



Ocracoke Island Multi-Use Trail Finding of No Significant Impact

INTRODUCTION

The National Park Service (NPS) proposes to construct a new multi-use trail at Cape Hatteras National Seashore. The trail will be located along a corridor parallel to North Carolina Highway 12 (NC-12) on Ocracoke Island in Hyde County between the Village of Ocracoke (also referred to as “the Village”) and the NPS Ocracoke Campground. The purpose of constructing the trail will be to:

- Improve safety on NC-12 for pedestrians, bicyclists, and motorists;
- Improve visitor access in the project corridor;
- Increase opportunities for utilization of alternative modes of transportation, such as walking and bicycling; and
- Reduce traffic congestion within the park and near the Village limit.

The need for the proposed multi-use trail includes safety concerns and the desire to promote alternative forms of transportation. The following statements define the need for the proposed action:

- Pedestrian, bicycle, and vehicular congestion on NC-12 creates unsafe conditions for these different user groups;
- Existing facilities for pedestrians and bicyclists do not support accessibility by the greatest number of people; and
- Existing transportation infrastructure does not meet the need to improve opportunities for alternative transportation.

An environmental assessment (EA) was prepared in June 2008 to report on issues and concerns about the Ocracoke Island multi-use trail; to provide an opportunity for public comment on alternatives for the multi-use trail; and as a necessary step in determining the impact of the multi-use trail on the National Seashore. The EA includes correspondence letters between the NPS and other federal, state, and local governments with interest and responsibility for the protection of specific cultural and natural resources, including the management of coastal areas and species of special concern (see Appendices A and B). The EA also includes a draft Statement of Findings for Floodplains (Appendix C). The preferred alternative, Alternative C: Asphalt-Paved Trail, was identified in the EA. It was selected after a careful review of resource and visitor impacts and public comment.

This document records 1) a Finding of No Significant Impact (FONSI) as required by the National Environmental Policy Act of 1969 and 2) a determination of no impairment as required by the NPS Organic Act of 1916.

SELECTED ALTERNATIVE

Based on the analysis presented in the EA, the NPS has selected the preferred alternative (Alternative C: Asphalt-Paved Trail) for implementation. Under this alternative, a 3¼-mile-long, multi-use trail will be constructed from the Village of Ocracoke to the NPS Ocracoke Campground. It will be accessible by bicyclists, pedestrians, visitors with mobility restrictions, and emergency response vehicles. The multi-use trail will be constructed using hard surface materials. The maximum width of the hard surface will be 10-feet wide, and an additional 2-feet wide of pervious shoulders on either side of the trail will be constructed, resulting in a total path width of 14 feet. The entire trail will comply with accessibility requirements under the Architectural Barriers Act (1968) and the Americans with Disabilities Act (1990) to provide full and equal access for all visitors, regardless of mobility limitations. The NPS determined that a 10 foot-wide trail with 2 foot-wide gravel shoulders will be appropriate to meet the ADA requirements, accommodate emergency vehicles with maneuvering space, and manage stormwater runoff.

The trail will enhance public safety and the visitor experience along the corridor by offering visitors a corridor for non-motorized travel which is separate from NC-12, a high speed roadway. Within the project area, the posted speed limit for vehicular traffic is 55 mph from the NPS Campground to the final ¼ mile approaching the Village limit (where the posted speed limit drops to 25 mph). The trail corridor will be linear, which is consistent with the configuration of the Island and NC-12, and link to existing parking lots and beach access routes.

Along the ½ mile of NC-12 between Village of Ocracoke and the NPS Ocracoke Airstrip/Ramp 70 area, the trail will be located within the existing NC-12 right-of-way, in the mown grassy swale between the existing paved road surface and wetlands. The trail will be constructed parallel to the NC-12 road corridor, but separated from the roadway (Figure 4 in *Ocracoke Island Multi-Use Trail Environmental Assessment* [June 2008]).

The remaining 2¾ miles of the trail from the NPS Ocracoke Airstrip/Ramp 70 area to the NPS Campground will be located south of NC-12, between the secondary dune and shrub thicket. The trail will intersect with the existing Day Use Area parking lot, to allow visitors to access the trail from an existing parking area equipped with sweet-smelling toilets and shower facilities. The trail will be located on the backdune for a ½ mile-long segment immediately north of the NPS Day Use Area parking lot, and a ½ mile-long segment from the NPS Day Use Area parking lot south to Ramp 70 (Figure 6 in *Ocracoke Island Multi-Use Trail Environmental Assessment* [June 2008]). Constructing the trail on the backdune in these sections will allow for avoidance of wetlands, minimization of vegetation clearing, and simplification of construction and maintenance of this continuous, asphalt-paved trail. Best management practices and mitigation measures detailed below will be implemented. To the maximum extent possible, the trail will be located on previously disturbed land, wetlands will be avoided, and removal of shrub vegetation will be minimized.

MITIGATING MEASURES

The following paragraphs describe the mitigation measures to be employed under the preferred alternative (Alternative C: Asphalt-Paved Trail).

The trail corridor will require a 25-foot-wide construction footprint located between the secondary dune and shrub thicket. The NPS will clearly identify the centerline of the proposed trail, the 25 foot-wide construction corridor, and any wetlands within 30 feet of the construction corridor. Since more than one

acre of ground-disturbing activity will occur in the construction corridor, a Sedimentation and Erosion Control Plan will be generated by NC Department of Transportation (NC DOT) for review and approval by NC Division of Land Resources prior to construction. NC DOT will install erosion and sedimentation controls placed where needed to protect wetlands and dunes. Prior to construction, NC DOT will review trail construction plans and stormwater management features with NC Division of Water Quality to ensure compliance with stormwater management rules applicable to coastal counties of North Carolina. The NPS will oversee all construction activities.

Unidirectional construction will be implemented. That is, the trail will be constructed in one direction, with construction equipment working in one direction and not making turns to avoid increasing the construction footprint/potential impact area. A small blade motor grader will be used to remove surface vegetation and level uneven ground surfaces within the construction corridor. All removed materials will be retained within the construction corridor. Geotextile and a rock base (using "57" stone) will be installed as the base. Hot mix asphalt will be delivered in small quantities and overlaid on the stone to create the 10 foot-wide trail. The trail will have 2 foot-wide, gravel shoulders, resulting in a total finished trail corridor width of 14 feet.

A portion of the NPS Campground will be used as the primary staging area for construction materials and vehicles because it has recently been used by NC DOT as a staging area. Supplemental potential staging areas include the NPS Day Use Area parking lot and the NPS Airstrip parking lot. Only existing paved parking areas will be used for staging construction vehicles and materials. No new disturbed areas will be established for staging.

Construction will be undertaken in the fall or winter months to minimize the potential for adverse impacts to visitors and biological resources.

Construction zones will be identified and fenced with construction tape, snow fencing, or some similar material prior to any construction activity. The fencing will define the construction zone and confine activity to the minimum area required for construction. All protection measures will be clearly stated in the construction specifications and workers will be instructed to avoid conducting activities beyond the construction zone as defined by the construction zone fencing.

Temporary impacts associated with trail construction activities will occur, such as soil and vegetation disturbance and the possibility of soil erosion. In an effort to avoid introduction of exotic plant species, no hay bales will be used. Hay often contains seed of undesirable or harmful alien plant species. Therefore, on a case-by-case basis the following materials will be used for any erosion control dams that will be necessary: rice straw, straws determined by NPS to be weed-free, cereal grain straw that has been fumigated to kill weed seed, and wood excelsior bales. Standard erosion control measures such as silt fences and/or sand bags will also be used to minimize any potential soil erosion. Silt fencing will be installed to protect wetlands within 30 feet of the construction corridor limits.

Silt fencing fabric will be inspected weekly or after every major storm. Accumulated sediments will be removed when the fabric is estimated to be approximately 75% full. Silt removal will be accomplished in such a way as to avoid introduction into any wetlands or flowing water bodies.

Although soil side-cast during construction will be susceptible to some erosion, such erosion will be minimized by placing silt fencing around the excavated soil. Excavated soil will be used in the construction project; excess soil will be stored in approved areas.

In many areas soils and vegetation are already impacted to a degree by various human and natural activities. Construction will take advantage of these previously disturbed areas wherever possible. Soils within the project construction limits will be compacted and trampled by the presence of construction equipment and workers. Soils will be susceptible to erosion until revegetation takes place. Vegetation impacts and potential compaction and erosion of bare soils will be minimized by conserving topsoil in windrows. The use of conserved topsoil will help preserve micro-organisms and seeds of native plants.

The topsoil will be respread in as near as original location as possible, and supplemented with scarification, mulching, seeding, and/or planting with species native to the immediate area. This will reduce construction scars and erosion.

The gravel shoulders of the trail will be susceptible to erosion until vegetated. Following trail construction, the gravel shoulders will be covered with native sands to temporarily stabilize the shoulders until vegetation takes hold.

Some petrochemicals from construction equipment will seep into the soil. To minimize this possibility, equipment will be checked frequently to identify and repair any leaks.

Should construction unearth previously undiscovered archeological resources, work will be stopped in the area of any discovery and the park will consult with the state historic preservation officer/tribal historic preservation officer and the Advisory Council on Historic Preservation, as necessary, according to §36 CFR 800.13, Post Review Discoveries. In the unlikely event that human remains are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (1990) will be followed.

The NPS will ensure that all contractors and subcontractors are informed of the penalties for illegally collecting artifacts or intentionally damaging archeological sites or historic properties. Contractors and subcontractors will also be instructed on procedures to follow in case previously unknown archeological resources are uncovered during construction. Equipment traffic will be minimized in the area of the site. Equipment and materials staging areas will also avoid known archeological resources.

The flow of vehicle traffic on the road will be maintained as much as possible during the construction period. Construction delays will normally be limited to 30 minutes. There will be some periods when the nature of the construction work will require temporary road closures. All efforts will be made to reduce these as much as possible and to alert park staff as soon as possible if delays longer than normal are expected. Visitors will be informed of construction activities and associated delays. Traffic will be managed to ensure timely access to private residents along the road.

Contractors will coordinate with park staff to reduce disruption in normal park activities. Equipment will not be stored along the roadway or in existing parking lots overnight without prior approval of park staff. Construction workers and supervisors will be informed about the special sensitivity of park values, regulations, an appropriate housekeeping.

OTHER ALTERNATIVES ANALYZED IN THE ENVIRONMENTAL ASSESSMENT

Two other alternatives were considered:

- Alternative A: No Action
- Alternative B: Asphalt-Paved Trail with Two Boardwalk Segments

Under Alternative A (No Action), the trail will not be constructed. The current condition of mixed use on NC-12 will continue, including high speed vehicle travel (55 mph), pedestrians, bicyclists, and mobility restricted visitors. This alternative fails to meet or only partially meets project objectives. Since pedestrians, bicyclists, mobility restricted visitors, and motorists will continue to share NC-12, this alternative does not meet the objective of improving safety conditions. Sharing of this segment of NC-12 will continue to be less enjoyable than if non-motorized traffic were not traveling on the highway shoulder. Furthermore, the enabling legislation establishing Cape Hatteras National Seashore identified that development for the convenience of visitors will be appropriate in areas deemed especially adaptable for recreational uses. For these reasons, Alternative A was not selected.

Under Alternative B (Asphalt-Paved Trail with Two Boardwalk Segments), a 3¼-mile-long, multi-use trail will be constructed from the NPS Campground to the Village of Ocracoke. Much of the new trail will have a 10 foot-wide asphalt-paved surface with 2 foot-wide gravel shoulders, except where short segments of elevated boardwalks (14 feet wide) will be constructed to span a wetland and the backdune. The trail will enhance public safety and the visitor experience along the corridor by providing a pedestrian and bicycle facility separate from the vehicular traffic corridor. Construction of the boardwalk over a wetland will result in direct, adverse impacts to 0.03 acre of wetlands. The two boardwalk sections will be constructed to withstand use by emergency response vehicles dispatched to the trail. The maintenance of the boardwalk segments will require a significant investment to ensure their safe use by pedestrians, bicyclists, as well as emergency response and maintenance vehicles. For these reasons, Alternative B was not selected.

Environmentally Preferred Alternative

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

Section 101(b) of the National Environmental Policy Act identifies six criteria to help determine the Environmentally Preferred Alternative. The act directs that federal plans should:

1. *Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;*
2. *Assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surrounding;*
3. *Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequence;*
4. *Preserve important historical, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment which supports diversity and variety of individual choice;*
5. *Achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and*
6. *Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.*

Alternative A (No Action) better meets the criteria related to protection and preservation of unaltered natural and cultural environments (criteria 1, 3, 4, and 6). Alternatives B and C better meet the criteria related to safety and enjoyment of the natural and cultural environments (criteria 2 and 5). Therefore, Alternative A (No Action) is the Environmentally Preferred Alternative.

Although Alternative A (No Action) is the Environmentally Preferred Alternative, it was not selected for implementation because it completely or partially fails to meet the stated objectives of:

- Reducing conflicts among user groups on NC-12;
- Providing a satisfying visitor experience along the project corridor for pedestrians, bicyclists, and motorists;
- Working cooperatively with local communities and other government agencies to address mutual concerns; and
- Allowing for a satisfying experience that is consistent with the purposes for which the park was established.

ALTERNATIVES DISMISSED

The NPS considered and dismissed from further analysis several alternatives before development of the range of reasonable alternatives for full impact analysis. Brief descriptions of these preliminary alternatives, and reasons for dismissal, are outlined below. Additional detail is provided in the EA (pages 25-27).

1. *Establishment of a new trail in existing Right-of-Way or another previously disturbed corridor.*
 - a. Widen paved shoulders of NC-12. The widening of the road prism will require relocation of the seaward drainage ditch into the abutting wetlands. Direct adverse impacts to approximately 10 acres of wetlands will result. Since alternate alignments will allow for the avoidance and minimization of wetland impacts, the alternative of widening paved shoulders of NC-12 was considered but dismissed.
 - b. Separate trail from NC-12 within the existing Right-of-Way for NC-12. To accomplish the required ADA-compliant trail design features, the trail construction will be significantly complicated by the presence of the drainage ditches along NC-12. Additionally, placement of the trail in this area effectively increases the road prism and will require moving the drainage ditch further from the road and deeper into the wetlands. Relocation of the drainage ditches into the shrub thicket will adversely impact approximately 10 acres of wetlands. Since alternate alignments will allow for the avoidance and minimization of wetland impacts, the alternative of widening paved shoulders of NC-12 was considered but dismissed.
 - c. Sound-side utility corridor. Avoidance and minimization of adverse impacts to resources in the Ocracoke Island (Central Section) Significant Natural Heritage Area will be required. Establishment of a trail within the existing utility corridor presented substantial engineering and visitor safety concerns. Therefore, establishment of the trail corridor within the existing utility corridor on the sound-side of NC-12 was dismissed from further analysis.
2. *Identify potential parking area to support a cooperative tram/trolley operation that will visitors to the Village of Ocracoke and National Seashore on Ocracoke.*
 - a. Expand existing parking area. Each of the existing parking areas near the NPS/Village of Ocracoke boundary are bounded by wetlands and NC-12. Expansion of existing parking areas to the east or west will result in unacceptable, direct, adverse impacts to wetlands. Expansion to the south will result in unacceptable, direct, adverse impacts to the dune fields. Therefore, expansion of existing parking areas in the project corridor was considered but dismissed.
 - b. Establish a new parking area. Wetlands and dunes are prevalent in the project corridor, restricting development to a narrow band where these two features meet. Establishment of a new parking area of the desired size which will facilitate a cooperative tram/trolley operation

will be unachievable on NPS property in the project corridor. Therefore, establishment of a new parking area in the project corridor was considered but dismissed.

WHY THE SELECTED ALTERNATIVE WILL NOT HAVE A SIGNIFICANT EFFECT ON THE HUMAN ENVIRONMENT

As defined in 40 CFR § 1508.27, significance is determined by examining the following 10 criteria. A discussion on why the selected alternative (Alternative C: Asphalt-Paved Trail) will not have a significant effect on the human environment follows each criterion.

1. *Impacts that may have both beneficial and adverse. A significant effect may exist even if the agency believes that on balance the effect will be beneficial.*

The purpose of constructing the multi-use trail is to remedy the existing, unsafe conditions in the human environment within the project area. Implementation of the preferred alternative will result in long-term, beneficial, minor impacts on visitor use and experience; public health and safety; and transportation. Non-motorized traffic (e.g., pedestrians, bicyclists, visitors with mobility restrictions) will have a corridor for travel which separates them from high speed motorized traffic. Establishment of an ADA-compliant trail will be especially beneficial for mobility restricted visitors, pedestrians, and inexperienced bicyclists. For all of its users, the trail offers a new visitor experience of Ocracoke Island. Since Ocracoke Island is a linear and narrow barrier island bounded by dune fields and wetlands, a narrow band of land suitable for visitor facilities exists. The trail will be constructed within this narrow band of land suitable for development. Its construction will result in avoidance of wetland impacts. Its construction will result in minor adverse impacts to floodplains and wildlife, in addition to moderate adverse impacts to coastal processes and vegetation resulting from a need to avoid the potential for direct and indirect adverse impacts to wetlands. Mitigating measures (detailed on pages 2-4 of this FONSI) will minimize impacts to park resources and visitor enjoyment of the Seashore during preparation, construction, and management of the new trail.

2. *Degree of effect on public health or safety*

The purpose of constructing the multi-use trail is to remedy the existing, unsafe conditions for motorists, bicyclists, pedestrians, and mobility restricted visitors in the project area. Construction of a multi-use trail that is separate from the highway will result in long-term, beneficial, minor impacts on each of these user groups. Non-motorized traffic (e.g., pedestrians, bicyclists, visitors with mobility restrictions) will have a corridor for travel which separates them from high speed motorized traffic.

Establishment of this trail will allow for better access to the Park's facilities and the Village of Ocracoke. The greatest benefits resulting from construction of this trail will be for mobility restricted visitors, inexperienced bicyclists, and pedestrians. Currently, these visitors must either travel by motorized vehicle between destinations or use the existing road shoulder which is not considered a safe corridor for travel by these user groups (per American Association of State Highway and Transportation Officials guidance [1994 and 1999] for bicycle or pedestrian trails).

Visitors will have the opportunity to travel from existing parking areas in the Seashore to the Village of Ocracoke without driving on NC-12 or competing with high speed vehicular traffic on NC-12 if walking or biking. Visitors will have the opportunity to leave their vehicles in existing parking areas, thereby reducing vehicular congestion within the Village of Ocracoke and Seashore near the Village limit. Residents and visitors to the Village of Ocracoke will have the opportunity to access the Park's facilities, without having to drive their vehicles and park in existing parking areas in the Seashore.

3. *Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.*

Cultural Resources: Establishment and use of the proposed multi-use trail would not adversely effect historic structures, National Register Historic Districts, or cultural landscapes in the project corridor. See criterion 8, below, for further information.

Park Lands: No other federal, state, or local park lands occur in the vicinity of the project area.

Prime or Unique Farmlands: The Farmland Protection Policy Act and the U.S. Department of the Interior require an evaluation of impacts on prime and unique agricultural lands. As prime and unique farmlands do not occur in the vicinity of the project, this topic was dismissed as an impact topic.

Wetlands: Discussions of wetlands in this EA refer to NPS wetlands. Wetlands are abundant and extensive on Ocracoke Island. The preferred alternative (Alternative C: Asphalt-Paved Trail) was selected as the alternative for implementation, in part, because adverse impacts to wetlands were avoided.

Many trail siting and design constraints were considered, and avoidance of wetlands was among the highest priority planning constraints. With assistance from the US Army Corps of Engineers (US ACOE), the NPS delineated wetlands (*per* NPS DO#77-1) and the US ACOE delineated wetlands (*per* US ACOE 1987 manual) in the project area. Using ArcGIS, wetlands were surrounded with a 30 foot-wide buffer zone for trail siting purposes. This 30 foot-wide buffer zone is not a legal requirement, but rather a recommended planning constraint from the NPS' Southeast Regional Office to further reduce the potential for unintended adverse impacts on NPS wetlands.

The trail construction corridor and final trail alignment do not intersect with wetlands under NPS, US ACE, or the State of North Carolina's jurisdiction. Where necessary, the trail construction corridor intersects with the NPS' 30 foot-wide wetland buffer zone. Intersection of the trail construction corridor with the 30 foot-wide wetland buffer zone was necessary in few locations due to spatial constraints (e.g., existing road or paved surface) and legal requirements for trail construction (e.g., ADA).

The intersection of the construction corridor with the 30 foot-wide buffer zone has been minimized and will be mitigated. The NPS will clearly identify the centerline of the proposed trail, the 25 foot-wide construction corridor, and any wetlands within 30 feet of the construction corridor. NC DOT will install erosion and sedimentation controls placed where needed to protect wetlands and dunes. Silt fencing would be installed to protect wetlands within 30 feet of the construction corridor limits. The NPS will oversee all construction activities.

Wild or Scenic Rivers: No wild or scenic rivers occur in the vicinity of the project area.

Ecologically Critical Areas: One nationally significant natural heritage area occurs within the project corridor. The Ocracoke Island (Central Section) Significant Natural Heritage Area encompasses 1583 acres of NPS property, located entirely north of NC-12 and from the NPS Pony Pens southward to the Village of Ocracoke limits. This area was designated significant because it contains good examples of natural vegetation communities and is inhabited by numerous state rare plants and one fish listed as a state species of concern. The proposed action will not impact the resources, quality, or boundary of this Registered Heritage Area. Therefore, ecologically critical areas is an impact topic that was dismissed from further consideration.

4. *Degree to which effects on the quality of the human environment are likely to be highly controversial*

Overall, the impacts of constructing the multi-use trail on Ocracoke Island are not controversial. Development of recreational facilities where appropriate is mandated in the Park's enabling legislation. This mandate is reiterated in the Park's General Management Plan, where cooperating with the North Carolina Department of Transportation and other partners as appropriate is a priority.

Improvement of existing trails and establishment of new trails for non-motorized exploration of the barrier islands comprising Cape Hatteras National Seashore is supported by local civic associations and committees, the Friends of the Mountains to Sea Trail, the North Carolina Department of Transportation, and the NPS. Of the 31 comments received, 14 were in support and two were in opposition of establishing a new trail. The two opposition comments stated the trail was unnecessary since there was no public outcry for this type of trail, that it was a “waste of money,” and that creation of a ball field will be more valuable to residents and visitors to the Village of Ocracoke. Creation of a trail for pedestrians, bicyclists, and mobility restricted users is a proactive measure taken to remedy the existing public safety hazard of mixed use on a high speed roadway before a crash or fatality occurs.

5. *Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risks*

Potential impacts resulting from the establishment of a multi-use trail in the project area on Ocracoke Island are not highly uncertain and do not involve unique or unknown risks.

6. *Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.*

Establishment of a multi-use trail on Ocracoke Island does not establish a precedent for future actions and does not represent a decision in principle about a future consideration. Development of facilities which will enhance the visitor experience of Cape Hatteras National Seashore is identified as an objective for the Park in its General Management Plan. Furthermore, development of visitor use facilities is supported by other Federal, state, and local government with the authority and responsibility to establish and maintain these types of facilities.

7. *Whether the action is related to other actions with individually insignificant impacts but cumulatively significant effects*

Development of a multi-use trail between the NPS Campground and Village of Ocracoke on NPS property will result in noticeably beneficial impacts on public health and safety at Cape Hatteras National Seashore. Establishment of a trail on Ocracoke Island, separate from NC-12, will offer a corridor for many different user groups including mobility restricted visitors and children. Some experienced bicyclists may continue to use the existing road shoulder, but establishment of a separate trail will offer a safe alternative to riding the road shoulder. The risk of motorized versus non-motorized user conflicts on NC-12 will be reduced because non-motorized users will use the new trail.

Although the NPS and NC DOT have proposed widening shoulders along discrete segments of NC-12 on Bodie and Hatteras Islands, the widening of road shoulders (to five feet) will be designed to safely accommodate experienced bicyclists. In these segments, widening of road shoulders is the only viable alternative for improving or establishing a new corridor for non-motorized travel between specific destinations (e.g., parking areas, day use facilities, Villages).

8. *Degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on National register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.*

Establishment and use of the proposed multi-use trail will not adversely affect historic or cultural resources in the project corridor. The Loopshack Hill Historic District is located in the project corridor and abuts the Village of Ocracoke limit and the southbound lane of NC-12. In this area, the trail parallels the northbound lane of NC-12. Since the trail and Loopshack Hill Historic District are located on opposite sides of NC-12, the trail will have no adverse effect on this historic district. There are no historic structures, cultural landscapes, or archeological resources in the 25 foot-wide

trail construction corridor. Compliance with §106 of the National Historic Preservation Act was completed with a concurrence with the NPS determination of no historic properties affected by the North Carolina State Historic Preservation Officer on 7/2/2008. Should construction unearth previously undiscovered archeological resources, work will be stopped in the area of any discovery and the park will consult with the state historic preservation officer/tribal historic preservation officer and the Advisory Council on Historic Preservation, as necessary, according to §36 CFR 800.13, Post Review Discoveries.

9. *Degree to which the action may adversely affect an endangered or threatened species or its critical habitat*

Habitat for at least 12 protected species (Federally, state, or locally listed species with endangered, threatened, or special concern status) is present in the vicinity of the project corridor. The proposed action will have no effect on any federally-listed species. In their letter (dated 1/15/2008), the U.S. Fish and Wildlife stated that if the proposed action will have no effect on any federally-listed species, then further consultation and concurrence with the U.S. Fish and Wildlife Service was not necessary. Although state-listed endangered, threatened, or rare species known to occur within the project area, none will be impacted by the trail will not be constructed within the habitat of any of the Park's protected species. The NPS will conduct a survey for all species of special concern prior to routing the 25 foot-wide construction corridor in the field to avoid unnecessary impacts. If any species of special concern are found during the pre-construction field survey, the NPS will contact the US Fish and Wildlife Service and North Carolina Natural Heritage Program, as appropriate.

10. *Whether the action threatens a violation of Federal, state, or local environmental law*

Applicable federal, state, and local laws and requirements were considered in the development of the trail design, construction activities, mitigative actions, and maintenance planning. This action does not violate any federal, state, or local environmental protection laws.

APPROPRIATE USE, UNACCEPTABLE IMPACTS, AND IMPAIRMENT

The preferred alternative does not constitute an action that normally requires preparation of an environmental impact statement (EIS). The preferred alternative will not have a significant effect on the human environment. Negative environmental impacts that could occur are minor and temporary in effect. There are no unmitigated adverse impacts on public health, public safety, threatened or endangered species, sites or districts listed in or eligible for listing in the National Register of Historic Places, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risk, cumulative effects, or elements of precedence were identified. Implementation of the action will not violate any federal, state, or local environmental protection law.

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

PUBLIC INVOLVEMENT

The environmental assessment was made available for public review and comment during a 30-day period ending July 8, 2008. During this public comment period, an open-house public meeting was held at the Ocracoke Community Center on June 20, 2008 to discuss the proposed trail and seek public comment.

Correspondence received during the public comment period included letters, electronic mail, comments on the NPS PEPC website, and verbal comments made by meeting attendees. The park received correspondence from five individuals, one non-governmental entity, and 10 state government agencies.

The correspondence contained 31 comments on various topics. All correspondence received during the public comment period may be viewed at the park headquarters during regular business hours.

Some correspondence letters contained multiple comments. Each comment was identified as substantive or non-substantive, according to criteria in the Council on Environmental Quality regulations (40 CFR 1500). These criteria state that substantive comments raise an issue regarding law or regulation, agency procedure or performance, compliance with state objectives, validity of impact analyses, or other matters of practical or procedural importance. Non-substantive comments offer opinions or provide information not directly related to the issues or impact analysis. Non-substantive comments were acknowledged and considered, but did not require responses.

The majority of comments received were non-substantive (24 of the 31 total comments). Of the 24 non-substantive comments, 14 were in general support of constructing the proposed trail and two were in opposition to construction of the trail. The remaining non-substantive comments included supportive statements on the project objectives of reducing visitor safety concerns, avoiding undesirable environmental impacts, and enhancement of the visitor experience on Ocracoke Island.

Seven substantive comments were received, each of which addressed the preferred alternative (Alternative C: Asphalt-Paved Trail). No suggestions for new alternatives or alternative elements were provided. One comment on each of the following substantive comments on Alternative C was received:

- Suggestion for additional field survey for state protected species
- Confirmation that the trail is located outside of the Ocracoke Island (Central Section) Significant Natural Heritage Area
- Placement of trail outside of the Tar-Pamlico River Basin buffer
- Total trail width (14 feet) is too wide, does not comply with Tar-Pamlico River Basin Buffer Rules unless trail will be ADA-compliant
- Need for Erosion and Sedimentation Plan
- May require stormwater permit
- Consideration of pervious trail surface material instead of asphalt-paved

Comment analysis also helped the NPS identify and EA text where clarification was helpful or factual errors needed correction. If editorial clarifications or factual changes were required, the text changes are reflected in the Errata (attachment to this FONSI) for the EA.

CONCLUSION

As described above, the preferred alternative does not constitute an action meeting the criteria that normally require preparation of an environmental impact statement (EIS). The preferred alternative will not have a significant effect on the human environment. Environmental impacts that could occur are limited in context and intensity, with generally adverse impacts that range from localized to widespread, short- to long-term, and negligible to moderate. There are no unmitigated adverse effects on public health and safety, threatened or endangered species, sites or districts listed in or eligible for listing in the National Register of Historic Places, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the action will not violate any federal, state, or local environmental protection law.

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

Recommended:

*Danell S. Edob**8/15/08**for*Michael B. Murray, Superintendent
Cape Hatteras National Seashore

Date

Approved:

*David Vela**8/19/08**for*David Vela, Regional Director
National Park Service, Southeast Region

Date

Ocracoke Island Multi-Use Trail Environmental Assessment Errata

The following changes have been made to the *Ocracoke Island Multi-Use Trail Environmental Assessment* for Cape Hatteras National Seashore (July 2008) to correct minor statements of fact, update information, and disclose minor adjustments to the preferred alternative and impact analysis. Additions to the text are identified by underlines and deletions are marked by ~~strikeout~~ unless otherwise noted.

1. TABLE 1. POLICIES AND REGULATIONS PERTAINING TO IMPACT TOPICS, PAGE 9

- a. In their letter dated July 3, 2008, the North Carolina Division of Water Quality (NC DWQ) identified that North Carolina's Sedimentation Pollution Control Act of 1973 is applicable to the proposed action. Since implementation of the preferred alternative will result in land disturbance in a coastal area, this Act was added to Table 1 under Coastal Processes impact topic.

The following editorial corrections have been made:

Coastal Processes	NPS Management Policies 4.8.1.1, 2006; Coastal Zone Management Act (16 U.S.C. 1451 et seq.); <u>North Carolina Sedimentation Pollution Control Act of 1973</u>
-------------------	--

- b. In their letter dated July 3, 2008, the North Carolina Division of Water Quality identified that Ocracoke Island is located in the Tar-Pamlico River Basin and that Tar-Pamlico Buffer Rules (15A NCAC 02B .0259) will apply if any segment of the trail lies within the 50-foot buffer landward from the edge of any coastal marshland (as defined in G.S. 113-229(n)(3) in the Coastal Area Management Act of 1974). Coastal marshland is present within the project corridor, but is located more than 50 feet from the limits of the trail construction corridor. Therefore, implementation of the preferred alternative (Alternative C: Asphalt-Paved Trail) is not subject to the Tar-Pamlico Buffer Rules.

All NPS wetlands, by definition, include all wetlands identified by the U.S. Army Corps of Engineers (US ACOE) and marshlands identified by North Carolina. Of the three agencies with the responsibility and authority to protect wetlands in North Carolina, the NPS is maximally protective of wetlands. Discussions of wetlands in this EA refer to NPS wetlands. Implementation of the preferred alternative (Alternative C: Asphalt-Paved Trail) will not result in direct or indirect, adverse impacts to wetlands. To reduce the possibility of unintended impacts on wetlands, the NPS will identify wetlands within 30 feet of the construction corridor limit where silt fencing will be installed.

The following editorial corrections have been made:

Wetlands	Rivers and Harbors Act of 1899; Clean Water Act Section 404; Executive Order 11990 (Protection of Wetlands); NPS Director's Order #77-1; NPS Management Policies 4.6.5, 2006; <u>Coastal Area Management Act of 1974; North Carolina Tar-Pamlico River Basin: Nutrient Sensitive Waters Management Strategy: Protection and Maintenance of Existing Riparian Buffers (15A NCAC 02B .0259)</u>
----------	---

- c. In their letter dated July 3, 2008, the NC DWQ identified that a 401 Water Quality Certification may be necessary for the proposed action if the US ACOE determines that a 404 Permit or Section 10 Permit is required.

The US ACOE was consulted regularly throughout the development of the alternatives described and analyzed in the *Ocracoke Island Multi-Use Trail Environmental Assessment*. A field representative from Wilmington District Office of the US ACOE, assisted the NPS in identification of US ACOE wetlands and NPS wetlands in the project corridor (December 2007 through June 2008). US ACOE assisted in the development of the preferred alternative (Alternative C) which avoids direct and indirect adverse impacts on wetlands in the project area. US ACOE has determined that neither a 404 Permit nor Section 10 Permit is required for implementation of the preferred alternative. Therefore, a 401 Water Quality Certification by NC DWQ is not required.

- d. In their Federal Consistency Concurrence letter dated July 18, 2008, NC DCM identified that a stormwater permit may be required.

Prior to construction, NC DOT will review trail construction plans and stormwater management features with NC Division of Water Quality to ensure compliance with stormwater management rules applicable to coastal counties of North Carolina.

2. WETLANDS, PAGE 11

For clarification, the following editorial correction has been made:

Wetlands: Discussions of wetlands in this EA refer to NPS wetlands. The NPS has adopted the broad definition of wetlands employed by the U.S. Fish and Wildlife Service (Cowardin et al. 1979). The NPS requires that at least hydrology be present for an area to be defined as a NPS wetland, whereas the U.S. Army Corps of Engineers requires indicators of three parameters (hydrology, hydric soils, and hydrophytic vegetation) be present to be considered a wetland under their jurisdiction (USACOE 1978). The State of North Carolina strictly defines wetlands over which they have jurisdiction as a marshland upon which specific wetland plant species grow (G.S. 113-229(n)(3) in the Coastal Area Management Act of 1974). Therefore, all wetlands identified by the U.S. Army Corps of Engineers and marshlands identified by North Carolina qualify as NPS wetlands, but not all NPS wetlands are considered wetlands by the U.S. Army Corps of Engineers or the State of North Carolina.

3. ECOLOGICALLY CRITICAL AREAS, PAGE 12

In their letter dated July 7, 2008, the NC NHP identified that the project corridor (shown on Figure 2, page 3) in the *Ocracoke Island Multi-Use Trail Environmental Assessment* includes part of the nationally significant Ocracoke Island (Central Section) Significant Natural Heritage Area.

The following editorial correction has been made:

Ecologically Critical Areas: ~~No congressionally designated natural resources, such as ecologically critical areas, Wilderness, Wild and Scenic Rivers, or other unique natural resources are located at the park or within the project site.~~ One nationally significant natural heritage area occurs within the project corridor. The Ocracoke Island (Central Section) Significant Natural Heritage Area encompasses 1583 acres of NPS property, located entirely north of NC-12 and from the NPS Pony Pens southward to the Village of Ocracoke limits. This area was designated significant because it contains good examples of natural vegetation communities and is inhabited by numerous state rare plants and one fish listed as a state species of concern. The proposed action will not impact the resources, quality, or boundary of this Registered Heritage Area. Therefore, ecologically critical areas is an impact topic that was dismissed from further consideration.

4. TRAIL DESCRIPTION, PAGE 17

In their letter dated July 3, 2008, the North Carolina Division of Water Quality identified that Ocracoke Island is located in the Tar-Pamlico River Basin and that Tar-Pamlico Buffer Rules (15A NCAC 02B .0259) will apply if any segment of the trail lies within the 50-foot buffer landward from the edge of any coastal marshland (as defined in G.S. 113-229(n)(3) in the Coastal Area Management Act of 1974). Among these Buffer Rules is a restriction of the width of a “greenway / hiking trail” to 10 feet or less, in total width.

Coastal marshland is present within the project corridor, but is located more than 50 feet from the limits of the trail construction corridor. Therefore, implementation of the preferred alternative (Alternative C: Asphalt-Paved Trail) is not subject to the Tar-Pamlico Buffer Rules.

The following editorial correction has been made:

The multi-use trail will be constructed using hard surface materials. The maximum width of the hard surface will be 10-feet wide, and an additional 2-feet wide of pervious shoulders on either side of the trail will be constructed, resulting in a total path width of 14 feet. The entire trail will comply with accessibility requirements under the Architectural Barriers Act (1968) and the Americans with Disabilities Act (1990) to provide full and equal access for all visitors, regardless of mobility limitations. To be considered ADA-compliant, the trail must be either 5 feet wide or provide passing spaces at intervals of 200 feet when the trail is not 5 feet wide (28 CFR Part 36). To provide access for emergency vehicles, the trail must be at least 9 feet wide (AASHTO 2004). The NPS determined that a 10 foot-wide trail with 2 foot-wide gravel shoulders will be appropriate to meet the ADA requirements, accommodate emergency vehicles with maneuvering space, and manage stormwater runoff.

5. CONSTRUCTION METHODS, PAGE 18

- a. In their letter dated July 3, 2008, the NC DWQ identified that the Sedimentation Pollution Control Act of 1973 is applicable to the proposed action. In their Federal Consistency Concurrence letter dated July 18, 2008, the NC DCM identified that NC DOT may need to apply to NC DWQ for a stormwater permit. NC DCM reemphasized points in the *Ocracoke Island Multi-Use Trail Environmental Assessment* regarding the construction corridor width.

The following editorial correction has been made:

The trail corridor will require a 25-foot-wide construction footprint located between the secondary dune and shrub thicket. The NPS will clearly identify the centerline of the proposed trail, the 25 foot-wide construction corridor, and any wetlands within 30 feet of

the construction corridor. Since more than one acre of ground-disturbing activity will occur in the construction corridor, a Sedimentation and Erosion Control Plan will be generated by NC DOT for review and approval by NC Division of Land Resources prior to construction. NC DOT will install erosion and sedimentation controls placed where needed to protect wetlands and dunes. Prior to construction, NC DOT will review trail construction plans and stormwater management features with NC Division of Water Quality to ensure compliance with stormwater management rules applicable to coastal counties of North Carolina. The NPS will oversee all construction activities.

- b. In their Federal Consistency Concurrence letter dated July 18, 2008, NC DCM reemphasized points in the *Ocracoke Island Multi-Use Trail Environmental Assessment* regarding the construction timing.

The following editorial correction has been made:

~~Construction will not occur during peak visitation to avoid displacing visitors to these facilities.~~ Construction will be undertaken in the fall or winter months to minimize the potential for adverse impacts to visitors and biological resources.

6. MITIGATION MEASURES, PAGE 19

The following editorial correction has been made:

The gravel shoulders of the trail will be susceptible to erosion until vegetated. Following trail construction, the gravel shoulders will be covered with native sands to temporarily stabilize the shoulders until vegetation takes hold.

7. ELEMENTS COMMON TO THE ACTION ALTERNATIVES, PAGE 19

In their Federal Consistency Concurrence letter dated July 18, 2008, NC DCM stated that the trail could be rebuilt, if damaged as a result of a storm, as previously constructed in the fall/winter months within the 25 foot-wide construction corridor. A new consistency determination will be necessary if the trail could not be rebuilt within the original 25 foot-wide construction corridor.

The following editorial correction has been made:

In the event of storm damage of the trail, the NPS will collect and properly dispose of debris that could not be recycled. The NPS will close the trail while evaluating the need for repair or relocation of the trail. The need to repair or relocate trail segments will be evaluated in consultation with other Federal and state agencies prior to repair or relocation of damaged segments. The decision to repair or relocate trail segments will be made by the NPS. If the NPS decides to repair or relocate damaged trail segments, these activities will be planned and implemented in accordance with applicable Federal and state regulations. In the event that the NPS decides not to repair or relocate the trail, the remaining trail segments will be removed and restoration of the site will be undertaken in accordance with applicable Federal and state regulations.

8. ALTERNATIVES CONSIDERED BUT DISMISSED, PAGE 25

- a. In their letter dated July 7, 2008, the NC NHP identified that the project corridor (shown on Figure 2, page 3) in the *Ocracoke Island Multi-Use Trail Environmental Assessment* includes part of the nationally significant Ocracoke Island (Central Section) Significant Natural Heritage Area. The Ocracoke Island (Central Section) Significant Natural Heritage Area

encompasses 1583 acres of NPS property, located entirely north of NC-12 and from the NPS Pony Pens southward to the Village of Ocracoke limits.

The following editorial correction has been made:

Establish Trail Corridor within Sound-side Utility Corridor

Alignment of a proposed trail along the existing electrical utility corridor on the Pamlico Sound side of NC-12 was considered. The existing electrical utility corridor is located in the Ocracoke Island (Central Section) Significant Natural Heritage Area. This area was designated significant because it contains good examples of natural vegetation communities and is inhabited by numerous state rare plants and one fish listed as a state species of concern. Avoidance and minimization of adverse impacts to resources within this Natural Heritage Area will be required.

Establishment of a trail within the existing utility corridor presented substantial engineering and visitor safety concerns. The utility corridor is actively maintained by the electrical company using heavy vehicles and can create temporary ruts in the ground surface. If a multi-use trail was to be established along this corridor, materials used in its construction will have to be capable of withstanding the weight of utility corridor maintenance vehicles and result in limited damage of the surface. Additionally, utility corridor maintenance activities will interfere and potentially restrict visitor use of the multi-use trail. Accessing the trail from existing parking areas and facilities (e.g., NPS Campground, Day Use Area, Airstrip parking) will require visitors to cross NC-12 where the posted vehicular speed limit is 55 mph. Therefore, establishment of the trail corridor within the existing utility corridor on the sound-side of NC-12 was dismissed from further analysis.

- b. In their letter dated May 28, 2008, NC National Estuarine Research Reserve suggested constructing the trail with a pervious pavement surface instead of asphalt-paved surface.

The following editorial correction has been made:

Trail Construction Materials

Various construction materials were considered for the trail, including natural and synthetic materials.

Natural Materials

Natural materials (e.g., crushed shells, sand/clay mix, mulches) were considered but dismissed because none of these materials will provide a smooth surface suitable for mobility-restricted trail users or inexperienced bicyclists. A trail constructed from these materials will also require frequent maintenance and have a long-term, major, adverse impact on park operations.

Synthetic Materials

Synthetic materials considered included concrete, plastic, and asphalt.

Concrete was considered but dismissed as a construction material for the proposed trail due to its brittleness and long-term maintenance requirements.

Portable plastic matting (e.g., BeachRings²® by Invisible Structures, Inc.) and recycled plastic beams were investigated as a possible construction material, but were dismissed. Portable plastic matting could be easily uprooted if not secured with anchors or sandbags during high energy weather events. Following the high energy weather event, removal of plastic debris (whether matting or beams) will require a significant clean-up effort.

Blowing sands will easily accumulate on either of these plastic surfaces, making for a slippery surface for trail users. Removing piles of sand from a plastic-surfaced trail will require specialized equipment to minimize damage of the trail. Maintenance and repair of a 3¼ mile-long, 10 foot-wide trail constructed from these materials will result in long-term, major, adverse impacts on park operations.

Permeable paver systems (e.g., plastic honeycomb-shaped pavers or concrete pavers which can be filled with soils and vegetated) were considered because these systems allow for infiltration of precipitation in settings where impervious construction materials are undesirable. Construction of the 3¼ mile-long, 10 foot-wide trail using pervious pavers will require a substantial investment because individual pavers will have to be installed by the hands of trained professional installers. The resulting surface will not be smooth, creating a new health and safety hazard for trail users. In high traffic areas or areas where the surrounding environment is subject to erosion, edge restraints will be required to prevent the pavers from migrating. The long-term maintenance of a pervious paver system will require specialized training of maintenance staff to perform the work, a stockpile of materials will be required, and specialized equipment may be required. In the event of a high energy weather event, pavers could be uprooted and deposited off-site, resulting in a significant clean-up effort. Overall, construction, maintenance, and repair of a 3¼ mile-long, 10 foot-wide trail constructed from these materials will result in long-term, major, adverse impacts on park operations.

Porous asphalt was also considered, but quickly dismissed because this material is not suitable to be used in sandy environments. Porous asphalt requires frequent cleaning to facilitate infiltration of precipitation even when used non-sandy environments.

9. TABLE 3: SUMMARY OF IMPACTS OF THE ALTERNATIVES, PAGE 31

In their letter dated July 7, 2008, the NC NHP stated preference for Alternative B: Asphalt-Paved Trail with Two Boardwalk Segments because it will “help natural wetland and dune processes to continue unimpeded.”

In the *Ocracoke Island Multi-Use Trail Environmental Assessment* (July 2008), the NPS identified Alternative C: Asphalt-Paved Trail as the preferred alternative. Avoidance of direct and indirect, short- and long-term, minor, adverse impacts on wetlands was the primary advantage of Alternative C over Alternative B: Asphalt-Paved Trail with Two Boardwalk Segments. Although siting of the trail on the backdune under Alternative C results in 1.7 acres of direct dune impact, adverse wetland impacts are avoided. Additionally, the potential for unintended, indirect, short- and long-term, adverse impacts to wetlands are minimized under Alternative C because the distance between wetlands and the construction corridor under Alternative C will be greater than under Alternative B. Implementation of Alternative C will also minimize impacts on public health and safety, park operations, and maritime shrub vegetation protecting wetlands.

10. TABLE 9: SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR IN THE VICINITY OF THE PROPOSED MULTI-USE TRAIL, PAGE 86

In their letter dated July 7, 2008, the NC NHP identified that three vascular plant species present in the vicinity of the project area were not included in Table 9. These three additional species occur within the project area, inhabiting high quality wet marshlands. Since implementation of the preferred alternative will have no impact on marshlands in the project area, these species will be unaffected by establishment of the trail.

The following editorial corrections have been made to the Vascular Plants section of Table 9:

TABLE 9. SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR IN THE VICINITY OF THE PROPOSED MULTI-USE TRAIL

Scientific Name	Common Name	Federal Status ¹	State Status ²	Habitat Present ³
Vascular Plants				
<u><i>Eleocharis rostellata</i></u>	<u>Beaked Spikerush</u>	<u>Not listed;</u> <u>protected by NPS</u>	<u>Significantly</u> <u>Rare</u>	<u>Yes/No</u>
<u><i>Rhynchospora odorata</i></u>	<u>Fragrant</u> <u>Beaksedge</u>	<u>Not listed;</u> <u>protected by NPS</u>	<u>State</u> <u>Endangered</u>	<u>Yes/No</u>
<u><i>Scleria verticillata</i></u>	<u>Savanna Nutrush</u>	<u>Not listed;</u> <u>protected by NPS</u>	<u>Significantly</u> <u>Rare</u>	<u>Yes/No</u>

11. SPECIES OF SPECIAL CONCERN, PAGE 85

In their letter dated July 7, 2008, the NC NHP identified that the *Ocracoke Island Multi-Use Trail Environmental Assessment* cites one 2006 field survey for species of concern in the project corridor, *Interim Protected Species Management Strategy Environmental Assessment* (NPS 2006b).

The NPS conducted a field survey for species of concern in the project area specifically for the proposed multi-use trail on Ocracoke Island. The methodology and results of this field survey were compiled in an unpublished Technical Report to the NPS. Field surveys for species of special concern in the project corridor were conducted during the fall of 2006 by a wildlife biologist and botanist familiar with the species of special concern, their habitats, and the project area within Cape Hatteras National Seashore. Since those initial surveys, additional visits to the project area focused on siting of the 25 foot-wide construction corridor to avoid habitat supporting species of special concern.

Annual field surveys for seabeach amaranth (*Amaranthus pumilus*) within Cape Hatteras National Seashore are performed and findings reported to the US Fish and Wildlife Service. Seabeach amaranth is not present within the 25 foot-wide trail construction corridor.

The NPS will conduct a survey for all species of special concern prior to routing the 25 foot-wide construction corridor in the field to avoid unnecessary impacts to these species and their habitat. The NPS will contact the US Fish and Wildlife Service and NC NHP if siting of the trail construction corridor conflicts with the presence of an individual of any species of special concern in the project area. The NPS, US Fish and Wildlife Service, and NC NHP will determine appropriate protection measures.

12. REFERENCES CITED, PAGE 103

The following editorial corrections have been made:

United States Department of Justice

1994 28 CFR 36 – ADA Standards for Accessible Design

13. APPENDIX C. STATEMENT OF FINDINGS FOR FLOODPLAINS, PAGES 127-136

Editorial corrections to Appendix C: Statement of Findings for Floodplains have been made. The following is the replacement and the final version of Appendix C.

Statement of Findings for Floodplains

***for the Proposed
Ocracoke Island Multi-Use Trail***

Cape Hatteras National Seashore
Nags Head, Buxton, and Ocracoke, North Carolina

Recommended: Michael B. Murray 7/24/08
Superintendent, Cape Hatteras National Seashore Date

Concurred: William J. Gichers 8/01/08
Chief, Water Resources Division Date

Approved: Art Finkbeiner 8/26/08
Southeast Regional Director Date
for

Introduction

Executive Order 11988 (Floodplain Management) requires the NPS and other federal agencies to evaluate the likely impacts of actions in floodplains. The objectives of the Executive Order is to avoid, as much as possible, the short- and long-term adverse impacts associated with occupancy, modification, or destruction of floodplains and to avoid indirect support of development and new construction in such areas where there is a practicable alternative. DO #77-2: *Floodplain Management* provides NPS procedures for complying with E.O. 11988. This Statement of Findings (SOF) has been prepared in accordance with the guidelines in NPS DO #77-2. The purpose of this SOF is to present the rationale for the location of the proposed Ocracoke Island multi-use trail in the floodplain area and to document the anticipated effects on these resources.

Cape Hatteras National Seashore (CAHA) has prepared and made available an Environmental Assessment (EA) for a proposed multi-use trail between the NPS Ocracoke Campground and Village of Ocracoke on Ocracoke Island, NC (Figure C1). The proposed development of a trail in a high hazard area is classified as a Class III Action, according to DO #77-2: *Floodplain Management*. Avoidance of impacts to floodplains is not possible because this section of Ocracoke Island (between the NPS Ocracoke Campground and Village of Ocracoke) is entirely within the 100-year floodplain.

The purpose of the proposed action is to construct a new trail corridor that would help to:

- Improve safety on NC-12 for pedestrians, bicyclists, and motorists;
- Improve visitor access in the project corridor;
- Increase opportunities for utilization of alternative modes of transportation, such as walking and bicycling; and
- Reduce traffic congestion within the park and near the Village limit.

The trail would separate visitors from NC-12, where the posted speed limit for vehicular traffic is 55mph from the NPS Ocracoke Campground to the final ¼ mile approaching the Village limit. The new multi-use trail would be approximately 3¼ miles long and would be accessible by bicyclists, pedestrians, and visitors with mobility restrictions.

Proposed Action

The Preferred Alternative (Alternative C: Asphalt-Paved Trail, Figure C1) would involve construction of a 3¼ mile-long, multi-use trail between the NPS Ocracoke Campground and the Village of Ocracoke. The trail would be asphalt-paved with gravel shoulders. The maximum width of the asphalt-paved surface would be 10 feet wide, with 2 foot-wide gravel shoulders on either side of the trail, resulting in a total path width of 14 feet. The trail would comply with accessibility requirements under the Architectural Barriers Act (1968) and the Americans with Disabilities Act (1990) to provide full and equal access for all visitors, regardless of mobility limitations. The NPS determined that a 10 foot-wide asphalt trail with 2 foot-wide gravel shoulders would be appropriate to meet the ADA requirements, accommodate emergency vehicles with maneuvering space, and manage stormwater runoff.

The trail would enhance public safety and the visitor experience along the corridor by offering visitors a corridor for non-motorized travel which is separate from NC-12, a high speed roadway. Within the project area, the posted speed limit for vehicular traffic is 55 mph from the NPS Ocracoke Campground to the final ¼ mile approaching the Village limit (where the posted speed limit drops to 25 mph). The trail corridor would be linear, which is consistent with the configuration of the Island and NC-12, and link to existing parking lots and beach access routes.

Along the ½ mile of NC-12 between Village of Ocracoke and the NPS Ocracoke Airstrip/Ramp 70 area, the trail would be located within the existing NC-12 right-of-way, in the mown grassy swale. The trail would be constructed parallel to the NC-12 road corridor, but separated from the roadway (Figure C1).

The remaining 2¾ miles of the trail from the NPS Ocracoke Airstrip/Ramp 70 area to the NPS Ocracoke Campground would be located south of NC-12, between the secondary dune and shrub thicket. The trail would intersect with the existing Day Use Area parking lot, to allow visitors to access the trail from an existing parking area equipped with sweet-smelling toilets and shower facilities. The trail would be located on the backdune for a ½ mile-long segment immediately north of the NPS Day Use Area parking lot, and a ½ mile-long segment from the NPS Day Use Area parking lot south to Ramp 70 (Figure 6 in *Ocracoke Island Multi-Use Trail Environmental Assessment* [June 2008]). Constructing the trail on the backdune in these sections would allow for avoidance of wetlands, minimization of vegetation clearing, and simplification of construction and maintenance of this continuous, asphalt-paved trail.

Of the alternatives analyzed in the *Ocracoke Island Multi-Use Trail Environmental Assessment* (June 2008), Alternative C was identified as the Preferred Alternative primarily because, of the action alternatives, it allows for the avoidance of adverse impacts on wetlands, has the greatest benefit on public health and safety, and has the least adverse impact on park operations.

The proposed development of a trail in a high hazard area is classified as a Class III Action, according to DO #77-2. Avoidance of impacts to floodplains is not possible because the entire project area is within the 100-year floodplain. Minimization of floodplain impacts was accomplished through trail design by including gravel base and shoulders, which allow for stormwater infiltration, while meeting project objectives to remedy an existing safety problem for park visitors. Implementation of the Preferred Alternative (Alternative C: Asphalt-Paved Trail) would require a ¾ mile-long and 25 foot-wide construction corridor. The area of temporary disturbance of the 100-year floodplain would be 9.8 acres. Upon completion, the asphalt-paved trail with 2 foot-wide gravel shoulders would be ¾ mile-long and 14 foot-wide. The long-term impact to the 100-year floodplain in the project area would be 5.5 acres, which represents 0.09% of the Island's total 6,144 acres. Mitigation of the long-term impact to 5.5 acres of 100-year floodplain in the project area will not be undertaken because there is no practicable alternative to do so within the project area or other NPS property on Ocracoke Island. Mitigation would be provided by incorporating methods for protecting human safety and protection of investment.

Site Description

Elevations in the immediate vicinity of the project corridor range from sea level to 22 feet above sea level. The primary dune elevation in the project corridor is as much as 22 feet above sea level, while the secondary dune ranges in elevation from eight to 14 feet above sea level. The proposed trail alignment, located behind the secondary dune, ranges in elevation from four to six feet in elevation.

Due to the low topography, the entire project area on Ocracoke Island is located within the 100-year flood zone, is subject to inundation during extreme storm events, and where base flood elevations range between six and eight feet. Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps show that the project area is within 100-year-flood floodplain (Figures C2-C6). Between the NPS Ocracoke Campground and the NPS Airstrip/Ramp 70, the proposed trail would be located within the "VE" flood zone, the coastal flood zone where there is a velocity hazard and the base flood elevation is eight feet above sea level (Figures C3, C4, and C6). Between the NPS Airstrip/Ramp 70 and the NPS/Village of Ocracoke boundary, the proposed trail would be located in the "AE" flood zone where base flood elevations are between six and seven feet above sea level (Figures C4-C6).

Justification for the Use of Floodplains

The purpose of this project is to improve safety on NC Hwy 12 for pedestrians, bicyclists, and motorists; improve visitor access in the project corridor; create increased opportunities for use of alternative modes of transportation; and help reduce traffic congestion in the vicinity of the project. The proposed development of a trail in a high hazard area is classified as a Class III Action, according to DO #77-2. Avoidance of impacts to floodplains is not possible because the entire project area is within the 100-year

floodplain. The maximum width of the trail (14 feet) was determined to be appropriate to meet the ADA requirements, accommodate emergency vehicles with maneuvering space, and manage stormwater runoff.

Investigation of Alternate Sites

Alternatives Considered But Dismissed

The NPS considered and dismissed from further analysis several alternatives before development of the range of reasonable alternatives for full impact analysis. Brief descriptions of these preliminary alternatives, and reasons for dismissal, are outlined below. Additional detail is provided in the *Ocracoke Island Multi-Use Trail Environmental Assessment* (June 2008) (pages 25-27).

1. *Establishment of a new trail in existing Right-of-Way or another previously disturbed corridor.*
 - a. Widen paved shoulders of NC-12. The widening of the road prism would require relocation of the seaward drainage ditch into the abutting wetlands. Direct adverse impacts to approximately 10 acres of wetlands would result. Since alternate alignments would allow for the avoidance and minimization of wetland impacts, the alternative of widening paved shoulders of NC-12 was considered but dismissed.
 - b. Separate trail from NC-12 within the existing Right-of-Way for NC-12. To accomplish the required ADA-compliant trail design features, the trail construction would be significantly complicated by the presence of the drainage ditches along NC-12. Additionally, placement of the trail in this area effectively increases the road prism and would require moving the drainage ditch further from the road and deeper into the wetlands. Relocation of the drainage ditches into the shrub thicket would adversely impact approximately 10 acres of wetlands. Since alternate alignments would allow for the avoidance and minimization of wetland impacts, the alternative of widening paved shoulders of NC-12 was considered but dismissed.
 - c. Sound-side utility corridor. Avoidance and minimization of adverse impacts to resources in the Ocracoke Island (Central Section) Significant Natural Heritage Area would be required. Establishment of a trail within the existing utility corridor presented substantial engineering and visitor safety concerns. Therefore, establishment of the trail corridor within the existing utility corridor on the sound-side of NC-12 was dismissed.
2. *Identify potential parking area to support a cooperative tram/trolley operation that would visitors to the Village of Ocracoke and National Seashore on Ocracoke.*
 - a. Expand existing parking area. Each of the existing parking areas near the NPS/Village of Ocracoke boundary are bounded by wetlands and NC-12. Expansion of existing parking areas to the east or west would result in unacceptable, direct, adverse impacts to wetlands. Expansion to the south would result in unacceptable, direct, adverse impacts to the dune fields. Therefore, expansion of existing parking areas in the project corridor was considered but dismissed.
 - b. Establish a new parking area. Wetlands and dunes are prevalent in the project corridor, restricting development to a narrow band where these two features meet. Establishment of a new parking area of the desired size which would facilitate a cooperative tram/trolley operation would be unachievable on NPS property in the project corridor. Therefore, establishment of a new parking area in the project corridor was considered but dismissed.

Alternatives Fully Analyzed in the EA

In addition to the Preferred Alternative (Alternative C: Asphalt-Paved Trail), two other alternatives were fully analyzed in the *Ocracoke Island Multi-Use Trail Environmental Assessment* (June 2008).

- Alternative A: No Action

- **Alternative B: Asphalt-Paved Trail with Two Boardwalk Segments**

Under Alternative A (No Action), the trail would not be constructed and would have no impact on floodplains in the project corridor. Alternative A was identified as the Environmentally Preferred Alternative. However, implementation of Alternative A does not remedy the existing, unsafe conditions resulting from pedestrians, bicyclists, and motorists sharing the high-speed road and its shoulders.

Under Alternative B (Asphalt-Paved Trail with Two Boardwalk Segments), a 3¼-mile-long, multi-use trail would be constructed from the NPS Campground to the Village of Ocracoke. Much of the new trail would have a 10 foot-wide asphalt-paved surface with 2 foot-wide gravel shoulders, except where short segments of elevated boardwalks (14 feet wide) would be constructed to span a wetland and the backdune. Under Alternative B, trail alignment through wetlands using elevated boardwalks is the major trail design difference between Alternatives B and C, resulting in many differences in impact intensity on natural resources (e.g., wetlands, dunes, vegetation); public health and safety; and park operations. However, Alternative B and C have the same impact on floodplains in the project area.

Investigation of Trail Surface Material Alternatives

Various alternatives to an asphalt-paved trail surface were considered, but dismissed.

Natural Materials

Natural materials (e.g., crushed shells, sand/clay mix, mulches) were considered but dismissed because none of these materials would provide a smooth surface suitable for mobility-restricted trail users or inexperienced bicyclists. A trail constructed from these materials would also require frequent maintenance and have a long-term, major, adverse impact on park operations.

Synthetic Materials

Synthetic materials considered included concrete, plastic, and asphalt.

Concrete was considered but dismissed as a construction material for the proposed trail due to its brittleness and long-term maintenance requirements.

Portable plastic matting (e.g., BeachRings²® by Invisible Structures, Inc.) and recycled plastic beams was investigated as a possible construction material, but were dismissed. Portable plastic matting could be easily uprooted if not secured with anchors or sandbags during high energy weather events. Following the high energy weather event, removal of plastic debris (whether matting or beams) would require a significant clean-up effort. Blowing sands would easily accumulate on either of these plastic surfaces, making for a slippery surface for trail users. Removing piles of sand from a plastic-surfaced trail would require specialized equipment to minimize damage of the trail. Maintenance and repair of a 3¼ mile-long, 10 foot-wide trail constructed from these materials would result in long-term, major, adverse impacts on park operations.

Permeable paver systems (e.g., plastic honeycomb-shaped pavers or concrete pavers which can be filled with soils and vegetated) were considered because these systems allow for infiltration of precipitation in settings where impervious construction materials are undesirable. Construction of the 3¼ mile-long, 10 foot-wide trail using pervious pavers would require a substantial investment because individual pavers would have to be installed by the hands of trained professional installers. The resulting surface would not be smooth, creating a new health and safety hazard for trail users. In high traffic areas or areas where the surrounding environment is subject to erosion, edge restraints would be required to prevent the pavers from migrating. The long-term maintenance of a pervious paver system would require specialized training of maintenance staff to perform the work, a stockpile of materials would be required, and specialized equipment may be required. In the event of a high energy weather event, pavers could be uprooted and deposited off-site, resulting in a significant clean-up effort. Overall, construction,

maintenance, and repair of a 3¼ mile-long, 10 foot-wide trail constructed from these materials would result in long-term, major, adverse impacts on park operations.

Porous asphalt was also considered, but dismissed because this material is not suitable to be used in sandy environments. Porous asphalt requires frequent cleaning to facilitate infiltration of precipitation even when used non-sandy environments.

Impacts to Floodplain Functions and Values

Implementation of the Preferred Alternative (Alternative C: Asphalt-Paved Trail) would require a 3¼ mile-long and 25 foot-wide construction corridor. Vegetation clearing and grading would result in a short-term impact to 9.8 acres of the 100-year floodplain in the project area. Upon completion, the asphalt-paved trail with 2 foot-wide gravel shoulders would be 3¼ mile-long and 14 foot-wide. The gravel base and shoulders for the trail will allow for stormwater infiltration. Minimization of floodplain impacts was accomplished through trail design by including gravel base and shoulders, which allow for stormwater infiltration, while meeting project objectives to remedy an existing safety concern for park visitors. The long-term impact to the 100-year floodplain in the project area would be 5.5 acres, which represents 0.09% of the Island's total 6,144 acres.

Establishment of the trail would not affect flood storage capacity of Ocracoke Island as a whole. Mitigation of the long-term impact to 5.5 acres of 100-year floodplain in the project area will not be undertaken because there is no practicable alternative to do so within the project area or other NPS property on Ocracoke Island.

Minimization of Harm or Risks to Life and Property

Mitigation would be provided by incorporating methods for protecting human safety and protection of investment. Minimization of harm or risk to life and property was accomplished through trail design for a safer, ADA-compliant trail corridor that is sufficiently wide and sturdy to support an emergency response vehicle.

The protection of human health and safety and property is paramount for the NPS on North Carolina's Outer Banks. Cape Hatteras National Seashore is one of the three parks (Fort Raleigh National Historic Site and the Wright Brothers National Memorial) collectively managed by NPS staff at the Outer Banks Group Office. The NPS – Outer Banks Group annually updates its *Hurricane Plan* (NPS 2008), which describes the Incident Command System (ICS) priorities, procedures, and timelines for the protection of human safety, property, and park resources and values in the event of a hurricane or other emergency.

The *2008 Hurricane Plan* details actions to be taken at the beginning of hurricane season (June 1), at critical intervals from 96 hours prior to storm force winds through landfall of a hurricane, recovery, and re-entry. As early as 96 hours prior to storm force winds, the Superintendent activates the ICS and the following will occur on Ocracoke:

- Visitors will be informed of weather conditions, park status, and recommended actions. Hurricane watch notices are posted at all visitor centers, campground kiosks, and on the Park's website.
- Visitors are advised to leave the island or be prepared for short notice evacuation. Ocracoke must be evacuated prior to termination of ferry services or prior to onset of gale-force winds.
- Normal park operations and visitor facilities (e.g., visitor centers, campgrounds, swim beaches) close.
- Concessionaires and local businesses are notified of the park status.
- All non-assigned personnel are released by noon to permit daylight evacuation.
- All non-essential vehicles and equipment are secured.

Since the trail can not be assured of protection from all future damage related to flood/storm events, the NPS will tolerate risk to the investment (the trail) and will simply repair or reconstruct when damage occurs. In the event of storm damage of the trail, the NPS would collect and properly dispose of debris that could not be recycled. The NPS would close the trail while evaluating the need for repair or relocation of the trail. The need to repair or relocate trail segments would be evaluated in consultation with other Federal and state agencies prior to repair or relocation of damaged segments. The decision to repair or relocate trail segments would be made by the NPS. If the NPS decides to repair or relocate damaged trail segments, these activities would be planned and implemented in accordance with applicable Federal and state regulations. In the event that the NPS decides not to repair or relocate the trail, the remaining trail segments would be removed and restoration of the site would be undertaken in accordance with applicable Federal and state regulations.

Compliance

National Environmental Policy Act

An environmental assessment has been prepared for the proposed project pursuant to the National Environmental Policy Act (NEPA) and a Finding of No Significant Impact (FONSI) is expected to be signed by the Regional Director.

Coastal Zone Management Act and North Carolina's Coastal Area Management Act

The Coastal Zone Management Act of 1972 was enacted by Congress to protect the coastal environment from growing demands associated with residential, recreational, commercial, and industrial uses (e.g., State and Federal offshore oil and gas development). The provisions of this Act help States develop coastal management programs to manage and balance competing uses of the coastal zone. The NPS has received a federal consistency determination from the State of North Carolina under the Coastal Zone Management Act and applicable components of North Carolina's Coastal Area Management Act.

The *Ocracoke Island Multi-Use Trail Environmental Assessment* (June 2008), Statement of Findings for Floodplains, and the FONSI, when signed, would complete the requirements for NEPA for this project.

Conclusion

The protection of people, property, and resources is a paramount priority to the Cape Hatteras National Seashore. The proposed multi-use trail would be constructed on NPS land. The NPS concludes that there is no other practicable alternative for the development of a trail in the project area, designed to improve the safety of pedestrians, bicyclists, visitors with mobility restrictions, and motorists.

Implementation of the Preferred Alternative (Alternative C: Asphalt-Paved) will result in short-term impact to 9.8 acres of 100-year floodplain in the project area. Of these 9.8 acres impacted in the short-term due to trail construction, 5.5 acres of the 100-year floodplain would be impacted in the long-term. Establishment of the trail would not affect flood storage capacity of Ocracoke Island as a whole. The existing floodplain would continue to function as a floodplain after the trail is constructed. Since only 0.09% of the 100-year floodplain on Ocracoke Island would be impacted in the long-term by trail establishment, mitigation of floodplain impact will not be undertaken.

Mitigation for trail establishment does include good design through sustainable design principles, appropriate siting, best management practices during and after construction, as well as implementation of non-structural methods through flood warning and evacuation procedures.

The NPS finds the proposal to be consistent with Executive Order 11988. The NPS finds that this proposed action is consistent with the policies and procedures of NPS Special Directive 93-4 (Floodplain Management Guidelines).

References

National Park Service, U.S. Department of Interior. 1993. *Special Directive 93-4: Floodplain Management Guideline*. Washington, D.C.

National Park Service. U.S. Department of Interior. 2008. *2008 All Risk Management Plan, National Park Service, Outer Banks Group*. Manteo, NC.



Figure C1. Project area map showing the Preferred Alternative (Alternative C: Asphalt-Paved Trail) for the multi-use trail alignment.



Figure C2. FEMA Flood Insurance Maps (Panels 3720951100J, 3720951000J, and 3720950000J) for the project area on Ocracoke Island, NC. The project area is shown as a green striped polygon.

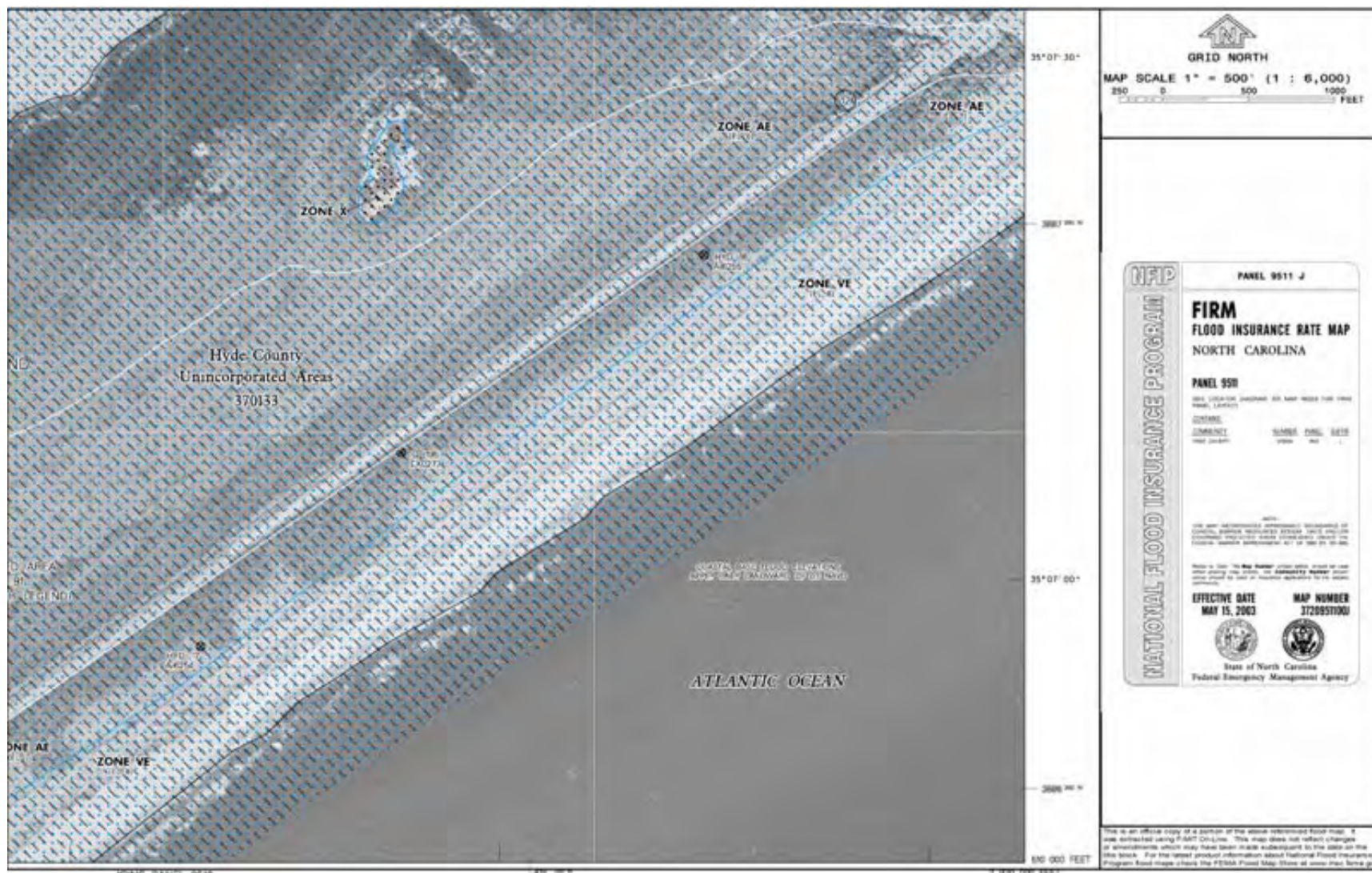


Figure C3. FEMA Flood Insurance Map, Panel 3720951100J, for the project area on Ocracoke Island, NC

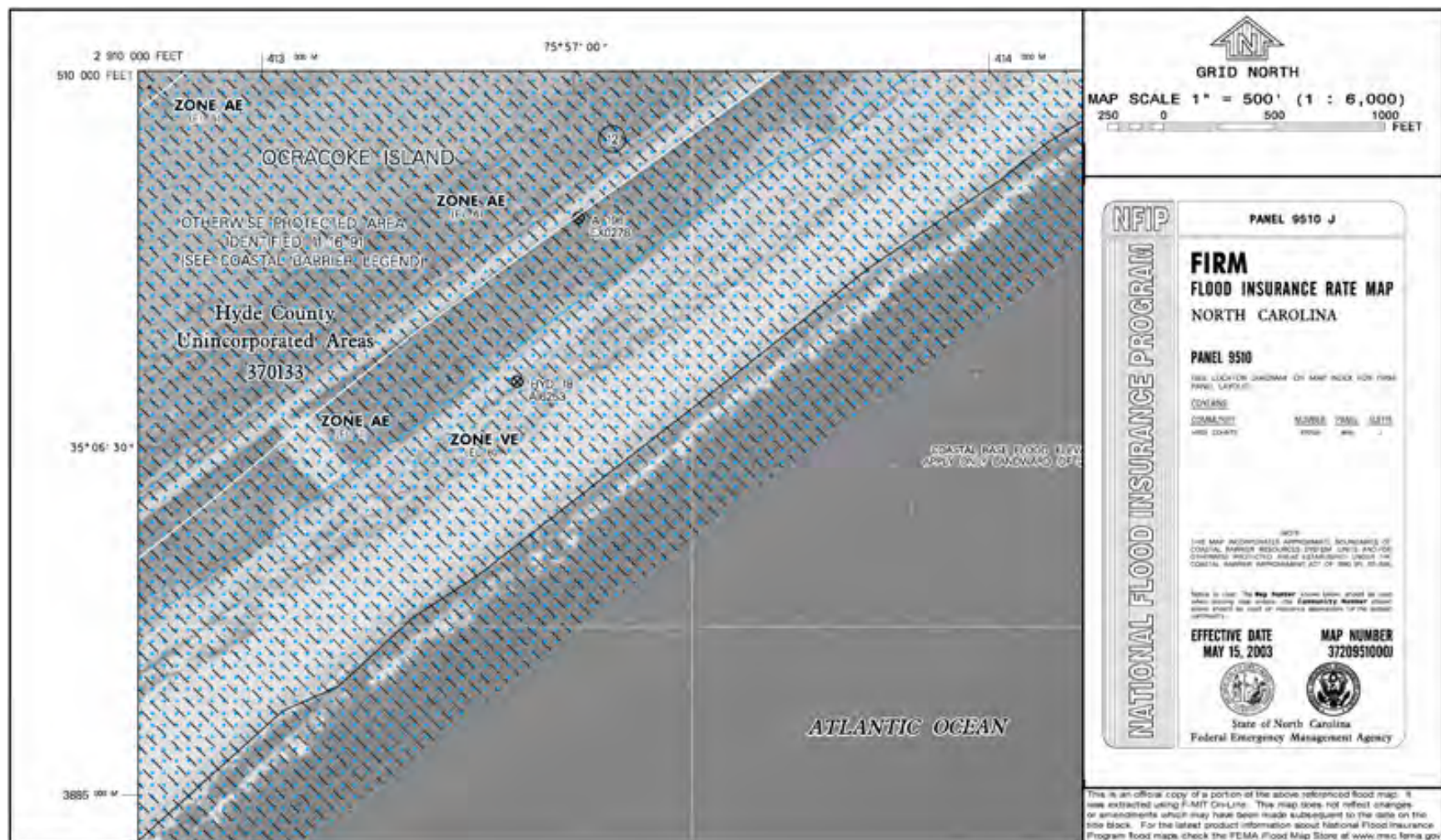
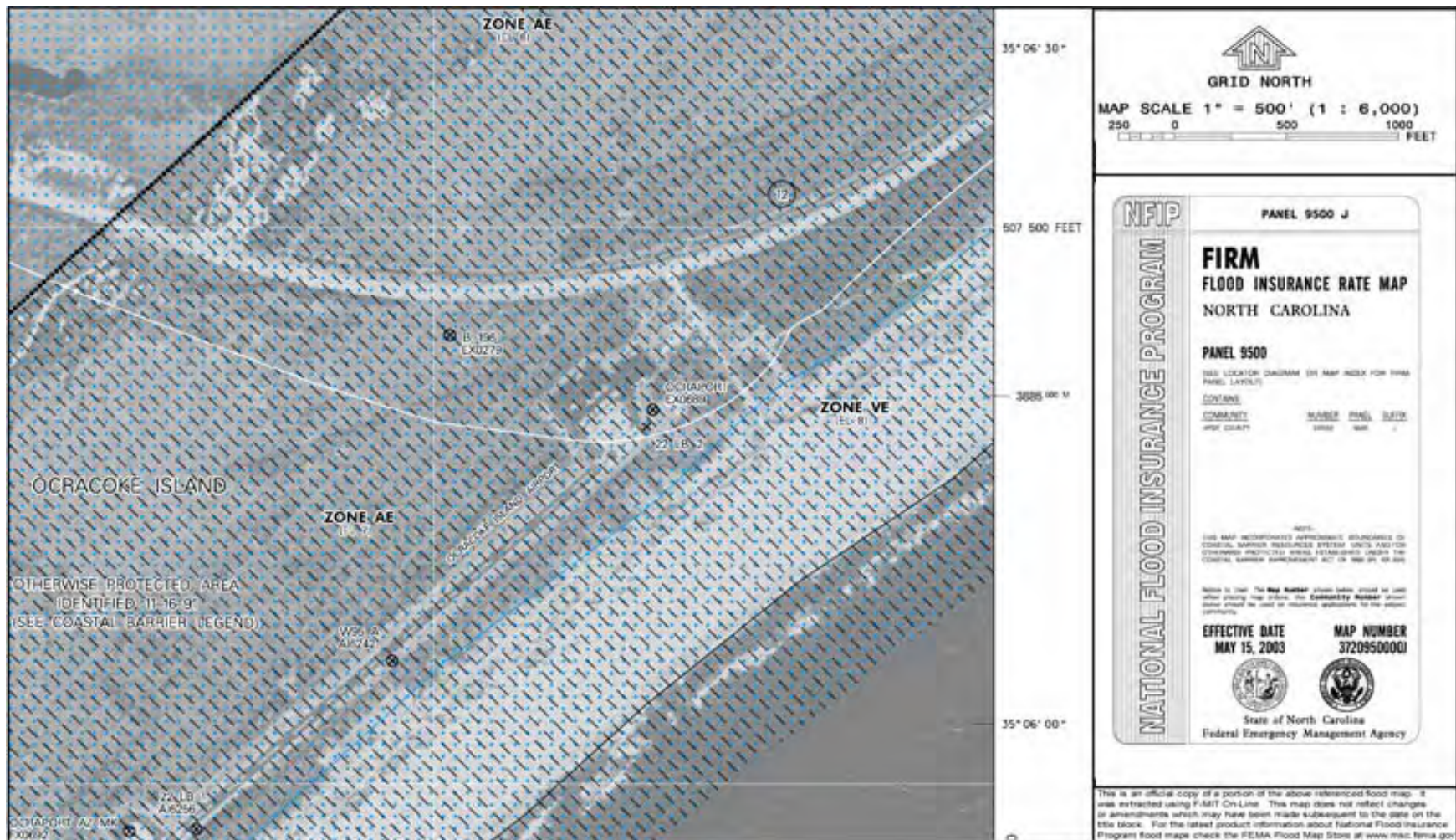


Figure C4. FEMA Flood Insurance Map, Panel 3720951000J, for the project area on Ocracoke Island, NC



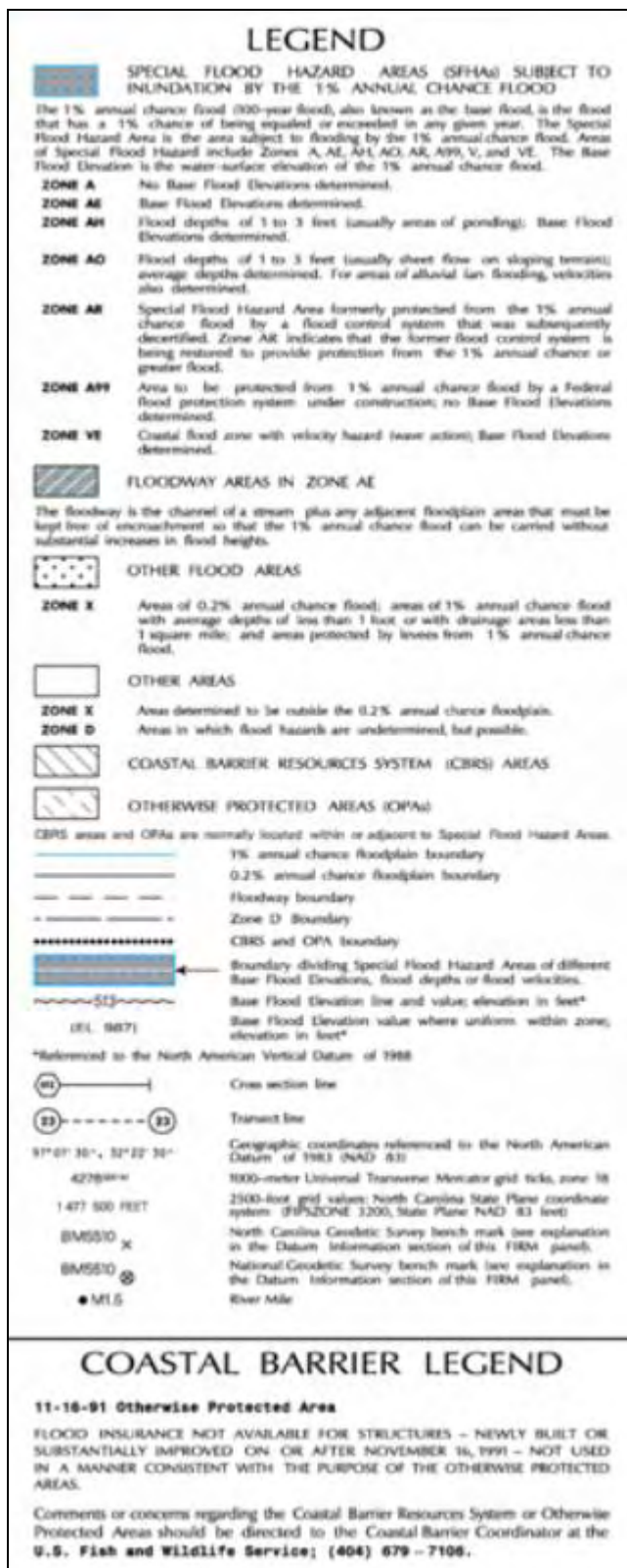


Figure C6. FEMA Flood Insurance Map legend