species are present at the Seashore, and allowing ORVs, people and pets at the Seashore during the nonbreeding season in the vicinity of these species would contribute to adverse impacts.</p> <p>There would be no construction and therefore no construction-related to disturbance to other bird species under the no-action alternatives.</p> <p>Cumulative Impacts: Cumulative impacts to wildlife and wildlife habitat (other bird species) would be long-term minor to moderate adverse.</p>	<p>Impacts of the Alternative: Impacts to other bird species would be long-term minor adverse as nonbreeding closures would not be species-specific and therefore would not protect important habitat areas such as the ocean shoreline when many of these species are wintering or migrating. Impacts of ORV and other recreational use would be long-term moderate adverse as no specific management would be provided for this species, increasing the possibility of disturbance to the species from recreational use. The lack of designated non-ORV vehicle free areas VFAs, allowing night driving during the time period when other bird species are present at the Seashore, and allowing ORVs, people and pets at the Seashore during the nonbreeding season in the vicinity of these species would contribute to adverse impacts.</p> <p>There would be no construction and therefore no construction-related to disturbance to other bird species under the no-action alternatives.</p> <p>Cumulative Impacts: Cumulative impacts to wildlife and wildlife habitat (other bird species) would be long-term minor to moderate adverse.</p>	<p>Impacts of the Alternative: The establishment of both breeding and nonbreeding SMAs, some of which are closed to ORVs year-round, would result in long-term beneficial impacts to other bird species when compared to alternatives A and B. Impacts from ORV and other recreational use would be long-term minor adverse due to the additional nonbreeding closures provided under alternative C that offer wintering species further protection.</p> <p>Impacts to other bird species from construction activities would be short-term negligible to minor and adverse due to temporary displacement during construction activities.</p> <p>Cumulative Impacts: Cumulative impacts to wildlife and wildlife habitat (other bird species) would be long-term minor adverse.</p>	<p>Impacts of the Alternative: The establishment of SMAs, which would be closed to ORVs year-round, would result in long-term beneficial impacts to other bird species. Beneficial impacts would be greater than those under alternative C due to the amount of mileage closed to ORV use year-round. ORV and other recreational use would result in long term negligible to minor adverse impacts to other bird species due to the amount of beach closed to ORV use and the additional nonbreeding closures that offer wintering species further protection.</p> <p>Impacts to other bird species from construction activities would be short-term negligible to minor and adverse due to temporary displacement during construction activities.</p> <p>Cumulative Impacts: Cumulative impacts to wildlife and wildlife habitat (other bird species) would be long-term negligible to minor adverse.</p>	<p>Impacts of the Alternative: The establishment of both breeding and nonbreeding SMAs, some of which are closed to ORVs year-round, would result in long-term beneficial impacts to other bird species. ORV and other recreational use would result in long term minor adverse impacts to other bird species due to additional nonbreeding closures provided under alternative E that offer species further protection, with greater adverse impacts than under alternatives D or F from fewer miles of shoreline being closed to ORVs under alternative E during the nonbreeding season. Adverse impacts would be greater than those under alternatives C or D due to the increased level of recreational access provided under alternative E.</p> <p>Impacts to other bird species from construction activities would be short-term negligible to minor and adverse due to temporary displacement during construction activities.</p> <p>Cumulative Impacts: Cumulative impacts to wildlife and wildlife habitat (other bird species) would be long-term minor adverse.</p>	<p>Impacts of the Alternative: The establishment of <u>39 miles of year-round or seasonal VFAs in the Seashore both breeding and nonbreeding SMAs, some of which are closed to ORVs year-round,</u> would result in long-term beneficial impacts to other bird species. <u>Additional benefits, when compared to the other alternatives, would be realized under alternative F from "floating" nonbreeding closures that would provide four additional miles of protection during this time. Of these 39 miles, 26 would be established as a year-round VFA, providing for areas of less disturbed non-breeding habitat.</u> Impacts to other bird species from ORV and other recreational use would be long-term minor adverse due to the additional nonbreeding closures provided under alternative F that offer wintering species further protection, including four miles of "floating" closures. VFAs provided.</p> <p>Impacts to other bird species from construction activities would be short-term negligible to minor and adverse due to temporary displacement during construction activities.</p> <p>Cumulative Impacts: Cumulative impacts to wildlife and wildlife habitat (other bird species) would be long-term minor adverse.</p>

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: <u>NPS Preferred Alternative Management Based on Advisory Committee Input</u>
Wildlife and Wildlife Habitat - Invertebrates	Impacts of the Alternative Common to All: The use of vehicles to conduct resources management activities would result in long-term negligible adverse impacts to invertebrates due to the potential for mortality of individual invertebrate species.					
	<p>Impacts of the Alternative: Recreational ORV use would result in long-term minor to moderate adverse impacts to invertebrate species primarily due to mortality arising from unlimited night driving in the intertidal and wrack areas.</p> <p>There would be no construction and therefore no construction-related to disturbance to invertebrates under the no-action alternatives.</p> <p>Cumulative Impacts: Cumulative impacts to wildlife and wildlife habitat (invertebrates) would be long-term minor to moderate adverse.</p>	<p>Impacts of the Alternative: Recreational ORV use would result in long-term minor adverse impacts to invertebrate species resulting from the continued use of ORVs in invertebrate habitat. Impacts would be reduced when compared to alternative A due to limitations on ORV use at night and within the larger resources management closures under alternative B.</p> <p>There would be no construction and therefore no construction-related to disturbance to invertebrates under the no-action alternatives.</p> <p>Cumulative Impacts: Cumulative impacts to wildlife and wildlife habitat (invertebrates) would be long-term minor to moderate adverse.</p>	<p>Impacts of the Alternative: Recreational ORV use would result in long-term negligible to minor adverse impacts to invertebrate species resulting from the continued use of ORVs in invertebrate habitat. Impacts would be reduced due to longer seasonal restrictions on vehicle use under alternative C.</p> <p>Short term negligible adverse impacts to invertebrates would occur due to temporary displacement during construction activities.</p> <p>Cumulative Impacts: Cumulative impacts to wildlife and wildlife habitat (invertebrates) would be long-term minor adverse.</p>	<p>Impacts of the Alternative: Recreational ORV use would result in long-term negligible adverse impacts to invertebrate species resulting from the continued use of ORVs in invertebrate habitat. Impacts to invertebrates would be reduced under this alternative due to the amount of beach closed to recreational use.</p> <p>Short term negligible adverse impacts to invertebrates would occur due to temporary displacement during construction activities.</p> <p>Cumulative Impacts: Cumulative impacts to wildlife and wildlife habitat (invertebrates) would be long-term negligible to minor adverse.</p>	<p>Impacts of the Alternative: Recreational ORV use would result in long-term minor adverse impacts to invertebrate species resulting from the continued use of ORVs in invertebrate habitat. Adverse impacts would be greater than those under alternatives C or D due to the increased level of recreational access provided under alternative E.</p> <p>Short term negligible adverse impacts to invertebrates would occur due to temporary displacement during construction activities.</p> <p>Cumulative Impacts: Cumulative impacts to wildlife and wildlife habitat (invertebrates) would be long-term minor adverse.</p>	<p>Impacts of the Alternative: Recreational ORV use would result in long-term minor adverse impacts to invertebrate species resulting from the continued use of ORVs in invertebrate habitat.</p> <p>Short term negligible adverse impacts to invertebrates would occur due to temporary displacement during construction activities.</p> <p>Cumulative Impacts: Cumulative impacts to wildlife and wildlife habitat (invertebrates) would be long-term minor adverse.</p>

Table 13. Environmental Impact Summary by Alternative

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: <u>NPS Preferred Alternative Management Based on Advisory Committee Input</u>
Soundscapes	<p>Impacts of the Alternative: Overall, minor to moderate impacts, depending upon vehicle speed, would occur along the beaches where most routes are established for ORV driving. While impacts over the majority of the Seashore beaches would be long-term adverse due to greater numbers of designated year-round ORV routes, impacts would be short-term adverse in the areas in front of village beaches, which are only opened seasonally to ORV use. Short-term adverse impacts would also result during other closure periods along any ORV route for resource protection, safety or administrative purposes. During closures, the potential for increased vehicle concentrations along remaining open ORV routes would increase the frequency of occurrence of single ORV pass-by events. Impacts would remain minor to moderate adverse, depending on vehicle speed, but vehicle noise may dominate the natural soundscape more frequently. In general, as ORV use would continue intermittently over the life of the management plan, vehicle noise would be a recurring, long-term minor to moderate adverse impact in all areas of the Seashore beaches open to ORV driving. Additionally, as closure periods, which have the potential to provide short-term benefits, would be implemented throughout the life of the management plan, long-term benefits would arise. As noise from ORV use would add at least 3 decibels (A-weighted scale) (dBA) to the natural ambient sound levels within the Seashore, wildlife would also experience adverse impacts.</p> <p>Cumulative Impacts: Cumulative impacts to soundscapes would be long-term minor to moderate adverse.</p>	<p>Impacts of the Alternative: As described under alternative A, impacts to the natural soundscape within the Seashore would be minor to moderate, depending upon vehicle speed. Due to the slower speed limits proposed during the peak season when more visitors would be using beach areas, the potential for a greater reduction in visitor awareness would occur under this alternative as compared to alternative A. On beaches where ORV routes are open year-round, including the additional year-round route established under alternative B, impacts would be long-term and adverse, but would potentially become short-term adverse during closure periods. In locations where ORV routes are specifically designated as “seasonal,” impacts would be short-term adverse. As with alternative A, closures of any kind present the potential for increased concentrations of vehicles in areas where ORV routes remain open. In such areas, the potential for vehicle noise to more frequently dominate the sound energy would arise. Aside from the short-term benefits that would occur in areas undergoing closure periods of any kind, additional short-term benefits may occur under alternative B as a result of regulations imposed to seasonally eliminate night driving. Impacts to wildlife would be similar to those under alternative A.</p> <p>Cumulative Impacts: Cumulative impacts to soundscapes would be long-term minor to moderate adverse.</p>	<p>Impacts of the Alternative: As described under alternative B, impacts to the natural soundscape resulting from a 15 mph speed limit would be minor adverse. However, the potential for wildlife and visitor use impacts, as well as the extent of such impacts, may be reduced due to seasonal restrictions and designated non-ORV vehicle free areas VFAs. Like under alternatives A and B, impacts would be long-term adverse for year-round ORV areas, potentially becoming short-term subject to temporary resource closures. As seasonal closures would limit ORV activity to less than a year, short-term adverse impacts would result. Closures of any kind, depending on the closure length, would also provide short-term benefits by providing noise-free periods. Under alternative C there would be areas of negligible impacts due to designated non-ORV vehicle free areas VFAs and greater opportunities for natural sounds to prevail due to longer seasonal closure periods as compared to alternatives A and B. Conversely, fewer open ORV areas and longer seasonal closure periods also present the potential for greater concentrations of ORVs in areas with open ORV routes, thereby increasing the frequency of vehicle noise in such areas. Construction activities would be localized and of short duration and would be minor adverse.</p> <p>Cumulative Impacts: Cumulative impacts to soundscapes would be long-term minor adverse.</p>	<p>Impacts of the Alternative: As described under alternative A, impacts to the natural soundscape resulting from a 15 mph speed limit would be minor adverse. However, the potential for impacts to wildlife and visitor use from ORV noise would be the least under this alternative, as compared to the no-action and all action alternatives due to larger areas of designated non-ORV vehicle free use. During resource closures, short-term benefits would occur due to the lack of ORV noise and would also be long-term benefits since closures would recur throughout the life of the management plan. The key difference between this alternative and all other alternatives is that alternative D has the greatest extent of long-term negligible adverse impacts resulting from the number of year-round non-ORV vehicle free route VFA designations. Alternative D also has the greatest extent of long-term benefits to the natural soundscape, visitors and wildlife due to these non-ORV vehicle free areas VFAs. However, this alternative would also present the greatest potential for increased ORV pass-by events that dominate the sound energy in designated ORV areas due to the fewer number of open ORV areas in which vehicles may drive. Like under alternative C, construction related noise impacts from ramp improvements and the construction of a new ramp would be minor adverse.</p> <p>Cumulative Impacts: Cumulative impacts to soundscapes would be long-term minor adverse.</p>	<p>Impacts of the Alternative: As described under alternative A, impacts to the natural soundscape on the beaches resulting from a 15 mph speed limit would be minor adverse. However, like under alternative C, the potential for wildlife and visitor use impacts, as well as the extent of such impacts, may be reduced due to seasonal restrictions and designated non-ORV vehicle free areas VFAs. On the other hand, pass-through zones and earlier openings along seasonal routes under this alternative would potentially provide fewer “noise-free” periods for visitors and wildlife. Vehicle diversions to other open routes may not be as frequent under this alternative as under alternative C or D given that some seasonal routes are open longer than others, ORV pass-through zones would be established in certain areas, and water taxi service would be available as an alternative option to driving. Although under this alternative, more ramps would be constructed, as compared to alternatives C and D, construction-related impacts would remain minor adverse due to the localized nature and short duration of the activities.</p> <p>Cumulative Impacts: Cumulative impacts under alternative E would be long-term minor adverse.</p>	<p>Impacts of the Alternative: As described under alternative A, impacts to the natural soundscape on the beaches resulting from a 15 mph speed limit would be minor adverse. Like under alternatives C and E, the potential for wildlife and visitor use impacts from ORV noise may be reduced due to seasonal closures and designated non-ORV vehicle free areas VFAs. However, seasonal routes would re-open earlier than under alternatives C and E, thereby creating shorter “noise-free” periods would be comparable to alternatives C and E. Vehicle diversions to other open routes may not be as frequent under this alternative as under the other action alternatives given that some seasonal routes are open longer than others. Although under this alternative, more ramps would be constructed, as compared to alternatives C and D, construction-related impacts would remain minor adverse due to the localized nature and short duration of the activities.</p> <p>Cumulative Impacts: Cumulative impacts under alternative F would be long-term minor adverse.</p>

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: <u>NPS Preferred Alternative Management Based on Advisory Committee Input</u>
<p>Visitor Use and Experience</p>	<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 non-ORV vehicle free 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 non-ORV vehicle free areas VFAs. Since night driving would be permitted under alternative A, there would be short-term minor adverse impacts to night skies.</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 non-ORV vehicle free 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 non-ORV vehicle free areas VFAs 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>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 non-ORV vehicle free areas VFAs 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 non-ORV vehicle free 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 non-ORV vehicle free areas VFAs. 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>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 non-ORV vehicle free areas VFAs year-round, which would prohibit the use of ORV in many popular visitor use areas. Those looking for a non-ORV vehicle free experience at the Seashore would experience long-term benefits as alternative D provides for many designated non-ORV vehicle free areas VFAs 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>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 non-ORV vehicle free areas VFAs 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 non-ORV vehicle free experience at the Seashore would experience long-term benefits as alternative E provides for designated year-round non-ORV vehicle free use areas VFAs, 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>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 facilities, and 10 handicap accessible 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 seasonal-night-driving restrictions. Those looking for an experience at the Seashore that includes ORV use would have long-term moderate adverse impacts as the designation of non-ORV vehicle free areas and the establishment of 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 either an ORV or pedestrian access corridor at the start of the breeding season, subject to resource closures, lessening the impacts to this user group. Additional access would be provided to the soundside under this alternative as well. Those looking for a non-ORV vehicle free experience at the Seashore would experience long-term benefits as alternative F provides for year-round non-ORV vehicle free areas, as well as seasonal ORV closures in areas such as village beaches and some SMAs, and a new pedestrian trail. Since night driving would be seasonally restricted under alternative F, 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.</u></p>

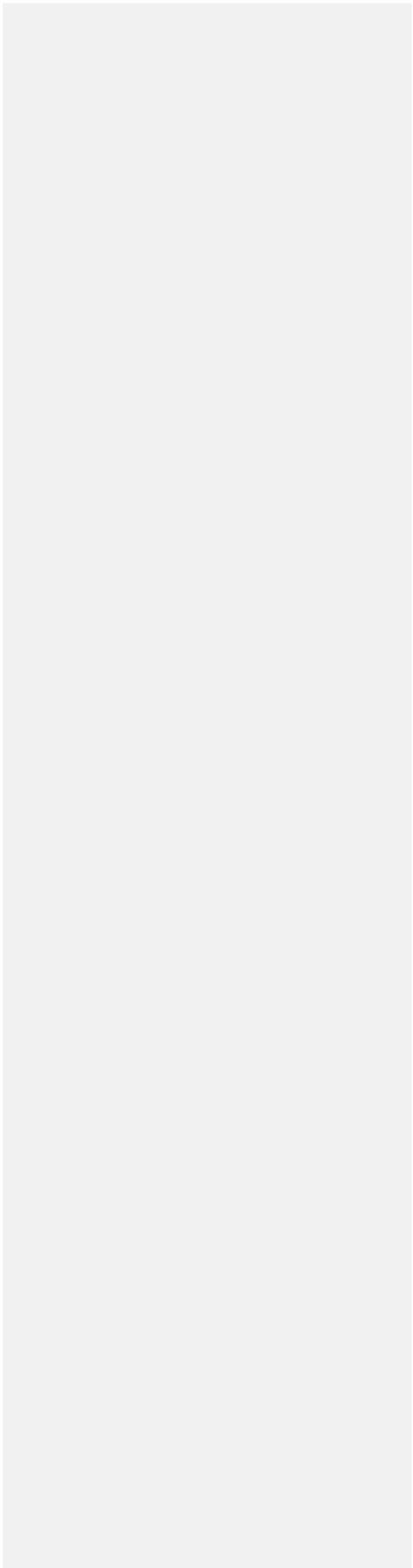


Table 13. Environmental Impact Summary by Alternative

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: <u>NPS Preferred Alternative Management Based on Advisory Committee Input</u>
	Cumulative Impacts: Cumulative impacts would be long-term negligible to minor adverse for ORV users and long-term, moderate, and adverse for non-ORV visitors wanting a vehicle free beach experience users .	Cumulative Impacts: Cumulative impacts would be long-term moderate to major adverse for ORV users, and long-term moderate adverse for non-ORV visitors wanting a vehicle free beach experience users .	Cumulative Impacts: Cumulative impacts would be long-term moderate to major adverse to ORV users, and long-term beneficial for non-ORV visitors wanting a vehicle free beach experience users .	Cumulative Impacts: Cumulative impacts would be long-term major and adverse to ORV users, and long-term beneficial for non-ORV visitors wanting a vehicle free beach experience users .	Cumulative Impacts: Cumulative impacts would be long-term moderate to major adverse to ORV users, and long-term beneficial for non-ORV visitors wanting a vehicle free beach experience users .	Cumulative Impacts: Cumulative impacts would be long-term moderate to major and adverse to ORV users, and long-term beneficial for other non-ORV visitors wanting a vehicle free beach experience users .
Socioeconomic Impacts	<p>Impact of the Alternative to the Region of Influence: The region of influence (ROI) is expected to experience long-term negligible adverse impacts or long-term beneficial impacts depending on the extent of beach closures. The Seashore villages (the villages bordering the Seashore) would experience the majority of the impacts with the potential for larger short-term impacts to specific businesses that cater most directly to ORV users.</p> <p>Impact of the Alternative to Small Business: Small businesses may experience long-term negligible to minor adverse impacts or long-term beneficial impacts depending on the extent of beach closures. Based on visitation statistics in 2007, there is a greater likelihood of negligible impacts.</p>	<p>Impact of the Alternative to the Region of Influence: The ROI is expected to experience long-term negligible to minor adverse impacts depending on the extent of beach closures. The Seashore villages would experience the majority of the impacts with the potential for larger short-term impacts to specific businesses that cater most directly to ORV users. Based on the current visitation statistics, the probability of negligible impacts is greater than the probability of minor adverse impacts.</p> <p>Impact of the Alternative to Small Business: Small businesses may experience long-term negligible to moderate adverse impacts depending on the extent of beach closures. Based on current visitation statistics there is a greater likelihood of negligible or minor impacts.</p>	<p>Impact of the Alternative to the Region of Influence: The ROI is expected to experience long-term negligible to minor adverse impacts. The Seashore villages would experience the majority of the impacts with the potential for larger short-term impacts to specific businesses that cater most directly to ORV users. Efforts to improve access through pedestrian corridors, when compared to the no-action alternatives, and changes to access ramps would decrease the impacts on businesses that rely on visitors using the beaches affected by the new corridors and ramps relative to the no-action alternatives. However, the longer ORV closures in the fall months may reduce visitation under alternative C relative to the no-action alternatives and make the mid to high impact scenarios more likely.</p> <p>Impact of the Alternative to Small Business: Small businesses may experience long-term negligible to moderate adverse impacts, with a greater likelihood of adverse impacts relative to the no-action alternatives due to increased fall ORV closures.</p>	<p>Impact of the Alternative to the Region of Influence: The ROI is expected to experience long-term minor adverse impacts. The Seashore villages would experience the majority of the impacts with the potential for larger short-term impacts to specific businesses that cater most directly to ORV users. Compared to the other alternatives, alternative D provides the least access to the beach by ORV's resulting in larger projected adverse impacts.</p> <p>Impact of the Alternative to Small Business: Small businesses may experience long-term moderate to major adverse impacts. The adverse impacts are projected to be larger relative to the other alternatives because of the limits on beach access for ORVs.</p>	<p>Impact of the Alternative to the Region of Influence: The ROI is expected to experience long-term negligible to minor adverse impacts. Based on the visitation statistics for 2008, the probability of negligible impacts is greater than the probability of minor adverse impacts. The Seashore villages would experience the majority of the impacts. Like alternative B, alternative E provides for more ORV access and the impacts would likely be on the lower end of the range compared to alternatives C and D.</p> <p>Impact of the Alternative to Small Business: Small businesses may experience long-term negligible to moderate adverse impacts, with a likelihood of adverse impacts in the lower end of the range relative to alternatives C and D due to increased ORV access. closures.</p>	<p>Impact of the Alternative to the Region of Influence: The ROI is expected to experience long-term negligible to minor adverse impacts. The Seashore villages would experience the majority of the impacts with the potential for larger short-term impacts to specific businesses that cater most directly to ORV users. Alternative F provides less access by ORVs to the beach compared to the no-action alternatives, especially in SMAs, and has more restricted SMAs than alternative E. However, some popular ORV areas open sooner in the late summer than alternative E and allow for an ORV corridor instead of just pass-through access at Cape Point and South Point. There are more vehicle-free areas VFAs for pedestrians because of the closures, as well as increased parking. Compared to the no-action alternatives, these measures could increase visitation and increase the probability that revenue impacts would be at the low end of the estimated range rather than the high end.</p> <p>Impact of the Alternative to Small Business: Small businesses would experience long-term negligible to moderate adverse impacts. The extra efforts to increase ORV access and pedestrian access should increase the probability that the impacts are on the low rather than high end of the range.</p>

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: <u>NPS Preferred Alternative Management Based on Advisory Committee Input</u>
	<p>Impacts of the Alternative to Preservation Values: As a result of the long-term minor to major impacts to protected species, impacts to preservation values would be long-term moderate adverse.</p>	<p>Impacts of the Alternative to Preservation Values: As a result of the long-term minor to moderate impacts to protected species, and addition of protection from seasonal night-driving restrictions, impacts to preservation values would be long-term minor to moderate adverse.</p>	<p>Impacts of the Alternative to Preservation Values: Adverse impacts to preservation values would be less under alternative C, relative to alternatives A and B, and overall impacts to preservation values would be long-term minor adverse with long-term beneficial impacts from the measures taken to protect sensitive species at the Seashore.</p>	<p>Impacts of the Alternative to Preservation Values: Adverse impacts to preservation values would be less under alternative D, relative to alternatives A and B, and the overall impact to preservation values would be long-term minor adverse, with the closure of sensitive areas to ORVs under alternative D year-round substantially increasing the probability of long-term beneficial impacts relative to all other alternatives.</p>	<p>Impacts of the Alternative to Preservation Values: Adverse impacts to preservation values would be less under alternative E, relative to alternatives A and B, and overall preservation values would be long-term minor to moderate adverse with long-term beneficial impacts from the measures taken by the Seashore to protect threatened and endangered, as well as special status, species.</p>	<p>Impacts of the Alternative to Preservation Values: Adverse impacts to preservation values would be less under alternative F, relative to alternatives A and B, and overall preservation values would be long-term minor to moderate adverse, with long-term beneficial impacts from the measures taken by the Seashore to protect threatened and endangered, as well as special status, species.</p>
<p>Socioeconomic Impacts (continued)</p>	<p>Cumulative Impacts: Cumulative Impacts for socioeconomics to the ROI would be long-term negligible to minor adverse or beneficial, depending on national economic conditions.</p>	<p>Cumulative Impacts: Cumulative Impacts for socioeconomics to the ROI would be long-term negligible to minor adverse or beneficial, depending on national economic conditions.</p>	<p>Cumulative Impacts: Cumulative Impacts for socioeconomics to the ROI would be long-term negligible to minor adverse or beneficial, depending on national economic conditions.</p>	<p>Cumulative Impacts: Cumulative Impacts for socioeconomics to the ROI would be long-term negligible to minor adverse or beneficial, depending on national economic conditions.</p>	<p>Cumulative Impacts: Cumulative Impacts for socioeconomics to the ROI would be long-term negligible to minor adverse or beneficial, depending on national economic conditions.</p>	<p>Cumulative Impacts: Cumulative Impacts for socioeconomics to the ROI would be long-term negligible to minor adverse or beneficial, depending on national economic conditions.</p>
<p>Seashore Operations and Management</p>	<p>Impacts of the Alternative: Overall, each division could accomplish within current funding, without shifting priorities or having a noticeable change in operations, resulting in long-term negligible adverse impacts to all areas of Seashore operations.</p>	<p>Impacts of the Alternative: Overall, there would be an increase in duties related to ORV management for staff in the park management/administration, visitor protection, and resources management divisions. Although these staff could accomplish these duties within existing budgets, it would require them to re-prioritize and re-allocate staff, and would not leave staff with adequate time to address other needs at the park outside of ORV management, resulting in long-term moderate adverse impacts. Staff in facility management and Interpretation would not see a large change in operations and would be able to accomplish ORV related tasks within current funding, without shifting priorities or having a noticeable change in operations, resulting in long-term negligible adverse impacts to these two divisions. Overall, impacts to Seashore operations would be long-term moderate adverse.</p>	<p>Impacts of the Alternative: Overall, there would be an increase in duties related to ORV management for staff in the park management/administration, resources management, facility management divisions that could result in some re-prioritization of work, but would not be expected to impact overall duties resulting in long-term minor adverse impacts. In the visitor protection division, staff could accomplish their duties with existing budgets, but it would require them to re-prioritize and re-allocate staff, and would not leave staff with adequate time to address other needs at the park outside of ORV management, resulting in long-term moderate adverse impacts. Staff in the interpretation division would not see a large change in operations and would be able to accomplish ORV related tasks within current funding, without shifting priorities or having a noticeable change in operations, resulting in long-term negligible adverse impacts Overall, impacts to Seashore operations would be long-term, minor to moderate (but mostly minor) adverse.</p>	<p>Impacts of the Alternative: Overall, there would long-term negligible adverse impacts to all divisions as each division would be expected to execute their duties from existing, or expected, funding sources, without having to re-prioritize staff. These impacts are due, in part, to the expected cost recovery under the proposed permit program. Overall impacts to Seashore operations would be long-term negligible adverse.</p>	<p>Impacts of the Alternative: Overall, there would be an increase in duties related to ORV management for staff in the facility management division that could result in some re-prioritization of work, but would not be expected to impact overall duties resulting in long-term minor adverse impacts. In the park management/administration division, the increase in ORV related responsibilities would be similar, but slightly greater with long-term minor to moderate adverse impacts. In the visitor protection and resources management divisions, staff could accomplish their duties with existing budgets, but it would require them to re-prioritize and re-allocate staff, and would not leave staff with adequate time to address other needs at the park outside of ORV management, resulting in long-term moderate adverse impacts. Staff in the Interpretation division would not see a large change in operations and would be able to accomplish ORV related tasks within current funding, without shifting priorities or having a noticeable change in operations, resulting in long-term negligible adverse impacts. Overall impacts to Seashore operations would be long-term moderate adverse.</p>	<p>Impacts of the Alternative: Overall, there would be an increase in duties related to ORV management for staff in the facility management and park management/administration divisions that could result in some re-prioritization of work, but would not be expected to impact overall duties resulting in long-term minor adverse impacts. In the visitor protection and resources management divisions, staff could accomplish their duties with existing budgets, but it would require them to re-prioritize and re-allocate staff, and would not leave staff with adequate time to address other needs at the park outside of ORV management, resulting in long-term moderate adverse impacts. Staff in the interpretation division would not see a large change in operations and would be able to accomplish ORV related tasks within current funding, without shifting priorities or having a noticeable change in operations, resulting in long-term negligible adverse impacts. Overall impacts to Seashore operations would be long-term minor to moderate adverse.</p>

Table 13. Environmental Impact Summary by Alternative

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: <u>NPS Preferred Alternative Management Based on Advisory Committee Input</u>
	Cumulative Impacts: Cumulative impacts to Seashore Operations and Management would be long-term negligible adverse.	Cumulative Impacts: Cumulative impacts to Seashore Operations and Management would be long-term negligible to minor adverse.	Cumulative Impacts: Cumulative impacts to Seashore Operations and Management would be long-term, minor to moderate, adverse.	Cumulative Impacts: Cumulative impacts to Seashore Operations and Management would be long-term negligible adverse.	Cumulative Impacts: Cumulative impacts to Seashore Operations and Management would be long-term minor to moderate adverse.	Cumulative Impacts: Cumulative impacts to Seashore Operations and Management would be long-term minor to moderate adverse.

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