

**ENVIRONMENTAL ASSESSMENT**

**REVISED DESIGNATION OF CRITICAL HABITAT FOR THE  
WINTERING POPULATION OF THE PIPING PLOVER**

**DARE AND HYDE COUNTIES, NORTH CAROLINA**



**U. S. FISH AND WILDLIFE SERVICE  
ECOLOGICAL SERVICES  
RALEIGH, NORTH CAROLINA**

**September 2008**

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**Dare and Hyde Counties, North Carolina**

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## **SECTION 1.0 – PURPOSE OF THE PROPOSED ACTION**

The purpose of designating critical habitat for the wintering population of the piping plover (*Charadrius melodus*) along portions of the Outer Banks of North Carolina is to utilize the provisions of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*; ESA), and to comply with the U.S. District Court for the District of Columbia's November 2004 order (Cape Hatteras Access Preservation Alliance v. U.S. Department of Interior (344 F. Supp. 2d 108 (D.D.C. 2004))). The purpose of the ESA is to conserve the ecosystems upon which endangered and threatened species depend. Critical habitat designation identifies those areas that are essential to the survival and recovery of the piping plover, and describes those physical and biological features within critical habitat that require special management considerations to achieve conservation of the species.

The position of the U.S. Fish and Wildlife Service (Service) is that, outside the Tenth Circuit, we do not need to prepare environmental analyses as defined by the National Environmental Policy Act of 1969 (NEPA) in connection with designating critical habitat under the ESA. However, the court held in its November 2004 decision that the designation of critical habitat for the wintering population of the piping plover in North Carolina must include compliance with NEPA.

## **SECTION 2.0 – NEED FOR PROPOSED ACTION**

The need for this action is to comply with section 4 of the ESA, which requires that critical habitat be designated for endangered and threatened species unless such designation is not prudent. Critical habitat is one of several provisions of the ESA that aid in protecting the habitat of listed species until populations have recovered and threats have been minimized so that the species can be removed from the list of threatened and endangered species. Critical habitat designation is intended to assist in achieving long-term protection and recovery of piping plovers and the ecosystems upon which they depend. Section 7(a)(2) of the ESA requires consultation for Federal actions that may affect critical habitat to avoid destruction or adverse modifications of this habitat.

### **2.1 – Background**

The piping plover is a small, pale-colored shorebird that breeds in three separate areas of North America – the Northern Great Plains, the Great Lakes, and the Atlantic Coast. A complete description of the biology and ecology of the piping plover can be found in Haig and Elliott-Smith (2004). On December 11, 1985, the Service published a final rule (50 FR 50726) listing the piping plover as endangered in the Great Lakes watershed and threatened elsewhere within its range (including migratory routes outside of the Great Lakes watershed and on their wintering grounds) under the ESA. The final listing rule for the piping plover indicated that designation of critical habitat was not determinable. Thus, designation was deferred and no further action was subsequently taken to designate critical habitat for piping plovers.

In December 1996, Defenders of Wildlife (Defenders) filed a lawsuit against the Department of the Interior and the Service for failing to designate critical habitat for the Great Lakes population

of the piping plover. Defenders filed a second, similar lawsuit for the Northern Great Plains population of the piping plover in 1997. These lawsuits were subsequently combined (Defenders of Wildlife et al. v. Bruce Babbitt et al., Consolidated Cases Civil No. 1:96-CV-02695AER and Civil No. 1:97-CV00777AER). In 2000, the court directed us to publish a critical habitat designation for nesting and wintering areas of the Great Lakes population and Northern Great Plains population of the piping plover. Since we cannot distinguish the Great Lakes and Northern Great Plains birds on their wintering grounds, the Service decided to propose critical habitat for all U.S. wintering piping plovers collectively. On July 10, 2001, the Service designated 142 areas along the coasts of North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas as critical habitat for the wintering population of the piping plover (66 FR 36038; Note: the final rule incorrectly states 137 areas).

In February 2003, two North Carolina counties (Dare and Hyde) and a beach access group (Cape Hatteras Access Preservation Alliance) filed a lawsuit challenging our designation of four units of critical habitat in North Carolina (Units NC-1, NC-2, NC-4, and NC-5). In its November 1, 2004 decision, the U.S. District Court for the District of Columbia vacated and remanded the designation for these units to the Service for reconsideration. Among other things, the court held that the designation of critical habitat must include compliance with NEPA.

On June 12, 2006, we published a proposed rule to designate revised critical habitat for the wintering population of the piping plover in North Carolina that was vacated by the court's November 2004 order (71 FR 33703). The four proposed units were (using the previous unit names): Unit NC-1, Oregon Inlet; Unit NC-2, Cape Hatteras Point; Unit NC-4, Hatteras Inlet; and, Unit NC-5, Ocracoke Island. In our June 12, 2006, proposed rule, we excluded from the definition of critical habitat islands owned by the State of North Carolina (DR-005-05 and DR-005-06 in Oregon Inlet, Dare County, and DR-009-03/04 in Hatteras Inlet, Dare and Hyde counties) and about 237 ac (96 ha) of Pea Island National Wildlife Refuge (PINWR), based on analysis under section 3(5)(A) of the Act. Pursuant to the court's order, in May 2007 we published a draft environmental assessment (EA) of the proposed designation (72 FR 30326). However, since that time, we determined that the exclusion under 3(5)(A) may have been improper, based on Center for Biological Diversity v. Norton, 240 F. Supp.2d 1090, 1099 (D. Ariz. 2003), in which the court held that areas do not fall out of the definition of critical habitat based solely on existing special management or protections. Accordingly, on May 15, 2008, we revised the proposed rule to include additional critical habitat areas in two revised units over what we proposed in our June 12, 2006 proposed rule (73 FR 28084). At the same time, we published a revised draft EA that addressed the four court-vacated and remanded units (Units NC-1, NC-2, NC-4, and NC-5) as changed from the June 12, 2006 proposed rule. This final EA addresses the impacts of designating same areas from the May 15, 2008 proposed rule.

In a separate action, in October 2007, the Southern Environmental Law Center, representing Defenders of Wildlife and National Audubon Society (collectively referred to as Plaintiffs), filed a lawsuit in the U.S. District Court for the Eastern District of North Carolina challenging the National Park Service's interim plan (i.e., Interim Protected Species Management Strategy). In April 2008, Plaintiffs, the National Park Service, Dare and Hyde Counties, and the Cape Hatteras Access Preservation Alliance, filed with the court a proposed consent decree that resolved the lawsuit challenging the interim plan. The consent decree was approved by the Court on April 30,

2008 (Defenders of Wildlife, et al. v. National Park Service, et al., 2008), and requires pre-nesting areas for piping plover as well as other shorebirds to be closed to vehicles and pedestrians at historic nesting areas at Bodie Island spit, Cape Point, Hatteras spit, and the north and south ends of Ocracoke Island. It also includes expanded buffers around breeding sites with nests and chicks that vary depending on the sensitivity or vulnerability of the particular species. Although the locations of the beach closures under the consent decree and critical habitat areas do overlap, the consent decree does not directly affect the actual areas delineated as critical habitat, nor does the critical habitat designation have any effect on the beach closures in the consent decree. Closures associated with implementation of the National Park Service's interim plan, the consent decree, or other potential court actions, would occur regardless of the critical habitat designation.

The breeding and wintering closures implemented under the National Park Service's interim plan and consent decree are based on the location of nesting sites and location of chicks (breeding closures) and foraging and roosting areas (wintering closures). Critical habitat is based on areas which the Fish and Wildlife Service determined to contain physical or biological habitat features needed for life and successful reproduction of the species.

The consent decree does not directly address protective measures for wintering birds, including the piping plover, nor does it invalidate the National Park Service's implementation of other measures of their interim plan. While wintering piping plovers may benefit from breeding bird closures (any species) during the spring or fall migrations, the breeding bird closures will not be established during the majority of the wintering bird period.

For more information on previous Federal actions concerning the piping plover, refer to the final listing rule or the July 10, 2001 designation.

## **2.2 Critical Habitat**

Critical habitat is defined in section 3(5)(A) of the ESA as – (i) the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the ESA, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. The term “conservation” as defined in section 3(3) of the ESA, means “to use and the use of all methods and procedures which are necessary to bring an endangered species or threatened species to the point at which the measures provided pursuant to this ESA are no longer necessary” (i.e., the species is recovered and removed from the list of endangered and threatened species).

Section 4(b)(2) of the ESA requires that we base critical habitat designation on the best scientific and commercial data available taking into consideration the economic impact and any other relevant impact, of specifying any particular area as critical habitat. We may exclude areas from critical habitat designation if we determine that the benefits of exclusion outweigh the benefits of including the areas as critical habitat, provided the exclusion will not result in the extinction of the species. We are also required to consider those habitat features (primary constituent

elements) that provide for the physiological, behavioral, and ecological requirements essential for the conservation of the species and that may require special management considerations or protection. Such physical and biological features, as outlined in 50 CFR 424.12, include, but are not limited to, the following:

- (1) Space for individual and population growth, and for normal behavior;
- (2) Food, water, or other nutritional or physiological requirements;
- (3) Cover or shelter;
- (4) Sites for breeding, reproduction, or rearing (or development) of offspring; and
- (5) Habitats that are protected from disturbances or are representative of the historic geographical and ecological distribution of a species.

Habitat is often dynamic, and species may move from one local area to another over time. Furthermore, we recognize designation of critical habitat may not include all habitat eventually determined as necessary to recover the species. For these reasons, areas outside the critical habitat designation will continue to be subject to conservation actions that may be implemented under section 7(a)(1) and the regulatory protection afforded by section 7(a)(2) jeopardy standard and the section 9 take prohibition, as determined on the basis of the best available information at the time of the action. We specifically anticipate that Federally-funded or assisted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans, or other species conservation planning efforts if new information available to these planning efforts calls for a different outcome.

### **2.3 – Interagency Cooperation under the ESA and Critical Habitat**

Section 7 of the ESA requires Federal agencies, including the Service, to ensure that actions they fund, authorize, or carry out are not likely to destroy or adversely modify critical habitat. In our regulations at 50 CFR 402.02, we define destruction or adverse modification as “a direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species. Such alterations include, but are not limited to, alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical.” However, the 5<sup>th</sup> and 9<sup>th</sup> Circuit Court of Appeals have invalidated this definition (see Gifford Pinchot Task Force v. U.S. Fish and Wildlife Service, 378 F. 3d 1059 (9<sup>th</sup> Cir. 2004) and Sierra Club v. U.S. Fish and Wildlife Service et al., 245 F.3d 434, 442F (5<sup>th</sup> Cir. 2001)). Pursuant to current national policy and the statutory provisions of the ESA, destruction or adverse modification is determined on the basis of whether, with implementation of the proposed Federal action, the affected critical habitat would remain functional (or retain the current ability for the PCEs to be functionally established) to serve the intended conservation role for the species.

#### Jeopardy Standard

Prior to and following designation of critical habitat, the Service has applied an analytical framework for wintering population of the piping plover jeopardy analyses that relies heavily on

the importance of core area populations to the survival and recovery of the wintering population of the piping plover. The section 7(a)(2) analysis is focused not only on these populations but also on the habitat conditions necessary to support them.

The jeopardy analysis usually expresses the survival and recovery needs of the wintering population of the piping plover in a qualitative fashion without making distinctions between what is necessary for survival and what is necessary for recovery. Generally, if a proposed Federal action is incompatible with the viability of a core area population(s), inclusive of associated habitat conditions, a jeopardy finding is considered to be warranted, because of the relationship of each core area population to the survival and recovery of the species as a whole.

#### Adverse Modification Standard

In a December 9, 2004 memorandum, the Director set forth an analytical framework that is used to complete section 7(a)(2) analyses for Federal actions affecting wintering population of the piping plover critical habitat. The key factor related to the adverse modification determination is whether, with implementation of the proposed Federal action, the affected critical habitat would remain functional (or retain the current ability for the primary constituent elements to be functionally established) to serve the intended conservation role for the species. Generally, the conservation role of wintering population of the piping plover critical habitat units is to support viable core area populations.

A conference opinion on the proposed critical habitat designation for the wintering population of the piping plover was completed in conjunction with the Service's biological opinion (dated August 14, 2006, as amended April 24, 2007, and March 28, 2008) for the Cape Hatteras National Seashore's (Seashore) Interim Protected Species Management Strategy (Interim Strategy) (NPS, 2006b). The Seashore's Interim Strategy proposed to close suitable interior areas year-round to all recreational users to protect breeding, resting, and foraging habitats for the piping plover. Closing these habitats protect the biological and physical characteristics important for the piping plover by maintaining the piping plovers' prey base, protecting upland habitats necessary for the species' protection during storms and other harsh weather conditions, and reducing the amount of recreational activities that could disturb and destroy foraging or roosting habitats. While the areas identified for the year-round closures are typically smaller than the areas proposed as critical habitat, the protection of these closure areas preserve a substantial portion of the available PCEs and the conservation value of the area for the wintering population of the piping plover.

Consistent with the Gifford Pinchot and Sierra Club decisions, our conference opinion on the Seashore's Interim Strategy and the potential impacts to the proposed critical habitat areas for the wintering population of the piping plover did not use the invalidated regulation. The Service carefully managed the consultation on the Interim Strategy to analyze impacts to the proposed critical habitat features in accordance with the Director's December 9, 2004 guidance in making section 7 adverse modification determinations. The emphasis of protecting piping plover habitats in the Seashore's Interim Strategy is the basis, in part, for the rationale that the designation of critical habitat is unlikely to result in additional project modifications. Moreover, the April 30, 2008 consent decree does not directly affect the actual areas delineated as critical

habitat, nor does the critical habitat designation have any effect on the beach closures in the consent decree. As such, the consent decree does not directly address protective measures for wintering birds, including the piping plover, nor does it invalidate the Seashore's implementation of other measures of their Interim Strategy. Furthermore, future projects within the Seashore would require approval from the Seashore, would be considered in a separate section 7 consultation, and would have to be consistent with existing Seashore management policies.

The Service conducted a section 7 consultation with PINWR on their draft Comprehensive Conservation Plan (CCP) in a letter dated January 12, 2006, concluding the proposed implementation of the CCP was not likely to adversely affect Federally-listed species, including the piping plover. While the final CCP (dated September 2006) and the associated consultation did not address potential impacts to piping plover critical habitat (the consultation preceded the proposal to designate critical habitat), the goals of the CCP are to “protect, maintain, and enhance healthy and viable populations of indigenous migratory birds, wildlife, fish, and plants including federal and state threatened and endangered species” and to “restore, maintain, and enhance the health and biodiversity of barrier island upland and wetland habitats to ensure optimum ecological productivity” by “limiting the adverse impacts of human activities and development” (USFWS, 2006a). Thus, implementation of the CCP protects the biological and physical characteristics important for the piping plover, and preserves the available PCEs and the conservation value of the area for the wintering population of the piping plover. Future projects within PINWR would require approval from PINWR, would be considered in a separate section 7 consultation, and would have to be consistent with existing Service management policies.

The Service also conducted a section 7 consultation with the Federal Highway Administration (FHWA) regarding the effects of the proposed replacement of the Herbert C. Bonner Bridge on Federally-listed species and critical habitat. In a letter dated July 10, 2008, the Service concluded in a conference opinion that the replacement of the bridge was not likely to adversely modify or destroy proposed critical habitat for the wintering population of the piping plover.

## **SECTION 3.0 – DESCRIPTION OF ALTERNATIVES**

The Service considered two alternatives (i.e., the No Action Alternative and the Action Alternative). Pursuant to NEPA and its implementing regulations (40 CFR 1501.3), the Service is required to consider a No Action Alternative. The Action Alternative is to designate critical habitat as proposed in the June 12, 2006 proposed rule (71 FR 33703), as modified by the May 15, 2008 revised rule (73 FR 28084).

### **3.1 – No Action Alternative**

The No Action Alternative is defined as a decision to forgo the designation of critical habitat for the wintering population of the piping plover along portions of the Outer Banks in North Carolina. This alternative would basically maintain the status quo and there would be no designation of critical habitat for the wintering population of the piping plover within the Seashore, PINWR, or on nearby State-owned islands; all other critical habitat areas in North Carolina would remain as designated in the July 10, 2001 final critical habitat rule (66 FR 36038). Since the listing of the species as endangered and threatened in 1985, the piping plover

has been protected under section 7 of the ESA by prohibiting Federal agencies from implementing actions that would jeopardize the continued existence of the species. The species is also protected by section 9 of the ESA which prohibits take. These protective measures under the ESA are considered the baseline against which the action alternative is evaluated. The No Action Alternative would not include any additional protection for the piping plover or its habitat beyond that which is required under sections 7 and 9 of the ESA related to the listing of the piping plover. Under the No Action Alternative, all areas within the Seashore, PINWR, and the State-owned islands DR-005-05 and DR-005-06 in Oregon Inlet, Dare County, and DR-009-03/04 in Hatteras Inlet, Dare and Hyde counties, would continue to be managed by their respective managing agencies in accordance with existing laws, regulations, policies, and plans. For example, the Seashore's Interim Strategy as modified by the 2008 consent decree, would close suitable interior habitat year-round to all recreational users to provide breeding, resting, and foraging habitat. These areas closed under the Interim Strategy would be closed regardless of wintering piping plover critical habitat designation. Additionally, under the No Action Alternative, all areas within PINWR would continue to be managed by the Service in accordance with existing laws, regulations, policies, and plans, including PINWR's CCP. Off-road vehicle use is prohibited on the beaches of PINWR and would continue to be prohibited regardless of wintering piping plover critical habitat designation. Lastly, under the No Action Alternative, all islands owned by the State of North Carolina and managed by the North Carolina Wildlife Resources Commission (NCWRC) would continue to be managed in accordance with existing laws, regulations, policies, and plans, including the NCWRC's Wildlife Action Plan (WAP). The State-owned islands DR-005-05 and DR-005-06 in Oregon Inlet, Dare County, and DR-009-03/04 in Hatteras Inlet, Dare and Hyde counties are accessible only by boat; thus, recreational access is limited. However, recreational user access would continue to be managed by the NCWRC regardless of wintering piping plover critical habitat designation.

### **3.2 – Action Alternative (Preferred Alternative)**

The Action Alternative designates critical habitat in four units: Unit NC-1, Oregon Inlet; Unit NC-2, Cape Hatteras Point; Unit NC-4, Hatteras Inlet; and, Unit NC-5, Ocracoke Island. These areas contain the PCEs upon which the wintering population of the piping plover depends. The specific PCEs required for the wintering population of the piping plover are derived from the biological needs of the species, as described in the "Background" section of the final rule designating critical habitat for the wintering population of the piping plover (66 FR 36038). In its November 2004 opinion, the court upheld the PCEs identified in our final rule thus, we are not changing PCEs previously identified. The PCEs for the wintering population of the piping plover are found in geologically dynamic coastal areas that support intertidal beaches and flats (between annual low tide and annual high tide) and associated dune systems and flats above annual high tide. The PCEs of intertidal flats include sand and/or mud flats with no or very sparse emergent vegetation. In some cases, these flats may be covered or partially covered by a mat of blue-green algae. Adjacent unvegetated or sparsely vegetated sand, mud, or algal flats above high tide are also important, especially for roosting piping plovers. Such sites may have debris, detritus (decaying organic matter), or micro-topographic relief (less than 50 cm above substrate surface) offering refuge from high winds and cold weather. The PCEs of the beach/dune ecosystem include surf-cast algae for feeding of prey, sparsely vegetated backbeach (beach area above mean high tide seaward of the dune line, or in cases where no dunes exist,

seaward of a delineating feature such as a vegetation line, structure, or road) for roosting and refuge during storms, spits (a small point of land, especially sand, running into water) for feeding and roosting, salterns (bare sand flats in the center of mangrove ecosystems that are found above mean high water and are only irregularly flushed with sea water) and washover areas for feeding and roosting. Washover areas are broad, unvegetated zones with little or no topographic relief that are formed and maintained by the action of hurricanes, storm surge, or other extreme wave action. Several of these components (sparse vegetation, little or no topographic relief) are mimicked in artificial habitat types used less commonly by piping plovers, but that are considered critical habitat (e.g., dredge spoil sites).

The Action Alternative designates critical habitat as described in the final rule published in the Federal Register on October 21, 2008, and is based on the decision that these four areas are essential for the survival and conservation of the wintering population of the piping plover as stated in the 2001 final rule (66 FR 36038). The final critical habitat areas constitute our best assessment of the areas determined to be occupied at the time of listing, that contain one or more of the PCEs and that may require special management or protection. The following reasons summarize why the Service believes the Action Alternative best fits the purpose and needs of this action:

1. The three breeding populations of the piping plover declined during the last century due to a number of factors, including habitat destruction, disturbance by humans and pets, high level of predation, and contaminants;
2. As result of declining numbers, the species was listed as threatened under the ESA, with the exception of the Great Lakes breeding population which was listed as endangered;
3. The ESA states that among its purposes is to provide means whereby the ecosystems upon which endangered and threatened species depend may be conserved;
4. One method of conserving the habitat of species protected by the ESA is the designation of critical habitat. Critical habitat designation is intended to assist in achieving long-term protection and recovery of piping plovers and the ecosystems upon which they depend;
5. In November 2004, the U.S. District Court for the District of Columbia ordered the Service to reconsider critical habitat for the piping plover;
6. The Service recognizes the need to protect the wintering population of piping plovers from direct and indirect adverse impacts. Adult survivorship during migration and over the wintering period plays a significant role in maintaining current populations and in accomplishing increases in population levels required to achieve recovery; and,
7. Based on the statutory obligations of the Service under the ESA, court orders, and current knowledge of the biology of piping plovers within the Seashore, the Service

revised critical habitat units for the wintering population of piping plovers in North Carolina.

The designation of critical habitat is compatible with the Service's Mission "to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people." This action will also satisfy the November 2004 court order directing us to reconsider the critical habitat units and comply with NEPA.

## **SECTION 4.0 – AFFECTED ENVIRONMENT**

In total, the four units designated as critical habitat units are approximately 2,043 acres (ac) (827 hectares (ha)). All units (i.e., NC-1, NC-2, NC-4, and NC-5) are within the vicinity of the Seashore and PINWR. Most of the units are Federally-owned and -managed by the National Park Service (NPS) and the Service. Several small islands (i.e., DR-005-05 and DR-005-06 in Oregon Inlet, Dare County, and DR-009-03/04 in Hatteras Inlet, Dare and Hyde counties) are owned by the State of North Carolina and managed by the NCWRC. Federal agencies, such as the Seashore and PINWR, are obligated to consult with the Service through the section 7 process of the ESA whenever they propose, permit, or fund an action in any area that could affect Federally-protected species.

Many recreational activities occur within these four areas, including beach driving, bird watching, boating, camping, fishing, hiking, hunting, kayaking, swimming, wildlife viewing, and windsurfing (NPS, 2006a; USFWS, 2006a). Many of these activities, including beach driving, predate establishment of the Seashore or PINWR, but were probably limited due to limited access of vehicles and people to Hatteras Island prior to the construction of Herbert C. Bonner Bridge in 1964. Off-road vehicles (ORVs) are currently used to provide access onto the Seashore's beaches for all recreational purposes, including fishing, surfing, sunbathing, swimming, and bird watching. In 2006, the Seashore developed the Interim Strategy (NPS, 2006b) to evaluate and implement strategies (e.g., resource closures, education and outreach, monitoring, etc.) to protect sensitive species and provide for recreational use as directed in the Seashore's enabling legislation, NPS management policies, and other laws and mandates, until such time that a final long-term ORV management plan could be developed. The Interim Strategy, as modified by the Consent Decree (see section 2.1) is currently being implemented. The NPS currently is developing the ORV management plan through a Negotiated Rulemaking Advisory Committee in accordance with the Negotiated Rulemaking Act (5 U.S.C. 561-570). Pea Island National Wildlife Refuge also manages its property to the benefit of natural resources, including endangered and threatened wildlife, under PINWR's CCP (USFWS, 2006a); the use of vehicles on the beaches of PINWR are prohibited. The State-owned islands are specifically managed for nesting waterbirds, including the Federally-listed piping plover, by the NCWRC; the islands are accessible only by boat.

### **4.1 – Physical Environment**

The Seashore, PINWR, and the nearby State-owned islands stretch along more than 70 miles of the Outer Banks in Dare and Hyde counties, North Carolina. The Seashore includes, from north to south: (1) Bodie Island from Whalebone Junction (junction of US 64/264 and NC 12) to

Oregon Inlet; (2) all of Hatteras Island, which encompasses PINWR that is owned and managed by the Service, but excludes privately held lands in the villages of Rodanthe, Waves, Salvo, Avon, Buxton, Frisco, and Hatteras; and, (3) all of Ocracoke Island except for privately held lands in the village of Ocracoke. The Seashore (including PINWR) contains nearly 30,000 acres and is administered by the NPS and the Service. The State-owned islands are undeveloped and range from about 2 acres to more than 60 acres in size; they are administered by the NCWRC.

The geographic area of the affected environment includes about 2,043 acres (827 ha) located in four areas (i.e., Units NC-1, NC-2, NC-4, and NC-5). The general area of interest for the action is part of the Outer Banks, which are Atlantic Coast barrier islands that are perched on top of older geologic units (Pilkey et al., 1998, p. 50).

Presented below are brief descriptions of the critical habitat units. For a more complete description of the units, see the June 12, 2006 proposed rule (71 FR 33703), as modified in the May 15, 2008 proposed rule (73 FR 28084). Information on the methodology of identifying areas designated as critical habitat can be found in the “Methods” section of our June 12, 2006 proposed rule (71 FR 33703).

#### Unit NC-1: Oregon Inlet

Unit NC-1 extends from the southern portion of Bodie Island through Oregon Inlet to the northern portion of Pea Island in Dare County, North Carolina. It begins at the edge of Ramp 4 near the Oregon Inlet Fishing Center on Bodie Island and extends approximately 5.0 mi (8.0 km) south to the intersection of NC Highway 12 and Salt Flats Wildlife Trail (near Mile Marker 30, NC Highway 12), approximately 3.0 mi (5.0 km) from the groin, on Pea Island, and consists of about 485 ac (196 ha). This unit includes lands from the mean lower low water (MLLW) on the Atlantic Ocean shoreline to the line of stable, densely vegetated dune habitat and from the MLLW on the Pamlico Sound side to the line of stable, densely vegetated habitat, or (where a line of stable, densely vegetated dune habitat does not exist) lands from MLLW on the Atlantic Ocean shoreline to the MLLW on the Pamlico Sound side. The unit includes emergent sandbars south and west of Oregon Inlet, specifically Green Island and State-owned islands DR-005-05 and DR-005-06.

#### Unit NC-2: Cape Hatteras Point

Unit NC-2 consists of 645.8 ac (261.4 ha) of sandy beach and sand and mud flat habitat in Dare County, North Carolina. The Cape Hatteras Point (also known as Cape Point or Hatteras Cove) unit extends south approximately 3.0 mi (5.0 km) from the ocean groin near the old location of the Cape Hatteras Lighthouse to the point of Cape Hatteras, and then extends west approximately 5.0 mi (8.0 km) along Hatteras Cove shoreline (South Beach) to the edge of Ramp 49 near the Frisco Campground. This unit includes lands from the MLLW on the Atlantic Ocean shoreline to the line of stable, densely vegetated dune habitat.

#### Unit NC-4: Hatteras Inlet

Unit NC-4 consists of about 410 ac (166 ha) of sandy beach and inlet spit habitat on the western

end of Hatteras Island and the eastern end of Ocracoke Island in Dare and Hyde counties, North Carolina. The unit extends approximately 5.0 mi (8.0) southwest from the first beach access point at the edge of Ramp 55 at the end of NC Highway 12 near the Graveyard of the Atlantic Museum on the western end of Hatteras Island to the edge of the beach access at the ocean-side parking lot (approximately 0.1 mi south of Ramp 59) on NC Highway 12, approximately 0.78 mi (1.25 km) southwest (straight-line distance) of the ferry terminal on the northeastern end of Ocracoke Island. This unit includes lands from the MLLW on the Atlantic Ocean shoreline to the line of stable, densely vegetated dune habitat and from the MLLW on the Pamlico Sound side to the line of stable, densely vegetated habitat, or (where a line of stable, densely vegetated dune habitat does not exist) lands from MLLW on the Atlantic Ocean shoreline to the MLLW on the Pamlico Sound side. Emergent sandbars within Hatteras Inlet, specifically State-owned island DR-009-03/04, are included.

#### Unit NC-5: Ocracoke Island

Unit NC-5 consists of 501.8 ac (203.0 ha) of sandy beach and mud and sand flat habitat in Hyde County, North Carolina. The unit includes the western portion of Ocracoke Island beginning at the beach access point at the edge of Ramp 72 (South Point Road), extending west approximately 2.0 mi (3.0 km) to Ocracoke Inlet, and then back east on the Pamlico Sound side to a point where stable, densely vegetated dune habitat meets the water. This unit includes lands from the MLLW on the Atlantic Ocean shoreline to the line of stable, densely vegetated dune habitat and from the MLLW on the Pamlico Sound side to the line of stable, densely vegetated habitat, or (where a line of stable, densely vegetated dune habitat does not exist) lands from MLLW on the Atlantic Ocean shoreline to the MLLW on the Pamlico Sound side.

#### **4.2 – Fish, Wildlife, and Plants**

The critical habitat units provide nesting, resting and feeding habitat for a diverse assemblage of birds in addition to piping plovers. In fact, the Seashore and PINWR are both designated as Globally Important Bird Areas by the American Bird Conservancy in recognition of the value that the areas provide to bird migration, breeding, and wintering. Furthermore, most of PINWR has been designated as a Significant Natural Heritage Area by the North Carolina Natural Heritage Program. Concentrations of ducks, geese, swans, wading birds, shorebirds, raptors, and neotropical migrants are seasonally abundant throughout the Seashore and PINWR. During the winter at the Seashore, PINWR, and on the State-owned islands, piping plovers are often found in association with several other shorebird species, including other species of plovers (Family Charadriidae), sanderlings (*Calidris alba*), sandpipers (Family Scolopacidae), dunlins (*Calidris alpina*), dowitchers (*Limnodromus* spp.), whimbrel (*Numenius phaeopus*), and ruddy turnstones (*Arenaria interpres*).

Several other Federally-listed endangered and threatened species use habitat in which the PCEs of wintering piping plovers are found, including the seabeach amaranth (*Amaranthus pumilus*), and loggerhead (*Caretta caretta*), green (*Chelonia mydas*), leatherback (*Dermochelys coriacea*), hawksbill (*Eretmochelys imbricate*), and Kemp's ridley (*Lepidochelys kempii*) sea turtles. The roseate tern (*Sterna dougallii*) is an occasional visitor along the Seashore, particularly south of

Cape Hatteras at Cape Point, during the months of July and August and may be seen late spring and early summer on a rare occasion.

In addition to more than 365 species of birds that have been observed, the Seashore, PINWR and, to a lesser extent, the State-owned islands play a vital role in the survival of at least 25 species of mammals, 24 species of reptiles, and five species of amphibians.

### **4.3 – Human Environment**

The purpose of the Seashore is to preserve and protect significant segments of barrier island coastline for the benefit and enjoyment of people and to provide for recreational visitor use consistent with that purpose. Cultural resources reflecting and revealing the national maritime experience, cultural expressions, and man's inherent relationships with the land are also protected and preserved. The purpose of the National Wildlife Refuge System is “to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.” PINWR was specifically established to provide refuge, breeding, and foraging habitat for migratory birds and other wildlife. While it is recognized that wildlife-dependent activities, such as fishing, wildlife observation, wildlife photography, and environmental education and interpretation, are legitimate and priority public uses, the purposes of PINWR are to consider the needs of fish and wildlife first and maintain the biological integrity, diversity, and environmental health of the refuge. The State-owned islands are managed by NCWRC specifically for the purposes of providing habitat for nesting waterbirds and shorebirds. Access is currently prohibited during the waterbird nesting season (April 1 through August 31), but access during the non-breeding season is at the discretion of the NCWRC. Because the State-owned islands are undeveloped and are accessible only by boat, human access is limited.

#### *4.3.1 – Recreational Resources*

The Seashore is open to the public for a number of recreational activities. A recent study of park activities found recreational fishing, sunbathing, swimming, beach driving, camping, surfing, walking, shell collecting, and bird watching to be some of the most popular activities in which visitors of the Seashore participated (Vogelsong, 2003). Most of these activities are available year-round and throughout all public areas of the Seashore. PINWR is open to the public for a number of recreational activities, as well. A recent study of refuge activities found bird/wildlife viewing and fishing to be the most popular activities in which visitors of PINWR participated (Vogelsong, 2006). These activities are available year-round and throughout all public areas of PINWR. The State-owned islands have restricted access during the waterbird nesting season, but are generally open to public use during the non-breeding season. However, because the State-owned islands are accessible only by boat, public access is limited. All areas considered in this EA are currently open to public use, except when certain portions of the areas are closed for human safety, resource protection, or both.

The areas incorporating the PCEs of critical habitat are also some of the most popular areas within the Seashore for recreation. Oregon Inlet (e.g., Unit NC-1), specifically the areas of

Bodie Island, is one of the first beach access points for ORVs within the Seashore when traveling from the developed coastal communities of Nags Head, Kill Devil Hills, Kitty Hawk, and Manteo. As such, the spit on the northern side of the inlet is a popular area for ORV users to congregate. A recent Seashore visitor use study reported that this area of Oregon Inlet is the second most popular ORV use area (Vogelsong, 2003). The majority of the Seashore users in this area are ORV owners and recreational fishermen. The Hatteras Island side of the Oregon Inlet unit (which incorporates PINWR) receives less recreational use than does the Bodie Island side, even though fishing is the third most popular activity engaged in by refuge visitors. ORV use is prohibited within PINWR and may account for fewer numbers of visitors on the Hatteras Island side of unit. The State-owned islands of this unit (i.e., DR-005-05 and DR-005-06) are accessible only by boat, which is made easy by the proximity of the Oregon Inlet Fishing Center marina; access to these islands is highest during the summer months. Cape Hatteras Point (e.g., Unit NC-2) is located near the Town of Buxton, the largest community on Hatteras Island. For that reason, Cape Hatteras Point is also a popular area for ORV use and recreational fishing. Vogelsong's (2003) visitor use study of the park found that Cape Hatteras Point had the most ORV use within the park. Hatteras Inlet (e.g., Unit NC-4) is located near the Village of Hatteras, Dare County, and is the southernmost point of the Seashore that can be reached without having to take a ferry. As such, the inlet is a popular ORV and recreational fishing area. In fact, Vogelsong's (2003) study found Hatteras Inlet the fourth most used area by ORVs in the park. The State-owned island of this unit (i.e., DR-009-03/04) is accessible only by boat, which is made easy by the proximity of the marinas at Village of Hatteras; access to these islands is highest during the summer months. Ocracoke Inlet (e.g., Unit NC-5) is located near the Village of Ocracoke, and is the southernmost point of the Seashore. Ocracoke Island is only accessible by ferry, and is a popular destination for vacationers and locals interested in seclusion. The inlet is also a popular recreational fishing and ORV area. Vogelsong's (2003) study of the park reported Ocracoke Inlet was the third most popular ORV use area in the park.

#### *4.3.2 – Cultural Resources*

The North Carolina State Historic Preservation Office's statewide inventory contains information on nine historic archaeological sites in Dare County in the general vicinity of the critical habitat areas – Ellsworth and Lovie Ballance House, listed in 2001; the Bodie Island Light Station, listed in 2003; the Bodie Island Lifesaving/Coast Guard Station, listed in 1979; the Cape Hatteras Light Station, listed in 1978, Chicamacomico Life Saving Station, listed in 1976, the Hatteras Weather Bureau Station, listed in 1978; the Oregon Inlet Station, listed in 1975; the Salvo Post Office, listed in 1993; and the U.S.S. Monitor (off Cape Hatteras), listed in 1974 (North Carolina State Historic Preservation Office, 2006). Two properties in Hyde County within the vicinity of the critical habitat areas are listed in the National Register of Historic Places – Ocracoke Historic District, listed in 1990; and the Ocracoke Light Station, listed in 1977 (North Carolina State Historic Preservation Office, 2006). However, none of these Historic Places are within the areas that contain the PCEs of critical habitat for the wintering population of the piping plover. The Pea Island Life-Saving Station was originally constructed about 7 miles south of Oregon Inlet, but the facilities were moved frequently and no archaeological remains were found at the original location (Thompson and Gardner, 1979). Shipwrecks are occasionally uncovered on the beaches of PINWR; the State Historic Preservation Office has not found any of these to be significant.

### 4.3.3 – Economic and Social Resources

Dare County is ranked 67<sup>th</sup> (out of 100) in population in North Carolina with 34,790 persons (2005 census), but ranks near the top in per capita income (10 out of 100 in 2004) (North Carolina Department of Commerce, 2006). Private industry accounts for 82.7 percent of the County's workforce. Retail trade and accommodation and food services are the leading sectors of employment with 18.1 and 16.6 percent, respectively, of the total County employment.

Hyde County is ranked 99<sup>th</sup> (out of 100) in population in North Carolina with 5,587 persons (2005 census), and ranks near the bottom in per capita income (93 out of 100 in 2004) (North Carolina Department of Commerce, 2006). Private industry accounts for 54.9 percent of the County's workforce. Public administration, manufacturing, and educational services are the leading sectors of employment with 30.8, 13.1, and 12.2 percent, respectively, of the total County employment.

Although the resident population of Dare and Hyde counties are rather low (compared to other counties in North Carolina), there is a significant human presence on the Outer Banks during the summer season. The Seashore alone attracts about 2.5 million visitors annually (NPS, 2005), and PINWR attracts about 1.1 million visitors annually (USFWS, 2006b). The combination of the large number of visitors and the dynamic shoreline pose unique challenges to Seashore and PINWR management. The number of visitors to the State-owned islands is undeterminable, in part, because the islands are not stationed with personnel; unauthorized access by visitors poses challenges to the NCWRC management.

## **SECTION 5.0 – ENVIRONMENTAL CONSEQUENCES**

This section reviews the expected environmental consequences of designating critical habitat for the wintering population of the piping plover in North Carolina under the Action Alternative and the environmental consequences of the No Action Alternative. Typically, determining the impacts of an action involves evaluating the “without the action” baseline versus the “with the action” scenario. The impact of a proposed action equals the difference, or the increment, between the two scenarios.

Regardless of which alternative is chosen, in accordance with section 7(a)(2) of the ESA, Federal agencies are required to review actions they authorize, fund, or carry out to determine the effects of proposed actions on Federally-listed species. If the Federal agency determines that its action may adversely affect a listed species, it must enter into formal consultation with the Service. This consultation results in a biological opinion issued by the Service as to whether the proposed action is likely to jeopardize the continued existence of the species, which is prohibited under the ESA.

If critical habitat is designated, Federal agencies would also have to enter into section 7 consultations with us on actions they determine may affect critical habitat. That consultation would result in a biological opinion as to whether their proposed action is likely to destroy or adversely modify designated critical habitat, which also is prohibited under the ESA.

The wintering population of the piping plover was listed as threatened in 1985, which precipitated section 7 consultations and subsequently influenced management actions, all in the absence of a critical habitat designation. To avoid jeopardy to the species, the Service recommends conservation actions through the section 7 consultation process. If critical habitat is designated, the Service would similarly recommend conservation actions through the section 7 process to avoid the destruction or adverse modification of critical habitat. The prohibitions associated with the designation of critical habitat are not expected to impose any additional restrictions to those areas because conservation actions in the jeopardy analysis are also addressing the protection of the species' habitat.

Potential environmental consequences that may result from implementation of the No Action and Action alternatives are discussed below. All impacts are expected to be indirect, as critical habitat designation does not in itself result in any alteration of the environment. Designation of critical habitat may in some cases provide some benefits to a species by alerting Federal agencies to situations when section 7 consultation is required. This may be particularly true in cases where the action would not result in direct mortality, injury or harm to individuals of a listed species (e.g., an action occurring within a critical habitat area when a species is not present). Another potential benefit is that critical habitat may help to focus Federal, State, Tribal, and private conservation and management efforts.

In sum, the Service has tried to provide an assessment of the possible impacts from the designation. At the same time, however, it remains true that this NEPA analysis was necessitated by designation of critical habitat alone; listing a species pursuant to the ESA is not subject to NEPA analysis. As required by NEPA, this document is in part intended to disclose the programmatic goals and objectives of the ESA. The goals and objectives of the ESA are to conserve threatened and endangered species and the ecosystems upon which they depend, and to carry out applicable international treaties and conventions.

## **5.1 – Physical Environment**

Neither of the alternatives will impact the physical environment because critical habitat designation does not result in any alteration of the environment.

## **5.2 – Fish, Wildlife, and Plants**

### *5.2.1 – Wintering population of the piping plover*

The No Action Alternative, under which no critical habitat would be designated for the wintering piping plover, would have no impact on the species. Federal agencies, such as the Seashore and Service, would continue to be obligated to consult on any proposed action that could affect the piping plover. Through the section 7 process, Federally-funded or -permitted actions would continue to be modified as needed to avoid jeopardizing the continued existence of the piping plover. The management and conservation provisions contained in the Seashore's Interim Strategy (or future ORV management plan), PINWR's CCP, and the NCWRC's WAP will continue to address impacts to the piping plover's habitat, whether or not critical habitat is designated.

The Action Alternative would have minimal impacts beyond those already considered in section 7 jeopardy consultations. It is true that certain benefits accrue to wintering piping plovers due to designation of critical habitat, including the requirement under section 7 of the ESA that Federal agencies conduct additional review of their actions to assess their effects on critical habitat; alerting Federal agencies to additional situations where section 7 consultation is required; helping to focus Federal, State, and private conservation and management efforts by identifying the areas most important to the species; and allowing for long-term planning for species conservation. However, existing management and conservation provisions, especially those already implemented in accordance with the Seashore's Interim Strategy, PINWR's CCP, and NCWRC's WAP, already address impacts to the species' habitat, and these would not change whether or not critical habitat is designated. This is consistent with the Service's conference opinion (see section 2.3 above), in which we concluded that the Seashore's Interim Strategy would not destroy or adversely modify critical habitat.

Designating critical habitat does not, in and of itself, lead to the recovery of a listed species. The designation does not establish a reserve, create a management plan, establish numerical population goals, prescribe specific management practices (inside or outside of critical habitat), or directly affect areas not designated as critical habitat. Specific management recommendations for areas designated as critical habitat are most appropriately addressed in recovery and management plans, and through section 7 consultation and section 10 permits.

#### *5.2.2 – Other Fish, Wildlife, and Plants*

The No Action Alternative would have no significant impacts on fish, wildlife or plants beyond those protections already in place as a result of the listing of the piping plover in 1985 and associated requirements of section 7 and 9 of the ESA and protections in accordance with the Seashore's Interim Strategy, PINWR's CCP, and the NCWRC's WAP. The critical habitat areas are in proximity to known occurrences of the Federally-listed roseate tern, seabeach amaranth, and loggerhead, green, leatherback, hawksbill, and Kemp's ridley sea turtles. Management and conservation strategies associated with these Federally-listed species or other non-listed species of wildlife are not expected to change from current conditions. Federal agencies, such as the Seashore and PINWR, would continue to be obligated to consult with the Service whenever they propose an action in any area that could affect Federally-listed species. Federally-funded or -permitted actions would continue to be modified as needed through the section 7 process so that they avoid jeopardizing the continued existence of Federally-listed species. No other threatened or endangered species are known to occur or are expected to be present within the critical habitat areas, thus none would be affected. No other non-listed wildlife species are expected to be affected.

The Action Alternative is not expected to have any affect on the Federally-listed species or other non-listed species of wildlife listed above because the designation of critical habitat does not impose any physical alteration of the physical or biological communities; therefore, the Action Alternative would have minimal additional impacts beyond those already considered in section 7 consultations because these consultations already address impacts to the species' habitat. The objectives of designating critical habitat are to protect features essential to the conservation of

the species for which the habitat is designated. Fish, wildlife, and plants may indirectly benefit as a result of protections provided through conservation of the wintering piping plover and the associated requirements of section 7(a)(2) of the ESA. It is possible that protective measures implemented for the piping plover or critical habitat may provide some benefit to these other species, but significant benefits to these species are not expected beyond the measures identified to protect these species in the Seashore's Interim Strategy, PINWR's CCP, or the NCWRC's WAP. No other threatened or endangered species are known to occur or expected to be present within the critical habitat areas, thus none would be affected. No other non-listed wildlife species are expected to be affected by the designation of critical habitat.

### **5.3 – Human Environment**

As discussed above, individuals, organizations, States, local governments, and other non-Federal entities are affected by the designation of critical habitat only if their actions occur on Federal lands, require a Federal permit, license or authorization, or involve Federal funding. Since the species was listed, Federal agencies have been required to consider the effects of their actions on the piping plover and consult with the Service as appropriate. While a similar process is required for critical habitat, analysis of effects to critical habitat is not expected to cause large increases in the number or complexity of consultations because these consultations already address impacts to the species' habitat. This is true, in part, because unoccupied habitat has not been proposed as critical habitat. The following discussion will disclose the potential impacts associated with all future section 7 consultations in or near the critical habitat areas and potential impacts associated with or without complete recreational closure of critical habitat areas.

#### *5.3.1 – Recreational Resources*

Neither of the alternatives will impact recreation. The presence of the PCEs of critical habitat for the wintering population of the piping plover does not, in and of itself, alter any recreational resource or the use of such resources. Public access to the critical habitat areas for the wintering population of the piping plover would continue to be managed in accordance with the Seashore's Interim Strategy, PINWR's CCP, and the NCWRC's WAP. As such, access to these sites may be limited as a result of ongoing or future Seashore, PINWR, or NCWRC management actions, but restricted access to these areas would occur whether or not critical habitat was designated. For example, critical habitat areas overlap other areas that may be closed by the Seashore for the protection of wintering piping plovers and other shorebirds or other natural resources within the park, as well as for public safety reasons. Public access to areas managed by the Seashore is granted in compliance with various laws, regulations, policies, and plans, and is at the sole discretion of the Seashore. Likewise, critical habitat areas on PINWR overlap areas already closed to vehicle use; the access to these areas are managed by the Service in compliance with various laws, regulations, policies, and plans, and is at the sole discretion of the Service.

#### *5.3.2 – Cultural Resources*

Neither of the alternatives will impact cultural resources. The presence of the PCEs of critical habitat for the wintering population of the piping plover does not, in and of itself, alter any cultural resource or the use of such resources. Important archaeological sites or National

Register-listed properties are not present within any of the critical habitat areas for the wintering population of the piping plover. Therefore, even if impacts were to occur in these habitat areas, with or without the designation of critical habitat, there will be “no effect” upon any of the NCWRC, PINWR, or the Seashore’s historic properties, archaeological sites, or National Register-listed properties.

### *5.3.3 – Economic and Social Resources*

The Service has prepared a final economic analysis on the potential economic impacts associated with the critical habitat designation for the wintering population of piping plover (Industrial Economics, Incorporated, 2008). The economic analysis specifically identifies and analyzes the effect of possible beach closures on off-road vehicle use and potential administrative costs of section 7 consultations undertaken by NPS, the Service, and NCWRC. The economic analysis can be found on our website at <http://www.fws.gov/nc-es>.

The economic analysis presents impacts on ORV use both in terms of social welfare (i.e., consumer surplus) values and trip expenditures, but notes “significant uncertainty regarding the potential impacts of this [critical habitat] designation on ORV use” because decisions regarding closures or other management actions have not been made. The analysis presents two possible scenarios of future impacts – a low bound estimate and a high bound estimate. The low bound estimate assumes no trips would be lost and is based on a scenario in which: (a) the Seashore does not implement additional closures in response to the designation; (b) any additional closures that are implemented do not result in a decreased level of visitation; or, (c) the Seashore’s offsetting management efforts effectively mitigate the impacts of any additional closures on the quality of ORV activities on the beach. The high bound estimate assumes incremental impacts would result from the Seashore closing additional areas of the beach beyond those currently closed under NPS management, and that a percentage of all trips to these additional designated areas within the Seashore could be lost. However, as stated in the economic analysis, the Seashore anticipates that ORV access to the beach will not be affected by the designation of critical habitat. Furthermore, the economic analysis quotes the Service, stating that “it is highly unlikely that the Service would recommend any additional closures associated with wintering piping plover critical habitat given that the NPS will be protecting the essential resources that are needed during the wintering months.” Therefore, the high bound estimate includes a scenario of hypothetical conservation actions (i.e., additional beach closures that decrease ORV use and visitation) that are highly improbable. As a result, we believe the No Action Alternative and the Action Alternative would have identical economic effects, and those effects are forecast in the low bound estimate. That is, both the No Action Alternative and the Action Alternative would have no impact on the economic vitality of existing businesses within the area, business districts, the local economy, tax revenues, public expenditures, or municipalities beyond those impacts already resulting from the 1985 listing of the piping plover and the associated requirements of sections 7 and 9 of the ESA and protections implemented in accordance with the Seashore’s Interim Strategy, PINWR’s CCP, and the NCWRC’s WAP.

### *5.3.4 – Interagency Consultation*

Neither of the alternatives will have significant impacts on interagency consultations beyond those protections already in place as a result of the listing of the piping plover in 1985 and associated requirements of section 7 and 9 of the ESA and protections in accordance with the Seashore's Interim Strategy, PINWR's CCP, and the NCWRC's WAP.

#### **5.4 – Cumulative Impacts**

According to Council on Environmental Quality (CEQ) NEPA regulations (40 CFR 1508.7), cumulative impacts are the impacts on the environment that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively noteworthy actions taking place over a period of time.

We have attempted to determine cumulative impacts by combining the impacts of the Action Alternative (as described in section 5.0) with other past, present, and reasonably foreseeable future actions conducted by the NPS, the Service, NCWRC, and others within critical habitat. The geographic extent for which cumulative effects are considered vary for each of the resources analyzed. However, the actions contributing to the cumulative impacts in the vicinity of the critical habitat appear limited, but include:

- effects of section 7 consultations on other species and other designated critical habitat;
- existing recreational activities (such as ORV access); and,
- existing and proposed future land management policies and plans.

Within these general categories of actions, we are aware of several past and current projects whose effects were considered cumulatively with the designation of critical habitat. These include the Seashore's Interim Strategy, the court approved consent decree for the Seashore, the disposal of dredged sediments from Oregon Inlet on PINWR, and the proposal to replace Herbert C. Bonner Bridge (see Section 2.3 Adverse Modification Standard above for additional detail). We are also aware of several reasonably foreseeable future projects whose effects undoubtedly will be considered on critical habitat in section 7 consultations. These include the Corps of Engineer's future disposal of dredged sediments associated with maintenance of Oregon Inlet on PINWR, the Seashore's implementation of a long-term ORV management plan, and the Seashore's implementation of a revised General Management Plan. We have considered here their effects cumulatively with the designation of critical habitat.

Effects of critical habitat designation on most resource areas generally consist of the potential for minor increases in Federal agency staff effort during section 7 consultations to incorporate critical habitat considerations and addition of discretionary conservation measures to reduce impacts to PCEs. Section 7 consultations apply only to actions with Federal involvement (i.e., activities authorized, funded, or conducted by Federal agencies), and do not impact activities strictly under State or private authority. Since the majority of the areas designated as critical habitat are Federally-owned and -managed, we anticipate the majority of actions that might affect critical habitat would also require authorization or approval by the appropriate Federal agency, and thus would undergo the appropriate section 7 analysis.

As described in Section 2.3 Adverse Modification Standard, we have found that because of the emphasis of protecting piping plover habitats in the Seashore's Interim Strategy the designation of critical habitat is unlikely to result in additional project modifications on the Seashore, the critical habitat designation does not affect the beach closures described in the consent decree, and the replacement of Herbert C. Bonner Bridge is not likely to adversely modify or destroy critical habitat; therefore we find that the designation of critical habitat does not add to the cumulative effects of past and currently occurring activities described above. Also, the long-term ORV Management Plan and revised General Management Plan will continue to address impacts to piping plover habitat whether critical habitat is designated or not; therefore we find that the designation of critical habitat is not likely to add to the impacts of these reasonably foreseeable future projects. The disposal of dredged sediments in association with the maintenance of Oregon Inlet on PINWR will address impacts to piping plovers and their habitats because the Corps of Engineers is required to consult on their impacts to federally-listed species whether critical habitat is designated or not, and they are required to obtain a compatibility determination from the refuge before conducting such activities; therefore, we find that the designation of critical habitat does not add to the cumulative effects of future dredging activities.

## **SECTION 6.0 – CEQ ANALYSIS OF SIGNIFICANCE**

This EA represents the basis for determining whether the action would have significant impacts on the human environment. A Federal action which significantly impacts the human environment, in either a positive or negative manner, requires the preparation of an EIS. Under the CEQ's regulations given at 40 CFR Section 1508.27, the determination of "significantly" requires consideration of both context and intensity.

### **6.1 – Context**

The level of significance for an action varies within the setting, or context, in which the action occurs. Context recognizes that in addition to the intensity of project impacts, the setting, potentially affected resources, and location in which an environmental disturbance occurs must all be evaluated in determining the significance of the action. Context may be considered as a measure of the existing conditions, or the environmental baseline, within which the action would occur.

The designation of critical habitat for the wintering population of the piping plover would occur on the Outer Banks on and in the vicinity of the Seashore and PINWR which are owned and managed by the NPS and the Service, respectively. Many of the nearby islands are owned by the State of North Carolina and managed by the NCWRC. The Seashore and PINWR are recognized as areas that play a vital role in the survival of many birds. The American Bird Conservancy has designated the Seashore and PINWR as a Globally Important Bird Area because of its value for bird migration, breeding, and wintering. The Interim Strategy (and subsequent court approved consent decree) for the Seashore (NPS, 2005) includes endangered species habitat protection protocols and seeks to ensure that populations of listed species within the seashore contribute needed productivity to assist in the recovery and subsequent delisting of these species. The CCP

for PINWR (USFWS, 2006a) and the WAP for the NCWRC (NCWRC, 2005) have similar habitat protections protocols and measures to protect and enhance populations of listed species.

The geographical context would not be national, but only regional and mostly local. The four units of critical habitat would include approximately 2,043 acres. The units would represent roughly seven percent of the more than 30,000 acres within the Seashore, PINWR, and State-owned islands. In other words, more than 90% within the Seashore and PINWR would not be affected by the proposed action. Furthermore, human activities in the small towns within and adjacent to Seashore and PINWR would not be affected by the critical habitat designations. Therefore, when the entire area of the Seashore, PINWR, the State-owned islands, and adjacent municipalities of Dare and Hyde counties are considered, any impacts, either positive or negative, would be small in geographical extent.

When considered in the context of the value of the economic activity that is predicted to occur over the next twenty years in the region, the economic costs associated with the wintering population of the piping plover, specifically ORV use and associated beach closures and section 7 consultations undertaken by NPS, include a high-bound estimate based on an assumption of complete area closures. However, NPS currently does not anticipate changing its management due to the designation of critical habitat, including enlarging or maintaining beach closures beyond current management and conservation strategies for wintering piping plovers implemented in accordance with the Seashore's Interim Strategy or the court approved consent decree. The status quo in management for the wintering population of piping plovers is expected at PINWR and the State-owned islands, as well. In other words, the high bound estimate is not as probable as the low bound estimate (which is based on an assumption of no additional closures due to designation).

Additionally, only a small portion of the section 7 costs would be attributable to critical habitat designation. Even without critical habitat designation, section 7 consultation would take place because of the presence of the wintering population of the piping plover. The component of the consultation addressing critical habitat (and associated costs) is only a part of the entire consultation.

## **6.2 – Intensity**

Intensity, as defined by the CEQ, refers to the severity of impact. The CEQ regulations (40 CFR §1508.27(b)) lists ten factors which should be considered in evaluating the intensity of a proposal's impacts. Each of the ten points is considered below.

**Environmentally beneficial and negative actions.** Critical habitat identifies geographic areas that are essential for the conservation of a threatened or endangered species and which may require special management considerations or protection. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. It does not allow government or public access to private lands. Federal agencies must consult with the Service on activities they undertake, fund, or permit that may affect critical habitat.

The ESA prohibits unauthorized take of Federally-listed species and requires consultation for activities that may affect them, including habitat alterations, regardless of whether critical habitat has been designated. The Service anticipates minimal impacts beyond those already considered in section 7 consultations because these consultations already address impacts to the species' habitat. There may be perceived negative impacts but such perceptions are likely based on incomplete knowledge of the ESA. Public outreach programs implemented by the Service, the NCWRC, and the NPS should address and minimize most of these misconceptions.

**Public health and safety.** The designation of critical habitat would not have a discernable impact on human safety. The NPS and the Service impose regulations within the Seashore and PINWR, respectively, to ensure public safety. The proposed action would not add or detract from existing public safety regulations.

**Unique characteristics of the geographic area.** Although the areas designated as critical habitat may be in proximity to historic and cultural sites and ecologically critical areas, no adverse impacts will occur to these areas since designation of critical habitat involves no ground-disturbing activities or changes in management. While the four critical habitat units would be within a national wildlife refuge and a national seashore and close to historic sites, such as the Cape Hatteras Lighthouse, the designation of critical habitat for the wintering population of the piping plover would not limit access to these areas or impair the public's appreciation of their historic significance. By making a minor contribution to preserving the natural setting of the cultural resources within the Seashore and PINWR, it is possible that the proposed action is likely to have a slightly positive impact on these historical and cultural resources.

**Controversy.** Potential impacts on the quality of the environment are not likely to be highly controversial; however, there is a perception by some segments of the public that critical habitat designation will severely limit property rights or access to public lands, specifically ORV use on the Seashore. The NPS manages ORV use on the Seashore and allows access throughout the year to oceanside and some soundside beaches (nighttime access to the oceanside beaches is restricted during the sea turtle nesting season in accordance with the court approved consent decree). The only areas excluded are areas closed for resources protection, including protection of piping plovers and habitat, and human safety reasons. There is concern among ORV user groups that designation of critical habitat will result in additional beach closures and increased restrictions on ORV use and access.

Impacts are not likely to be highly controversial because, as the analyses of impacts of critical habitat designation has concluded, the quality of the environment would not be significantly modified from current conditions. Critical habitat designation has no effect on private actions on private land that do not involve Federal approval (permits) or action (funding). Therefore, strictly private activities within the small communities near the Seashore or PINWR would not be affected. Furthermore, access to public lands, including ORV use, at the Seashore and PINWR is managed by the NPS and the Service under their respective and various laws, regulations, policies, and plans. Access to areas used by the wintering piping plover can be limited or granted regardless of the designation of any critical habitat for the species. As discussed above, though, Federal agencies must consult with the Service on activities they undertake, fund, or permit that may affect critical habitat. The designation of critical habitat

does not affect current land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Public understanding of critical habitat has improved since the publication of our proposed critical habitat rule, largely as a result of ongoing outreach efforts.

**Uncertain, unique, or unknown risks.** The Service has designated critical habitat for other species in the recent past and we are familiar with the associated effects. The four units amended by this action existed for more than three years before being vacated by the courts. While the lawsuit initiated by Cape Hatteras Access Preservation Alliance and Dare and Hyde counties was based on a concern that the presence of critical habitat would result in reduced tourism and restricted recreational use, no specific actions have ever been taken with regard to critical habitat at the Seashore or PINWR to support this concern. Regardless, the Service has considered the economic impacts of designating critical habitat for the wintering population of the piping plover. Based on the information of the final economic analysis and other information considered in this EA, we anticipate minimal effects to the human environment and we are certain this action does not involve any unique or unknown risks.

**Precedent-setting aspects.** The designation of critical habitat is a self-contained analysis based on the application of the criteria of the ESA to the environmental characteristics of the area being analyzed. The analysis for critical habitat is different for each species and associated area of designation. Future decisions regarding areas to designate as critical habitat will be based on such an analysis and not on prior critical habitat designations. Therefore, the designation of critical habitat for the wintering population of piping plover in North Carolina is not expected to set any precedents for future actions with significant effects or represent a decision in principle about a future consideration.

**Cumulative effects.** A significant level of impacts exists if it is reasonable to anticipate a cumulative impact on the environment. We have attempted to determine cumulative impacts by combining the impacts of the Action Alternative with other past, present, and reasonably foreseeable future actions conducted by the Service and others within the critical habitat. The proposed designation of critical habitat will be additive to (cumulative) critical habitat that has been designated for the piping plover and other species. As noted, the designation of critical habitat has no effect on private actions on private land that do not involve Federal approval (permits) or action (funding).

**Cultural resources effects.** The designation of critical habitat would not negatively affect significant scientific, cultural, or historic resources, structures, or entities or other objects listed, or eligible for listing, in the National Register of Historic Places. As noted above, by making a minor contribution to preserving the natural setting of the cultural resources within the Seashore and PINWR, it is possible that the action is likely to have a slightly positive impact on these historical and cultural resources.

**Endangered species effects.** In general, there will be little or no impact to the wintering population of the piping plover. Most impacts from the designation of critical habitat are likely to be beneficial to the piping plover. Designation of critical habitat can help focus conservation activities for the species by identifying areas essential to conserve the species. Designation of critical habitat also alerts the public, as well as land-managing agencies, to the importance of

these areas. Little or no impact to other threatened or endangered species is expected from the designation of critical habitat for the wintering population of the piping plover. Sections 7 (interagency cooperation) and 9 (prohibited acts) of the ESA represent the major basis of protection for piping plovers within the Seashore and PINWR; implementation of section 7 already addresses habitat protection.

**Violation of environmental protection laws.** The four units of critical habitat are Federal or State lands under the jurisdiction of the NPS, the Service, and the NCWRC. The NPS Organic Act provides a mission to promote and regulate the use of the national parks and seashores. This mission seeks to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations. In seeking to ensure the survival of the piping plover for future generations, the designation of critical habitat for the wintering population of piping plover within the Seashore is consistent with the mission of the NPS. The National Wildlife Refuge System Improvement Act provides a mission to protect and enhance wildlife and their habitats and promote and regulate wildlife-dependent recreational use on refuges. This mission seeks to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife and plant resources and their habitats for the benefit of present and future generations. In seeking to ensure the survival of the piping plover for future generations, the designation of critical habitat for the wintering population of the piping plover within PINWR is consistent with the mission of the Service. This designation of critical habitat will not violate any Federal, state, or local laws or requirements imposed for the protection of the environment.

Overall, the action is likely to have only a small impact on the human environment. The action does not produce a change in the existing environment, but merely seeks to maintain the natural characteristics of the barrier islands that are important for the wintering population of the piping plover. The designation of critical habitat is not likely to limit activities within the Seashore, PINWR, or the State-owned islands; all activities within the Seashore, PINWR, and the State-owned islands are already managed by the NPS, the Service, and the NCWRC, respectively, with a goal of balancing recreational activities with the preservation of natural resources. The designation of critical habitat would require the NPS and the Service to consider the winter habitat requirements of the piping plover when proposing actions that influence the designated units; the NCWRC would be required to consider the winter habitat requirements of the piping plover only when Federal authorization or funding is part of their proposed action. However, since the areas to be designated as critical habitat are known to be used by the piping plover, as well as other Federally-listed species, the additional environmental analysis required by the designation of critical habitat for the wintering population of the piping plover would represent only a small increase above that required by sections 7 and 9 of the ESA.

## **SECTION 7.0 – COMPLIANCE, CONSULTATION AND COORDINATING WITH OTHERS**

### **7.1 – Compliance with Other Laws and Regulations**

Primary laws that may affect implementation of this project include the ESA and NEPA. The requirements of the ESA have been outlined in this final EA.

The final action designates critical habitat for the wintering population of the piping plover along portions of the Outer Banks in North Carolina. The final EA satisfies the requirements of NEPA by analyzing the general effects to designate critical habitat for the wintering population of the piping plover and determines the significance of any resulting impacts.

## **7.2 – Contacts and Coordination with Others**

The following is a list of individuals, organizations, and public agencies contacted concerning development of this EA, the economic analysis, or the rule to designate critical habitat for the wintering population of piping plovers in North Carolina.

### FEDERAL AGENCIES

#### U.S. Fish and Wildlife Service

Mike Bryant, Refuge Manager, Alligator River National Wildlife Refuge Complex

Joe Johnston (retired), Regional Section 7 Coordinator, Southeast Regional Office

Richard Warner, Regional NEPA Coordinator, Southeast Regional Office

#### National Park Service

Mike Murray, Superintendent, Outer Banks Group (Cape Hatteras National Seashore)

### STATE AGENCIES

North Carolina Department of Commerce

North Carolina Department of Environment and Natural Resources

Division of Coastal Management

Natural Heritage Program

North Carolina State Historic Preservation Office

North Carolina Wildlife Resources Commission

### COUNTY

County of Hyde

County of Dare

### OTHER ORGANIZATIONS

American Sportfishing Association

Audubon North Carolina

Canadian Wildlife Service

Cape Hatteras Access Preservation Alliance

Cape Hatteras Anglers Club

Defenders of Wildlife

North Carolina Beach Buggy Association, Inc.

North Carolina State University  
Outer Banks Preservation Association  
Ocracoke Civic & Business Association, Inc.  
Southern Appalachian Biodiversity Project  
The Nature Conservancy

## **SECTION 8.0 – LIST OF CONTRIBUTORS**

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## **SECTION 9.0 – REFERENCES**

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Figure 1. General location of the proposed critical habitat unit NC-1.

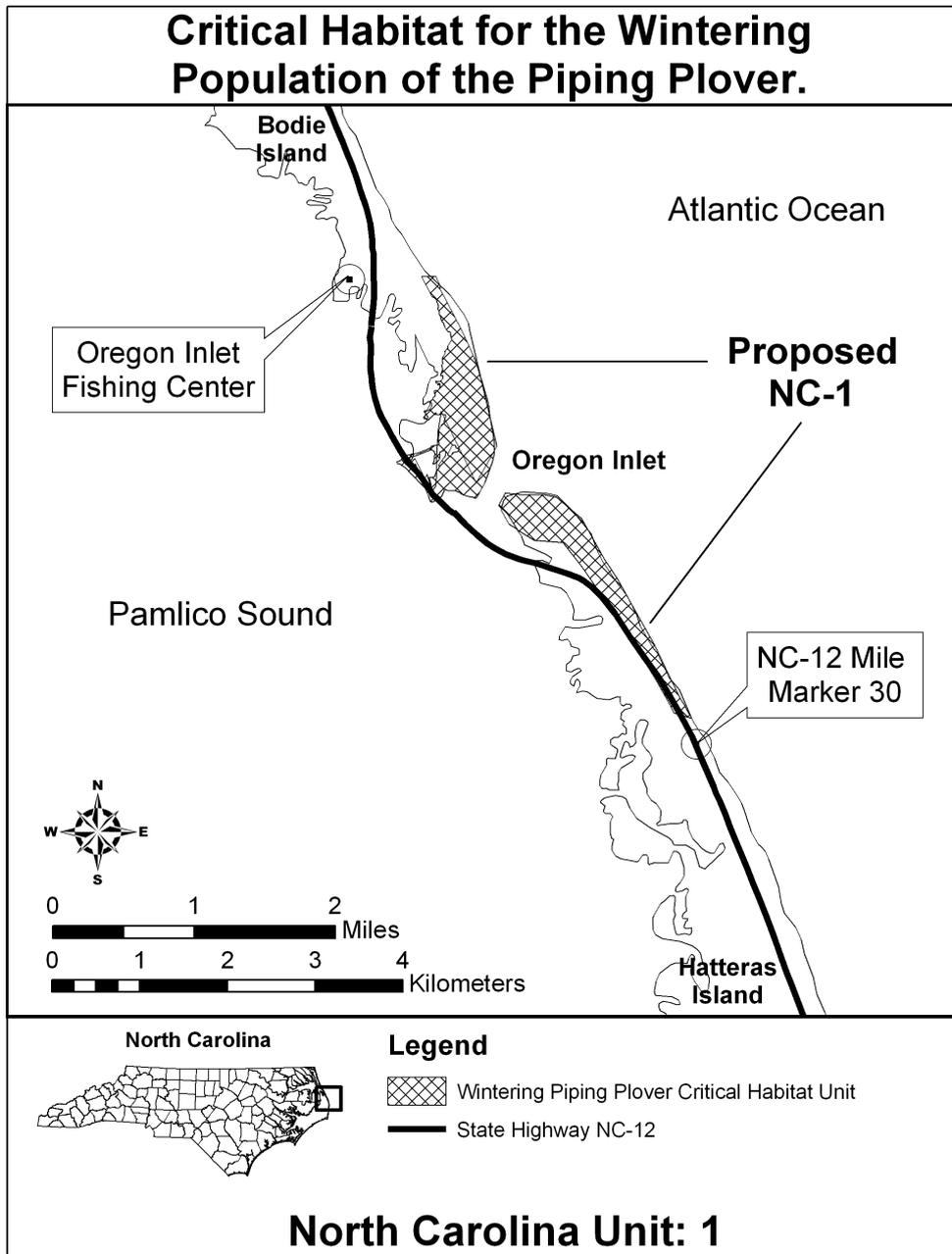


Figure 2. General location of the proposed critical habitat units NC-2, NC-4, and NC-5.

