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Federal Highway Administration
North Carolina Division

Administrative Action

Final Environmental Impact Statement and Section 4(f) Evaluation

Volume 2

US Department of Transportation, Federal Highway Administration
North Carolina Department of Transportation

NC 12 Replacement of Herbert C. Bonner Bridge

(Bridge No. 11) over Oregon Inlet

Federal-Aid No. BRS-2358(15)
NCDOT Project Definition: 32635
TIP Project No. B-2500
Dare County, North Carolina

Submitted Pursuant to the National Environmental Policy Act 42 USC 4332(2)(c) and 49 USC 303

Cooperating Agencies
US Coast Guard/US Army Corps of Engineers
US Fish and Wildlife Service/National Park Service

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PB Americas, Inc.

in association with:

CZR, Incorporated / Moffatt & Nichol Engineers
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Appendix A

Agency Correspondence

A. Agency Correspondence

This appendix contains agency comment letters on the 2005 Supplemental Draft Environmental Impact Statement (SDEIS) and the 2007 Supplement to the SDEIS (SSDEIS). It also contains agency correspondence that was included in the SDEIS and the SSDEIS, as well as other agency correspondence subsequent to the SDEIS and the SSDEIS.

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March 8, 2007

Gregory J. Thorpe, PhD., Manager
Project Development & Environment Analysis Branch
NCDOT
1548 Mail Service Center
Raleigh, NC 27699-1548

Dear Dr. Thorpe:

Thank you for the opportunity to provide comments on Federal Supplement to the 2005 Supplemental Draft Environmental Impact Statement and Draft Section 4(f) Evaluation for NC 12 Replacement of Herbert C. Bonner Bridge (No.11) over Oregon Inlet, Dare County; Federal Aid No. BRS-2358(15), WBS No. 32635, TIP Project no. B-2500.

The Natural Resources Conservation Service does not have any comments at this time.

If you need additional information, please feel free to contact me at (919) 873-2134.

Sincerely,

Michael J. Hinton
Planning Specialist

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A-3

United States Department of Agriculture

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April 4, 2007

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Dear Dr. Thorpe:

Thank you for the opportunity to provide comments on Supplemental Draft Environmental Impact Statement and Draft Section 4(f) Evaluation for NC 12 Replacement of Herbert C. Bonner Bridge (No. 11) over Oregon Inlet, Dare County, North Carolina, Federal Aid No. BRS-2358(15), WBS No. 32635, TIP Project No. B-2500.

The Natural Resources Conservation Service does not have any comments at this time.

If you need additional information, please feel free to contact me at (919) 873-2134.

Sincerely,

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Planning Specialist

Diane Gelburd, Director, NRCS, Washington, D.C.

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December 14, 2005

Tracy
RECEIVED
DEC 16 2005
DIVISION OF HIGHWAYS
PDEA-OFFICE OF NATURAL ENVIRONMENT

Regulatory Division

Subject: Action ID. 199303077

Dr. Gregory J. Thorpe, Ph.D.
Environmental Management Director, PDEA
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

Please reference your September 23, 2005, correspondence requesting our review And comments concerning the Supplemental Draft Environmental Impact Statement (SDEIS) and Draft Section 4(f) Evaluation for the NC 12 Replacement of Herbert C. Bonner Bridge, TIP No. 2500, Dare County, North Carolina. In response to your request we have the following comments:

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1. Page 2-2, Section 2.1, **No-Action Alternative**. The SDEIS states that "a new small-scale ferry service from Bodie Island to Hatteras Island would be developed if, following public review of the document, this alternative were selected as the preferred alternative." It states "nine-hundred vehicles per day on a ferry is far less than the existing demand and the expected 2025 demand presented in Table 1-2 of Chapter 1, which shows an average annual daily traffic of 9,600 vehicles per day and peak traffic of 25,200 vehicles per day in 2025. While we agree that demand will exceed the capacity of a ferry service, we disagree with the statement that the "No-Action Alternative would not meet the project's purpose and need." The stated purpose and need for the project does not talk about capacity. If the "No-Action Alternative" includes the use of a ferry after the Bonner Bridge is demolished, then the statement that the alternative would not meet the project's purpose and need should be deleted.

2. Page 2-82, Section 2.7.2 and Page 4-110, Section 4.13.6, **Bridge Characteristics and Natural Resource Protection**. The SDEIS states that piles for the bridge substructure would be jetted into place and/or in some cases driven. The SDEIS needs to address more thoroughly in section 4.13.6, the environmental impacts associated with jetting and the measures that will be taken to minimize and reduce these impacts

3. Page 2-108, Section 2.9, **Demolition and Removal of Bonner Bridge**. While the SDEIS addresses the demolition and removal of the Bonner Bridge for whatever alternative is selected, we didn't find information relating to the removal and disposal of NC 12 if the Pamlico Sound Bridge Corridor is selected and the Pea Island Wildlife Refuge requests the removal of NC 12.

4. Page 3-38, Section 3.6.2.2, **Potential Breach Locations**. The SDEIS states "if a breach were to occur it would likely close eventually (although not necessarily immediately) and would likely not become a long-term phenomenon like Oregon Inlet." Was that determination part of the study or was it a prediction made by some other party?

5. Page 3-30, Section 3.6.2.3, **Oregon Inlet Movement Through 2085 (Terminal Groin).** The SDEIS states "the NCDOT has no current plans to remove the terminal groin on Hatteras Island after Bonner Bridge is demolished." Other previous correspondence between the Service and NCDOT state "the right-of-way permit for the terminal groin may be terminated by the Regional Director for failure to comply with any or all terms and conditions of the grant, or for abandonment." Once the Bonner Bridge is demolished, by conditions contained in the permit, it appears the terminal groin would be required to be removed because of abandonment. The SDEIS states, "If a bridge were built in the Pamlico Sound Bridge Corridor, the terminal groin could serve parties other than the NCDOT and other immediate needs besides protecting Bonner Bridge or its replacement. It is conceivable, however, that circumstances could change at some time in the future, and it could prove prudent to remove the terminal groin if the Pamlico Sound Bridge Corridor is used for the replacement bridge." Clarification of this issue should be coordinated between the Service and NCDOT and contained in the document. In other locations (i.e. Section 4.6.3, Performance of the Terminal Groin) in the document discussions of the terminal groin are ambiguous.

6. Page 4-23, Section 4.1.7, **Oregon Inlet Users**. The SDEIS states that the use of "the crack" navigation channel shortens the distance traveled by vessels operating between the fishing center and the Bonner Bridge navigation span from approximately 5 miles to about 2.5 miles but that the travel time would be increased by approximately 30 minutes. Please clarify why the additional time is so long. A boat traveling at 10 mph could travel a distance of 2.5 miles in 15 minutes and from personal observations it appears most boats traveling between the fishing center and Oregon Inlet typically run faster than 10 mph.

7. Page 4-79, Section 4.7.8.3, **Compensatory Mitigation**. The SDEIS states "if temporary impacts to wetlands were to occur, such impacts would be mitigated on a 1:1 basis by restoring these areas to their pre-construction condition." Until these impacts can be more thoroughly assessed we are unable to agree that a 1:1 ratio for temporary impacts is appropriate. Factors such as compaction sometimes limit how these areas can be restored. Mitigation ratios for temporary impacts will be assessed during the permit process.

8. Page 4-7, Section 4.1.2.4, **Pea Island National Wildlife Refuge Master Plan**. As you are aware, a major factor in determining the range of alternatives which can be considered in the selection of the LEDPA for this project are dependent on a Compatibility Determination being reviewed by the USFWS under the provisions of the National Wildlife Refuge System

Improvement Act of 1997. The SDEIS states, "The USFWS compatibility determination will be presented in the Final Environmental Impact Statement (FEIS)." Potential delays in obtaining a decision concerning compatibility may lead to delays in the project.

8. Section 2.7.5.1, **Construction Procedures**. Construction related impacts due to dredging of the Pamlico Sound for barge access is a permanent impact that must be adequately described in the SDEIS. This description should include impacts to SAV, shellfish, benthic communities, fisheries resources, and should provide information concerning proposed disposal area(s) and method of excavation.

We appreciate the opportunity to comment during this phase of the planning process for this project. If you have any questions regarding our comments, please do not hesitate to contact Mr. William Biddlecome at the Washington Regulatory Field Office, telephone (252) 975-1616, extension 26.

Sincerely,

Scott McLendon
NCDOT Team Leader
Regulatory Division

A-5

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IN REPLY REFER TO
Regulatory Division

APR 17 2007

Subject: Action ID. 199303077

Dr. Gregory J. Thorpe, Ph.D.
Environmental Management Director, PDEA
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

Please reference your February 19, 2007, correspondence requesting our review and comments concerning the Federal Supplement to the 2005 Supplemental Draft Environmental Impact Statement (SDEIS) and Draft Section 4(f) Evaluation for the NC 12 Replacement of Herbert C. Bonner Bridge, TIP No. 2500, Dare County, North Carolina. In response to your request we have the following comments:

1. Page 2-18, Section 2.3.1.2, **Changes in Bridge Cost Assumptions Since the SDEIS**. Further more in-depth documentation is needed as to why the original cost estimates were so grossly underestimated in the original document. The paragraph describes some justification (project delivery method, inflation) as to the rise in costs but the estimated cost of construction per square meter rose 57 to 73 percent. Why does the replacement bridge construction cost (single line item in cost charts) go up 36 percent (191,000,000 to 260,000,000) for the parallel bridge and 123 percent (416,800,000 to 933,500,000) for the Pamlico Sound Bridge?

2. Page 2-19, Section 2.3.1.3, **Cost Comparison**. Further information/data/analysis needs to be presented pertaining to the projected life-spans of the two bridge corridors and their relative costs projected over time to reflect the true costs of the projects (i.e. If the sound bridge provides service for 100 years at a cost of 1.3 billion vs. a 50 year service life parallel bridge with NC 12 maintenance at a cost of 900 million, which one would be more practicable to construct?). The SDEIS states on page xxiii the expected full life of the Pamlico Sound Bridge to be as much as 100 years.

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3. Page ix, Other Alternatives Considered, **East Bridge Corridor**. The 1991 feasibility study recommended that an East Bridge Corridor did not warrant detailed study because cost savings resulting from a shorter structure would be offset by costs related to the risks introduced by construction in an area of greater wave activity, by faster currents during storm surges, and by a location less protected from storms. While it is understood that the phased approach bridge construction is projected to take place before shoreline erosion creates construction situations as described above, realistically these scenarios could occur with the phased approach alternative. The phased approach alternative eventually puts a bridge structure in areas of greater wave action, in areas with faster current potential and in an area less protected from storms. The phased approach alternative puts a structure in a location that was deemed not warranted for study in the 1991 feasibility study. The concerns reflected in the study are still concerns today.

4. Page xiii and page 2-3, Section 2-1, **2006 Parallel Bridge Corridor with Phased Approach Alternatives Studies**. The supplement uses the term "technically feasible" when describing the phased approach alternative. The Bonner Bridge Constructability Workshop written document uses the same term. Further explanation is needed describing what "technically feasible" means in terms of the phased approach alternative. It should be documented in the EIS that the workshop document states, "It should be emphasized that this approach, although feasible, is still quite technically challenging."

5. Page xvii and page 4-16, Section 4.5.3.1 **Pea Island National Wildlife Refuge Access**. A major concern expressed for the inclusion of the phased approach alternative was to continue to have access to the 10 plus miles of shoreline along the Pea Island Wildlife Refuge. While initial construction of a parallel bridge will provide for this access along NC 12 as it currently exists, future construction with this alternative will further limit access to the island. Once the phased approach is built out, only two access points will remain along the NC 12 corridor. An original constraint (Constructability Workshop document) for the phased approach was to maintain accessibility to NC 12 and all access points on NC 12. This alternative does not meet this constraint.

6. Page xxiv, Section 7, **Areas of Controversy**. As stated in our original November 28, 2005 correspondence for the Supplemental Draft Environmental Impact Statement, a major factor in determining the alternatives which can be considered in the selection of the LEDPA for this project are dependent on a compatibility determination being approved by the USFWS under the provisions of the National Wildlife Refuge System Improvement Act of 1997. The SDEIS states, "The USFWS compatibility determination will be presented in the Final Environmental Impact Statement (FEIS)." The supplemental document is unclear whether or not a compatibility determination would be needed to construct the phased approach beyond phase I. The supplemental document states that the Secretary of the US Department of Interior (DOI) response to US Senator Burr "indicates that DOI believes the replacement of the bridge itself could be accomplished in a way which is compatible with the National Wildlife Refuge System Improvement Act of 1997, and other laws, if it is constructed within the same easement." While we agree that is the position stated in the letter in regard to the replacement of the

bridge itself, we are unclear if that means that DOI considers phase II, III, and IV to be compatible as well. Secretary Kempthorne stated in his July 5, 2006 letter that "we believe the replacement of the ***bridge itself*** could be accomplished in a way which is compatible with the Refuge Act, and other laws, if it is constructed within the same alignment or with minor changes to the current alignment." Potential delays in obtaining a decision concerning compatibility may lead to delays in the project and cause the project to backtrack resulting in loss time and monies. Although we are unsure of when the compatibility determination must be made in the context of NEPA planning, it appears that it may be premature to select a LEDPA for the project until the compatibility determination has been completed.

7. Page xix, **Natural Systems**. The wetland impacts are incorrectly stated in numerous places in this section of the document. The numbers presented are in most cases the total fill which is occurring in Department of Army jurisdiction areas which includes open water impacts. The actual wetland impact numbers need be changed to reflect the true impacts to jurisdictional wetlands. There is a discrepancy in the document also relating to temporary wetland impacts. The last paragraph states the two phased approach alternatives would have 12.5 acres of temporary construction period wetland impacts, including 3.1 acres of CAMA wetland impact. Table 4-2 (Temporary Construction Fill and Pile Placement Impacts to Biotic Communities with the Parallel Bridge Corridor with Phased Approach Alternatives) on page 4-30 shows 5.6 acres of temporary construction wetland impacts. Table 4-4 on page 4-33 shows 7.12 acres of temporary wetland impacts. The correct temporary wetland impacts need to be included in the final document.

8. Page xxii and page 4-50, Section 4.12, **Indirect and Cumulative Impacts.** Further in-depth analysis needs to be presented pertaining to the indirect and cumulative impacts of the phased approach associated with this alternatives extended construction time frame. We do not agree with the statement in the supplement that states, "Because the proposed project would consist of the replacement of an existing bridge, as well as an existing road in the case of the Parallel Bridge Corridor, indirect and cumulative impacts would be minimal." Because the potential for adverse impacts from long term construction and different construction techniques (replacing an on-grade road with a 30-foot high bridge over almost the entire length of the project) exist, we feel the current supplement does not adequately address indirect and cumulative impacts sufficiently. A more in-depth analysis is warranted as it relates to the purpose of the Pea Island National Wildlife Refuge and what long term construction does to the operation and purpose of the Refuge.

9. Page 2-10, Section 2.2.2, **Phased Approach NC 12 Maintenance Characteristics**. The amount of sand needed for the Rodanthe Nourishment Alternative is estimated at 2.3 million cubic yards beginning in 2007 and 1.5 million cubic yards every four years throughout the life of the project (through 2060). Available and suitable sand sources should be identified for the life of the project and options available if future sand sources aren't readily available should be provided.

10. Page 2-12, Section 2.2.2.1 **Design Features.** Additional costs could be realized for the phased approach alternatives based on structural design assumptions recommended by the AASHTO/FHWA Joint Wave Task Force. It would be beneficial prior to the selection of the LEDPA for this project to have accurate cost estimates for each alternative based on the most current design standards. It is a concern that costs could increase substantially for the phased approach if recommendations from the task force require design standards to be upgraded for bridges constructed in high energy areas such as the Atlantic Ocean. While we realize there is discussion in the cost and funding section (Section 2.3) of the supplement which addresses this issue, cost is a major concern with this project and a factor in the selection of the LEDPA and the best available information needs to be available prior to this decision point.

11. Page 2-16, Table 2-1 and 2-2, **Highway Cost to 2060 (High and Low).** Right-of-way costs for Phased Approach/Rodanthe Bridge and Rodanthe Nourishment appear to be switched. Higher right-of-way costs should be realized for the bridge alternatives since more property would have to be purchased. The chart has right-of-way costs higher for the nourishment alternative.

14. Page 2-24, Section 2.3.4, **Capital Funding**. Can it be assumed by this section that all the alternatives currently being studied could be funded and constructed if selected?

15. Page 4-15 and 4-31, Section 4.5.2 and 4.7.4, **Pea Island National Wildlife Refuge Land Use Impacts on Hatteras Island and Wetlands and Open Water Habitat**. Jurisdictional wetland impact numbers need to be corrected.

16. Page 4-32, Section 4.7.4, **Wetlands and Open Water Habitat**. The Supplement states "because of the phased timeline of construction with the Phased Approach alternatives, wetland impacts could be less in Phases III and IV since sand movement within the Refuge could fill what are now considered wetlands in the NC 12 easement before bridge construction begins. It should be documented that wetland impacts as well as jurisdictional impacts could increase also as a result of sand movement.

17. Page 4-41, Section 4.7.8, **Avoidance, Minimization, and Compensatory Mitigation**. The 12.5 acres of temporary impacts to wetlands is incorrect based on the table on page 4-33. There are 12.5 acres of jurisdictional impacts with 7.12 acres of wetland impacts. It appears "Mitigation of Permanent Wetland Impacts" is incorrectly labeled. It appears that it should be labeled "Mitigation of Temporary Wetland Impacts for the Hatteras Island Temporary Traffic Maintenance Road."

18. Page 5-9, Section 5.2.2.3, **Facilities and Activities**. In the second paragraph you need to change the new linear man-made feature from 1 mile to 10 miles.

19. Page 5-11, Section 5.2.2.5, **Natural Systems**. Please explain more clearly why temporary traffic management roads built within the existing NC 12 easement would affect 10.4 acres twice. The document implies that once Phase IV is ready for construction, all traffic would be removed from the bridge structures to temporary roads

below the constructed bridges. How would these temporary roads be constructed if the shoreline has eroded westward of the bridges constructed in phases II and III?

20. It is our understanding that NCDOT is preparing to expend approximately 42 million dollars to conduct repairs to Bonner Bridge, thus extending its usable life by approximately 10 years. It is our assumption that this will have no effect on implementation of the selected alternative (LEDPA). However, if this is not the case, such changes should be identified in the final EIS

As a major permitting agency, we appreciate the opportunity to coordinate with you prior to the finalization of the SDEIS. If you have any questions regarding our comments, please do not hesitate to contact me at the Washington Regulatory Field Office, telephone (252) 975-1616, extension 26.

Sincerely,

William J. Biddlecome

William J. Biddlecome
Regulatory Project Manager

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April 17, 2007 F/SER4:RS/pw

Colonel John E. Pulliam, Jr.
District Engineer, Wilmington District
Department of the Army, Corps of Engineers
Regulatory Division
P. O. Box 1890
Wilmington, North Carolina 28402-1890

Attention: Bill Biddlecome

Dear Colonel Pulliam:

NOAA's National Marine Fisheries Service (NMFS) has reviewed the Corps of Engineers (COE) Public Notice (Action ID No. 199303077), dated March 8, 2007, for the Federal Supplemental Draft Environmental Impact Statement (SDEIS) and the Federal Supplement to the SDEIS (SSDEIS) that describe plans for replacing the Herbert C. Bonner Bridge (No.11) over Oregon Inlet, Dare County, North Carolina. (Other identifiers for this project include: Federal-Aid No. BRS-2358 (15), State Project No. 8.1051205, and TIP Project No. B-2500 ER 05/0881.) As the nation's federal trustee for the conservation and management of marine, estuarine, and anadromous fishery resources, the following comments and recommendations are provided pursuant to authorities of the Fish and Wildlife Coordination Act and the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). Our comments are separated into those that apply to the SDEIS and those that apply to the SSDEIS.

Comment on the Supplemental Draft Environmental Impact Statement (SDEIS)

Introduction
The North Carolina Department of Transportation (NCDOT) proposes to replace the Herbert C. Bonner Bridge across Oregon Inlet in Dare County, North Carolina. Bonner Bridge was constructed in 1962 and is approaching the end of its reasonable service life. The bridge is part of NC 12 and provides a highway connection between Hatteras Island and Bodie Island. Two replacement bridge corridors are considered in the SDEIS: the Pamlico Sound Bridge Corridor and the Parallel Bridge Corridor. Within each of these corridors are specific alternatives, and a total of five alternatives were considered for detailed study.

Pamlico Sound Bridge Corridor
- With a Curved Terminus at Rodanthe
- With an Intersection Terminus at Rodanthe

Parallel Bridge Corridor
- With Beach Nourishment to Protect NC 12
- With Relocation of NC 12 by a Road North and by a Bridge South
- With Relocation of NC 12 to Bridges ("All Bridge")

General Comments
The impact analysis provided in the SDEIS does not adequately address the significant environmental consequences of the alternatives to NOAA trust resources. The project area includes categories of essential fish habitat (EFH), which have been designated by the Regional Fishery Management Councils pursuant to the Magnuson-Stevens Act.

The North Carolina barrier island system is an important resource providing valuable habitat for fish and wildlife. The 12.5-mile section of NC 12 that bisects the Pea Island National Wildlife Refuge (Pea Island Refuge) fragments the habitat and disrupts natural coastal processes. Most alternatives for the Parallel Bridge Corridor involve the periodic discharge of dredged material to control beach erosion at identified "hot spots." Historically, this practice has led to changes in the composition of the beach sediments (such as more finer-grained sands and a greater percentage of heavy minerals within the sands) and changes in the invertebrate community that inhabits the intertidal beach.

The value of surf zone habitat and the impacts to it are not addressed nor are the impacts of dredging in offshore borrow sites for beach fill. Long-term beach nourishment would be required for the Parallel Bridge Corridor With Nourishment alternative. However, the feasibility and potential long-term impacts of dredging offshore and deposition of sand on the ocean beach within the Pea Island Refuge are not adequately addressed.

The SDEIS assumes that sand of a suitable quality and quantity will be available for beach nourishment for the 50-year life of the project. This assumption is not supported by the information provided. Both the need for and availability of suitable beach stabilization material appears to be significantly understated and could affect conclusions about the suitability of the alternatives that have beach nourishment as a component.

The document includes an EFH assessment; however, the assessment is inadequate and does not provide a sufficient level of detail regarding impacts to EFH to allow for a detailed comparison of the alternatives.

Specific Comments
Page 1-5, 1.1.3, Erosion of the Hatteras Island Shoreline
This section does not take into account the volume of sand, which frequently exceeds 500,000 cubic yards per year that has been placed on the beach as a result of dredging Oregon Inlet over the past 12 to 14 years and its effect on the erosion rates at the hot spots. In view of the potential impacts of beach nourishment on NOAA trust resources, we do not view beach nourishment as an acceptable long-term alternative for maintaining NC 12.

Page 2-67, 2.6.3.2, Design Assumptions
The discussion assumes that all sand is biologically suitable for beach nourishment. This is not the case. Maintenance of important invertebrate communities in the surf zone that support NOAA trust resources is an essential component of any beach nourishment project. Compatibility of the borrow sands with those at the natural beach is a key issue and is insufficiently addressed. This section assumes that suitable sand will be available through the year 2060. This may not be the case since sand dynamics within the proposed borrow areas could change and affect their suitability for beach nourishment. If the availability of compatible sand cannot be assured for the life of the project, it could present a major obstacle to implementing the alternatives that involve beach nourishment.

Pages 2-104, 2.8.2.1, Nourishment
The SDEIS states that beach nourishment would occur in four locations and likely be repeated at four-year intervals. The volume of sand needed appears to substantially underestimate what would be needed

for beach and dune construction. Over 500,000 cubic yards of sand form Oregon Inlet have been deposited along and adjacent to the "Canal Zone Hot Spot" annually for the past four years, and it has not been sufficient to protect the highway from overwash. The estimated volumes of material needed for beach stabilization for those alternatives involving beach nourishment appear to be understated.

Page 2-70, Sand Requirements
Sand availability is not adequately described. Throughout the document when sand availability is discussed, little information is provided regarding its suitability for beach nourishment and the standard used to determine suitability for beach placement are not clear.

Pages 2-80, Bridge Characteristics and 2-96, 2.8.1.2 Design Characteristic
These sections are inconsistent when describing the shoulder requirement for the two bridge corridors. The Parallel Bridge Corridor has a shoulder width of 6 feet while the Pamlico Sound Bridge Corridor has a shoulder width of 8 feet. Wider shoulders on the longer bridge increase the cost versus more narrow shoulders on the short bridge. Since this scenario provides for an unequal cost comparison, the difference should be explained.

Page 4-45, Section 4.7 through Page 4-95, Section 4.12
These sections provide an inadequate analysis of actual impacts to fishery resources. Although beach nourishment is a significant component of several alternatives, there is limited analysis of long-term impacts to the beach invertebrate community or the fishery species that utilize the invertebrates as prey. Also, no specific information is provided concerning offshore borrow sites or the potential impacts of the removal of sand for beach fill.

Pages 4-96, Indirect and Cumulative Impact
The SDEIS states that the indirect and cumulative effects of the Parallel Bridge Corridor would be minimal. Information provided in the SDEIS does not support this conclusion. For example, the Parallel Bridge Corridor With Nourishment alternative would result in potential cumulative impacts at offshore borrow sites. The document indicates that beach nourishment will occur every four years; however, frequent storms could result in an increased frequency of beach erosion, resulting in potential cumulative impacts to surf zone invertebrate communities and benthic communities at offshore borrow sites. Therefore, alternatives that involve beach nourishment could have substantially greater adverse impacts to EFH and associated fishery resources than alternatives that do not require beach nourishment.

The document does not provide an adequate comparison of the cumulative adverse effects of the Pamlico Sound Bridge Corridor versus the Parallel Bridge Corridor. The Pamlico Sound Corridor alternatives would impact submerged aquatic vegetation (SAV), a category of EFH. However, this resource can be mitigated and would likely result in less long-term impact to EFH than the Parallel Bridge Corridor With Nourishment alternative and Road North /Bridge South alternative that includes beach nourishment.

Selection of the Pamlico Sound Corridor with adequate mitigation would eliminate the need for beach nourishment and allow natural beach processes to occur within the Pea Island Refuge, which would benefit marine and estuarine dependent fishery resources that utilize the surf zone and nearshore habitats. Also, over the 50 year life of the project, hopper dredging in offshore borrow sites could affect sea turtles, which are under the purview of the NMFS Southeast Regional Office Protected Resources Division.

Comments on the Supplement to the Supplemental Draft Environmental Impact Statement (SSDEIS)

Introduction
In the preceding sections, NMFS commented on the SDEIS for NC 12 Replacement of Herbert C. Bonner Bridge. The SDEIS identified two replacement bridge corridors and several alternatives selected for detailed study. Subsequently, the North Carolina Department of Transportation (NCDOT) has added two additional alternatives for detailed study for the Parallel Bridge Corridor, which is the subject of the Supplement to the SDEIS (SSDEIS). The final range of alternatives within the two corridors is:

- Pamlico Sound Bridge Corridor
  - With a Curved Terminus at Rodanthe
  - With a Intersection Terminus at Rodanthe

- Parallel Bridge Corridor
  - With Beach Nourishment to Protect NC 12
  - With Relocation of NC 12 by Road North and by Bridge South
  - With Relocation of NC 12 by Bridges ("All Bridge")
  - *Phased Approach with Rodanthe Bridge* (new to the SSDEIS)
  - *Phased Approach with Rodanthe Beach Nourishment* (new to the SSDEIS)

The NMFS comments on the SDEIS are also apply to the two new alternatives, i.e., the "Phased Approaches," in the SSDEIS.

New Alternatives
The Phased Approach Alternatives described in the SSDEIS involve constructing a new bridge over Oregon Inlet parallel to the existing bridge and elevating most of NC 12 through the Pea Island Refuge to Rodanthe on new bridges, purportedly within the existing NC 12 easement. These alternatives would be built in four phases, with the first phase being the new bridge across Oregon Inlet. Additional phases would be built as needed based on the shoreline erosion. Two alternatives are proposed for the southern terminus. The Phased Approach/Rodanthe Bridge Alternative includes a bridge section at the hot spots at Rodanthe. All but a 2.1-mile section on NC 12 in the southern half of the Refuge would eventually be bridged. For the Phased Approach/Rodanthe Nourishment Alternative, the northern bridge sections and un-bridged section would be the same. However, the southern end of the bridge would end near the border of the Pea Island Refuge and beach nourishment would be used to protect this portion of NC 12. This alternative would require placing beach fill on 1,500 feet of beach within the Refuge and outside of the existing NC 12 easement. We also note that according to the SSDEIS the five Parallel Bridge Corridor alternatives and the two Phased Approach alternatives could be "mixed and matched" along the length of NC 12 to create other variations.

General Comments
The cumulative and/or additive effects of the "mixed and matched" approach stipulated in the SSDEIS are not adequately explained. If additional alternatives that are the result of the "mix and match" approach are proposed, the impacts to NOAA trust resources must be fully evaluated for comparison with other alternatives.

The Phased Approach would over time result in bridge sections in the surf zone. We believe that scour and altered energy regimes around these structures would degrade important surf zone habitat for fish and invertebrate species and alter the value as EFH for federally managed fishery resources. The SSDEIS

does not recognize that this area is EFH and does not adequately addresses potential adverse impacts to fishery resources that use this area as habitat.

The SSDEIS contains several references to the Outer Banks Task Force (OBTF). Because of the emphasis placed on the OBTF, the supplement should describe the OBTF and explain the role of that organization in the overall planning process.

There are references to the Constructability Workshop held on August 29 to 31, 2006, with regards to the Phased Approach alternatives. The purpose of the workshop was to assess the feasibility of constructing the multiple bridges, roads, and other structures within the existing right-of-way. While the workshop did determine that construction of the Phased Approach bridges were technically feasible, it did not address the practicability or environmental effects of such construction.

During the 50-year life of the project all but, 2.1 miles of surf zone could end up underneath bridge spans. The effects of this on benthic invertebrate communities and fishery resources in the surf zone are not adequately addressed.

Specific Comments

Page 2-4, Section 2.2.1

Phase I of the Phased Approach involves the construction of a parallel bridge over Oregon Inlet. NMFS is concerned that completion of Phase I could be used as justification to return to the status quo of repeatedly reacting to storm damage to NC 12. Since the Phased Approach alternatives would be built in four phases over many years, we are concerned that after the bridge over Oregon Inlet is completed, a decision could be made to not proceed with Phases II, III, and IV. The following passage from page 2-4 suggests this may be the case: *"Although the Phased Approach alternatives are described and addressed in this Supplement as a phased alternative with specific locations and lengths for the phases…these details could be adjusted based on funding availability and the changing conditions within the project area… implementation of any individual phase could be accelerated or delayed."* Due to the high costs of this project, we are concerned that the Phased Approach could lead to only replacing the bridge and using beach nourishment to repair NC 12 and maintaining the dune system in the Pea Island Refuge.

Page 2-20, Potential Cost Sharing Opportunities with Beach Nourishment

The discussion in section 2.3.1.4 regarding potential cost sharing with the COE for navigational dredging and beach nourishment assumes that dredged sand is available and biologically suitable. These assumptions may not be valid. Allowing sand on the beach that is not compatible would be disruptive to the ecological processes and would degrade surf zone EFH.

This section also seems to assume that funding will be available to the COE to continue pipeline dredging on an annual basis. This has not been the case in the past and is not likely to be the case in the future. Also, due to differences in hydraulic sorting that occurs in different segments of Oregon Inlet, the sands from certain reaches of the Oregon Inlet navigation channel are not likely to be compatible for placement on the beaches at the Pea Island Refuge.

Page 3-63, Section 3.7.6.3, Fish and Shellfish

This section does not identify marine surf zone species that could be affected by beach nourishment alternatives under the Phased Approach.

Page 3-71, Section 3.7.6.4, Benthic Communities

No information is provided on the benthic invertebrate communities (e.g., *Donax* sp. and *Emerita talpoida*) in the surf zone. This community is an important food source for fish and is at substantial risk for the Phased Approach alternative.

Pages 4-21 through 4-2, Offshore Coastal Processes with the Phased Approach

Section 4.6.3 does not fully address the issue of scour around bridge piles. The follow up discussion does not provide a detailed analysis of the ecological impacts of scour. With bridges that are over land and gradually transition to the ocean environment, the impacts from the Phased Approach will occur on a continuum along and across the beach through time. Impact assessment should include impacts to EFH quantity and quality over time. Additional analysis should also be conducted for maintenance and/or repair of bridge piles, to include the potential placement of revetment or other stabilizing structures adjacent to the piles, and their impacts on fish and wildlife resources.

Page 4-34, Section 4.6.1 Fish and Shellfish

This section does not address impacts to the invertebrate surf zone community that could be significantly altered by bridge supports in the surf zone. This community is an important food source for fish that utilize the surf zone as habitat.

We disagree with the assumption that bridge supports in the surf zone will not affect fishery resources. Relocation of fish to other areas depends upon many factors, such as species impacted, population density within the impacted area as well as adjacent habitat, and the quantity and quality (or suitability) of the adjacent habitat. It is incorrect and potentially misleading to discount impacts to fisheries by implying the affected species can simply move to adjacent habitat. The project area consist of a very narrow strand of intertidal and shallow subtidal habitat, making it unlikely that species displaced by project-related impacts would be able to easily locate suitable alternative habitat.

Page 4-34, Section 4.7.6.2, Essential Fish Habitat

Surf zone EFH would be significantly altered by the presence of bridge pilings that would likely result in an even more dynamic environment that may not support surf zone invertebrates. The eventual degradation of this important habitat along approximately 10 miles of beach should be addressed in greater detail.

Page 4-58, Table 4-12

This table does not include any adverse impacts (dredging or filling) as a result of beach nourishment.

Page 4-63, Essential Fish Habitat

This section does not address impacts to surf zone EFH or marine water column EFH as a result of beach nourishment.

Page 4-64, Table 4-13

This table does not include any adverse impacts to EFH associated with beach nourishment.

4-65, Parallel Bridge Corridor with NC 12 Maintenance

This paragraph does not address any habitat impacts as a result of beach nourishment.

4-66, Parallel Bridge Corridor with NC 12 Maintenance

See comments for page 4-65

Summary

NMFS is concerned that bridge replacement alternatives that require long-term beach nourishment and construction and maintenance of bridge structures in the beach surf zone would result in long-term adverse impacts to NOAA trust resources. In stating this, we acknowledge that alternatives that involve

direct impacts to SAV are problematic. We also recognize the desire to maintain access to the northern end of Hatteras Island for recreational use. However, we believe that the Pamlico Sound Bridge Corridor alternatives best support the purpose and need for this project with the least impact to important estuarine and marine resources in the project area.

We appreciate the opportunity to provide these comments. Please direct related correspondence to the attention of Mr. Ronald Sechler at our Beaufort Area Office. He may be reached at (252) 728-5090 or by e-mail at Ron.Sechler@noaa.gov.

Sincerely,

Pete Willa

/ for

Miles M. Croom
Assistant Regional Administrator
Habitat Conservation Division

cc: (via electronic mail)

EPA
FWS, Raleigh
FHWA NC, Sullivan
SAFMC
NMFS, PRD
F/SER, Keys
F/SER4
F/SER47, Sechler

A-12

United States Department of the Interior
OFFICE OF THE SECRETARY
Washington, DC 20240

TAKE PRIDE IN AMERICA

FEB 13 2006

ER 05/881

Gregory J. Thorpe, Ph.D.
Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

The Department of the Interior (Department) has reviewed the Supplemental Draft Environmental Impact Statement (SDEIS) and Draft Section 4(f) Evaluation for NC 12 Replacement of **Herbert C. Bonner Bridge** (no. 11) over Oregon Inlet, Federal – Aid No. BRS-2358 (15), State Project No. 8.1051205 in Dare County, North Carolina, TIP Project No. B-2500 ER 05/0881 and offers the following comments.

Introduction

The North Carolina Department of Transportation (NCDOT) proposes to replace the Herbert C. Bonner Bridge across Oregon Inlet in Dare County, North Carolina. Bonner Bridge, built across Oregon Inlet in 1962, is approaching the end of its reasonable service life; the bridge is part of NC 12 and provides a highway connection between Hatteras Island and Bodie Island.

Our general comments identify key areas of concern that together constitute an overview of our most compelling issues and concerns associated with the environmental compliance documents. These issues and areas of concern are explained at length in the specific comments

History

A Draft Environmental Impact Statement (EIS) for the replacement of Bonner Bridge was approved in November 1993. A preliminary Final EIS was prepared in September 1996. This document was released again for comment in 1998. A slightly revised preliminary Final EIS was again released in May 2001. This Final EIS was never finalized nor approved by NCDOT, partly due to unresolved Endangered Species Act (ESA) section 7 consultation issues and partly due to unknown internal NCDOT reasons. Project planning began anew in 2002. The first of several combined National Environmental Policy Act (NEPA)/Section 404 Merger Team meetings began on July 31, 2002. Since that time, the Department's agencies of the Fish and Wildlife Service (FWS) and the National Park Service (NPS) have provided substantial input into the project development process.

Corridors and Alternatives

Two replacement bridge corridors are being considered in the SDEIS, the Pamlico Sound Bridge Corridor and the Parallel Bridge Corridor with NC 12 Maintenance. There are two alternatives and three alternatives, respectively, selected for detailed study for the two corridors.

- Pamlico Sound Bridge Corridor
  - With Curved Rodanthe Terminus
  - With Intersection Rodanthe Terminus

- Parallel Bridge Corridor
  - With Nourishment
  - With Road North/Bridge South
  - With All Bridge

The Pamlico Sound Bridge Corridor contains a proposed 17.5-mile bridge through the Pamlico Sound and has a total project length of 18 miles. The Parallel Bridge Corridor contains a proposed 2.7-mile bridge across the Oregon Inlet and has a total project length of approximately 15.2 miles. The Parallel Bridge Corridor passes through the Pea Island National Wildlife Refuge (Refuge). The potential impacts of each alternative are partially described in the SDEIS.

General Comments

Due to shortcomings in the impacts analysis, the SDEIS does not appear to accurately present or evaluate each of the alternatives. Direct, indirect and cumulative effects of this project are significant, but the SDEIS fails to accurately depict the full range of effects of each alternative. One important omission in the SDEIS is a presentation of positive benefits to the environment and to the Refuge from removing the roadbed associated with the Pamlico Sound Bridge Corridor alternatives. The Department found that some of the information presented in the SDEIS is inaccurate, misleading and confusing. As a result, the reader is left with no clear concept of the consequences the bridge project will have on the ecosystem. The final document should clearly identify the selected plan's effects on the environment. Specific comments addressing the shortcomings of the SDEIS are provided in the following sections.

The identified deficiencies in the SDEIS and Draft Section 4(f) Evaluation should be rectified and a revised SDEIS and section 4(f) Evaluation issued for review. We recommend the Federal Highway Administration (FHWA) and NCDOT provide revised documents that equally assess and clearly analyze the environmental impacts of both alternatives, thereby ensuring compliance with CEQ Implementing Regulations and NEPA procedures. If the FHWA and NCDOT do not revise the documents, the Department may recommend referral of this project to the CEQ.

Existing Conditions with NC 12 within Pea Island National Wildlife Refuge

The purpose of the Refuge is defined as "...a refuge and breeding ground for migratory birds and other wildlife . . . " (Executive Order 7864, dated April 8, 1938) and "for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." (16 U.S.C. § 715d, *Migratory Bird Conservation Act*). Furthermore, the *National Wildlife Refuge System Improvement Act of 1997* states "The mission 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." Therefore, fish and wildlife must be considered first and foremost during considerations of use of Refuge lands and management thereof. Visitor access, though important, is secondary to the Refuge's primary mission.

The barrier island system has long been recognized as an important resource providing valuable habitat for migratory birds and other wildlife. The existing NC 12 corridor, which bisects the length of the Refuge for approximately 12 miles, fragments this important habitat and disrupts the natural coastal dune processes. Past maintenance of the NC 12 corridor and disposal of dredged sand have significantly impacted the natural biota of this system. Disposal of dredged sand has increasingly led to finer-grain sized sand, a greater percentage of heavy (dark) minerals and a resulting decrease in beach-face invertebrates. Efforts to maintain the NC 12 corridor through the Refuge (e.g. artificial dune construction, etc.) have altered the natural geological processes of the barrier island system, and thus have reduced and altered habitat available for fish and wildlife resources. The existing NC 12 corridor thus presents major challenges to the Refuge in implementing its mission and maintaining important ecological values. The need for an increasing intensity of maintenance under the Parallel Bridge Corridor alternatives must be viewed as a source of continued and expanded degradation of the ecological values of the Refuge.

Dredging and Beach Stabilization

The viability of the Parallel Bridge Corridor alternatives depends on continued protection of NC 12 between Oregon Inlet and Rodanthe through beach stabilization. The analysis presented in the SDEIS assumes that sand of suitable quantity and quality will be available throughout the 50-year life of the project. This assumption is not supported by the information provided in the SDEIS and other information available. Indeed, both the need for and availability of suitable beach stabilization material appear to be significantly understated, which biases the analyses of both the feasibility and costs of the Parallel Bridge Corridor alternatives. Furthermore, it is our view that a more balanced evaluation of these factors might lead to the conclusion that the Parallel Bridge Corridor alternatives will fail to meet the project purpose of providing "a replacement crossing that will not be endangered by shoreline movement through year 2050."

NCDOT projects within the boundary of Cape Hatteras National Seashore

The NPS requests to review all NCDOT projects near, adjacent, or within the boundary of a unit of the NPS. Review of proposed projects should be mailed to the closest unit of the NPS and the Southeast Regional Office, Planning and Compliance Division, 100 Alabama Street, 1924 Building, Atlanta, Georgia 30303.

The NPS will determine the level of environmental analysis required for all projects, including NCDOT projects that are within the boundary of a unit of the NPS. All Environmental Assessments and EIS's must adequately address all NPS resources within the park and receive park and regional review prior to public release. Impairment determinations are made by the park superintendent. All surveys and studies/modeling must be coordinated with park superintendent. All NPS NEPA documents must contain: a definition of impact thresholds (minor, moderate and major impacts), state whether the impact is beneficial or adverse, and state anticipated duration of impact.

Specific Comments

Pages v, 2-104 and 2-105 of the SDEIS state that beach nourishment would occur in four locations and likely be repeated at four-year intervals. We stress that this is highly dependent upon storm events and unprovable assumptions. Also, the discussion does not make reference to how volumes of sand were determined. Volumes presented appear to be substantial underestimates of what would be needed for beach and dune construction. For example, over 500,000 cubic yards of Oregon Inlet sand have been placed along and adjacent to the "Canal Zone Hot Spot" annually for the past four years, and it has not been sufficient to protect the highway from overwash and sand deposition impacts. Based upon characteristics of material dredged from the Bodie Island Spit section of the Oregon Inlet navigation channel, the sand is marginally suitable, at best, for placement on the Refuge beach and would not likely remain in place to protect the highway for four years, given the annual cycle of destructive wind and water events. As such, it appears that the estimated beach stabilization and associated costs are understated.

Page 1-5, section 1.1.3 does not appear to take into account the volume of sand that has been placed on the beach as a result of dredging Oregon Inlet over the past 12 to 14 years. Volumes frequently exceed 500,000 yd^3 per year. This has certainly affected estimates of erosion rates for the Canal Zone Hot Spot and segments of beach further south due to longshore transport. It should not be assumed that these volumes of sand be placed on the beach throughout the project life. As most of the sand is fine grained with a relatively high percentage of heavy minerals, it is marginally suitable for placement on the Refuge beach. Without the ability to mix the sand with medium to coarse sand there may come a time when disposal of the fine-grained, high percent heavy mineral sand will not be allowed on the Refuge beach.

Page 2-70 under the heading "*Sand Requirements*" refers to sand availability. Sand availability is only minimally described in Section 2.6.3.4, not 2.6.3.2. Throughout the

document, when sand requirements or beach stabilization are discussed, little meaningful information is presented with regard to suitability of sand for disposal on the Refuge beach. Also, when there is limited information on sand suitability, it is not clear what standards are being used. Standards for placing suitable sand on the Refuge beach may be different than standards established by other state or Federal agencies.

Page 2-73 refers to sand availability for beach stabilization. This discussion seems to assume that the sand is biologically suitable (e.g. correct color, mineral content and particle size) for nesting sea turtles and beach-face and swash-zone invertebrates that provide the base of the food web for many migratory bird species. If the sand is not biologically suitable, the issue could be a fatal flaw for one or more alternatives. Even if the sand currently available is biologically suitable, this does not mean the available sand will be suitable through the year 2060. Sand dynamics within the proposed source areas could change significantly. New information could change suitability criteria. It must be understood that sand determined to be not suitable by Refuge standards cannot be placed on the Refuge beach as it would compromise the purpose of providing quality habitat for migratory birds and other wildlife.

Page 2-73 states ". . . and from Oregon Inlet dredging could be used for beach nourishment . . . ." In this consideration, were existing dredging rates with the existing Bonner Bridge used or were forecast dredging rates with a new parallel bridge used? If the former, then available sand may be less with a new parallel bridge since the new bridge would have more and longer navigation spans, thus possibly reducing the need for channel dredging.

Page 2-105 in Section 2.8.2.1 gives no consideration to the biological suitability of sand for either nesting sea turtles or beach invertebrates providing the base of the food web for migratory birds and surf zone fish. The discussion does mention grain size, but it is important to note that grain size is not the only consideration. Other suitability factors to consider include heavy mineral content, color, and presence of contaminants, volume, timing and placement methodology.

Page 4-49 states "Where dredging is needed, the dredging would be to a depth of 8.0 feet (2.4 meters) to provide more flexibility for construction barge operations." Please elaborate on why 8 feet of dredging is needed for more flexibility while other areas already 6 feet deep are sufficient for barge operation and will not be dredged.

Page 4-67 states "One of the most important mitigation measures for beach replenishment is to replenish with sand similar to existing conditions." We agree, but this discussion should be expanded.

On page 4-67, hopper dredges are unable to place sand directly on the beach. They can put the sand near-shore typically in 18-20 feet of water. At such depths, only the finest component of this sand reaches the beach and then only during significant storm events. This process results in a "fining" of native beach sand over time and has detrimental effects on beach biota. Also, if the sand source is the ocean bar then ocean

disposal (even near-shore disposal) reduces the volume of naturally bypassed sand, thus causing increased erosion rates on the Refuge beach.

Page 4-109 refers to dredged material from the Ocean Bar channel at Oregon Inlet being suitable for beach nourishment. Is this material biologically suitable for nesting sea turtles and beach face or swash zone invertebrates? Also, there are no references to the negative impacts associated with using sand from the Oregon Inlet channel having a higher percentage of heavy mineral content.

Cost Analysis

Pages vi, xxiii, 2-16, 2-80 and 2-96 of the SDEIS state that the Pamlico Sound Bridge Corridor bridge will have two 8-foot shoulders while the Parallel Bridge Corridor bridge will have two 6-foot shoulders. The SDEIS does not explain why the longer bridge requires 8-foot shoulders while the short bridge requires 6-foot shoulders. Furthermore, page xxiii states that the bridges south of the Parallel Bridge at Oregon Inlet will have 8-foot shoulders to accommodate bicycles. This makes the 6-foot shoulders on the Parallel Bridge even more confusing. This effectively eliminates accommodations for bike riding or makes it more dangerous on the Parallel Bridge without explanation. Obviously the wider shoulders on the longer bridge raise the cost versus more narrow shoulders on the short bridge. Since this scenario provides for an unequal cost comparison, the difference should be explained.

Page 2-69 states "The cost estimates for the Oregon Inlet Bridge were based on the 1999 estimate revised to take into account the changes at the southern end, then escalated to 2005 dollars." We assume that this means that 1999 dollars were translated to 2005 dollars by applying an inflation multiplier. If so, was a construction index used to derive the multiplier?

In Table 2-9 on page 2-110, do future costs of stabilizing beaches through 2060 account for inflation or are they in 2005 real dollars? All cost should reference the base date. Do cost figures account for TIP Nos. R-3116D, R-3116E and R-3116F not having to be implemented with the Pamlico Sound Bridge Corridor alternatives? It seems that a substantial savings would be realized from not having to construct these three projects at "hot spots" within the Refuge. Also, do cost figures for the Parallel Bridge Corridor Nourishment Alternative include the cost of removing sand and water after each storm event, dune reconstruction, sand fencing, dune sprigging (usually several times per year), or repairing a breach or newly formed inlet in NC 12?

Pages 2-110 and 2-111 identify several observations from Table 2-9. The first observation is an irrelevant and misleading statement since the bridge structure is obviously not a stand-alone component of the project. This statement inappropriately biases the discussion toward the Parallel Bridge Corridor alternatives and should be removed.

Page 2-112 refers to potentially reducing costs of nourishment by using sand from the U.S. Army Corps of Engineers (USACE) ocean bar maintenance. Again, this would only be true if the sand were biologically suitable for nesting sea turtles and beach face invertebrates. It should be noted that the USACE may do less dredging in the inlet with the longer spans of the parallel bridge as stated in the document. While some sand may be available from the outer bar, quantity would likely be far less than what is needed. Sand would have to be brought from farther away, thereby negating the inferences about cost reduction.

Page 2-112 states: "The new Oregon Inlet Bridge . . . could eliminate or greatly reduce navigation span maintenance requirements, reducing the USACE's dredging costs." This would also be true of the longer bridge in the Pamlico Sound Bridge Corridor. Also, reduced maintenance dredging with the Parallel Bridge would provide less sand for potential use for beach stabilization, assuming biological suitability. The Pamlico Sound Bridge would be located in a lower energy environment which would reduce overall maintenance costs and improve navigational safety as boats and barges would not have to negotiate the hazardous inlet channel and a relatively narrow navigation span at the same time in the strong currents of the inlet.

Effects to Fish and Wildlife Resources

The SDEIS fails to adequately evaluate the effects of the Parallel Bridge Corridor alternatives to fish and wildlife resources. In fact, the SDEIS is so bereft of information regarding the effects of continued and increasing fortification, maintenance and repair of NC 12 on Federal trust resources as to render the SDEIS inadequate as a basis for informed decision making.

Pages xix and 4-96 of the SDEIS state that indirect and cumulative effects of the Parallel Bridge Corridor would be minimal. Information provided in the SDEIS and other available information does not support this conclusion. The existing right-of-way footprint within the Refuge will remain an identifiable landscape feature with less than desirable wildlife habitat values for many years, even after the roadbed has been removed. The Parallel Bridge Corridor will result in adverse effects to habitat quantity and quality for the total "zone" of effects. This "zone" includes the footprint of the old roadbed, the footprint of the new roadbed, the area between the old and new roadbed, and an area adjacent to each side of the total footprint that will be affected by construction, maintenance or other activities. This total "zone" of effects would be up to several hundred feet wide along 12 miles of Refuge, resulting in hundreds of acres of impact to the Refuge. This represents significant direct, indirect and cumulative impacts to the Refuge.

The document also fails to address the positive indirect and cumulative effects of the Pamlico Sound Bridge Corridor. The Department believes that the Pamlico Sound Bridge Corridor would produce beneficial indirect and cumulative effects on the Refuge by eliminating paved access through the Refuge, thereby reducing disturbance to wildlife and improving habitat conditions by returning the right-of-way and adjacent

areas to natural conditions.

The SDEIS also fails to adequately address the indirect and cumulative effects of repeated beach stabilization and disruption of normal coastal processes. These processes include geological effects and ecological effects to the beach biota at all trophic levels, including marine invertebrates.

Overall, Section 4.7 beginning on page 4-45 and Section 4.12 beginning on page 4-95 present very weak analyses of actual impacts to biotic communities with any alternative. Also, there is no discussion of the effects of habitat loss, degradation and fragmentation on the diversity, biological integrity and ecological integrity of the barrier island system as a result of possible various combinations of alternatives with the Parallel Bridge Corridor. The FWS and the NPS would be willing to work with you to better define these effects so that they may be appropriately considered in any revised document.

Threatened and Endangered Species

Pages xvii and 4-46 refer to "soon-to-be-listed threatened and endangered species in Dare County." Please specifically clarify what this statement means.

Pages xxiv and 4-107 state "Night lighting would not occur near turtle nesting areas...." The definition of "near" would need to be determined through consultation with the FWS.

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Pages xxiv and 4-74 refer to the FWS's *Precautions for General Construction in Areas Which May be Used by the West Indian Manatee in North Carolina*. This document has been revised and is now referred to as *Guidelines For Avoiding Impacts To The West Indian Manatee: Precautionary Measures for Construction Activities in North Carolina Waters*. This document can be found at http://ncus.fws.gov/mammal/manatee_guidelines.pdf.

Page xxvi fails to give consideration to the leatherback sea turtle (*Dermochelys coriacea*), which potentially could nest within the project area.

Pages 2-47, 3-46 and 4-71 and Figure 3-6 refer to critical wintering habitat for piping plovers (*Charadrius melodus*). North Carolina piping plover Critical Habitat Units 1, 2, 4 and 5 were recently invalidated by Federal court order. Therefore, no designated critical habitat for the piping plover occurs within the project area. However, piping plovers are still known to use suitable habitat within the project area and effects to this species must be adequately considered. It should be noted that the FWS is currently reviewing the judge's order and may propose re-designation of these units. Also, it should be noted that the Pamlico Sound Bridge Corridor alternatives could have a beneficial effect on piping plovers and that habitat would be restored within the existing NC 12 right-of-way in the form of overwash. Abandoning the existing NC 12 right-of-way would benefit piping plovers by reducing the amount of disturbance from humans and pets. Pet dogs and cats can be a significant source of mortality and harassment for

piping plovers.

Page 2-116 addresses permits and the compatibility determination required by the FWS. In addition, ESA Section 7 consultation will be required for federally endangered and threatened species.

Pages 4-39 and 5-31 address loggerhead sea turtles, but fail to address green sea turtles (*Chelonia mydas*) and leatherback sea turtles as potential nesters within the project area.

Page 4-47 refers to a "May Affect – Likely to Adversely Affect" determination for piping plover and green sea turtle with the Parallel Bridge Corridor. A "Likely to Adversely Affect" determination would trigger a formal Section 7 consultation. This determination may or may not be prudent for nesting sea turtles depending upon whether sea turtle nests are present at or near the project footprint and depending upon other factors such as the time of year when work activity would occur. The same determination may be prudent for loggerhead and leatherback sea turtles, if nests are present within or near the project footprint.

Page 4-67 refers to adverse effects to loggerhead turtles from hopper dredges. This needs to be expounded upon.

Pages 4-72 and 4-73 address effects to leatherback, green and loggerhead sea turtles. It is possible that any of these three species could nest within the project area. The most likely species to nest in the project area is the loggerhead sea turtle. Effects to nesting sea turtles can be avoided or minimized if beach stabilization occurs outside the nesting period (May 1 through November 15). If work were to occur on the beach during the nesting season, a vigorous monitoring plan would need to be developed to determine if any sea turtle nests occur within the project area prior to and during project construction. This determination may or may not be prudent depending upon several variables. In general, more information needs to be provided as to the potential effects to sea turtles. Issues such as lighting effects of long-term NC 12 work, the effect of sand particles and color, and dredging need to be addressed. Please note that the FWS has jurisdiction over sea turtles when they nest on the beach, while the National Marine Fisheries Service has jurisdiction when sea turtles are at sea.

On page 4-74 the Department disagrees with the statement: "No habitat for the manatee occurs within the project area . . . ." This needs to be readdressed since manatees periodically appear near the project area.

In general, the SDEIS fails to address potential environmental impacts to federally listed species as a result of maintenance, dune reconstruction, sand fencing, sprigging, removing sand and water, closing a newly formed inlet, or repairing a breach in NC 12 should the Parallel Bridge Corridor Nourishment Alternative be chosen.

Page 5-15 lists the peregrine falcon (*Falco peregrinus*) in a list of federally endangered

and threatened species. The peregrine falcon is no longer federally listed.

Refuge Impacts and Access Issues

Page xii of the SDEIS states: ". . . would likely result in the Refuge providing some form of alternative access to the Refuge rather than the paved road desired by Dare County officials and their constituents." The sentence should read ". . . Dare County officials and some of their constituents."

Pages xix, 4-39 and 4-96 state that the Parallel Bridge Corridor with Road North/Bridge South Alternative would generally support the Refuge's and Cape Hatteras National Seashore's (Seashore) policy to not stabilize the Outer Banks artificially. This statement is misleading because the information presented suggests extensive stabilizing features but does not include protective features such as groins or revetments that would most likely be required to maintain the road/bridge system. It is stated "Exceptions would be the three dunes that would eventually be built and any breach closure that may be needed to maintain the transportation corridor within the Refuge." These exceptions are so significant that they preclude this alternative from supporting Refuge and Seashore policy.

The discussion on page 2-2, Section 2.1 of the "No-Action Alternative" relates to Section 4.5.3.1 and the unsupported conclusion that the ability of visitors to reach the Refuge recreational resources will be adversely affected. This is a "negative" presented in the document without a discussion of the positive aspects. As an addendum to the "No-Action Alternative," the Department recommends exploring the idea of an adequately planned ferry system. This could enhance a visitation experience to the Refuge even though that access may be different than historic access.

Pages 2-15 and 2-116 refer to the fact that in order for NCDOT to construct a bridge or perform associated NC 12 maintenance or beach stabilization within the Refuge that is outside of its permitted easement, the Refuge Manager must find that the new bridge is compatible with the purpose of the Refuge stated in the 1938 Executive Order creating the Refuge and mission of the National Wildlife Refuge System found in the National Wildlife Refuge System Improvement Act of 1997. The Department does not necessarily agree that the Refuge Manager must do so. The compatibility issue will be dealt with under separate cover by the Refuge Manager.

Page 2-74 states: "Two primary risks were identified: potential for a storm caused breach in the Refuge and faster than expected erosion of nourished beaches." The Department believes that these are very real and significant risks with a high potential to occur. The SDEIS appears to assume that law, regulation and policy will allow breach closure on the Refuge now and for the life of the project. New information regarding requirements for federally listed species, current policy/new legal requirements may affect what is found to be compatible over the next 50 years.

Page 2-76 states: "It is assumed that if it were decided that maintaining paved road

access the full length of the Refuge is necessary, a Parallel Bridge Corridor with NC 12 Maintenance alternative likely would be selected for implementation and not the Pamlico Sound Bridge Corridor." This statement seems out of place within a description of the Pamlico Sound Bridge Corridor, and seems to be an overemphasis since the NEPA/404 Merger Team has not specifically stated that a paved road access through the Refuge is essential, and it is not part of the project purpose. While some may assume paved road access is essential, it should not be assumed that the Refuge considers the paved road as an essential feature. It is important to understand that the highway is not necessary for the Refuge to exist and fulfill its mission and purpose. The over emphasis on access to the Refuge on pages 2-76 and 2-78, tends to discount adaptability to new access. Negative aspects of future access are presented without presenting positive aspects about different means of access to the Refuge. The text overlooks the fact that those who do not return to visit the Refuge because of changes in access may be replaced by those who prefer the new means of access, relative isolation, and improved scenery and wildlife viewing opportunities afforded by the Pamlico Sound Bridge Corridor alternatives.

Page 2-78, Section 2.7 states: "If a storm-caused breach were to occur at the southern end of the Refuge, it would need to be closed or ferry service implemented to get visitors and their vehicles to and from the Refuge." The NPS questions whether a storm-caused breach at the southern end, or any location within, the Refuge would necessarily need to be closed to get visitors and their vehicles to and from the Refuge if the Pamlico Sound Bridge Corridor alternative is implemented. Artificially filling or closing the storm-caused breach would not be consistent with the management goals or policies of the Refuge or NPS which are oriented toward allowing the natural processes of the barrier island system to operate. The breach area would potentially provide excellent habitat for foraging and perhaps nesting birds such as the Piping Plover. And closing the breach in this case would not be necessary to maintain the transportation corridor (NC 12) between Hatteras Island and the mainland for residents or visitors. The decision to artificially close a breach or to allow the breach to close naturally, and/or to implement ferry service to provide access to the Refuge should be made based on the individual characteristics of the breach, should one occur.

Pages 2-78 and 2-112 state: "If a storm-caused breach were to occur at the southern end of the Refuge, it would need to be closed or ferry service implemented to get visitors and their vehicles to and from the Refuge." This statement presupposes that vehicular traffic is required or allowed on the Refuge. Other access options may include pedestrian traffic. A critical point to understand is that Refuge property does not carry deed encumbrances for a public transportation corridor as does NPS property. It is likely that a legal determination would be required from the Department as to which laws, regulations and policies would apply and how to comply with them when dealing with an inlet closure.

Page 2-83 states that the Pamlico Sound Bridge could accommodate utility lines on the proposed bridge. Although the Parallel Bridge could also accommodate utility lines, there is a significant environmental benefit to the Pamlico Sound Bridge accommodating

utility lines because of reduced disturbance within the Refuge from utility line placement, utility poles, etc.

Page 2-116 addresses permits and the compatibility determination required by the FWS. Right-of-way permits would need to be reviewed for compatibility if the alternative chosen proposes a new use, an expanded use, a renewed use or an extended existing use. The terminal groin was authorized by a "Permit" from the FWS. The permit is not characterized as a Special Use Permit or Right-of-Way Permit/Easement. We, therefore, request that the term "Special Use" be deleted.

Page 4-38 provides insufficient information regarding the full extent of project impacts. It is not clear how the acreages presented for each alternative were derived. To fully analyze impacts, acreage figures should include the current right-of-way, new right-of-way, and the area between the rights-of-way for a complete analysis of impacts to wildlife resources on the Refuge.

Pages 4-43 and 4-44 refer to sand availability for closing a breach of NC 12 within the Refuge. No discussion is given on whether the ocean bar source is biologically suitable for nesting sea turtles and invertebrates found in the swash zone and beach face.

Page 4-68 refers to disturbances to feeding and resting wintering waterfowl in Pamlico Sound. Please provide species and numbers of wintering waterfowl using this part of Pamlico Sound. Impacts to other migratory birds should not be overlooked as the purpose for establishing the Refuge was to provide habitat (refuge and breeding grounds) for migratory birds and other wildlife, not just waterfowl.

Pages 4-68 and 5-31 discuss potential impacts of the Parallel Bridge Corridor Road North/Bridge South and All Bridge alternatives to feeding and resting water birds within the ponds of the Refuge from construction activities and long term mortality from road kill. However, nothing is said about the long-term impacts from disturbances caused by constant traffic noises or the effects of the road and road maintenance on habitat quality. Bird species more sensitive to noise impacts could be displaced by an adjacent road. The increased mortality of birds, the loss of habitat such as submerged aquatic vegetation and loss of bird use of the ponds might continue to affect the ability of the Refuge to fulfill its purpose.

Pages 4-78 through 4-84 discuss several compensatory mitigation options. It should be noted that some of the compensatory mitigation measures described are not likely to be possible on the Refuge due to the position on the landscape. Impacts on Refuge resources will have to be mitigated on or immediately adjacent to the Refuge. Also, it should be clearly understood that mitigation cannot be used to make an otherwise incompatible proposed use compatible with the mission and purpose directives.

Other Concerns

Pages viii and ix of the SDEIS state "Ocean overwash is expected to continue to be a

regular and increasing problem over the life of a replacement bridge." The Department notes that a Pamlico Sound Bridge would not be affected by ocean overwash.

Pages xii and 4-19 state that replacing the Bonner Bridge with a 17.5-mile long bridge would increase vehicle travel distance from Rodanthe to the mainland by 2 miles and increase travel time by 2 minutes. While this may be valid, it seems to provide a more reliable travel route should NC 12 be covered by wind-blown sand, overwashed, flooded or breached by a storm north of Rodanthe. Two minutes may be a small price to pay to ensure reliable transportation. If the discussion remains in the document as presented, it seems reasonable to include a reference to the amount of time people currently spend waiting for sand and water to be removed from the highway on a frequent basis.

Page 2-2, section 2.1 presents a confusing description of the "No-Action Alternative." The alternative as described cites ferry service to a resident population capable of transporting 400 to 450 vehicles per day during the summer. In contrast, a "between island" ferry system provides transportation for up to 3,500 vehicles per day during the summer. This is mixing resident and tourist transportation data, and it makes no sense to then propose a "resident ferry system" capable of transporting 400 to 450 vehicles per day when the need during summer could exceed 3,500 vehicles per day for the only land-based access to the barrier islands on the northern end.

Page 2-60 refers to coastal modeling and assumes that the terminal groin will remain in place through 2060. What happens if the terminal groin does not remain in place through 2060?

Page 2-86 refers to a service road for the Curved Rodanthe Terminus alternative. What are the wetlands and biotic community impacts of this service road, and are they included in the overall impacts for the alternative?

Pages 2-99 and 2-100 refer to a temporary detour road for the Parallel Bridge Corridor Nourishment Alternative. The Refuge compatibility issue described earlier will apply even with a temporary detour road, as permits will be required from the Refuge. The SDEIS gives insufficient information regarding the temporary detour road to fully evaluate impacts.

Page 2-101 states: "The four practical methods are described as follows:" This statement contradicts the preceding sentence that states ". . . a work bridge and top-down construction are not practical."

Page 3-7, Section 3.1.3.3, the National Park Service Plan, first paragraph: In the discussion of the NPS's Management Policies (NPS, 2001), suggest stating that the NPS Management Policies are presently undergoing review and revision. A new draft NPS Management Policies was placed in the Federal Register in October 2005 for a 90-day public review and comment period.

Page 3-43 refers to an environmental impact study for groin removal. The permit for the

terminal groin was issued for the expressed purpose of protecting the southern terminus of the Herbert C. Bonner Bridge. One of the conditions of the permit requires removal of the terminal groin when the purpose is no longer being served. Consequently, studies are not needed for removal of the groin as there is a legally binding agreement signed by involved parties for this action. The presumption is that environmental consequences have been considered in preparation of the permit to allow the groin. However, if a proposal to leave the groin in place after the existing bridge is no longer functional should be presented, the NEPA documentation for the ensuing permit modification(s) and Compatibility Determination would be required.

Page 4-37 refers to land currently occupied by Bonner Bridge being reverted back to the Seashore. How much land would be reverted back?

The SDEIS does not adequately address the issues as to how the proposed construction of either bridge will effect those concessions with gross sales in excess of $3,000,000.00 annually and which includes the operation of a fleet of 49 Charter Boats, a Head Boat as well as other visitor amenities including restrooms, a boat refueling dock, a travel trailer pumping-out station, 5 public boat launch ramps, 60 boat trailer parking spaces and 60 automobile parking spaces, all receiving heavy use in the summer months and on all Holidays.

Section 4(f) Analysis

Section 4(f) of the Department of Transportation Act of 1966, as amended (49 U.S.C. 303), states that the U.S. Department of Transportation may not approve the use of land from a significant publicly owned park, recreation area, or wildlife and waterfowl refuge, or any significant historic site unless a determination is made that: there is no feasible and prudent alternative to the use of land from the property; and the action includes all possible planning to minimize harm to the property resulting from such use. The information presented still clearly demonstrates that implementation of any of the Parallel Bridge Corridor alternatives would violate Section 4(f), because the Pamlico Sound alternatives are clearly feasible and prudent and would minimize harm to the Refuge (a Section 4(f) property)

Statements in Section 5.4 are difficult to follow. The conclusions seem to be based upon recreational access and dredging channels with some portions not being Section 4(f) property. There should be a statement to the effect that the ferry system would significantly minimize harm to the Refuge.

Page 5-41 refers to harm versus use questions being dependent upon preferences of the officials responsible for the Seashore and the Refuge. It should be acknowledged that for the Refuge Manager, these "preferences" are mandated by law, regulation and policy. The Refuge Manager must use a best professional judgment approach based upon available science in the absence of any new compelling data when confronted with compatibility decisions.

Page 5-41 of the Draft Section 4(f) Evaluation states that "From the Bodie Island perspective there are no substantive differences that would result in the conclusion that one alternative corridor minimized harm better than the other." and in comparing the Parallel Bridge Corridor with the Pamlico Sound Bridge Corridor, that "... it could be concluded that either alternative minimizes harm, or it could be concluded that while different in type of harm, they are equal in the degree of harm." The Department does not agree with this statement. The Draft Section 4(f) Evaluation has determined that there will be Section 4(f) effects on the Oregon Inlet Coast Guard Station and on the Refuge from reduced or altered access of visitors if the Pamlico Sound Bridge Corridor is selected. We do not believe that these effects (from reduced or altered access) are on the same level as the Parallel Bridge Corridor's 20.05 to 62.71 acres (Table 5-9) of direct physical impacts to the biotic communities of the Refuge. Nor does it consider the adverse effects to the Refuge resulting from 50 more years of intensive dune construction and/or beach stabilization associated with the Parallel Bridge Corridor alternatives. In general, it appears that the Draft Section 4(f) Evaluation attempts to put all alternatives on equal footing as to the level of Section 4(f) impacts. We do not believe this is the case. In addition, the evaluation does not adequately address the fact that the Pamlico Sound Bridge Corridor would produce beneficial effects to the Refuge in that many acres of Refuge land would be restored to its intended purpose. There are references throughout the document (beginning on page xiii) acknowledging that there will be a "substantial intrusion into the landscape of the refuge." This is an accurate assessment whether referencing visual impacts or fish and wildlife habitat impacts. It is not possible to continue to dissect a National Wildlife Refuge with road relocation and bridge construction projects without fragmentation of Refuge wildlife habitat, which is a direct threat to the ecological integrity of this Refuge's barrier island ecosystem, and the very purpose for the Refuge's existence.

Though all alternatives have some form of Section 4(f) impact, we believe the Parallel Bridge Corridor alternatives have far greater impacts in quantity and quality on lands protected by Section 4(f). Based upon Section 4(f) directives, we believe that park and refuge lands should not be used whenever there are feasible and prudent alternatives that would avoid or minimize harm to those lands. The NCDOT has clearly demonstrated that the Pamlico Sound Bridge Corridor alternatives present feasible alternatives from an engineering standpoint. This reduces the analysis to the question of prudence, which seems to be an issue of cost and visitor access. We believe that the Pamlico Sound Bridge Corridor is prudent. Access to the refuge for recreational purposes will continue regardless of alternative selected.

The Department believes that this Draft Section 4(f) Evaluation needs to be revised with particular attention being paid to the Pamlico Sound Bridge Corridor, which we believe has been demonstrated to be feasible and prudent with minimal adverse impacts, and likely positive effects, to Refuge lands.

Conclusion

We believe the Pamlico Sound Bridge Corridor, overall, has substantially fewer

environmental impacts. The Pamlico Sound Bridge Corridor does not physically affect the Refuge. Either of the two alternatives for the Pamlico Sound Bridge Corridor is less expensive than two of the three Parallel Bridge Corridor alternatives. The Department continues to support the Pamlico Sound Bridge Corridor and is looking forward to engaging in discussions of the two alternatives within the corridor.

The Department is committed to partnering with the FHWA and NCDOT to develop a safe and efficient NC 12 corridor. The point of contact is Mr. Pete Benjamin, Field Supervisor, FWS, Raleigh Field Office, at (919) 856-4520, and Mike Murray, Superintendent of Cape Hatteras National Seashore, at 252-473-2111, extension 148.

We appreciate the opportunity to provide thee comments.

Sincerely,

Willie R. Taylor
Office of Environmental Policy
and Compliance

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United States Department of the Interior
OFFICE OF THE SECRETARY
Washington, DC 20240

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Mr. Gregory J. Thorpe, Ph.D.
Manager, Project Development and Environmental
Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

The Department of the Interior (DOI) has received the Draft Environmental Impact Statement (DEIS) prepared for the Second Supplement to the 2005 Draft Environmental Impact Statement (SDEIS) and Draft Section 4(f) for **NC-12 Replacement of Herbert C. Bonner Bridge (No. 11) over Oregon Inlet, Dare County, North Carolina.**

Introduction

In a letter dated February 13, 2006 (ER 05/861), the DOI provided comments on the SDEIS and Draft Section 4(f) Evaluation for NC 12 Replacement of Herbert C. Bonner Bridge. The SDEIS identified two replacement bridge corridors, the Pamlico Sound Bridge Corridor and the Parallel Bridge Corridor with NC 12 Maintenance. There were two alternatives and three alternatives, respectively, selected for detailed study for the two corridors. The range of alternatives within the two corridors was:

- Pamlico Sound Bridge Corridor
  - With Curved Rodanthe Terminus
  - With Intersection Rodanthe Terminus
- Parallel Bridge Corridor
  - With Nourishment
  - With Road North/Bridge South
  - With All Bridge

Subsequently, the North Carolina Department of Transportation (NCDOT) has added two additional alternatives under the Parallel Bridge Corridor for detailed study, which are the subject of the Second Supplement to the 2005 SDEIS and Draft Section 4(f) Evaluation. These two new alternatives are in bold:

- Parallel Bridge Corridor
  - With Nourishment
  - With Road North/Bridge South
  - With All Bridge
  - **With Phased Approach/Rodanthe Bridge**
  - **With Phased Approach/Rodanthe Nourishment**

The DOI's February 13, 2006, comments are still valid for the original alternatives, and are generally valid for the two new alternatives. With regard to effects on fish and wildlife resources, including threatened and endangered species, our February 13, 2006, comments apply to the new Phased Approach Alternatives. Except where noted, the following additional comments apply only to the two new Phased Approach Alternatives.

New Alternatives

The Phased Approach Alternatives would involve constructing a new Oregon Inlet Bridge near the existing bridge and elevating most of NC 12 through the Pea Island National Wildlife Refuge (Refuge) and northern Rodanthe on new bridges, within the existing NC 12 easement. These alternatives would be built in four phases, with the first phase being the bridge across Oregon Inlet. Additional phases would be built as necessitated by shoreline erosion. Two southern termini alternatives are under consideration. In the Phased Approach/Rodanthe Bridge Alternative, the bridge would begin in Rodanthe just north of Sudie Payne Road and extend north to Oregon Inlet, except for a 2.1-mile section of NC 12 in the southern half of the Refuge. In the Phased Approach/Rodanthe Nourishment Alternative, the southern end of the NC 12 bridge would begin 0.3-mile south of the Refuge/Rodanthe border, and beach nourishment would be used to protect NC 12 in Rodanthe. The Phased Approach/Rodanthe Nourishment Alternative would require placing beach fill on 1,500 feet of beach within the Refuge, outside of the existing easement. The Second SDEIS states that components of any of the five Parallel Bridge Corridor alternatives could be "mixed and matched" along the length of NC 12 to create other variations (Page vi).

General Comments

There are several references to projects being analyzed by the Outer Banks Task Force (OBTF) throughout the SDEIS. Because of the emphasis placed on the OBTF, the SDEIS should describe the OBTF and explain the role of that organization in the overall planning process. The goals outlined in the OBTF Memorandum of Understanding (MOU) should be presented, and each alternative, including mix and match options, should be placed into the context of level of contribution towards achieving those goals. It is acknowledged that the MOU was last renewed in 1999 and expired in 2004, but the fact that it established guiding principles for the OBTF should be clearly stated.

There are several references to the Constructability Workshop held on August 29-31, 2006, with regards to the Phased Approach alternatives throughout the SDEIS. The purpose of the workshop was to assess the feasibility of constructing the various bridges, roads and other structures within the existing right-of-way. We note that while the workshop addressed the feasibility of constructing the Phased Approach bridges, it is unclear whether or not it addressed the practicability of such construction. It is clear from the long history of maintenance activities on NC 12 that even relatively simple maintenance of the existing highway cannot be done within the existing right-of-way, much less construction of bridges, temporary roads, shoulders and ditches within that same right-of-way width. We recommend that the feasibility of constructing the various bridges, roads and other structures within the existing right-of-way, as well as maintenance of the highway, be discussed in greater detail.

Specific Comments

Page xix states "The potential also exists for a deep breach near the terminal groin, resulting in part from soundside erosion. It would likely need to be closed with a bridge, such as included in the two Phased Approach alternatives and the All Bridge Alternative." We note that either of the Pamlico Sound alternatives would avoid this problem altogether. Therefore, we recommend that the text be modified to reflect this point.

Page xxii states "The Phased Approach alternatives would necessitate the implementation of short-term NC 12 maintenance actions in the Canal Zone ...and Rodanthe 'S' Curve ...hot spots (with associated impacts) that are being planned in the context of studies by the Outer Banks Task Force." The Department is very concerned that these short-term, interim measures to stabilize NC 12 could be used as justification to return to the status quo of repeatedly reacting to storm damage to NC 12 once Phase I is completed. Since the Phased Approach alternatives would be built in four phases over several years, we are concerned that after the Oregon Inlet Bridge is constructed (Phase I), the decision could be made to not proceed with Phases II, III and IV. The following statements on page 2-4 appear to be a tacit admission of such: "Although the Phased Approach alternatives are described and addressed in this Supplement as a phased alternative with specific locations and lengths for the phases...these details could be adjusted based on funding availability and the changing conditions within the project area... implementation of any individual phase could be accelerated or delayed." Due to the high costs of this project, the Department is concerned that the Phased Approach could be used to only build the Oregon Inlet Bridge and then return to the status quo of repairing NC 12 after storms and artificially maintaining the protective dune system in the Pea Island National Wildlife Refuge. This would continue to prevent natural barrier island processes from occurring, and thus adversely affect the Refuge and the fish and wildlife resources that utilize the Refuge throughout the 28-year construction timeframe.

We recommend that clarifying text be added to sections 7 and 9 on pages xxiv and xxv. The terms and conditions of the right-of-way easement specify, to a certain extent, what

can and cannot be done within that right-of-way. The current easement for NC 12 grants authority to NCDOT for the specific purpose of constructing, operating and maintaining a public road through the Refuge and facilities, including parking for a ferry landing to be used in conjunction with the public road. The existing easement does not grant NCDOT the authority to any uses not described above. Consequently, replacing a road with a bridge may not be considered a minor modification to the right-of-way, even though all work may be entirely within the existing easement boundaries, and a determination must be conducted before a decision is made. If it is determined that the modification is not minor, an amendment to the easement will be required and that process will invoke Compatibility Determination requirements under the National Wildlife Refuge System Improvement Act of 1997 and its implementing regulations (50 CFR 26.41). In the Phased Approach alternatives, where it addresses construction, operation, and maintenance of NC 12 within the Refuge, we believe the proposed uses may not receive a favorable compatibility determination. We note that these concerns do not exist with the Pamlico Sound Corridor alternatives. Therefore, we recommend that the text be modified to reflect this requirement and potential outcome.

It is stated throughout the SDEIS that the Phased Approach alternatives would be confined to the existing NC 12 easement within the Refuge. However, page 2-10 states "...by the time a Phased Approach Alternative is designed and built, it is possible that NC 12 will be in an easement different from where it is today." These are seemingly contradictory statements. Furthermore, page 2-10 states "Since the future location of such a relocation is unknown, this design and assessment of the Phased Approach alternatives assumes its bridges are built within the existing easement and that the impacts would be similar in either case." There seems to be a presumption that other NEPA documents prepared for maintenance activities and hot spot "solutions" will satisfactorily address concerns and impacts. If the intent is to relocate the existing NC 12 right-of-way on an "as needed" basis, then additional direct, indirect and cumulative analysis of the impacts is necessary.

The discussion in section 2.3.1.4 on page 2-20 regarding potential cost sharing for beach nourishment assumes that dredged sand is biologically suitable (e.g. for sea turtle nesting). This may not be a scientifically supported assumption. Sand that is not comparable to native beach sand with regards to physical and chemical properties, including grain size and color, cannot be placed on the Refuge beach. Allowing sand on the beach that is not suitable would be disruptive to the ecological processes in the beach face ecosystem, would degrade nesting habitat for sea turtles, and negatively impact beach invertebrates serving as a prey base for numerous migratory bird species. This is a critical point and we believe that it should be discussed in detail.

The discussion in section 2.3.1.4 on page 2-20 seems to assume that the Corps of Engineers has, and will continue to have, funding for pipeline dredging on an annual basis. This has not been the case in the past. Also, the sand from certain areas of the Oregon Inlet navigation channel may not be suitable for placement on the Refuge beach. This is due to difference in hydraulic sorting that occurs in different segments of the inlet. The DOI's Fish and Wildlife Service has 12 years of trend analysis data which

demonstrate impacts to invertebrates in the beach face. The invertebrate population declines after large sand disposal projects. Time, quantity, and spacing patterns of sand placement will affect the level of impacts to the invertebrates. Any sand placement on Refuge land should be fully coordinated with the DOI to avoid adverse impacts to our trust resources. We also recommend text be added that acknowledges Corps of Engineers' funding uncertainties and sand suitability analysis that needs to occur.

The first paragraph on page 4-4 suggests that there is some confusion over the Pea Island National Wildlife Refuge Comprehensive Conservation Plan (CCP) and a Compatibility Determination. These two documents do not have the same purpose. The CCP provides guidance for Refuge management over the next 15 years to aid the Refuge in accomplishing the mission of the National Wildlife Refuge System and for achieving the purpose for which the Refuge was established. When conducting a Compatibility Determination for a proposed use, the CCP is used as a reference document and for guidance to determine whether that use will materially interfere with or detract from the mission and purpose directives. Text should be added to make this difference clear to the reader.

Page 4-10 states "Like the All Bridge Alternative, the bridge would present a stark contrast with the natural character of the Refuge...It would not be characteristic of the undeveloped and protected character of the Refuge that makes it rare along the eastern US seaboard in terms of views and a setting for recreation activities." We strongly agree that such a massive, elevated bridge running through almost 10 miles of the Refuge would adversely affect the character of the Refuge. We note that these concerns are not as pronounced with the Pamlico Sound Corridor alternatives. The text within this section should be modified to reflect this point.

Section 4.6.3 on pages 4-21 through 4-26 does not fully address the issue of scour around bridge piles. The discussion does not follow through with any meaningful analysis of the ecological impacts of scour. With bridges over land which is gradually transitioning to the ocean environment, the Phased Approach bridge impacts will occur on a continuum along and across the beach through time. Impact analysis should not focus on one or two species, but should include impacts to habitat quantity and quality for listed species as well as migratory birds and other wildlife over time. To fully disclose the impacts, additional analysis should be conducted for maintenance and/or repair of bridge piles, to include the potential placement of revetment or other stabilizing structures adjacent to the piles, and their effects on fish and wildlife resources inside and outside the existing easement, as well as those piles currently on land, currently under water, and those that may be under water in the future.

Section 4.7.5 on page 4-34 states "The two Phased Approach alternatives would have no direct impact on Refuge lands since they would be within the existing NC 12 easement." We disagree with this statement. The Phased Approach/Rodanthe Nourishment alternative would directly affect 1,500 feet of Refuge beach outside the existing NC 12 easement. Construction noise and the presence of construction

equipment will directly affect wildlife on Refuge lands immediately outside the existing easement. Section 4.7.5 also does not discuss impacts associated with potential road relocations and other maintenance activities during the time leading up to each successive phase of construction. The existing text should be modified to acknowledge these effects.

From the information on pages 4-35 and 4-36, it can be determined that all four phases would require at least 13 years of actual construction during a 28-year timeframe. This amounts to a near-perpetual construction zone within the Refuge for 28 years. Section 4.7.6.5 does not adequately address the effects of this construction disturbance to shorebirds, waterfowl and other migratory birds. Also, the section does not adequately address the permanent effects to birds and other species of having a bridge on or near the beach. At some point, as the beach erodes, the bridge will be directly over the beach. Later, the bridge will be in the ocean immediately off-shore from the beach. The SDEIS does not address what the specific effects to the birds would be. We are especially concerned with the effects to the federally threatened piping plover (*Charadrius melodus*). Text should be added to address this issue.

Page 4-37 states "However, shoreline erosion could create Piping Plover habitat under the bridges as the shoreline erodes." This is a questionable statement since it is uncertain that piping plovers would utilize otherwise suitable habitat under a bridge. The text should be modified to reflect this point.

The discussion on green sea turtles (*Chelonia mydas*) on page 4-38 mentions nighttime lighting, but does not describe the effects. The discussion on loggerhead sea turtles (*Caretta caretta*) on pages 4-38 and 4-39 does not mention nighttime lighting or its effects. We recommend appropriate text be added to analyze the effects of nighttime lighting to these two species.

In the discussion on seabeach amaranth (*Amaranthus pumilus*), page 4-40 states "If the species would be affected, the location containing the species would not be used for dredged material disposal." It is unclear how NCDOT could leave a gap in its beach nourishment without compromising the structural integrity of the rest of the beach fill. Clarifying text should be added to address this point.

The last sentence on page 4-40 implies that displaced wildlife can move to adjacent habitat with little impact. Movement and assimilation into surrounding habitat depends upon many factors such as species impacted, population density within the impacted area as well as adjacent habitat, and the quantity and quality (or suitability) of the adjacent habitat. It is inappropriate and misleading to discount impacts to wildlife by implying the affected species can simply move to adjacent habitat. The project area consists of a very narrow strand of barrier island and habitat availability is very limited, making it unlikely that wildlife displaced by project-related impacts would be able to easily locate suitable alternative habitat. The text should be modified to address this point.

The discussion in section 4.12.2 on page 4-52 suggests that only the National Park Service and U.S. Fish and Wildlife Service consider ocean overwash desirable, but falls short of presenting an analysis regarding the necessity of ocean overwash for maintaining the barrier island system. Many coastal geologists, coastal engineers and scientists from other disciplines recognize overwash as a renewal process that is critical to maintaining the barrier island system (e.g., Pilkey *et al.* 1998, pp. 41-48). We believe the text should be modified to address the importance of overwash to coastal ecosystems.

Page 4-53 states "The NCDOT would seek a new permit from the Refuge to protect the new bridge." We continue to emphasize that selecting any Parallel Bridge Corridor alternative, including the Phased Approach Alternatives would not guarantee that a new permit to retain the terminal groin will be issued. The text should be modified to reflect this point.

Section 4(f) Evaluation

Section 5.0 beginning on page 5-1 paraphrases the SDEIS but adds little information and analysis with regards to how the Phased Approach affects Section 4(f) resources. We believe the evaluation discounts impacts to these resources by implying that the phased work will occur within the existing right-of-way, without full consideration of the direct, indirect and cumulative effects of various mix and match options of implementing the Phased Approach over time. The net effect of the analysis is that it fails to recognize that the Phased Approach is a "status quo" approach to replacing the Bonner Bridge and maintaining NC 12 through the Refuge for as long as there is a sufficient land base for relocating the road. It appears that for 13 years out of 28, the Refuge would be in a near perpetual construction zone. The concern is that the Refuge's purpose of providing habitat for migratory birds and other wildlife could be adversely affected. Over time, the net result is a barrier island national wildlife refuge with severely degraded habitat quantity and quality for migratory birds, listed species and other wildlife. We note that these concerns do not exist with the Pamlico Sound Corridor alternatives. The text within this section should be modified to reflect this point.

Construction staging area will need to be identified for equipment, materials storage and a construction camp. Cape Hatteras National Seashore is willing to cooperate with NCDOT on this issue provided that the staging sites are evaluated for potential impacts as part of the NEPA planning and compliance process. Contact Michael Murray, Superintendent, Outer Banks Group at 252-473-2111, ext. 148.

The DOI request that access is not disrupted, to the extent possible, to Oregon Inlet Fishing Center (a National Park Service Concession), the U.S. Coast Guard Station Oregon Inlet, Bodie Island Campground and Ramp 4 off-road vehicle access for Bodie Island Spit.

Summary

The DOI thanks you for allowing us to review this DSEIS. Based on our review, we have determined the DSEIS is inadequate and does not meet the intended purpose of the Council on Environmental Quality's (CEQ) Implementing Regulations. The formulation of National Environmental Policy Act (NEPA) compliance documentation is guided by Implementing Regulations (40 CFR 1500-1508) and additional guidance developed by CEQ (46 Fed. Reg. 18026), other environmental legislation, agency specific NEPA compliance and planning guidance, and input from other agencies and the public. The DOI is concerned the NCDOT did not adequately follow these various mandates, nor address comments and planning concerns from the DOI and the public, in formulating the proposed plan and its associated compliance documentation.

Based on our findings and concerns, and depending on NCDOT's decision to proceed with either this proposal or any similar plan selected for inclusion in the final document, we may refer this project to CEQ under Section 1504 of the Council's Regulations for Implementing the Procedural Provisions of NEPA. The DOI wishes to further coordinate with the NCDOT at the earliest possible time in order to reach a solution to our issues and concerns that could preclude the necessity for referral. Coordination can be initiated by contacting Mike Bryant, Refuge Manager, Pea Island National Wildlife Refuge, at (252) 473-1131, extension 222, or Pete Benjamin, Project Leader, Raleigh Ecological Services Field Office, at (919) 856-4520, extension 11.

Sincerely,

Willie R. Taylor
Director, Office of Environmental
Policy and Compliance

Literature Cited

Pilkey, O.H., W.J. Neal, S.R. Riggs, C.A. Webb, D.M. Bush, D.F. Pilkey, J. Bullock, and B.A. Cowan. 1998. The North Carolina Shore and its Barrier Islands – Restless Ribbons of Sand. Duke University Press. Durham, North Carolina. 318 pp.

A-24

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
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December 30, 2005

Dr. Gregory J. Thorpe, Ph.D., Director
Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

SUBJECT: Federal Supplemental Draft Environmental Impact Statement and Draft Section 4(f) Evaluation for NC 12 Replacement of Herbert C. Bonner Bridge (Bridge No. 11) over Oregon Inlet, Dare County, North Carolina; TIP Project No. B-2500; FHW-E40339-NC; CEQ: 20050413

Dear Dr. Thorpe:

The U.S. Environmental Protection Agency Region 4 (EPA) has reviewed the subject document, and is commenting in accordance with Section 309 of the Clean Air Act and Section 102(2)(C) the National Environmental Policy Act (NEPA). The North Carolina Department of Transportation (NCDOT) and Federal Highway Administration (FHWA) are proposing to replace the Herbert C. Bonner Bridge across Oregon Inlet in Dare County. Bonner Bridge was built across Oregon Inlet in 1962 and is approaching the end of its reasonable service life. The bridge is part of NC 12 and provides the only highway connection between Hatteras Island and Bodie Island.

A Draft Environmental Impact Statement (DEIS) was issued in November, 1993. A preliminary Final EIS (FEIS) was prepared in 1996 but was not formally released. However, the preliminary FEIS was distributed to numerous Federal and state agencies in May 2001 for informal review and comment.

The proposed project has been in the NEPA/Section 404 Merger Process since July 31, 2002, and EPA has been actively involved with this project as a team member. An Oregon Inlet bridge replacement needs to be decided in concert with NC 12 issues on Hatteras Island, there are two basic corridors now under consideration. The Pamlico Sound Bridge Corridor (PSBC) would be a new alignment bridge within Pamlico Sound; and the Parallel Bridge Corridor (PBC) alternatives would continue to use NC 12 through the Pea Island National Wildlife Refuge (PINWR or Refuge). NCDOT has defined several detailed alternatives within each of the corridors, including PSBC Alternatives: with Curved Rodanthe Terminus and PSBC with Intersection Rodanthe Terminus; and PBC Alternatives: with Beach Nourishment, PBC Road Relocation North/Bridge South on new alignment and PBC All Bridge on new alignment. All three of the PBC alternatives would use the existing NC 12 through the Refuge, while the PSBC alternatives would bypass the Refuge entirely.

EPA's review of the Supplemental DEIS (SDEIS) has identified adverse environmental impacts for all three of the final PBC alternatives. In particular, EPA is concerned with long-term impacts on water quality and critical resources, as well as the ability of these alternatives to meet the PINWR Management Plan compatibility and Section 7 Endangered Species Act (ESA) requirements. However, EPA defers to FWS, the responsible agency for a final determination of Refuge compatibility and endangered species protection. Additional information is needed regarding specific avoidance and minimization measures to PINWR. Thus, the impacts are of sufficient magnitude and duration that the PBC alternatives are rated EO-2 "Environmental Objections – Insufficient Information". Although the PBC Nourishment alternative would seem to be more acceptable by remaining on the existing roadway alignment, the long term impacts from increased traffic, repetitive beach nourishment and sand dune replenishment and other road maintenance activities would be as detrimental to the natural resources as the new alignment alternatives.

EPA has assigned a rating of EC-2 "Environmental Concerns" to the PSBC alternatives because the 17.5 mile bridge over estuarine waters presents water quality concerns from construction and operation activities, with additional information needed on mitigation of those impacts. EPA's detailed comments on the SDEIS are enclosed with this letter.

The long-term project impacts (i.e., beyond the standard highway planning period) should be fully considered by decision makers because of the unique setting and ongoing challenges of managing the PINWR and its essential habitat for migratory waterfowl. Maintaining a reliable transportation corridor along an ever-changing coastal barrier island is a concern particularly with the vulnerability of the PBC alternatives. After considering all of the issues, a relocation of NC 12 outside of PINWR would achieve long term environmental benefits to the Refuge while providing reliable transportation access between Bodie and Hatteras Islands.

EPA will remain an active member of the Merger Team for the advancement of this important project. The Merger Team should continue to explore long-term impact mitigation for critical natural systems as well as visitor access concerns of Dare County. Mr. Christopher A. Militscher of my staff, at (919) 856-4206, will continue to be the primary EPA contact for this project.

Sincerely,

Heinz J. Mueller
Chief, NEPA Program Office

Enclosure

cc: John Sullivan, FHWA-NC
Pete Benjamin, USFWS-Raleigh
Ken Jolly, USACE-Wilmington District

ENCLOSURE

NC 12 Replacement of Bonner Bridge Supplemental DEIS – Detailed EPA Comments

Purpose and Need

EPA does not have any comments regarding NCDOT's defined purpose and need for the project: (1) to provide a new access to Hatteras Island from the North, (2) provide a viable long term replacement crossing of Oregon Inlet given its extreme natural changes in navigation channel, and (3) provide a facility that will not be endangered by shoreline dynamics long term. These purposes are specific to a project exposed to the storm prone coastline and barrier island dynamics, and should be met to ensure that the best alternative is selected.

Alternatives

The Pamlico Sound Bridge Corridor (PSBC) is approximately 18 miles long and has a total bridge length of 17.5 miles west of PINWR within Pamlico Sound. The Parallel Bridge Alternative Corridor (PBC) contains a proposed 2.7 mile bridge across Oregon Inlet and has a total project length of approximately 15.2 miles, mostly within the PINWR. These are the two basic options plus the no action alternative considered in the SDEIS.

The SDEIS indicates on Pages 2-16, 2-80 and 2-96 that the PSBC bridge will have two 8-foot shoulders and the PBC bridge will have two 6-foot shoulders. It is stated that the 6-foot shoulders would accommodate bicyclists and pedestrians more safely than the existing 2-foot shoulders on Bonner Bridge. While EPA supports multi-modal options for highway projects, there is no explanation in the SDEIS why the 8-foot shoulders are considered for the PSBC bridge but not for the PBC bridge. This will affect the costs for the various alternatives developed by NCDOT based upon the typical design for each corridor. From a safety standpoint, it would appear that 8-foot shoulders should also be considered for the PBC bridge alternatives. Cost tables in the SDEIS should be revised to reflect similar bridge designs/typical sections for PSBC and PBC.

The SDEIS does not stress the importance of all the engineering studies and evaluations performed by NCDOT to develop the PSBC 2003 Alignment Alternatives (Page 2-41). There were efforts by NCDOT and other Merger Team agencies with substantive input from nationally recognized coastal geology experts to develop reasonable PSBC alignments. The reason for developing the PSBC alignments was to provide for an avoidance alternative for potentially severe environmental impacts to the PINWR.

The SDEIS identifies the challenges associated with the development of a PBC with NC 12 Maintenance on page 2-58. The main challenges are as follows: Coastal Erosion and Breach Formation, Existing NC 12 Easement, Wetlands, Refuge Management Plan and Legal Requirements, Disposition of the Terminal Groin, and Dare County's Desire to Maintain Road Access to the Entire Refuge. The SDEIS states that multiple approaches to long-term NC 12 maintenance were evaluated and that there was coordination with resource and regulatory agency representatives on the three detailed study alternatives for PBC with NC 12 Maintenance. As

recently as May 23, 2005, the Merger Team met and was presented seven PBC alternatives and the PSBC alternative for detailed consideration. Appendix B contains Merger Team Concurrence Forms. There is no Merger Team concurrence in Appendix B or descriptions of the three detailed study alternatives for PBC with NC 12 Maintenance. EPA concurred on the NCDOT's desire to perform additional environmental analysis on the PBC with NC 12 Maintenance alternative (in addition to PSBC).

EPA has environmental objections to the NC 12 relocation to the west of the existing NC 12 easement, which includes the PBC with Road North/Bridge South and PBC with All Bridge alternatives. Both of these alternatives have severe and permanent environmental impacts to the PINWR (including compatibility with Refuge management goals, direct negative impacts to threatened and endangered species, severe impacts to wetlands, and to the Refuge as a Section 4(f) historic property). EPA also has environmental objections to the PBC with Nourishment alternative. Even though this alternative does not require any new right of way for NC 12 or the new bridge, it includes significant beach re-nourishment and new dune construction within the Refuge. As shown on Figure 2-9a, the length of beach re-nourishment and new dune construction for the PBC with Nourishment alternative would be 7 to 8 miles along the 15.2 miles of the existing corridor. Nearly all of this proposed construction and shoreline maintenance would occur within the PINWR. EPA has additional and specific comments regarding 'Nourishment' and the PBC with NC 12 Maintenance alternative challenges below.

On page 2-64 of the SDEIS, NCDOT itemizes six additional 'Representative Combination Alternatives' for PBC with NC 12 Maintenance alternative segments. Table 2-8 provides a breakdown of cost, sand requirements and wetland "use" for these six additional detailed study alternatives. Wetland impacts for the three 'Relocate Road' alternatives and All Bridge alternative range between 34.3 acres and 81.0 acres. EPA considers bridging wetlands in this coastal environment a permanent adverse environmental impact to natural resources. Shading from bridges and other impacts from human activities (e.g., run-off from roadway deck drains which includes toxic contaminants from dripped motor oil and anti-freeze, brake lining dusts, etc.) alter the function and affect quality and use of those wetlands for wildlife purposes. The full direct, indirect and cumulative impacts from relocating NC 12 within the Refuge are not evaluated sufficiently in the SDEIS with regard to effects to protected species or other wildlife. For the two remaining 'Representative Combination Alternatives' in Table 2-8, including PBC with Nourishment and PBC with Nourishment North/Bridge South, the quantities of sand needed are estimated at 46,633,300 and 18,216,600 cubic yards assuming re-nourishment requirements every four years, average erosion rates, etc. EPA considers all of these PBC 'Representative Combination Alternatives' to be environmentally objectionable and do not provide an avoidance alternative to the Refuge.

The PSBC alternatives with either a Curved Rodanthe Terminus or an Intersection Rodanthe Terminus were developed for a viable, long-term solution to avoid impacts to the Refuge, minimize impacts to Section 4(f) properties, minimize permanent impacts to jurisdictional wetlands, minimize impacts to Submerged Aquatic Vegetation (SAV), and keep the long-term transportation interruptions on NC 12 (for providing goods and services between the mainland and Hatteras Island) to a minimum. EPA would still have environmental concerns with a Pamlico Sound Bridge alternative because of the contaminant runoff from the bridge

deck. These water quality concerns can be adequately addressed, however. Providing reliable transportation in such a dynamic coastal barrier island setting is less difficult with the bridge over the Sound than through PINWR on Hatteras Island. The SDEIS has adequately demonstrated that the PSBC alternatives fully meet the requirements defined in the Purpose and Need Statement as the most reliable and environmentally sound solution for the replacement of Bonner Bridge. The useable life of the new bridge and the PBSC relocation of NC 12 could exceed current predictions for the 2060 design year without major rehabilitation or repair. The Project Commitments section indicates that the estimated full life of the bridge to be as much as 100 years.

Coastal Erosion and Breach Formation

Drs. Fisher, Riggs and Overton and others have done detailed and intensive studies on coastal geology and shoreline erosion rates along the northeastern North Carolina coastal system since 2000. The panel of experts identified five potential breach sites (Page 3-38). However, it is not possible for these experts to predict the actual storm event which will potentially cause the breaches. These sites are vulnerable due to underlying geologic conditions, historic inlet formations, magnitude and characteristics of past storm events, stability of Oregon Inlet, etc. And while beach nourishment and new dune construction may reduce the potential for breach formation (Pg. 3-39, Dr. Robert Dean), a single storm event could remove all of the sand to nourished areas. Most of the panel members generally agreed that it may only take one severe storm event to cause another breach in one of the sites they identified. Page 2-74 of the SDEIS identifies the two primary risks: the potential for a storm-caused breach within the Refuge and faster than expected erosion of nourished beaches. There is no statistical analysis regarding the frequency or likelihood of a storm-caused event supporting the vulnerability assumptions. EPA fully agrees with the panel's breach and 'normal' erosion rate vulnerability analyses.

Economic Impact

What is not emphasized in the SDEIS regarding breach formation or in 'normal coastal erosion models' is the potential break in NC 12, traffic disruptions for indefinite periods, safety issues for persons needing to obtain emergency services and medical care following a severe storm event, and the potential cost in millions for local and regional businesses while repairs to NC 12 are being made. Such events would impact tourist use, reliance of the permanent Hatteras Island population on mainland goods and services, emergency evacuation requirements if there was another pending storm before repairs were completed, and totally disrupt the estimated 5,400 vehicles per day (2002 Annual average daily traffic). The adverse economic impacts of the loss of NC 12 due to island breach were analyzed and presented beginning on page 4-14. While the analysis addresses a one and three month average time of NC 12 closure, it did not consider the economic impact of the six month closure defined by the expert panel. It also appears that the timeframes considered were for closing the island breach only, so additional time and money would be needed for the reconstruction of the roadway.

It should also be noted that the NC 12 roadway could be made impassible by less severe storm events than a complete breach of the island. Removing the NC 12 route from the vulnerable sections through the PINWR essentially eliminates this economic concern. Further,

peripheral towns like Rodanthe serve as gateways to wilderness areas and it could realize an economic benefit from a PSBC alternative.

Beach Nourishment and New Dune Construction

Under the two PBC alternatives with Nourishment and New Dune Construction, EPA has environmental objections with such potential large-scale maintenance and construction activities. There are unresolved issues involving sand availability and its compatibility with PINWR needs. Considering the volume of estimated sand needs and the estimated costs to keep normal erosion and storm events from impacting NC 12, these massive re-nourishment and construction activities will significantly impact both wildlife and human activities within PINWR. The SDEIS has predicted that massive maintenance and construction activities would be required every 4 years. The SDEIS does not fully address the direct and indirect and cumulative impacts to listed species from such dredging and maintenance operations. For both the Piping plover and the Green sea turtle, the PBC alternatives result in a "May Affect - Likely to Adversely Affect" determination (Page 4-47). EPA further understands that there may also be problems with not only finding consistent sand grain size, but also with the color of the sand compared to existing beach conditions. FWS has found that color can alter the heating effects and ultimately the sex characteristics in nesting sea turtles (e.g., Federally-listed Green sea turtles and Leatherback sea turtles)

On Page 4-78 of the SDEIS, NCDOT indicates that they will work with environmental resource and regulatory agencies to develop plans for nourishment, dune construction, and dredged material disposal plans that would minimize harm to natural resources. While this is a general minimization statement, it does not provide detail on how minimization would actually occur considering the priority will be to immediately re-open NC 12 to traffic following a significant storm event. These accepted minimization plans become ineffective following a storm related disaster, and there are numerous emergency repair requests that follow such storm events. While these minimization plans may address normal shoreline erosion effects, they do not provide any assurance that long-term harm is not caused to listed species and wildlife from repeated emergency or interim actions. The history of storm events along the Outer Banks and the coastal barrier system indicate to EPA that 'emergency repairs and interim actions' to maintain NC 12 are no longer a planning exception but rather have become the routine reaction following each severe storm which disrupts traffic along NC 12. The history of public notice emergency maintenance actions along the Outer Banks, suggests a 1-2 year frequency, not 4 years, should be assumed. There are also significant environmental impacts from sand dredging activities in a coastal environment, especially in areas designated as essential fish habitat (EFH) and other benthic communities. The SDEIS only provides generalized information on these potential impacts and does not specifically address how these negative impacts will be either avoided or minimized through the selection of one of the PBC with Nourishment alternatives.

History and scientific studies along the Outer Banks indicate that breaches will form at some point in the future from severe storm events along NC 12 in PINWR. As seen with other segments of NC 12 along the Outer Banks (e.g., Ocracoke, Buxton, etc.), repeated and costly maintenance following storm events requires numerous emergency repairs and interim planning solutions. EPA views many of these interim actions and emergency measures as not cost-

effective and that they demonstrate reactive and not proactive planning. The emergency evacuation requirements for Hatteras and Ocracoke Islands, the reliance on the mainland by the permanent Hatteras Island population for goods and services (including utilities), and the travel demand during tourist season all require a more reliable transportation solution.

Various coastal geology experts retained by NCDOT have been generally characterized that there is a probability that a breach or multiple breaches will occur during the project design life ending in 2060, page 3-39). Thus, it is reasonable and foreseeable that daily traffic along NC 12 (with a PBC alternative requiring beach or dune nourishment) will be disrupted until emergency repairs to NC 12 can be made. Experts estimate the time and costs for each breach event ranged from 3 to 6 months (page 4-45) and from $7.28 million to $10.66 million, respectively, depending on quantity and distance to the borrow site (page 4-44).

EPA supports the National Park Service (NPS) policy on beach re-nourishment activities along the Cape Hatteras National Seashore and other lands under Federal stewardship. NCDOT has estimated the total length of beach requiring regular nourishment at 6.3 miles. Nourishment is proposed to occur in four National Seashore locations, "likely repeated at four-year intervals" (Summary - pages v and vi). There is no specific technical analysis presented in the SDEIS which compares this estimated beach nourishment activities with other projects along the Outer Banks. In some areas along Cape Hatteras National Seashore, EPA understands that beach nourishment projects are proposed and occur on an annual or biennial basis in order to keep replacing lost sand from certain beaches (e.g., Salvo) to protect NC 12.

Existing NC 12 Easement

As stated in the SDEIS, any improvements to NC 12 outside of the existing 100-foot easement would require a right-of-way permit from the FWS. At past Merger meetings which EPA attended, FWS representatives from the Refuge indicated that a permit would not be issued for any improvements outside of the existing right-of-way. Given that the FWS is the Federal steward of the PINWR, EPA defers to FWS on that issue.

Wetlands

Actual Section 404 jurisdictional wetlands losses for PBC alternatives range from 4.28 to 78.15 acres (Table 4-12). For the two PSBC alternatives, total jurisdictional losses are 4.84 and 4.18 acres. Avoidance and minimization to jurisdictional wetlands is preferable when there are clear alternatives that can meet the purpose and need for the project. From a Section 404 perspective, a permit can be issued to the least damaging practicable alternative so long as that alternative does not have other significant adverse environmental consequences. While the jurisdictional impacts to wetlands are relatively low for the PBC Nourishment alternative, as discussed previously, there are significant environmental and cost impacts associated with massive shoreline re-nourishment initiatives. Furthermore, as noted previously, the PBC alternatives may not address the long-term stability of the NC 12 corridor and Section 7 issues under the ESA.

Table 5-8 of the SDEIS identifying the biotic community impacts on just Bodie Island within the Cape Hatteras National Seashore is unclear. Actual impacts to jurisdictional wetlands from PSBC alternatives are 0.79 acres from shading effects only. Actual jurisdictional impacts to wetlands from PBC alternatives are 0.37 acres from fill and 1.50 acres from shading effects. The table totals would appear to show a greater wetland impact from PSBC alternatives. The non-jurisdictional impacts to upland man-dominated areas represent the largest impact category in the table for PSBC alternatives (i.e., 2.17 acres).

The wetland impacts from the two 'non-nourishment' PBC alternatives represent significant and permanent impacts to PINWR. The SDEIS does not provide a full environmental analysis as to the impacts to wildlife at the Refuge as a result of wetlands loss. There would be the direct loss of other habitat. In addition, there would also be extensive habitat fragmentation and we have noted evidence of collisions between vehicles and waterfowl. Collisions between waterfowl and passenger vehicles from raised highway facilities surrounded by waterfowl impoundments and foraging wetland areas can be severe and represent an unsafe roadway condition. Shifting the road to the west of the existing easement into these wetlands and other essential wildlife habitat areas does not provide a reasonable balance between safe transportation needs and minimizing harm to the natural environment.

Finally, as a point of technical issue is NCDOT's categorization of "shading" being an impact to Pamlico Sound bottom. Table 4-11 indicates the PSBC (bridge) having 73.8 acres of shading impact to the Sound in water depths deeper than SAV habitat. While shading should be considered a negative impact over any vegetated areas because of the reduced light available for plant photosynthesis, scientific data should be referenced to document functional impact to the bottom of the Sound. To our knowledge, finfish traverse and utilize habitat under bridges, and the benthic epifaunal and infaunal communities are not functionally compromised by shading from bridges. These are areas of already very low light intensity below the recognized depth extent of SAV habitat.

In summary, our primary wetland concerns are the long-term habitat and wildlife impacts of the PBC alternatives to the PINWR from direct jurisdictional wetland losses, habitat fragmentation and ongoing re-nourishment activities. Our wetland concerns with the PSBC alternatives are the direct wetland losses ranging from 4.18 to 4.84 acres and any impacts that may be due to open water shading.

Refuge Management Plan and Legal Requirements

Page 2-58 of the SDEIS identifies the PINWR management plan as a "challenge" to the PBC alternatives. This challenge could be the most pronounced in moving the proposed bridge replacement project forward. In 2001, the Refuge management gave a preliminary determination that the Oregon Inlet bridge in the PBC alone 'cannot be found compatible' [with their Management Plan] and a right-of-way permit cannot be issued. The SDEIS has not identified any change to the Refuge's opinion from 2001. Through the NEPA/404 Merger Process, EPA has not learned of any condition which has altered FWS's position on the PBC alternatives. It is EPA's understanding that the Refuge management cannot act on a permit until an application has been submitted and other requirements have been completed (e.g., Formal consultation under Section 7 of the ESA). It is also EPA's understanding from past Merger Team meetings that FWS representatives do not desire paved access through the Refuge and have a goal of reducing disturbances to wildlife and improving habitat conditions by returning the right-of-way and adjacent areas to natural conditions. EPA gives deference to the FWS on the long-term management goals for PINWR. Disposition of the Terminal Groin at Oregon Inlet is a similar matter to the Refuge Management Plan and the potential need for a compatibility determination by the FWS.

Road Access to the Entire Refuge

EPA understands Dare County's concern regarding access to the Refuge, including fishing at the north end of Hatteras Island and continued retention of the terminal groin. However, access for many National parks, forests and refuges in the U.S. are through other modes of transportation, including boats, off-road vehicles, hiking, etc. Few national wildlife refuges (NWR) in North Carolina provide paved access for the public throughout their property limits (e.g., Swanquarter NWR, Great Dismal Swamp NWR, Currituck NWR, and Pocosin Lakes NWR). There are numerous other opportunities for beach access and fishing along the Outer Banks and on Hatteras Island that are not within PINWR. Between the Village of Hatteras and the Town of Rodanthe, there are approximately 34 miles of beach access and alternative fishing areas serviced by NC 12. There are extensive beach and recreational opportunities on Bodie Island within the Cape Hatteras National Seashore available to the public. Where appropriate and consistent with the Refuge Management Plan, Dare County officials, NCDOT, FHWA and FWS should explore other opportunities for accessing and enjoying the Refuge beaches and natural trails (e.g., bicycle and hiking trails).

Section 4(f) Evaluation

The SDEIS provides extensive discussion of the Section 4(f) property impacts to Cape Hatteras National Seashore and PINWR. The Section 4(f) evaluation, while very detailed, appears to provide an incomplete representation of the nature and severity of the impact from the PSBC alternatives to the PINWR. While the Refuge's three purposes and objectives are stated on Page 5-9, the impact evaluation focuses more on the lost opportunities for public enjoyment. The removal of traffic along existing NC 12 and from the Refuge would appear to fully meet the prime Refuge objectives: provide nesting, resting and wintering habitat for migratory birds and provide habitat and protection for endangered and threatened species. EPA disagrees with the statement of harm on Page 5-41 of the SDEIS concerning the PSBC and PBC alternatives under the Section 4(f) evaluation ("they are equal in degree of harm"). The intensity and degree of harm from the PBC alternatives are direct, permanent and negatively alter the function and management of the Refuge. The lack of paved access to the former Oregon Inlet Coast Guard Station and the potential reduction in visitors to the PINWR from paved NC 12 access can not be measured as equal in degree or intensity.

Community Impacts

The PBC alternatives have less of an impact to businesses and residences than the PSBC

alternatives but the impacts are low for a project of this length. There is an advantage of the PSBC Rodanthe Intersection Terminus alternative particularly by lessening relocation of Rodanthe businesses.

Mitigation

Mitigation for road and bridge operational impacts is addressed throughout the document. Construction impacts are addressed including those of temporary access to construction and demolition areas discussed beginning on page 4-58. It is indicated that a temporary haul road would be necessary over open waters and emergent wetlands. EPA appreciates that impacts from these actions are unavoidable but that they can be minimized by available technique and technology. Temporary haul roads and bridges are differentiated in the document, but we wish to state that not all haul roads need to be on fill material. Temporary board roads could lessen impacts to wetlands. The loss of SAV is problematic because the altered physical conditions may not allow SAV to recover, and the success rate for SAV restoration is very poor. Accordingly, the loss of SAV should carry a higher mitigation ratio than the minimum 1:1 ratio mentioned for other wetlands.

It is noted that the "top down construction technique" to minimize the impact to aquatic and wetland communities was rejected in the 1993 review. While a partial top down technique is mentioned in the SDEIS to be possible for some construction, EPA requests further consideration particularly if a PSBC alternative is selected.

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ATLANTA, GEORGIA 30303-8960

April 20, 2007

Dr. Gregory J. Thorpe, Ph.D., Director Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

SUBJECT: Supplement to the 2005 Supplemental Draft Environmental Impact Statement and Draft Section 4(f) Evaluation for NC 12 Replacement of Herbert C. Bonner Bridge (Bridge No. 11) over Oregon Inlet, Dare County, North Carolina; TIP Project No. B-2500; FHW-E40339-NC; CEQ No.: 20070072

Dear Dr. Thorpe:

The U.S. Environmental Protection Agency Region 4 (EPA) has reviewed the subject document, and is commenting in accordance with Section 309 of the Clean Air Act and Section 102(2)(C) of the National Environmental Policy Act (NEPA). The North Carolina Department of Transportation (NCDOT) and the Federal Highway Administration (FHWA) are proposing to replace the Herbert C. Bonner Bridge across Oregon Inlet in Dare County. Bonner Bridge was built across Oregon Inlet in 1962 and is approaching the end of its reasonable service life. The bridge is part of NC 12 and provides the only highway connection between Hatteras Island and Bodie Island.

A Supplemental Draft Environmental Impact Statement (SDEIS) was issued in September of 2005. The Draft Environmental Impact Statement (DEIS) was issued in November, 1993. A preliminary Final EIS (FEIS) was prepared in 1996 but was not formally released. However, the preliminary FEIS was distributed to numerous Federal and state agencies in May 2001 for informal review and comment.

The proposed project has been in the NEPA/Section 404 Merger Process since July 31, 2002, and EPA has been involved with this project as a participating team member. An Oregon Inlet bridge replacement alternative needs to be decided in concert with NC 12 issues on Hatteras Island and there are two basic corridors under consideration–the Parallel Bridge Corridor (PBC) and Pamlico Sound Bridge Corridor (PSBC). This Supplement to the SDEIS includes a further variation of the Parallel Bridge Corridor alternatives by adding two phased alternatives (PBC-PA) not previously considered in the SDEIS: PBC with Phased Approach /Rodanthe Bridge and PBC with Phased Approach/Rodanthe Nourishment). The proposed PBC alternatives and Pamlico

Sound Bridge Corridor (PSBC) alternatives remain unchanged from the SDEIS. All three of the PBC alternatives and the two Phased Approach alternatives (PBC-PA) would use the existing NC 12 through the Pea Island National Wildlife Refuge (PINWR or Refuge), while the PSBC alternatives would bypass the Refuge entirely.

EPA's environmental review comments and ratings for the SDEIS PBC and PSBC alternatives remain unchanged from the letter dated December 30, 2005. EPA's review of the Supplement to the SDEIS has identified adverse environmental impacts for the PBC-PA alternatives. The long-term projects (i.e., beyond the standard highway planning period) should be fully considered by decision-makers because of the unique setting and ongoing challenges of managing the PINWR and its essential habitat for migratory waterfowl as well as other threatened and endangered species. Maintaining a reliable transportation corridor along an ever-changing coastal barrier island is a concern particularly with the vulnerability of the PBC alternatives, including the PBC-PA alternatives. While the direct permanent impacts to jurisdictional waters are less for PBC-PA alternatives than the PBC alternatives, there are a number of environmental concerns that remain unresolved. These environmental concerns are more specifically addressed in the enclosure to this letter (See enclosure).

EPA has assigned a rating of EC-2"Environmental Concerns; additional information is requested"to both of the PBC-PA alternatives because of the potential impacts to jurisdictional waters of the U.S., the long-term effects to water quality, the long-term impacts to the Refuge including the permanent impact to migratory birds, the severe visual impacts to the Cape Hatteras National Seashore, the prolonged impacts to natural resources from construction and maintenance activities, and the severe risk of constructing additional bridges (between"hotspots") along the NC 12 corridor that will be subject to ocean wave conditions. Maintaining a reliable transportation corridor along an ever-changing coastal barrier island is a concern particularly due to the vulnerability of the PBC and PBC-PA alternatives. In light of the many issues presented in the 1993 DEIS, the 2005 SDEIS and this SSDEIS, EPA recommends a re-consideration of some of the preliminary alternatives that were not studied in detail, including the rehabilitation of the existing Bonner Bridge combined with continued NC 12 maintenance activities and permanent ferry service.

However, with the ongoing vulnerable coastal conditions the most viable, long-term alternative for the NC 12 corridor appears to be the relocation of the roadway off the barrier island system and into the more protected Pamlico Sound. Therefore, based on all the analyses to-date the PSBC alternatives would provide, on balance, the best long-term and reliable solution with the least overall environmental impacts.

EPA will remain an active member of the Merger team for the advancement of this important project and will participate in the NCDOT scheduled Concurrence Point 3 meeting in May of 2007. We also recommend that the transportation agencies continue to explore opportunities to address local concerns for potential socio-economic issues related to reduced paved access to PINWR. Mr. Christopher A. Militscher of my staff, at (919) 856-4206, will be the primary EPA contact for this project.

Sincerely,

Heinz J. Mueller
Chief, NEPA Program Office

Enclosure

cc: J. Sullivan, FHWA-NC
P. Benjamin, USFWS-Raleigh
K. Jolly, USACE-Wilmington District

ENCLOSURE

NC 12 Replacement of Bonner Bridge; Supplement to the 2005 Supplemental DEIS– Detailed EPA Comments

Purpose and Need

EPA does not have additional comments regarding NCDOT's defined purpose and need for the project: (1) to provide a new access to Hatteras Island from the North, (2) provide a viable long term replacement crossing of Oregon Inlet given its extreme natural changes in navigation channel, and (3) provide a facility that will not be endangered by shoreline dynamics long term. These purposes are specific to a project exposed to the storm prone coastline and barrier island dynamics, and should be met to ensure that the 'best' alternative is selected. With regards to the PBC-PA alternatives, EPA is not convinced that these additional alternatives can reasonably meet purpose #3 above. The periodic construction of new bridges along the existing NC 12 corridor at the 'hotspot' locations will most likely be exposed to the full intensity of storms and ocean wave conditions. EPA has attempted to find other bridges in the U.S. (and Worldwide) where permanent bridges are constructed in the 'wave break zone' along barrier island formations. EPA has been unable to find other 'barrier island' bridges that are similarly proposed under the PBC-PA or PBC alternatives.

1991 Feasibility Study Alternatives

EPA is concerned that the transportation agencies may not be giving previously rejected alternatives an equal comparison to the current alternatives under full consideration. As the cost of the bridge replacement options currently under detailed study has increased exponentially within the last few years to more than $1 billion, the rehabilitation of the existing bridge alternative discussed on page ix of the SSDEIS should be reconsidered. EPA recognizes the potential problems with the existing Bonner Bridge including extensive corrosion of reinforcing steel, major spalling of concrete, extensive pile scour, insufficient ship impact strength, and the narrowing of the navigation span zone due to channel migration. Unfortunately, the continued operation and maintenance efforts to keep the existing bridge minimally 'safe' are also costing millions of dollars each year. While the reasons to eliminate this preliminary alternative were valid more than a decade ago, the need for a new structure considering both the significant costs and the potentially severe environmental impacts makes a re-evaluation that more meaningful.

EPA as a member of the Outer Banks Task Force has seen the photographs and other documentation provided by NCDOT on the condition of the existing bridge and the substantial repair measures to keep the bridge minimally safe. EPA is not discounting the challenge of trying to rehabilitate the existing Bonner Bridge and address the issues mentioned above. However, the decision to eliminate this alternative at the feasibility stage was made more than 15 years ago without the full understanding of barrier island dynamics.

When the Bonner Bridge was first constructed across Oregon Inlet in 1962, the science and engineering concerning the dynamics of barrier islands was not fully known to transportation officials. EPA has been unable to find a similar structure located along a barrier island anywhere else in the U.S. or the worldwide. Since the time it was initially constructed, it is has become apparent to a number of highly regarded scientists, engineers and other interested parties contracted by NCDOT and FHWA that the effects of building a bridge along a barrier island represents a substantial risk and a huge public investment. As stated in the SSDEIS, "Beach erosion, however, has increased problems with ocean overwash along NC 12 south of Bonner Bridge. Ocean overwash is expected to continue to be a regular and increasing problem over the life of a replacement bridge". Increasing the length of the existing Bonner Bridge either through the selection of one of the PBC alternatives or PBC-PA alternatives by miles of new bridges will only increase the future risk and public investment to keep NC 12 open by additional bridging. The planning for the replacement of Bonner Bridge began just 30 years after its opening. The concept that the new bridge(s) located in a parallel corridor (regardless of the construction method or timeframe) will 'safely' last 50 or more years into the future is not realistic considering the present condition of Bonner Bridge. Thirty (30) years after the potential replacement of the 2.7 mile new Bonner Bridge, planning for its replacement will need to be made before Phase IV of PBC-PA alternative would even be completed in Post 2030. All of the PBC alternatives will continue to be subject to shoreline erosion, high winds, storm surges, erosive waves, beach overwash, inlet migrations, hurricanes and other extreme conditions.

Similar in some respects to the Rehabilitation alternative, EPA believes that the Ferry alternative should also be reconsidered. Since 2002 when EPA became involved in the Merger process for this project the costs for the replacement bridges alternatives have doubled and in some cases tripled previous cost estimates. Notwithstanding some of the significant potential environmental and socio-economic impacts from providing a reliable ferry service between Bodie Island and Hatteras Island, North Carolina currently has one of the finest ferry services in North America. The Ferry alternative would mostly likely have a significant impact to the bay bottom environment from dredging the required navigational channel as well as some substantial impacts to wetlands. This alternative would also potentially reduce the level of service across Oregon Inlet and increase emergency evacuation time. It would also have a potential economic impact to Dare County. Nonetheless, the potential magnitude in cost increases and significant environmental impacts to PINWR from the bridge replacement alternatives makes its complete elimination from further detailed study possibly premature. NCDOT currently maintains a reliable and much longer ferry service between Swan Quarter and Ocracoke Island and Cedar Island and Ocracoke Island. An expanded, robust and reliable ferry service as well as other economic opportunities could make this alternative more attractive than a 'strict bridge replacement' alternative. Cost estimates for operating a ferry service to the north end of Hatteras Island including regular maintenance dredging are estimated by NCDOT and FHWA at $500,000,000, which is more than $100,000,000 less expense than the PBC Road North/Bridge South alternative (Page 2-24 and Table 2-1). Considering expert opinions from renowned scientists contracted by NCDOT and FHWA, any significant storm event that hits the project study area at the correct angle

with a certain duration and/or intensity could cause major breaches along NC 12 at the hot spots. Not counting damaging 'Northeasters' like the recent one on April 15, there have been 46 hurricanes to hit the N.C. coast in the last 150 years (Riggs, NC Climate Change Commission, 2006). On average, that is almost one hurricane every three years. At a minimum, 'emergency ferry service' should be considered between Bodie Island and Hatteras Island as a contingency for any of the PBC alternatives and realistic costs projected for these contingencies. The extended construction timeframes for new bridges as well as executing emergency roadway repairs for the PBC alternatives should require that very specific contingency plans be made part of this overall EIS analysis.

PBC-PA Alternatives

The PBC-PA Rodanthe Bridge alternative would utilize four phases to construct NC 12 as a bridge for the entire length of the project (i.e, Bodie Island to Rodanthe) except for 2.1 miles in the southern half of PINWR. The PBC-PA Rodanthe Nourishment alternative would be again a phased approach for construction with the exception that beach nourishment would take the place of a bridge option near Rodanthe. From Section 2.2.2.4 of the SSDEIS, it appears that the total construction time frame is estimated to be 12.5 years of active construction over the first 20 years of the phased project. These post-Phase I (Current TIP cycle, 2007-2013) phases, include approach roadways, beach nourishment activities, new access frontage roads near Rodanthe, etc. Considering responses to weather-related overwash conditions at the Rodanthe 'S' Curves Hot Spot, Sandbag Area Hot Spot, Canal Zone Hot Spot during the proposed construction phases, PINWR would be subject to disruptions and intensive human activities for a majority of the time over the next 20 years.

As noted during EPA's review of the 2005 SDEIS, NCDOT and FHWA continue to propose two typical sections for the two basic corridor alternatives. For PSBC, the typical section is two 12-foot travel lanes and two 8-foot shoulders. For the PBC alternatives, including PBC-PA alternatives, the typical roadway section is two 12-foot travel lanes and two 8-foot shoulders. However, the typical section for the Oregon Inlet bridge for the PBC alternatives would provide two 12-foot lanes and two 6-foot shoulders. EPA is uncertain as to why there are two different designs for the replacement bridge structure and the NC 12 bridges, especially considering safety issues for bicycles and pedestrians.

The SSDEIS addresses the potential for a breach to occur at various locations along Hatteras Island (the 'Hot spots'), depending upon the alternative selected. It is very likely that the placement of bridge pilings out in the ocean or in the near shore area may cause significant scouring that could lead to additional breaches or much greater breaches during storm events. The PBC-PA alternatives are designed and planned for addressing the 'historic' hot spots, not their accelerated formation or the increased size of new inlets along Hatteras Island.

On page 5-6 of the SSDEIS, there is a discussion of impacts to PINWR. It is noted that the SSDEIS clearly identifies that the PBC-PA alternatives cause 'substantial visual intrusion' into the landscape of the Refuge, including the portions that contribute to the Refuge's National Register eligibility. This section also describes the temporary and permanent impacts to the Refuge, including construction noise from driving or jetting piles and land disturbance. There are also localized impacts to the Refuge from PBC-PA alternatives to air quality from diesel equipment exhaust, lighting impacts during nighttime construction, the relocation of utilities, etc. The SSDEIS states on page xxiii that telephone and electrical lines along existing NC 12 will likely need to be moved one or more times between now and year 2060. However, it is not clear whether these costs were included in the costs of the PBC and PBC-PA alternatives. It is important to note that it is less likely that utilities will need to be moved for the PSBC alternatives.

On page vii of the SSDEIS, there is a discussion concerning the proposed 25-foot vertical clearance of the bridges associated with PBC-PA alternatives. This discussion needs to be included for all of the PBC alternatives and reflected in the costs for the different alternatives.

Jurisdictional Wetland Impacts

Permanent jurisdictional impacts for the PBC-PA Rodanthe Bridge and PBC-PA Rodanthe Nourishment alternatives are 3.11 acres and 3.08 acres, respectively. Both alternatives include 12.45 acres of temporary impacts to jurisdictional waters of the U.S. While permanent impacts to wetlands have been substantially reduced from the PBC alternatives by proposing the PBC-PA alternatives, the temporary impacts are greater. These 'temporary impacts' to wetlands from the PBC-PA alternatives including temporary traffic maintenance roads which may be quite long-lasting due to repeated compaction and disturbance. While technically these impacts are not permanent fill in wetlands, these temporary impacts will cause the general degradation of these high quality systems. In addition, the duration of construction impacts have also been extended over a much greater time frame, thereby, increasing the risk of other potential impacts.

One significant environmental concern that EPA has with the PBC-PA alternatives is the potential for leakage and spillage of oil and accidental releases to waters of the U.S. The longer construction period for the PBC-PA alternatives increases the probability that a spill or release of hazardous materials will occur into jurisdictional waters from all of the heavy equipment. Considering the sensitive ecosystem of the coastal wetlands in the project study area, even a minor spill could have significant adverse effects to wildlife and recreational activities such as surfing and fishing. As a general rule, it is far less costly and difficult to clean up an oil spill in a more placid bay/sound system, than it is in an ocean or near shore condition. Spilled oil could be spread much farther and faster near the beach and wave areas.

The waters in the project study area are classified as Class A Salt Waters, with a supplemental classification of High Quality Waters (SA-HWQ). The SSDEIS notes that the PSBC alternatives increase the amount of highway storm water runoff. However, the SSDEIS does not describe the appropriate designs and methods that can ameliorate these additional amounts. On page 4-28, the SSDEIS states that the PBC-PA alternatives could

also permanently affect water quality in the near shore area, but diminishes the significance of the storm water inputs by asserting that the flushing and wave action of the ocean will dilute the pollutants. EPA does not prescribe to the use of "dilution as an acceptable solution to water pollution". The transportation agencies should plan to treat polluted runoff from the PBC-PA alternatives in the same environmentally acceptable manner as it would for all of the other alternatives.

The SSDEIS describes wetlands and open water habitat impacts in Section 4.7.4. EPA notes that there is a great deal of emphasis on shading impacts to SAVs (Submerged Aquatic Vegetation) and open water, especially noting that the PSBC alternatives have the greatest impact. While this is an impact, it is not in the same category of complete and total impact caused by permanent fill in coastal wetlands. Because of the north-south orientation of the barrier islands, NC 12 and the different alternatives, shading may have less of an impact to aquatic resources than what is being implied in the SSDEIS. The SSDEIS does not highlight the difference in the type and severity of the impact and consistently confuses impact information by listing all of the biotic community type impacts with jurisdictional impacts. Furthermore, the predicted permanent wetland impacts on page 4-31 are not consistent for the PBC-PA alternatives described on page 4-41. The discrepancy should be corrected or explained.

Tables 4-1 and 4-2 of the SSDEIS are excellent examples of how information is being confused for the reader, including total fill and pile placement impacts. Biotic communities that are "0 acres impact should be de-emphasized or removed from the tables in order to make the actual impacts for the particular alternatives clearer. Impoundments, wetland man-dominated, wetland overwash, wetland reed stand, upland reed stand, salt flat, brackish marsh and upland black needlerush impacts are all "0.00 acres" and could easily be removed from Table 4-1 to make it easier for the reader to discern the actual permanent impacts. The same issue applies to Table 4-2 for temporary impacts: Seven (7) out of 22 biotic community types are "0.00 acre" impacts.

EPA does not understand why the costs presented in Table 2-1 for wetland mitigation (excluding SAVs) for the PBSC Curved Rodanthe Terminus alternative is substantially higher than the PSBC Intersection Rodanthe Terminus or the PBC-PA alternatives. NCDOT and FHWA should explain this difference and the assumptions used in developing these cost estimates. NCDOT and FHWA should begin consulting with the resource agencies concerning compensatory mitigation opportunities.

PINWR or Refuge Impacts

The PBSC will not result in permanent disturbance to Significant Natural Heritage Areas (SHNA) as identified by the North Carolina Natural Heritage Program (NCNHP). All of the PBC and PBC-PA alternatives will result in permanent and temporary impacts to the Refuge that has been identified as a SNHA by NCNHP. The PBC and PBC-PA alternatives potentially impact the Green sea turtle (*Chelonia mydas*)and Piping plover (*Charadrius melodus*), and the SSDEIS states that the Section 7 biological conclusion for these two species is "Unresolved". EPA defers to the U.S. Fish and Wildlife Service (FWS) on formal consultation issues, proposed mitigation and the compatibility permit for the Refuge. The SSDEIS states that the FWS issued the PINWR Comprehensive Conservation Plan in September of 2006.

EPA notes on page 4-37 of the SSDEIS that a potentially unsubstantiated claim is being made regarding PBC-PA alternatives and the Piping plover. The SSDEIS states, "However, shoreline erosion could create Piping plover habitat under the bridges as the shoreline erodes". The Piping plover nests in open beach areas in a sand depression along the high beach close to the dunes. The nests are sometimes lined with small stones or shell fragments. EPA can not find anywhere in the literature where Piping plovers would nest under a highway bridge. This statement should be corrected in the FEIS or provided with a supporting, relevant literature source.

According to FWS website information on the Piping plover, there are several factors contributing to the decline of the threatened species along the Atlantic Coast, including commercial, residential and recreational development, human disturbance (often curtails breeding success), human pets such as dogs, and developments near beaches that provide food and attract predators. The PBC-PA (and PBC) alternatives would include long-term construction activities (12 out of the first 20 years) that will increase noise, air emissions of mobile source air toxics (MSATs) and other pollutants, nighttime lighting, food sources (and potentially litter) from construction crews, and other related impacts in the right of way and near potential beach nesting habitat. On page 4-37 of the SSDEIS it is stated that the only method of ensuring that Piping plover would not be negatively affected by construction of the proposed project is through monitoring efforts to evaluate changes in the distribution of suitable habitat and the responses of breeding plovers to construction and demolition activities. EPA believes that another method would include intensive surveying efforts prior to construction to identify existing and historic breeding sites and providing and strictly enforcing a substantial buffer to these areas. As further stated in the SSDEIS, the dynamic nature of the Oregon Inlet area results in a continually changing distribution of suitable habitat for plovers. Because of this dynamic environmental condition (which the species has become adapted to over time), efforts to avoid suitable habitat areas in the Refuge is actually the best method to ensuring that the species is not negatively affected. Monitoring the species after construction has begun is potentially too late to avoid or minimize potential impacts. Compared to the PSBC alternatives, the PBC-PA (and PBC) alternatives would appear to have the greatest potential impact to this threatened species.

The SSDEIS states that the PBC-PA alternatives could permanently disrupt feeding and migrating birds within the near shore area once the shoreline erosion places the bridges south of Oregon Inlet in the ocean (Page 4-35). This permanent impact to migratory birds would appear to EPA to be inconsistent with PINWR's Comprehensive Conservation Plan and the Refuge's overall mission.

Affect of Bridge Piles on Scour and Longshore Sediment Transport

Section 4.6.3 of the SSDEIS addresses the issues of bridges piles from the PBC-

PA alternatives on scour and longshore sediment transport. There are several critical issues unresolved concerning the placement of bridge piles in the near shore area to the ocean. On page 4-21 of the SSDEIS it is stated that scour would be modeled during the final design of bridges associated with the selected alternative to ensure adequacy of foundations as it relates to scour. As stated in the SSDEIS, "Bridge foundations designs must ensure that, even with scour, piles are buried deep enough to support the bridges". EPA believes that scour modeling for PBC-PA alternatives needs to be conducted prior to the selection of the preferred alternative. This scour modeling is necessary to ensure that the bridges can be safely supported and the depth of the piles is not 'unreasonable' or 'infeasible'. The SSDEIS also states that the presence of piles near the Canal Zone hot spot could accelerate the development of an island breach at this location during storm events. EPA believes that there are technically available laboratory scale models that could confirm this hypothesis. The SSDEIS also acknowledges that scour has been studied extensively in the laboratory but then maintains that field data is lacking (Page 4-23). The SSDEIS then extensively describes the efforts and the excellent source of data from the U.S. Army Corps of Engineers Field Research Facility (FRF) at Duck, N.C.

From this detailed analysis concerning "G/D ratios" (typical distance between piles to pile diameter), there is an acknowledgement that the 'combined impact of multiple groups over the length of the bridge could result in a scouring effect associated with the entire structure' (referring to the PBC-PA Phase II Canal Zone hot spot area). The pier modeling assumptions in this analysis indicate that a similar problem would not occur for the Phase II, III and IV bridge locations and that scouring would be localized around the smaller diameter, individual piles. While these assumptions may be realistic for normal wave conditions, specific storm events could change the localized scour prediction and major breaches could be triggered. Regarding longshore sediment transport, the SSDEIS states that it is not possible to draw a one-to-one correlation with what has happened at the FRF's pier because of the difference in the orientation of the structure with what is being proposed for the PBC and PBC-PA alternatives (perpendicular versus parallel). It is acknowledged that a change in bathymetry could affect cross-shore transport (of sediment) during storm events. There is further recognition in the SSDEIS that the presence of structures (i.e., piles) would accelerate the development of a breach during storm events. The bridge elements in the upland areas are also expected to disrupt normal sand wind-borne transport mechanisms and reduce sediment in the backshore areas of the beach. The questions that concern EPA is not if the normal sand and sediment transport processes will be affected by the PBC and PBC-PA alternatives but to what degree and what are the likely indirect and cumulative impacts associated with these potentially drastic changes to the coastal landscape.

Project Costs and Funding

EPA acknowledges that the transportation agencies have separated the actual bridge replacement and NC 12 costs from the 'other public costs' as was requested by a number of the Merger team agencies after the issuance of the SDEIS. Page 2-21 of the SSDEIS includes a discussion of Refuge access should one of the PBSC alternatives be s selected. If there were a storm-caused breach at the southern end of the Refuge, there appears to be a perception that a ferry service would need to be implemented to get visitors and perhaps their vehicles to and from the Refuge. EPA is uncertain as to under what conditions there would be visitors at the Refuge following a storm event strong enough to cause a breach in the island.

Tables 2-1 and 2-2 of the SSDEIS provide the highway cost to 2060 in 'low' estimates and 'high' estimates for the different alternatives. It is interesting to note that the 'low' estimated costs for the PBC-PA alternatives are relatively in the same range as the PSBC alternatives (i.e., $1.1 to 1.2 billion versus $1.3 billion, respectively). EPA recognizes the 'unknown' or only partially known information and factors relating to project costs on page 2-15 of the SSDEIS. EPA also understands the issues of the higher inflation factor for the PSBC alternatives, the change in contract type to design-build, etc., which has dramatically increased project cost estimates. EPA acknowledges that the PBC alternatives Nourishment and Road North/Bridge South continue to have the lowest total highway cost to 2060. EPA has previously stated its environmental objections to these two alternatives in its 12/30/05 letter on the SDEIS.

The cost estimates for the road and bridge operation and maintenance to the year 2060 are also presented in Tables 2-1 and 2-2. EPA does not comprehend the method by which these projected costs were forecasted. The operation and maintenance costs for the PSBC alternatives are more than all of the other alternatives and greater than the actual bridge replacement costs for all of the PBC and PBC-PA alternatives. NCDOT and FHWA have projected operation and maintenance costs for the new 18-mile PSBC alternative bridges at approximately $356,000,000 to the design year at 2060. The PBC All Bridge alternative operation and maintenance cost is estimated at only $274,000,000 for a 16-mile structure. The total construction cost for all of the PBC and PBC-PA alternative new bridges (16-mile structures) are estimated between $260,000,000 and $290,000,000. EPA requests that the detailed assumptions used in developing the operation and maintenance costs be provided to the Merger team agencies at the upcoming scheduled Concurrence Point 3/Least Environmentally Damaging Practicable Alternative (LEDPA) meeting. NCDOT and FHWA should be able to develop realistic cost estimates from other existing long bridges that are along the Outer Banks. EPA recognizes that operation and maintenance costs for a structure within the sound may be more expensive (referring to the 4th bullet comment in Section 2.3.1.3). However, EPA believes that the weather conditions and other storm events are not as severe in the Pamlico Sound as they are on the near beach alternatives and there should be less drastic repairs required for the PSBC alternatives. Also, the typical section for the PSBC alternatives include two 8-foot shoulders and should make roadway access for routine operation, inspection and maintenance activities less difficult and easier than the existing Bonner Bridge and NC 12.

EPA has reviewed the generalized information contained in Section 2.3.4 of the SSDEIS regarding capital funding. NCDOT and FHWA identify that there may be innovative financing techniques to help fund the proposed project, including the issuance of revenue bonds against one or more long-term sources of revenue. It is cited that many states use innovative techniques to finance large projects or transportation improvement

programs, including future FHWA Federal-Aid funds, State motor fuel taxes and the use of local taxes and fees and tolls. EPA is unsure how these capital funding techniques are truly innovative, as many states, including North Carolina, are already using these additional 'non-traditional' funding mechanisms. From past Merger meetings within the past year, EPA understands that the funds allocated in the NCDOT's Draft 2007-2013 Transportation Improvement Program are insufficient to fund the bridge replacement construction for any of the alternatives currently under consideration (i.e., $207,252,000 TIP FY09 versus $260,000,000 for PBC Nourishment, Road North/Bridge South, All Bridge and $294,000,000 for PBC-PA Rodanthe Bridge and Rodanthe Nourishment). EPA requests that NCDOT and FHWA provide more detailed information on capital funding issues and commitments for the LEDPA meeting.

Sea Level Rise

The SSDEIS does not discuss the potential cumulative and secondary impacts from Sea Level Rise (SLR). This emerging yet documented issue needs to be evaluated fully for the different alternatives in the FEIS. There are now predictions from the N.C. Climate Change Commission concerning SLR and its impacts to the shoreline of North Carolina (A number of papers and presentations can be found through a search at http://www.ncleg.net/gascripts/documentsites/browsedocsites.asp?). On page xii of the SSDEIS, historic beach erosion trends were used for the development of the worst-case 2060 shoreline. However, this analysis does not appear to take into account likely future trends due to SLR. The predicted shoreline may not be at the locations that are presented in the SSDEIS. In fact, the 'worst-case' shoreline along Hatteras Island is projected by NCDOT where there may not be a shoreline present or the shoreline will have significantly shifted to the west (Riggs, NC Climate Change Commission, 2006; Page 19) due to SLR. Shoreline forecasts in the SSDEIS apparently did not consider what many scientific experts are reporting on SLR effects to the N.C. coasts. The effects of SLR may also require much more nourishment and dune construction than is discussed in the SSDEIS. The amount and estimated schedule of beach nourishment should be re-evaluated based upon SLR projections within the project study area. The magnitude, costs and duration of these beach maintenance activities may have been substantially under-estimated in the 2005 SDEIS and SSDEIS.

One of the recommendations to the N.C. Climate Change Commission in a recent report (Radar, Implications of Changing and Rising Seas for Coastal NC, 2006) was the proposal to prohibit new public and publicly licensed or permitted infrastructure in flood-prone and storm-surge-prone areas. The construction of new and extended bridges along the existing NC 12 corridor (PBC Alternatives, including PBC-PA Alternatives) would appear to be inconsistent with this technical recommendation.

Other Impacts from the PBC-PA Alternatives

There are acknowledgements in the SSDEIS that there will be other impacts from the PBC-PA alternatives, including for example the change in surfing, fishing and other beach recreational activities, the change in access to the Refuge, reduced flexibility for the USACE to move the dredged channel at Oregon Inlet as the channel migrates, and the visual impact from a raised bridge for approximately 10 miles or more within PINWR (Page 4-10). EPA was unable to find an analysis or discussion within the SSDEIS that addressed the increased safety concerns for vehicle-avian species collisions. Gulls and other seashore birds often use elevated structures for 'floating' on prevailing air currents. Some of these birds would also be attracted to the elevated roadway from litter and uneaten food. The near shore wind currents can be very strong and highly variable and the potential frequency of collisions is more likely with the PBC-PA alternatives than with the PSBC alternatives.

EPA recognizes that a new section on MSATs has been included in Section 4.9.2 of the SSDEIS. EPA has previously stated its concerns about the use of a qualitative type assessment being offered under FHWA's interim guidance. There is some project specific information contained in the SSDEIS, including the estimate that potential MSAT emissions will be 17 percent higher for the PSBC alternatives because of its longer length. This potential increase, however, would appear to be essentially negligible as it relates to human health impacts as there are no near roadway receptors or sensitive populations located in Pamlico Sound. The analysis does not address the potential near-road exposures of fishermen and other users of the Refuge from existing and future MSAT pollutants for the PBC and PBC-PA alternatives. Also, the context of most MSAT research is intended to examine the potential impacts to the human environment, and not to wildlife. Since the project is almost entirely within the Cape Hatteras National Seashore and PINWR, the transportation agencies should further explore this issue with the FWS, the North Carolina Wildlife Resource Commission and other university experts regarding any impacts of toxic compounds and other air pollutants from the project on native wildlife populations.

North Carolina
Department of Administration

Michael F. Easley, Governor

Gwynn T. Swinson, Secretary

January 30, 2006

Mr. A.L. Avant
N.C. Dept. of Transportation
Program Development
1534 Mail Service Center
Raleigh, NC 27699-1534

Dear Mr. Avant:

Re: SCH File # 06-E-4220-0185; DEIS; Proposal to replace the Herbert C. Bonner Bridge (Bridge No. 11) over Oregon Inlet in Dare County. TIP No. B-2500

The above referenced environmental impact information has been submitted to the State Clearinghouse under the provisions of the National Environmental Policy Act. According to G.S. 113A-10, when a state agency is required to prepare an environmental document under the provisions of federal law, the environmental document meets the provisions of the State Environmental Policy Act. Attached to this letter for your consideration are the comments received from the Department of Environment and Natural Resources (DENR) in the course of this review. You will note that DENR has recommended that the issues raised by the Department be adequately addressed in the final EIS prior to DENR support for any of the specific alternatives.

The final EIS including a response to the DENR concerns should be forwarded to this office for additional review and comment. It is recommended that DENR's response to these concerns be considered prior to the finalization of the Record of Decision.

Should you have any questions, please do not hesitate to call.

Sincerely,

Ms. Chrys Baggett
Environmental Policy Act Coordinator

Attachments

cc: Region R

Mailing Address:
1301 Mail Service Center
Raleigh, NC 27699-1301

Telephone: (919)807-2425
Fax (919)733-9571
State Courier #51-01-00
e-mail Chrys.Baggett@ncmail.net

Location Address:
116 West Jones Street
Raleigh, North Carolina

North Carolina
Department of Administration

Michael F. Easley, Governor

Britt Cobb, Secretary

April 16, 2007

Mr. Gregory Thorpe
N.C. Dept. of Transportation
Program Dev. & Env. Analysis
1548 Mail Service Center
Raleigh, NC 27699-1534

Dear Mr. Thorpe:

Re: SCH File # 07-E-4220-0283; DEIS; ADDITIONAL SUPPLEMENT TO DEIS - Proposal to replace the Herbert C. Bonner Bridge (Bridge No. 11) over Oregon Inlet in Dare County. TIP No. B-2500

The above referenced environmental impact information has been submitted to the State Clearinghouse under the provisions of the National Environmental Policy Act. According to G.S. 113A-10, when a state agency is required to prepare an environmental document under the provisions of federal law, the environmental document meets the provisions of the State Environmental Policy Act. Attached to this letter for your consideration are the comments made by agencies in the course of this review.

If any further environmental review documents are prepared for this project, they should be forwarded to this office for intergovernmental review.

Should you have any questions, please do not hesitate to call.

Sincerely,

Ms. Chrys Baggett
Environmental Policy Act Coordinator

Attachments

cc: Region R

Mailing Address:
1301 Mail Service Center
Raleigh, NC 27699-1301

Telephone: (919)807-2425
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Location Address:
116 West Jones Street
Raleigh, North Carolina

NORTH CAROLINA STATE CLEARINGHOUSE
DEPARTMENT OF ADMINISTRATION
INTERGOVERNMENTAL REVIEW

RECEIVED
FEB 26 2007
HISTORIC PRESERVATION OFFICE

STATE NUMBER: 07-E-4220-0283 F02
DATE RECEIVED: 02/22/2007
AGENCY RESPONSE: 03/19/2007
REVIEW CLOSED: 03/22/2007

MS RENEE GLEDHILL-EARLEY
CLEARINGHOUSE COORD
DEPT OF CUL RESOURCES
ARCHIVES-HISTORY BLDG - MSC 4617
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DEPT OF CUL RESOURCES
DEPT OF TRANSPORTATION

MAR 2007
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Clearinghouse Office
DOA

Ref ER 90-8304
A - (NC) 3/15/07 LETT
S - (NC) SDM 3/19/07
At this time
3/19/07

PROJECT INFORMATION
APPLICANT: N.C. Dept. of Transportation
TYPE: National Environmental Policy Act
ERD: Draft Environmental Impact Statement
DESC: ADDITIONAL SUPPLEMENT TO DEIS - Proposal to replace the Herbert C. Bonner Bridge (Bridge No. 11) over Oregon Inlet in Dare County. TIP No. B-2600
CROSS-REFERENCE NUMBER: 94-E-4220-0426 06-E-4220-0185

The attached project has been submitted to the N. C. State Clearinghouse for intergovernmental review. Please review and submit your response by the above indicated date to 1301 Mail Service Center, Raleigh NC 27699-1301.

If additional review time is needed, please contact this office at (919)807-2425.

AS A RESULT OF THIS REVIEW THE FOLLOWING IS SUBMITTED:

☒ NO COMMENT

☐ COMMENTS ATTACHED

SIGNED BY: Renee Gledhill-Earley by mpm

DATE: 3/20/2007

MAR 05 2007

A-37

NCDENR
North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor William G. Ross Jr., Secretary

MEMORANDUM

TO: Chrys Baggett
State Clearinghouse

FROM: Melba McGee
Environmental Review

RE: 06-0185 Supplemental Draft Environmental Impact Statement (SDEIS) for the Proposed Replacement of Herbert C. Bonner Bridge in Dare County

DATE: January 23, 2006

The Department of Environment and Natural Resources has reviewed the Department of Transportation's SDEIS regarding the replacement of Herbert Bonner Bridge across Oregon Inlet. Two replacement bridge corridors are being considered, the Pamlico Sound Bridge Corridor alternatives and the Parallel Bridge Corridor alternative with NC 12 maintenance. There are options associated with each corridor but the departmental comments are addressing the Pamlico Sound Corridor and the Parallel Bridge Corridor with Beach Nourishment. Generally speaking, the Pamlico Sound alternatives are similar in impacts while the Road North/Bridge South alternative has the greatest amount of fill impacts despite the low cost.

The Pamlico Sound Bridge Corridor would be a new alignment bridge within the Pamlico Sound and is approximately 17. 5 miles. Construction of this bridge would require about 8 miles of dredging. This raises issues with water quality in reference to turbidity associated with construction and possible direct impacts to SAVs. We found the environmental document lacked information on SAV impacts due to incomplete surveys and incomplete details associated with the 8 miles of dredging. In 1994, the department favored using top-down construction in wetland and SAV areas. This type of construction technique provides a means of minimizing environmental impacts especially in relation to the Pamlico Sound Bridge Corridor. While the Pamlico Sound Bridge Corridor has been identified as costing more than the Parallel Bridge, the Pamlico Sound Bridge would bypass the Pea Island National Wildlife Refuge, avoid expensive long term beach nourishment and be a more reliable source of transportation for a longer length of time.

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The Parallel Bridge Corridor alternative with beach nourishment would use the existing NC 12 through the Pea Island National Wildlife Refuge. This alternative is approximately 12.5 miles and would require continued protection of NC 12 between Oregon Inlet and Rodanthe through beach stabilization. The Parallel Bridge Corridor with nourishment has its own unique impacts due to moving barrier islands. As noted in the SDEIS, this proposal would impact wetlands and coastal wetlands. The Parallel Bridge Corridor with nourishment could affect natural ecological conditions within the Refuge and beach organisms in both the short and long term. With this said, the SDEIS notes that this alternative will cause minimal secondary and cumulative impacts due to the fact that the replacement bridge corridor alternatives would not alter area development. Considering the effects of construction on the Refuge, fish and wildlife habitat and long term maintenance and repair of NC 12, the department does not agree that secondary and cumulative impacts will be minimal and finds the SDEIS inadequate in this manner.

We concur that access to the island should be maintained in a safe, efficient manner that will not be subject to shoreline movement. The environmental document should adequately recognize the long-term impacts of replacing the Bonner Bridge and provide appropriate documentation that all environmental impacts have been considered and analyzed. In identifying the inconsistencies, the department feels the SDEIS falls short of being an efficient decision-making document. Examining secondary and cumulative impacts are also essential. The department finds misleading statements throughout the document. For example, the department does not agree that bridge alternatives are equal in the degree of impacts. We do not agree that the Department of Transportation has fully evaluated the long-term environmental impacts of keeping NC 12 intact at its current location due to beach erosion and the uncertainty of coastal storms. Nourishment would occur in four locations and could be repeated at four-year intervals until 2060? Under these circumstances will compatible sand be available to nourish NC 12 until 2060? The SDEIS noted there may be adequate and compatible sources in the area but details were not available. Did the Department of Transportation consider inflation cost for sand replacement?

Based on the attached comments and the desire to move this project forward it is recommended that agency comments be adequately addressed in the FEIS. It is also imperative that the U.S. Department of Transportation determines if they will approve the use of 4(f) lands and the compatibility determination needs to be resolved by the U.S. Fish & Wildlife Service in order to determine the best possible alternative. In bringing these various issues to the surface, the department cannot specifically support any alternative at this time.

Thank you for the opportunity to respond. We will be glad to consider any additional analysis the NCDOT might prepare and would be willing to meet to further discuss our concerns.

Attachments

cc: DENR Review Agencies

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor | William G. Ross Jr., Secretary

MEMORANDUM

TO: Chrys Baggett
State Clearinghouse

FROM: Melba McGee
Environmental Review Coordinator

RE: 07-0283 Supplement to the 2005 Supplemental DEIS for the Proposed Replacement of Herbert C. Bonner Bridge in Dare County

DATE: April 12, 2007

The Department of Environment and Natural Resources has reviewed the Department of Transportation's supplement to the SDEIS regarding the replacement of Herbert Bonner Bridge across Oregon Inlet. The supplement to the SDEIS includes a variation of the Parallel Bridge Corridor alternatives and adds two additional alternatives that were not previously addressed in the SDEIS.

The Phased Approach/Rodanthe Bridge Alternative consist of four phases with a construction timeframe of 12.5 years. The phase approach raises both short and long term environmental concerns. Of particular interest is the potential to cause permanent damage to the natural ecological conditions within the refuge and surrounding areas. The department continues to raise issues about erosion impacts, sediment, impacts to wetlands and coastal wetlands and sand sources for nourishment. In addition, more specific concerns and informational weaknesses are identified in the attached comments from our resource agencies.

Based on the Department of Transportation's desire to move this project forward, the department recommends close coordination with our commenting agencies. Any requested details by our agencies or materials that need to be reviewed by the NEPA/404 Project Team should be provided in advance for review.

Thank you for the opportunity to respond. The department's comment package dated January 23, 2006 is still valid. Agency comments provided on the SDEIS and the supplement to the SDEIS should be fully evaluated in the FEIS.

Attachments

1601 Mail Service Center, Raleigh, North Carolina 27699-1601
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North Carolina Department of Environment and Natural Resources
Division of Coastal Management

Michael F. Easley, Governor | **Charles S. Jones, Director** | William G. Ross Jr., Secretary

January 20, 2006

Ms. Melba McGee, Environmental Coordinator
Office of Legislative & Intergovernmental Affairs
N.C. Department of Environment and Natural Resources
1601 Mail Service Center
Raleigh, NC 27699-1601

RE: SCH NO. 06-0185. Proposed Replacement of the Herbert C. Bonner Bridge (Bridge No. 11) on NC 12 over Oregon Inlet, Dare County, T.I.P. No. B-2500. DCM review of the Supplemental Draft Environmental Impact Statement and Draft Section 4(f) Evaluation dated 9/12/05.

Dear Ms. McGee:

The N.C. Division of Coastal Management (DCM) appreciates the opportunity to comment on the Supplemental Draft Environmental Impact Statement and Draft Section 4(f) Evaluation for the above referenced project. The following are DCM's key issues and recommendations. In addition to these key issues and recommendations, DCM has noted a number of inconsistencies in the data presented within the SDEIS. DCM has also noted several instances where additional information would be useful. DCM will provide more detailed comments summarizing these specific observations under separate cover at a later date.

It appears as though the Parallel Bridge Corridor with Road North/Bridge South alternative and the Parallel Bridge Corridor with All Bridge alternative are the least preferred alternatives due to significant impacts to Coastal Area Management Act (CAMA) Coastal Wetlands. We therefore recommend that these two alternatives be dropped from further consideration.

DCM has focused the following remarks primarily on the two Pamlico Sound Bridge Corridor alternatives and the Parallel Bridge Corridor with Beach Nourishment alternative. Each of these alternatives has benefits and disadvantages. DCM looks forward to continuing to work with the NEPA/404 project team so that a Least Environmentally Damaging Practicable Alternative (LEDPA) can be selected for this critically important transportation project as soon as possible.

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Comments Pertinent to All Alternatives under Consideration

Coastal Area Management Act (CAMA) Authorization

This project will impact the following CAMA Areas of Environmental Concern: Estuarine Waters; Coastal Wetlands; Estuarine Shorelines; Public Trust Areas; Ocean Erodible Area; High Hazard Flood Area; Inlet Hazard Area; and Unvegetated Beach Area. Therefore, this project will require a CAMA major permit. A formal DCM review of the project to determine consistency with the state's Coastal Management Program cannot occur until a CAMA major permit application is received. At that time, the CAMA major permit application will be circulated to the network of state agencies that comprise North Carolina's Coastal Management Program. The statutes, rules and policies of each of these agencies must be considered during the review of the CAMA permit application. The consideration and incorporation by NCDOT of the comments contained within this letter should help to expedite the CAMA major permit application review process. However, due to the complexity of the project and the extent of environmental impacts that are proposed, NCDOT is urged to submit the CAMA major permit application for this project to DCM a minimum of one year prior to the anticipated construction let date.

During the CAMA major permit application review process, DCM may have additional comments after examining the more detailed environmental information that will be provided with the permit application. DCM may also place conditions on any CAMA permit that is issued to minimize environmental impacts. The information provided in this letter shall not preclude DCM from requesting additional information throughout the CAMA major permit application review process, and following normal permitting procedures.

Dare County CAMA Land Use Plan

All of the alternatives appear to be consistent with/not in conflict with the Dare County 1994 Land Use Plan approved by the Office of Coastal Resource Management (OCRM) on 4/30/99 and the Dare County 2003 Land Use Plan certified by the Coastal Resources Commission (CRC) on 7/24/03.

Compensatory Wetland Mitigation

Wetland exchange (converting one wetland type to another wetland type of higher functional value) is mentioned as a potential mitigation option if sufficient onsite mitigation is not available. This is not an acceptable form of wetland mitigation. The type of wetland that exists at a given site is tied to the particular hydrologic properties of the site. Also, while one type of wetland may perform some functions more than another type of wetland, it is not really possible to compare the overall wetland function of different wetland types, as different types of wetlands inherently perform different functions. Wetland enhancement credit should be reserved for instances where degraded wetland functions are restored, not for conversion of wetlands from one type to another. If sufficient onsite mitigation is not available, additional mitigation should be found off-site. Off-site mitigation should consider the Outer Banks area to ensure that the restored wetlands replace the impacted resources. Given the intense development pressure on the Outer Banks, preservation may be a reasonable off-site mitigation option for 404 wetlands. Preservation is not an acceptable form of mitigation for CAMA Coastal Wetlands.

Without a detailed mitigation plan, it is difficult to comment on the adequacy of the proposed mitigation. Based on the descriptions provided in the SDEIS, the existing bridge approach and ferry access road, ditched wetlands on Bodie Island, and removal of Bodie Island dike trail all seem to be reasonable mitigation options. Eradication of the *Phragmites* stands in the Pea Island National Wildlife Refuge for wetland enhancement credit is a promising option, but there remains the issue of who will maintain the site over time to ensure that *Phragmites* does not become re-established. However, NCDOT should be required to establish a long-term maintenance fund to treat the *Phragmites* if it does become re-established.

If NCDOT decides to use the Ecosystem Enhancement Program to satisfy part or all of the mitigation requirements, strong coordination with appropriate resource agencies is strongly encouraged to ensure that the mitigation efforts adequately offset losses.

Comments Pertinent to the Pamlico Sound Bridge Corridor Alternatives

DCM is very concerned about public trust usage of the lands and waters within Pea Island National Wildlife Refuge. If either of the Pamlico Sound Bridge Corridor alternatives are selected as the LEDPA, then NCDOT and the United States Fish and Wildlife Service (USFWS) should develop an acceptable plan for maintaining public access to the lands and waters within Pea Island National Wildlife Refuge.

DCM is also concerned about potential impacts to public trust usage in the Pamlico Sound if either of the Pamlico Sound bridge corridors are selected as the LEDPA. If either of the Pamlico Sound Bridge Corridor alternatives are selected as the LEDPA, then the design of the Pamlico Sound Bridge causeway should be modified to create some sections that are higher than 10 feet above mean high water level. This is necessary to allow for passage of traditional vessels (commercial and recreational) that cannot navigate under the planned 10- foot vertical clearance above mean high water level. The number, frequency and dimensions of these navigational passageways should be decided by the NEPA/404 project team during the avoidance and minimization discussion if either of the Pamlico Sound Bridge Corridor alternatives is selected as the LEDPA.

The two Pamlico Sound Bridge alternatives have a limited amount of direct wetland impacts, with most impacts occurring to wetlands that are already man-dominated. It is not apparent that any indirect impacts to wetlands would occur as a result of construction of the bridge through the Pamlico Sound Bridge Corridor. Of the two alternatives, the Intersection Rodanthe Terminus is preferable because it has fewer overall wetland impacts, but the difference between the two alternatives is relatively small.

DCM is especially concerned about the 8 miles of dredging that is proposed for construction of the Pamlico Sound Bridge Corridor. Detailed information assessing the dredging impacts to shallow water habitats, shellfish beds, sub-aquatic vegetation (SAV) habitat and other estuarine resources was not provided in the document. There was also limited discussion on where the extremely large amount of excavated material would be placed and any potential impacts to estuarine or ocean resources which could occur from its disposal.

Comments Pertinent to the Parallel Bridge Alternative with Beach Nourishment

Beach nourishment may also be a viable alternative. However, the viability of the Parallel Bridge Corridor with Beach Nourishment alternative is limited by available beach compatible sand that is in reasonable proximity to the project study area. The viability of this alternative is also limited by the potential for significant adverse impacts to ocean resources. While the document mentioned that there may be adequate and compatible sand sources close by, there has been no detailed investigation provided. Therefore, DCM must question the practicability of this alternative without the assurance that adequate amounts of beach compatible sand resources will be available to sustain the 50-year life

of this project. Sand availability could be even more limited when considering that many municipalities along the oceanfront sections of Dare County are also actively pursuing beach nourishment projects of their own.

In addition, beach nourishment projects can have significant negative impacts on the flora and fauna of the coastal ecosystem. For example:

(1) If the renourishment cycles are too close together temporally and/or spatially, flora and fauna may not be able to adequately repopulate the nourished areas between nourishment events. This can lead to a "sterile" beach that is impoverished of its typical biodiversity;
(2) If the sand resource is not compatible with the native beach material in grain size and/or color, sea turtles may not have suitable nesting habitat, the proportion of male vs. female sea turtle hatchlings may be altered, and shorebirds may not be able to find adequate amounts of invertebrates for food; and
(3) Although a single beach nourishment project may not have a significant adverse effect on the beach ecosystem, there may be a significant adverse effect when cumulative and secondary impacts of other beach nourishment projects in the vicinity are considered.

The amount of wetlands that would be impacted by the Parallel Bridge Corridor with Beach Nourishment alternative would be similar to the two Pamlico Sound Bridge Corridor alternatives. By maintaining NC Highway 12 at its current location, this alternative would not come into direct conflict with the high quality wetland resources contained within the Pea Island National Wildlife Refuge. If the Parallel Bridge Corridor with Beach Nourishment alternative is selected as the LEDPA, then the NEPA/404 project team will need to find a way to substantially avoid and minimize the impacts of beach nourishment.

The transportation link that the Herbert C. Bonner Bridge provides between Hatteras Island and Bodie Island is a critical component in the safety of the residents and visitors of Hatteras Island and Ocracoke Island, and the economic vitality of the Outer Banks. While we realize that upfront costs are an important consideration, the potential reduction in long-term maintenance costs should be strongly considered in the selection of the LEDPA. Given the importance of this transportation link and the advancing age of the existing Bonner Bridge, DCM continues to urge DOT to move expeditiously towards the development of a final project design that satisfies the transportation needs of the residents and visitors of Bodie, Hatteras and Ocracoke Island, while also ensuring that coastal resources are adequately protected. DCM looks forward to working with the NEPA/404 project team to move this project forward in an expeditious, yet fiscally, socially and environmentally responsible manner.

Please contact me at (252) 808-2808 if you have any questions or concerns, or require additional information.

Sincerely,

Charles S. Jones

CC: Ted Tyndall, DCM
Ted Sampson, DCM

NCDENR

North Carolina Department of Environment and Natural Resources
Division of Coastal Management

Michael F. Easley, Governor | **Charles S. Jones, Director** | William G. Ross Jr., Secretary

April 11, 2007

Melba McGee
Environmental Coordinator
N.C. Department of Environment and Natural Resources
1601 Mail Service Center
Raleigh, NC 27699-1601

RE: SCH NO. 07-0283. Supplement dated 2/14/07 to the 2005 Supplemental Draft Environmental Impact Statement and Draft Section 4(f) Evaluation, NC 12 Replacement of Herbert C. Bonner Bridge (Bridge No. 11) over Oregon Inlet, Dare County, T.I.P. No. B-2500.

Dear Ms. McGee:

The N.C. Division of Coastal Management (DCM) appreciates the opportunity to comment on the 2007 Supplement to the 2005 Supplemental Draft Environmental Impact Statement (SDEIS) and Draft Section 4(f) Evaluation for the above referenced project. The following are DCM's general comments. DCM will provide more detailed comments as needed during our participation on the NEPA/404 Project Team.

DCM submitted comments on the 2005 SDEIS and Draft Section 4(f) Evaluation for the above referenced project in a letter dated 1/20/06. The comments in this letter are meant to add to, not replace, the comments in the 1/20/06 letter. DCM has focused the following remarks primarily on the Parallel Bridge Corridor Phased Approach/Rodanthe Bridge and Parallel Bridge Corridor Phased Approach/Rodanthe Nourishment Alternatives that are discussed in the 2007 Supplement.

Coastal Area Management Act (CAMA) Authorization

A formal DCM review of the project to determine consistency with the state's Coastal Management Program cannot occur until a CAMA major permit application is received. At that time, the CAMA major permit application will be circulated to the network of state agencies that comprise North Carolina's Coastal Management Program. The statutes, rules and policies of each of these agencies must be considered during the review of the CAMA permit application. The consideration and incorporation by the N.C. Department of Transportation (NCDOT) of the comments contained within this letter should help to expedite the CAMA major permit application review process. However, due to the complexity of the project and the extent of environmental impacts that are proposed, NCDOT is urged to submit the CAMA major permit application for this project to DCM a minimum of one year prior to the anticipated construction let date.

400 Commerce Avenue, Morehead City, North Carolina 28557
Phone: 252-808-2808 \ FAX: 252-247-3330 \ Internet: www.nccoastalmanagement.net

During the CAMA major permit application review process, DCM may have additional comments after examining the more detailed environmental information that will be provided with the permit application. DCM may also place conditions on any CAMA permit that is issued to minimize environmental impacts. The comments provided in this letter shall not preclude DCM from requesting additional information throughout the CAMA major permit application review process, and following normal permitting procedures.

Impacts to CAMA Areas of Environmental Concern for all Alternatives under Consideration
All of the alternatives being studied for TIP No. B-2500 will impact CAMA Areas of Environmental Concern (AEC's), including the following: Estuarine Waters; Coastal Wetlands; Estuarine Shorelines; Public Trust Areas; Ocean Erodible Area; High Hazard Flood Area; Inlet Hazard Area; and Unvegetated Beach Area. Therefore, any alternative that is selected as the LEDPA will require a CAMA major permit. It is possible that the location of such a massive, permanent structure like the Bonner Bridge and NC Highway 12 within the Outer Banks coastal ecosystem could prevent any of the alternatives being studied for TIP No. B-2500 from complying completely with the rules of the N.C. Coastal Resources Commission (CRC). Therefore, it is possible that DCM will need to deny a CAMA permit application for any of the alternatives for procedural reasons. DCM will work closely with the NEPA/404 Project Team to ensure that whatever alternative is selected as the Least Environmentally Damaging Practicable Alternative (LEDPA) complies with the rules of the CRC to the maximum extent practicable. DCM's concurrence with the selection of a LEDPA will indicate that DCM will support that alternative if the CAMA permit must be denied, and the permit application needs to go before the CRC for a variance. The following are some of the rules of the CRC that will need to be carefully considered before a LEDPA is selected.

- **Permanent Erosion Control Structures in an Ocean Shoreline.** Although the Statutes of North Carolina (G.S. 113A-115.1) require that "no person shall construct a permanent erosion control structure in an ocean shoreline", they also provide an exception, as set out in the North Carolina Administrative Code [15A NCAC 07H .0308 (a)(1)(H)] Specific Use Standards for Ocean Hazard Areas, Ocean Shoreline Erosion Control Activities. Any alternative that is selected as the LEDPA will need to comply with this rule, which states as follows:

  15A NCAC 07H .0308 (a)(1)(H). Erosion control structures that would otherwise be prohibited by these standards may be permitted on finding that:
  (i) the erosion control structure is necessary to protect a bridge which provides the only existing road access on a barrier island, that is vital to public safety, and is imminently threatened by erosion as defined in provision (a)(2)(B) of this subchapter;
  (ii) the erosion response measures of relocation, beach nourishment or temporary stabilization are not adequate to protect public health and safety; and
  (iii)the proposed erosion control structure will have no adverse impacts on adjacent properties in private ownership or on public use of the beach.

- **Erosion Setbacks for Oceanfront Construction.** The CRC has established rules and development standards to reduce the risk to life and property from structures in the CAMA Ocean Hazard AEC. These rules include erosion setbacks for oceanfront construction [NCAC 15A 07H .0306(a)(4)]. These setbacks are based on average long-term erosion rates that reflect changes in the North Carolina shoreline over nearly half a century.

- **Dune protection.** The rules of the CRC [15A NCAC 07H .0306 (b)] state that: "In order to avoid weakening the protective nature of ocean beaches and primary and frontal dunes, no development shall be permitted that involves the removal or relocation of primary or frontal dune sand or vegetation thereon which would adversely affect the integrity of the dune. Other dunes within the ocean hazard area shall not be disturbed unless the development of the property is otherwise impracticable, and any disturbance of any other dunes shall be allowed only to the extent allowed by Rule .0308(b) of this Section." 15A 07H .0308(b) provides conditions that must be met when activities to establish dunes are allowed.

- **Technical Standards for Beach Fill Projects.** These rules, as set out in 15A NCAC 07H .0312, were developed by the CRC to ensure that the sediment used for beach fill in North Carolina is compatible with the native beach material where it is placed. The rules became effective on 2/1/07.

- **Access channels (for bridge related construction).** The rules of the CRC [15A NCAC 07H .0208(b)(1)] require navigation channels to be aligned or located to avoid primary nursery areas, highly productive shellfish beds, beds of submerged vegetation, or significant areas of regularly or irregularly flooded coastal wetlands.

Dare County CAMA Land Use Plan
Based upon the information provided within the 2007 Supplement, the Parallel Bridge Corridor Phased Approach/Rodanthe Bridge and Parallel Bridge Corridor Phased Approach/Rodanthe Nourishment Alternatives both are consistent with/not in conflict with the Dare County 1994 Land Use Plan approved by the Office of Coastal Resource Management (OCRM) on 4/30/99 and the Dare County 2003 Land Use Plan certified by the CRC on 7/24/03.

Public Trust Usage of Lands and Waters
DCM is very concerned about public trust usage of the lands and waters within the project area. Public trust usage such as navigation and recreation within Pamlico Sound, Oregon Inlet and the Atlantic Ocean, fishing opportunities at Oregon Inlet and access to the lands and waters within Pea Island National Wildlife Refuge will be important considerations when selecting a LEDPA. As much as possible, public trust usage should be accommodated in the alternative designs before a LEDPA is selected.

Impacts to Wetlands and Waters of the State, including Sub-aquatic Vegetation (SAV)
The 2007 Supplement and 2005 SDEIS do not provide a concise summary and comparison of all temporary and permanent impacts to biotic communities between all of the alternatives under consideration in a format that allows the reviewer to readily make comparisons between the alternatives. The package of information that is provided to the NEPA/404 Project Team prior to the LEDPA meeting should include a concise summary and comparison of all temporary and permanent impacts to biotic communities between all of the alternatives under consideration, including but not necessarily limited to fill, pile placement, excavation and shading. This should include construction impacts, including impacts to the beach nourishment borrow site(s) and dredging disposal sites.

Developing suitable compensatory mitigation for the impacts to wetlands and waters of the State, including SAV, will likely be a challenging undertaking for the mitigation provider. Close coordination between the mitigation provider and NCDOT, DCM, the N.C. Division of Water Quality (DWQ), the N.C. Division of Marine Fisheries (DMF), the N.C. Wildlife Resources Commission

(WRC), the U.S. Army Corps of Engineers (USACE), the U.S. Environmental Protection Agency (EPA) and other interested state and federal agencies is strongly encouraged.

Beach Nourishment and Dune Restoration
Like the Parallel Bridge Corridor Nourishment Alternative, the viability of the Parallel Bridge Corridor Phased Approach Rodanthe Nourishment Alternative is limited by available beach compatible sand that is in reasonable proximity to the project study area. The viability of both alternatives is also limited by the potential for significant adverse impacts to ocean resources. The 2007 Supplement does not demonstrate that there are adequate and compatible sand sources close by to accomplish the proposed nourishment for the Parallel Bridge Corridor Phased Approach/Rodanthe Nourishment Alternative every 4 years for the 50-year life of this project.

On Page 2-10, the 2007 Supplement states that: "The estimated amount of sand needed for the Phased Approach/Rodanthe Nourishment Alternative if nourishment begins in 2007 is 2.3 million cubic yards for the first cycle of nourishment, and 1.5 million cubic yards every four years throughout the life of the project (through 2060)." DCM does not understand with the current project timeline how nourishment would begin in 2007. This should be further explained by NCDOT.

Bridge Life Spans and Future Disposition
DCM is concerned that the successful implementation of the Parallel Bridge Corridor Phased Approach/Rodanthe Bridge and Parallel Bridge Corridor Phased Approach/Rodanthe Nourishment Alternatives may be too dependent upon the estimated position of the ocean shoreline through the year 2060. Short-term erosion events should be considered when looking at the worst-case scenario shorelines in addition to long-term erosion rates.

A permanent bridge that is constructed in a location that is projected to be in the ocean during the bridge's lifespan will be exposed to significant wave energy. While this design may be technically feasible, it does not appear to be practicable.

Prior to selecting a LEDPA, DCM would like to know how the bridges for all of the alternatives under consideration will be disposed of when they have reached the end of their service life. Prior to selecting a LEDPA, DCM would also like to know the estimated life spans for the bridges of all of the alternatives under consideration. The bridge life spans, and possibly the future disposition plans, may have a strong impact on the long-term cost effectiveness of the alternatives under consideration.

Least Environmentally Damaging Practicable Alternative (LEDPA)
DCM looks forward to working with the NEPA/404 Project Team to select a LEDPA for this critically important transportation project as soon as possible. NCDOT is strongly encouraged to coordinate closely with all of the NEPA/404 Project Team members in advance of the NEPA/404 Project Team LEDPA meeting to ensure that all of the information that is needed to select a LEDPA is available prior to the meeting.

As stated in the 1/20/06 DCM letter, it appears as though the Parallel Bridge Corridor with Road North/Bridge South Alternative and the Parallel Bridge Corridor with All Bridge Alternative are the least preferred alternatives due to significant impacts to the CAMA Coastal Wetlands AEC. We therefore continue to recommend that these two alternatives be dropped from further consideration so that the additional time and effort needed to prepare for the LEDPA meeting can be focused on the remaining alternatives under consideration.

When the NEPA/404 Project Team selects a LEDPA, the participants should be reasonably sure that the design features necessary to successfully implement all of the alternatives under consideration have been incorporated into each of the alternative designs to the same level of detail. Design features that should be incorporated into the alternative designs prior to selection of a LEDPA, if this can be accomplished in a timely manner, include, but are not necessarily limited to: (1) vertical clearance of bridges; (2) implementation of AASHTO/FHWA Joint Wave Task Force interim guidance for quantifying wave forces on bridges, structural design approaches for wave forces, and deployment of countermeasures for existing bridges; (3) bridge foundation assumptions; (4) implementation of mechanisms identified by the physical modeling of the hydraulics of the Oregon Inlet area for mitigating the risk of erosion and inlet formation; and (5) construction methodologies. If this information is not available prior to the scheduled NEPA/404 Project Team LEDPA meeting, then the NEPA/404 Project Team should make an informed decision whether to wait until more information is available, or whether to proceed with the selection of a LEDPA with the best available information at the time.

As stated in the 1/20/06 DCM letter, the transportation link that the Herbert C. Bonner Bridge provides between Hatteras Island and Bodie Island is a critical component in the safety of the residents and visitors of Hatteras Island and Ocracoke Island, and the economic vitality of the Outer Banks. Given the importance of this transportation link and the advancing age of the existing Bonner Bridge, DCM continues to urge DOT to move expeditiously towards the development of a final project design that satisfies the transportation needs of the residents and visitors of Bodie, Hatteras and Ocracoke Island, while also ensuring that coastal resources are adequately protected. DCM looks forward to working with the NEPA/404 Project Team to move this project forward in an expeditious, yet fiscally, socially and environmentally responsible manner.

Please contact me at (252) 808-2808 if you have any questions or concerns, or require additional information.

Sincerely,

Charles S. Jones

CC: Ted Tyndall, DCM
Frank Jennings, DCM

NCDENR

North Carolina Department of Environment and Natural Resources
Division of Marine Fisheries

Preston P. Pate Jr., Director

Michael F. Easley, Governor
William G. Ross Jr., Secretary

MEMORANDUM:

TO: Melba McGee, Environmental Coordinator
Office of Legislative and Intergovernmental Affairs

THROUGH: Mike Street, Chief Habitat Section

FROM: Sara E. Winslow, Northern District Manager

SUBJECT: SDEIS – NCDOT Project No. 06-185, NC12 – Bonner Bridge Replacement

DATE: January 13, 2006

A-44

The North Carolina Division of Marine Fisheries (DMF) has reviewed the SDEIS and submits the following comments pursuant to General Statute 113-131.

The NCDOT proposes to replace the Herbert C. Bonner Bridge across Oregon Inlet. Bonner Bridge was built across Oregon Inlet in 1962. Two replacement bridge corridors are being considered, the Pamlico Sound Bridge Corridor and the Parallel Bridge Corridor with NC 12 maintenance. There are two alternatives with the sound corridor and three with the parallel corridor. All of the alternatives have environmental issues/consequences.

The major factor in determining the range of bridge alternatives which can be considered for this project are dependent on a Compatibility Determination under the National Wildlife Refuge System Improvement Act of 1997. The SDEIS states, "The USFWS compatibility determination will be presented in the Final EIS." Potential delays in obtaining a decision concerning compatibility may lead to project delays.

The Pamlico Sound Bridge corridor contains a proposed bridge that would be approximately 17.5 miles long, with approaches, a total length of approximately 18 miles. About 8 miles of dredging would be needed for construction of this bridge. Waters with depths less than 6 ft would need to be dredged to 8 ft. The SDEIS

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indicates that dredging would be restricted to shallow portions of alignment near Rodanthe and Bodie Island. Another section indicates that a work bridge on the Bodie Island side would be constructed over marsh and SAV areas. In previous meetings and documents, resource agencies were told that barges could be utilized in waters with a depth of 6 ft or more. Thus, the Pamlico Sound Bridge alignment is proposed outside the SAV areas, which are in depths less than 6 ft. Approximately one mile of the area near Rodanthe contains SAVs and a work bridge is proposed is this area. A current SAV survey map is greatly needed with the proposed alignment overlayed to truly assess impacts. Existing water depths must be supplied along the proposed alignment to determine areas that will require dredging. An important question is that if a 6 ft depth is adequate for the barges, why is there proposed dredging to an 8 ft depth?

The proposed vertical clearance outside the navigation system (75 ft) is only 10 ft. This height would result in a hazard to navigation for boats passing under the bridge. We recommend a greater clearance above the normal water level for the entire bridge outside the main navigation areas near Oregon Inlet, or at least periodically along the bridge length, including near the southern terminus at Rodanthe.

The document indicates that spoil from dredging would be placed in inwater borrow sites. Where exactly are these located? What surveys have been conducted to determine the least damaging locations for these sites?

The Pamlico Sound Bridge Corridor, will be west of Oregon Inlet, resulting in less sand movement. This would probably reduce the amount of dredging required.

This Corridor, depending on the termini would permanently affect 10.8 – 12.8 acres of biotic communities, yet it would result in the loss only 0.01 acres of coastal wetlands. Please explain this great difference between permanent effects and actual loss.

The Parallel Bridge would be located west of the existing bridge and be approximately 2.7 miles in length. A vertical clearance of 75 ft throughout the structure length would exist. In one section of the document a dredged channel is indicated behind Bodie Island that would be 120 ft wide with a depth of 10 ft. The channel would likely require continuous dredging with material placed in an inwater disposal site (Would this be a new long-term site?) or used for beach nourishment, if appropriate. In another area of the document a haul road is indicated. To the north of Hatteras Island an area approximately 2000 ft long is proposed for dredging, including approximately 5.5 acres. Current SAV coverage and water depths should be provided for the area with the alignment overlaid for agencies' review.

The Parallel Bridge, with Road North/Bridge South would result in the loss or impacts to 78.2 acres of wetlands, with 11.8 acres being coastal wetlands. The All Bridge alternative would fill 12.3 acres of wetlands, of which 2.2 acres are coastal

wetlands. These two alternatives would also result in 1.4 acres of SAVs being filled. This agency would not support either of these alternatives due to the loss/impact to wetlands and SAVs.

The Parallel Bridge with the Nourishment would impact a total of 4.3 acres of wetlands and coastal wetlands account for 0.3 acres of the total. Beach nourishment every four years would result in re-occurring impacts to the near shore biotic community, including numerous species of economically important fishes and their prey. Are adequate borrow sites now available for 50 or more years of nourishment? Exactly where are the sites located? Several sites offshore have been identified as borrow sites for other projects. Adequate analysis of sand compatibility must occur, with results presented for agencies' review.

A comprehensive table with the Pamlico Sound and Parallel Bridge alternatives needs to be included in the document to assess impacts and costs.

The Division of Marine Fisheries has indicated in previous comments on this project that some type of fishing access must be maintained at the north end of Hatteras Island to provide anglers with the reasonable opportunities to fish local waters for sport fishing, including parking comparable to that which currently exists. This is an extremely important area utilized by recreational fishermen on a year round basis. The EIS will not be adequate unless this issue is satisfactorily addressed.

The DMF has previously indicated that Bonner Bridge demolition materials could be used for artificial reef material. The Division requests that suitable (uncontaminated) material be made available to the agency for artificial reef material as a condition of the contract for the Bonner Bridge demolition. Costs for loading, transport and offloading on the designated reef site should also be included in the contract.

The SDEIS mentions that a partial top down construction technique is possible for some construction. This agency suggests that serious consideration be given to this technique to minimize the impacts to aquatic and wetland habitats, particularly with the Pamlico Sound Bridge Corridor.

The Division appreciates the opportunity to review and provide comments for this project. Providing the requested information for the Pamlico Sound and Parallel Bridge corridors in future drafts of the SDEIS will enable the Division to satisfactorily complete the project review.

NCDENR

North Carolina Department of Environment and Natural Resources

Division of Marine Fisheries

Michael F. Easley, Governor
William G. Ross Jr., Secretary

Dr. Louis B. Daniel III, Director

MEMORANDUM

TO: Melba McGee
Office of Legislative and Intergovernmental Affairs

FROM: Mike Street

DATE: March 27, 2007

SUBJECT: Project #07-0283 DEIS – Bonner Bridge

Attached is the Divisions' reply for the above referenced project. If you have any questions, please do not hesitate to contact me.

MS/sw

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NCDENR

North Carolina Department of Environment and Natural Resources

Division of Marine Fisheries

Michael F. Easley, Governor
William G. Ross Jr., Secretary

Dr. Louis B. Daniel III, Director

MEMORANDUM:

TO: Melba McGee, Environmental Coordinator
Office of Legislative and Intergovernmental Affairs

THROUGH: Mike Street, Chief Habitat Section

FROM: Sara E. Winslow, Northern District Manager

SUBJECT: Project #07-0283 DEIS – Bonner Bridge

DATE: March 20, 2007

A-46

The North Carolina Division of Marine Fisheries has reviewed the supplement to the 2005 Supplement Draft Environmental Impact Statement (SDEIS) and submits the following comments pursuant to General Statute 113-131.

The SDEIS includes two additional alternatives for the Parallel Bridge Corridor (1) with Phased Approach/Rodanthe Bridge and (2) with Phased Approach/Rodanthe Nourishment. These additional alternatives, result in a total of five options for the Parallel Bridge Corridor.

The Parallel Bridge Corridor with Phased Approach Alternative was developed based on a proposal during the comment period following the release of the SDEIS. It assumes an Oregon Inlet bridge and elevating portions of NC 12 through the Refuge and northern Rodanthe on new bridges within the existing NC 12 easement. This alternative would be built in four phases. The first phase being the bridge across Oregon Inlet. Additional phases would be built as needed, based on shoreline erosion. Two southern termini alternatives are under consideration: (1) Rodanthe Bridge – begin in Rodanthe in existing NC 12 easement, just north of Sudie Payne Road and extend north to Oregon Inlet, except for 2.1 miles in the southern half of the Refuge that would not be threatened by erosion prior to 2060. The Rodanthe Nourishment Alternative would be similar, except the southern end of the NC 12 bridge would begin 0.3 mile south of the Refuge border. Beach nourishment would be used to protect NC 12 in Rodanthe.

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As the Division indicated in previous comments (January 13, 2006), all of the alternatives have environmental issues/consequences. Issues and concerns expressed by the Division in the January 13, 2006 memo would also apply to these alternatives.

This agency appreciates the opportunity to review and provide additional comments. The Division awaits the issues and concerns expressed being addressed in the Final EIS.

Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources
Alan W. Klimek, P.E. Director
Division of Water Quality

January 18, 2006

MEMORANDUM

To: Melba McGee, Environmental Coordinator, Office of Legislative and Intergovernmental Affairs

From: Brian L. Wrenn, Transportation Permitting Unit, NC DWQ

Through: John Hennessy, Supervisor, Transportation Permitting Unit, NC DWQ

Subject: Supplemental Draft Environmental Impact Statement for Replacement of the Bonner Bridge in Dare County, Federal Aid No. BRS-2358(15), State Project No. 8.1051205, TIP Project No. B-2500, State Clearinghouse No. 06-0185.

This office has reviewed the referenced document. The Division of Water Quality (DWQ) is responsible for the issuance of the Section 401 Water Quality Certification for activities that impact Waters of the U.S., including wetlands. The Division of Water Quality offers the following comments:

Document Specific Comments:

1. It is unclear what the source will be for the sand required for beach nourishment under the Parallel Bridge – Nourishment Alternative. Not only is the quantity of sand in question but also the quality of sand. Fine particles from non-suitable sand can change the physical habitat of the beach face and swash zones and choke out the invertebrate population. To some extent, this has already occurred in the Refuge due to beach renourishment using sand dredged from the Oregon Inlet.

   The SDEIS states that sand dredged from the Oregon Inlet could be used to nourish the beaches of the Refuge. Dredging from the Oregon Inlet is not a reliable sand source. The quality of the dredged sand from the inlet may change and may not be suitable for nourishment of the Refuge beaches over the life of the project. Using unsuitable sand would be detrimental to the Refuge due to the negative impacts on the invertebrate population which is the primary food source of the migratory bird population within the Refuge. In addition, US Fish and Wildlife would not allow sand that does not meet the Refuge standards to be deposited on the Refuge beaches. To that end, the uncertainty of the potential water quality impacts associated with dredging operations for additional sand sources should be considered. Please provide additional information that details the locations of sand sources for beach nourishment.

2. Barrier Islands are dynamic ecosystems as clearly shown in the SDEIS in Figures 3-4 and B-1(a-g). Considering this fact, DWQ has some concerns about the potential impacts to water quality with an alternative that will require intensive maintenance either through nourishment or road relocation. Alternatives that include road sections along similar or parallel alignments would continually face the challenges of beach nourishment, protection and stabilization, as well as the added costs of repairs and clearing due to overwash during storm events. Over the last 16 years, DOT has spent approximately $32 million dollars in maintenance to this section of NC 12 due to overwash and erosion from hurricanes and major storms. This does not include maintenance costs for clean up from minor storms.

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3. It is unclear from the Section 4(f) discussion in Section 5.0 how no direct adverse impacts would occur as a result of the Parallel Bridge – Nourishment alternative. It is our understanding, that any fill outside the existing right-of-way could result in an adverse impact, and Section 5.2.2, page 5-23 states that new right-of-way would be required for the Nourishment alternative. Please clarify the section 4(f) discussion to address this apparent inconsistency.

4. US FWS issued a permit to DOT to construct a groin at the north end of Hatteras Island to secure the bridge approach for the Bonner Bridge. This permit was issued strictly for the current bridge alignment. If the bridge approach is moved to a different location, then a new permit would need to be issued for any bridge approach located within the Refuge boundaries. It is unclear whether US FWS would issue a permit for a new alignment within the Refuge boundaries.

6. Tables 4-11 and 4-12 are confusing. Impact comparisons should simply be shown as the "Shading" and "Fill and Pile" impacts for SAVs and wetlands. Although the breakout of the different wetland types is useful information, for the purposes of alternative comparison the impacts should be provided an additional table that displays in a less complex format the impacts to wetlands and SAVs.

6. The SDEIS states that dredging may be required to maintain a work channel of 8 feet in depth for work barges. It is the understanding of DWQ that the typical depth needed for work barge operation is six feet. Why is an additional 2 feet of depth required for this project? Please clarify this issue.

7. As shown in the table below, the Parallel Bridge – All Bridge alternative and the Parallel Bridge - Road North/Bridge South alternative have the most fill and pile impacts of the alternatives. The impacts associated with the All Bridge alternative would be almost three times the amount impacts associated with the two Pamlico Sound alternatives and the Parallel Bridge – Nourishment alternative. The impacts associated with the Road North/Bridge South alternative would be over 17 times the amount of impacts associated with the two Pamlico Sound alternatives and the Parallel Bridge – Nourishment alternative. Based on these impacts, DWQ believes issuance of a 401 Water Quality Certification for the Parallel Bridge – All Bridge and the Parallel Bridge - Road North/Bridge South alternatives would be extremely problematic, at best, and likely unpermittable, at worst.

Alternative	Fill and Pile Impacts
Parallel – All Bridge	12.33 acres
Parallel – Road N/Bridge S	78.15 acres

8. It is not clear how the "shading" impacts of wetlands for the project were calculated. Please provide clarification on how the shading impacts were determined. Specifically, please provide the shading impacts as those associated with direct construction and those associated with the long term effects of the bridge.

9. The discounted cash-flow method used to present future costs in present day values needs to be described in greater detail. It is unclear why this assessment is being presented. DWQ cannot recall ever having seen this assessment presented in any other DOT projects. Moreover, the manner in which the numbers were calculated needs to be described in greater detail.

General Comments:

1. In accordance with the Environmental Management Commission's Rules {15A NCAC 2H.0506(b)(6)}, mitigation will be required for impacts of greater than 150 linear feet to any single perennial stream or greater than one acre of wetlands. In the event that mitigation is required, the mitigation plan should be designed to replace appropriate lost functions and values. In accordance with the Environmental Management Commission's Rules {15A NCAC 2H.0506 (h)(3)}, the NC Ecosystem Enhancement Program may be available for use as stream and wetland mitigation. A discussion of potential mitigations strategies should be included in the SDEIS.

2. The 401 Water Quality Certification application will need to specifically address the proposed methods for storm water management. More specifically, it is suggested that storm water not be permitted to discharge directly into streams or surface waters.

3. For all bridges on the project, bridge deck drains should not discharge directly into the stream. Storm water should be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Please refer to NCDOT Best Management Practices for the Protection of Surface Waters.

4. If foundation test borings are necessary; it should be noted in the document. Geotechnical work is approved under General 401 Certification Number 3027/Nationwide Permit No. 6 for Survey Activities.

5. Sediment and erosion control measures should not be placed in wetlands.

6. Borrow/waste areas should avoid wetlands to the maximum extent practicable. Impacts to wetlands in borrow/waste areas could precipitate compensatory mitigation.

DWQ appreciates the opportunity to provide comments on your project. Should you have any questions or require any additional information, please contact Brian Wrenn at 919-733-5715.

cc: Bill Biddlecome, US Army Corps of Engineers, Washington Field Office
Travis Wilson, NC WRC
Gary Jordan, USFWS
Chris Militscher, USEPA
Garcy Ward, Washington Regional Office, NC DWQ
File Copy

Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources
Alan W. Klimek, P.E. Director
Division of Water Quality

April 11, 2007

MEMORANDUM

To: Melba McGee, Environmental Coordinator, Office of Legislative and Intergovernmental Affairs

From: Brian L. Wrenn, Transportation Permitting Unit, NC DWQ

Through: John Hennessy, Supervisor, Transportation Permitting Unit, NC DWQ

Subject: Supplemental Draft Environmental Impact Statement and Draft Section 4(f) Evaluation for Replacement of the Bonner Bridge in Dare County, Federal Aid No. BRS-2358(15), State Project No. 8.1051205, TIP Project No. B-2500, State Clearinghouse No. 07-0283.

This office has reviewed the referenced document. The Division of Water Quality (DWQ) is responsible for the issuance of the Section 401 Water Quality Certification for activities that impact Waters of the U.S., including wetlands. The Division of Water Quality offers the following comments:

Document Specific Comments:

1. Section 2.2.2.2 of the referenced document discusses refuge access by one-lane ramps. It is unclear from the discussion whether the ramps would be constructed within the existing right-of-way or if additional right-of-way would be required. Please indicate if the proposed ramps would fit within the existing right-of-way and if not, whether the US Fish and Wildlife Service has approved additional right-of-way.

2. It is unclear from the discussions in the SDEIS if a bridge in the surf zone has long-term feasibility. Please provide additional information regarding examples of bridges constructed in the surf zone and the long-term effects of the wave action on the bridge as well as any effects of the bridge on the natural resources in the surf zone.

3. On page 2-18, the document indicates a 14.9 percent increase in costs identified in the original DEIS. In addition, it identified a 15 percent increase in anticipated costs due to design-build construction being used for the project. Later on the same page, the document indicates that there was an additional 18.7 percent increase (in addition to the extra anticipated costs for design-build). Please clarify the discrepancy.

4. As previously discussed, the document identifies an extra 15 percent increase in costs to all the bridge alternatives due to using the design-build construction practices. While the arguments that design-build will cost more due to the fact that DOT will be paying consultants to design the road and that contractors will build in a 10 percent increase in the profit margins to offset risk associated with the project seems reasonable, it is diametrically opposed to every other DOT (and NC Turnpike) project where we have been told that design-build will save both time and money. Please explain this apparent discrepancy.

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5. As previously discussed on page 2-18, the document assumes a 5 percent annual increase in costs for the project. While DWQ agrees that a recent worldwide cyclical boom in commodities has resulted in a significant increase in construction costs recently, it seems unreasonable to assume that trend will continue indefinitely. Review of information provided at the US Federal Reserve Bank's website indicates that average overall inflation for the entire economy has averaged 2.6 percent over the past 5 years. In addition, the data indicates that inflation has averaged less than 5 percent every year since 1991. The existing long range projections for inflation that the US Federal Reserve Bank projects for the next 3 years averages between 2-3 percent. Based on this information, it seems reasonable an annual inflation factor of 2-3 percent is more appropriate.

6. On page 2-19, the document indicates that previous costs estimates had used an estimated bridge construction cost of $55 per square foot in the DEIS in 2005. The document then indicates that present estimates use a construction cost of $130-$140 for conventional construction costs, and $210-220 per square foot for segmented construction costs. The document indicates that the previous estimates using $55 per square foot would be possible because of economies of scale that could be captured. However, the document fails to discuss what economies specifically were anticipated and why they were no longer valid. Please provide this additional information. It is our understanding that present DOT cost estimates use an amount ranging from $100-115 per square foot. That would seem to be approximately consistent with the lowest cost estimates used in the document, but not as much with the higher estimates. We recognize that the $100-$115 estimate is a simple rule of thumb that is not applicable for all projects. However, a discussion on the site-specific issues that are causing the estimates for this project to be higher than for other projects throughout the state would be beneficial.

7. The document presents a range of cost estimates for this project. However, we are not aware of any other DOT project that used a range of potential costs for analysis in an EIS. Moreover, the reasons given for presenting a range of costs (rather than a single estimate) were very broad and vague in their presentation, and are common uncertainties present in many, if not all, other DOT projects. Project cost is a very important factor that we examine while performing our assessment of impact avoidance and minimization. By presenting a set of alternatives with a very wide range of potential costs, the document creates unnecessary ambiguity when comparisons among alternatives are performed. Please describe in greater detail the site-specific issues that are creating the apparent ambiguity in developing more specific costs for this project, present a single cost estimate for each alternative as has been done in other projects.

8. On page 2-19, the document indicates that alternatives that require an expenditure of money over time (i.e. phased alternatives and nourishment alternatives) more closely align benefits derived by the public and the expenditure of the costs for infrastructure. It continues to conclude that alternatives with lower discounted costs can be viewed as providing a better return on investment than those with higher discounted costs. This conclusion is not accurate. While alternatives with lower discounted costs my represent a lower cost as measured in present day dollars, it does not necessarily represent increase value or return on investment. While DWQ understands that discounting costs to present day values is necessary to provide a fair comparison among alternatives that have expenditures occurring over different time frames, the conclusion that lower discounted costs represents a better return on investment may be inaccurate. If it is assumed that benefits derived per dollar are less in the future than they are today (due to inflation), then the best rate of return on investment might be projects with higher discounted costs. DWQ recommends that the statement be removed and allow the costs as presented to stand on their own merit.

General Comments

9. The environmental document should provide a detailed and itemized presentation of the proposed impacts to wetlands and streams with corresponding mapping. If mitigation is necessary as required by 15A NCAC 2H.0506(h), it is preferable to present a conceptual (if not finalized) mitigation plan with the environmental documentation. Appropriate mitigation plans will be required prior to issuance of a 401 Water Quality Certification.

10. Environmental assessment alternatives should consider design criteria that reduce the impacts to streams and wetlands from storm water runoff. These alternatives should include road designs that allow for treatment of the storm water runoff through best management practices as detailed in the most recent version of NC DWQ *Stormwater Best Management Practices*, such as grassed swales, buffer areas, preformed scour holes, retention basins, etc.

11. After the selection of the preferred alternative and prior to an issuance of the 401 Water Quality Certification, the NCDOT is respectfully reminded that they will need to demonstrate the avoidance and minimization of impacts to wetlands (and streams) to the maximum extent practical. In accordance with the Environmental Management Commission's Rules {15A NCAC 2H.0506(h)}, mitigation will be required for impacts of greater than 1 acre to wetlands. In the event that mitigation is required, the mitigation plan should be designed to replace appropriate lost functions and values. The NC Ecosystem Enhancement Program may be available for use as wetland mitigation.

12. In accordance with the Environmental Management Commission's Rules {15A NCAC 2H.0506(h)}, mitigation will be required for impacts of greater than 150 linear feet to any single perennial stream. In the event that mitigation is required, the mitigation plan should be designed to replace appropriate lost functions and values. The NC Ecosystem Enhancement Program may be available for use as stream mitigation.

13. Future documentation, including the 401 Water Quality Certification Application, should continue to include an itemized listing of the proposed wetland and stream impacts with corresponding mapping.

14. DWQ is very concerned with sediment and erosion impacts that could result from this project. NC DOT should address these concerns by describing the potential impacts that may occur to the aquatic environments and any mitigating factors that would reduce the impacts.

15. An analysis of cumulative and secondary impacts anticipated as a result of this project is required. The type and detail of analysis should conform to the NC Division of Water Quality Policy on the assessment of secondary and cumulative impacts dated April 10, 2004.

16. NC DOT is respectfully reminded that all impacts, including but not limited to, bridging, fill, excavation and clearing, to jurisdictional wetlands, streams, and riparian buffers need to be included in the final impact calculations. These impacts, in addition to any construction impacts, temporary or otherwise, also need to be included as part of the 401 Water Quality Certification Application.

17. Sediment and erosion control measures should not be placed in wetlands or streams.

18. Borrow/waste areas should avoid wetlands to the maximum extent practical. Impacts to wetlands in borrow/waste areas will need to be presented in the 401 Water Quality Certification and could precipitate compensatory mitigation.

19. The 401 Water Quality Certification application will need to specifically address the proposed methods for stormwater management. More specifically, stormwater should not be permitted to discharge directly into streams or surface waters.

20. Based on the information presented in the document, the magnitude of impacts to wetlands and streams may require an Individual Permit application to the Corps of Engineers and corresponding 401 Water Quality Certification. Please be advised that a 401 Water Quality Certification requires satisfactory protection of water quality to ensure that water quality standards are met and no wetland or stream uses are lost. Final permit authorization will require the submittal of a formal application by the NCDOT and written concurrence from the NCDWQ. Please be aware that any approval will be contingent on appropriate avoidance and minimization of wetland and stream impacts to the maximum extent practical, the development of an acceptable stormwater management plan, and the inclusion of appropriate mitigation plans where appropriate.

21. If concrete is used during construction, a dry work area should be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete should not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.

22. If temporary access roads or detours are constructed, the site shall be graded to its preconstruction contours and elevations. Disturbed areas should be seeded or mulched to stabilize the soil and appropriate native woody species should be planted. When using temporary structures the area should be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact allows the area to re-vegetate naturally and minimizes soil disturbance.

23. If foundation test borings are necessary; it should be noted in the document. Geotechnical work is approved under General 401 Certification Number 3494/Nationwide Permit No. 6 for Survey Activities.

24. Sediment and erosion control measures sufficient to protect water resources must be implemented and maintained in accordance with the most recent version of North Carolina Sediment and Erosion Control Planning and Design Manual and the most recent version of NCS000250.

25. All work in or adjacent to stream waters should be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures should be used to prevent excavation in flowing water.

26. While the use of National Wetland Inventory (NWI) maps, NC Coastal Region Evaluation of Wetland Significance (NC-CREWS) maps and soil survey maps are useful tools, their inherent inaccuracies require that qualified personnel perform onsite wetland delineations prior to permit approval.

27. Heavy equipment should be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams. This equipment should be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.

28. Riprap should not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed.

29. Riparian vegetation (native trees and shrubs) should be preserved to the maximum extent possible. Riparian vegetation must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.

The NCDWQ appreciates the opportunity to provide comments on your project. Should you have any questions or require any additional information, please contact Brian Wrenn at 919-733-5715.

cc: Bill Biddlecome, US Army Corps of Engineers, Washington Field Office
Travis Wilson, NC WRC
Gary Jordan, USFWS
Chris Militscher, USEPA
Garcy Ward, Washington Regional Office, NC DWQ
File Copy

NCDENR

North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

January 12, 2006

MEMORANDUM

TO: Melba McGee

FROM: Harry LeGrand, Natural Heritage Program

SUBJECT: Supplemental DEIS – NC 12 Replacement of Herbert C. Bonner Bridge; Oregon Inlet, Dare County; TIP Project No. B-2500

REFERENCE: 06-0185

The Natural Heritage Program has numerous locations of rare species and significant natural areas in the vicinity of the project. Most of Pea Island National Wildlife Refuge, with the exception of the three man-made impoundments, is a Registered Natural Heritage Area. The refuge is Nationally significant because of its great importance to wintering and migrating waterbirds. In addition, the beaches are used by nesting loggerhead sea turtles (*Caretta caretta*), a Federally Threatened species. The Federally Threatened piping plover (*Charadrius melodus*) breeds sporadically at both the southern tip of Bodie Island (National Park Service) and the northern tip of Pea Island; it also occurs in migration and occasionally in winter at these sand flats. At least 15 other rare animals, two rare plants, and several colonial waterbird nesting sites have been recorded on the refuge (see enclosed material).

Several islands inside Oregon Inlet are used for nesting by various colonial waterbirds. Because these islands are constantly shifting and being eroded, the birds also constantly move from year to year. NC DOT should coordinate with the NC Wildlife Resources Commission about the most recent locations and population sizes of the nesting waterbirds inside the inlet. It appears unlikely that these islands and waterbird colonies would be impacted by the Pamlico Sound Bridge Corridor, though NC DOT should make certain that the alignment does not pass over islands where birds have recently nested.

Impacts to natural heritage resources, unless to colonial waterbird nesting islands, appear to be minimal with the Pamlico Sound Bridge Corridor alternative. According to Figure 3-6, the proposed alignment of the route appears to almost completely "by-pass" Submerged Aquatic Vegetation. The southern terminus of the Bridge would be in the town of Rodanthe. The

1601 Mail Service Center, Raleigh, North Carolina 27699-1601

northern terminus would be on Bodie Island close to the current northern terminus of the Bonner Bridge and is not likely to impact significant natural resources. In addition, the terminal groin at the tip of Pea Island would no longer serve a need to stabilize the inlet, and might well be removed. This would allow for more natural sand movement and natural inlet movement, thus providing better habitat at the tip of the refuge for nesting turtles and plovers.

On the other hand, the Parallel Bridge Corridor poses a number of Natural Heritage concerns. The new bridge location by itself is not a concern, as it would parallel the existing bridge, which is to be removed with either alternative. However, wetland impacts will be much greater with the majority of the Parallel Bridge Corridor alternatives. The All Bridge Alternative would cross over at least two of the impoundments, which are used by thousands of birds for foraging. All of the Parallel Bridge Corridor alternatives would require some impacts to the dune system, and one or two would require massive amounts of dune creation and dredge material deposition onto the beaches, all of which negatively impact invertebrate usage of the beaches and might negatively impact nesting by sea turtles. Thus, these Parallel Bridge Corridor alternatives will impact the Registered Natural Heritage Area to some degree.

If the Pamlico Sound Beach Corridor is selected as the preferred alternative, the U.S. Fish and Wildlife Service would be responsible for maintenance of the "old NC 12" through the refuge. The DEIS states on Page 4-39 that "some type of access to the Refuge would be maintained by the USFWS and NPS for recreational users". At this time it is not possible, nor is it feasible, to predict potential negative impacts to the impoundments and to the natural communities such as the salt flats, marshes, and grasslands if the maintenance of "old NC 12" is shifted from NC DOT to USFWS and NPS. However, because of the constantly shifting nature of the barrier islands to the west, sand and salt water have frequently been carried into the freshwater impoundments, and the "buffer" to the east between the Atlantic Ocean and the impoundments becomes narrower each year. Negative impacts to these important sites, though man-made, will be inevitable under either the Pamlico Sound Bridge Corridor or the Parallel Bridge Corridor.

In summary, the Natural Heritage Program believes that the Pamlico Sound Bridge Corridor will cause less impact to significant natural resources and to the Pea Island NWR Registered Natural Heritage Area than will the various Parallel Bridge Corridor alternatives.

You may wish to check the Natural Heritage Program database website at <www.ncsparks.net/nhp/search.html> for a listing of rare plants and animals and significant natural communities in the county and on the topographic quad map. Please do not hesitate to contact me at 919-715-8697 if you have questions or need further information.

Enclosure

cc: Sue Cameron, N.C. Wildlife Resources Commission

Significant Natural Heritage Area Report

11 January 2006

Name Pea Island National Wildlife Refuge

IDENTIFIERS

Site ID 577

Site Alias

Macro Site Name Outer Banks Macrosite

Mega Site Name

Site Relations

Owner Abbr.	Owner	Owner Comments
USFWS	USFWS-PEA ISLAND NWR	PART RHA

LOCATORS

County Dare (NC)

Latitude 354125N **Longitude** 0752947W

Quad Pea Island
Oregon Inlet
Rodanthe

Watershed Pamlico Sound

Directions Northern end of Hatteras Island.

SITE DESCRIPTION

Minimum Elevation: Feet Meters **Survey** R

Maximum Elevation: Feet Meters

Site Description Representative cross-section of Hatteras barrier island and estuarine ecosystem. Large wintering waterfowl concentration and 265 species of birds. Noted for migrating raptors including peregrine falcon. Nesting loggerhead sea turtles. 25 species of wintering ducks. Beach, dunes, tidal marsh, thickets, flats.

Key Enviro Factors

Climate Description

Land Use History

Cultural Features

Additional Topics W1

SITE DESIGN

Site Mapped Y - Yes **Mapped Date**

Designer

Boundary Justification

Primary and Secondary Area 5,898.56 Acres **Primary Area** 5,898.56 Acres

Site Comments

Last Visit 2000

SITE SIGNIFICANCE

Site Significance A

Site Significance Comments This site is one of the premier migratory bird concentration areas in the eastern US.

Biodivsig rating B3 - High

Biodivsig Comments Cluster of animal elements, including Charadrius melodus (G2 S2B,S2)

Other Values V1 - Outstanding values

Significant Natural Heritage Area Report

11 January 2006

Name Pea Island National Wildlife Refuge

Protection Urgency P4 - No threat or special opportunity

Protection Urgency Comments Registered

Management Urgency

Management Urgency Comments

REAL ESTATE/PROTECTION

Conservation Intentions Registry

Number of Tracts 1.00

Designation RHA - Registered Natural Heritage Area

Protection Comments Parts are Registered Natural Heritage Areas

MANAGEMENT

Land Use Comments

Natural Hazard Comments

Exotics Comments

Offsite

Information Needs

Management Needs

Managed Area Relations

ELEMENT OCCURRENCES

Scientific Name	Common Name	G Rank	S Rank	EO Rank	EO ID
Caretta caretta	Loggerhead	G3	S3B,S3N	D	9561
Charadrius melodus	Piping Plover	G3	S2B,S2N	D	13603
Chelonia mydas	Green Turtle	G3	S1B	E	668
Circus cyaneus	Northern Harrier	G5	S1B,S4N	C	11985
Egretta caerulea	Little Blue Heron	G5	S3B,S3N	D	19077
Egretta thula	Snowy Egret	G5	S3B,S3N	D	5589
Egretta tricolor	Tricolored Heron	G5	S3B,S3N	D	359
Falco peregrinus	Peregrine Falcon	G4	S1B,S2N	B	8088
Himantopus mexicanus	Black-necked Stilt	G5	S2B	E	6298
Laterallus jamaicensis	Black Rail	G4	S3B,S2N	BC	11294
Malaclemys terrapin terrapin	Northern Diamondback Terrapin	G4T4	S3		11770
Malaclemys terrapin terrapin	Northern Diamondback Terrapin	G4T4	S3		3709
Nerodia sipedon williamengelsi	Carolina Water Snake	G5T3	S3	A	6729
Plegadis falcinellus	Glossy Ibis	G5	S2B	D?	13267
Rynchops niger	Black Skimmer	G5	S3B,S3N	B	13179
Rynchops niger	Black Skimmer	G5	S3B,S3N		14587
Sterna antillarum	Least Tern	G4	S3B	B	19273
Sterna hirundo	Common Tern	G5	S3B	B	16164
Sterna nilotica	Gull-billed Tern	G5	S3B	BC	12865
Sterna nilotica	Gull-billed Tern	G5	S3B	D	9325
Colonial Wading Bird Colony		GNR	S3	H	12776
Gull-Tern-Skimmer Colony	Colonial Waterbirds Nesting Site	GNR	S3	B	12044
Gull-Tern-Skimmer Colony	Colonial Waterbirds Nesting Site	GNR	S3	H	1167
Gull-Tern-Skimmer Colony	Colonial Waterbirds Nesting Site	GNR	S3	D	8583
	Colonial Waterbirds Nesting Site	GNR	S3	B	4932

Significant Natural Heritage Area Report

11 January 2006

Name Pea Island National Wildlife Refuge

Leptochloa fascicularis var. maritima	Long-awned Spangletop	G5T3T4Q	S1	H	4965
Yucca gloriosa	Moundlily Yucca	G4?	S2?	A	12028
Salt flat		G5	S4	A?	9218

REFERENCES

Reference Code	Full Citation

VERSION

Version Date

Version Author

Significant Natural Heritage Area Report

11 January 2006

Name Pea Island National Wildlife Refuge

OFFICE OF CONSERVATION AND COMMUNITY AFFAIRS

March 26, 2007

MEMORANDUM

TO: Melba McGee
Department of Environment and Natural Resources

FROM: Scott Pohlman SP
Natural Heritage Program

SUBJECT: Bonner Bridge (07-0283)
Supplement to the 2005 Supplemental Environmental Impact Statement (SSEIS)

The Supplement to the 2005 Supplement notes that the Pamlico Sound Bridge Corridor "would not result in permanent disturbance to Significant Natural Heritage Areas (SNHA) identified by the North Carolina Natural Heritage Program (NCNHP)" (page xx). We would also note that this natural area is also included on the Registry of Natural Heritage Areas under the Nature Preserves Act.

Page xx states that "The construction of the Parallel Bridge Corridor would result in permanent and temporary disturbance to the Refuge, identified as a SNHA by the NCNHP, with all of the Parallel Bridge Corridor alternatives." Note again that the natural habitats at Pea Island National Wildlife Refuge are Registered Heritage Areas. The SSEIS says that there will be a 10-mile long bridge thru the refuge, at 30 feet above ground. It would be a visual blight (Section 4.3.2). The SSEIS does not make it clear if NC 12 would pass over the impoundments or run along the eastern edges.

Page xxii, it states "The Pamlico Sound Bridge Corridor would support the desire of officials responsible for the Refuge and the Seashore to not stabilize the Outer Banks artificially, but rather to let natural processes take their course." Similarly, from a purely ecological/habitat perspective, the Natural Heritage Program favors the Pamlico Sound Bridge Corridor.

C:\Scott\Comments\bonner_Bridge.wpd

A-54

North Carolina Wildlife Resources Commission

Richard B. Hamilton, Executive Director

MEMORANDUM

TO: Melba McGee
Office of Legislative and Intergovernmental Affairs, DENR

FROM: Travis Wilson, Highway Project Coordinator
Habitat Conservation Program

DATE: January 17, 2006

SUBJECT: North Carolina Department of Transportation (NCDOT) Supplemental Draft Environmental Impact Statement (SDEIS) for the proposed Replacement of Herbert C. Bonner Bridge over Oregon Inlet in Dare County, North Carolina. TIP No. B-2500, SCH Project No. 06-0185.

Staff biologists with the N. C. Wildlife Resources Commission have reviewed the subject SDEIS and are familiar with habitat values in the project area. The purpose of this review was to assess project impacts to fish and wildlife resources. Our comments are provided in accordance with certain provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

NCDOT proposes to replace the Herbert C. Bonner Bridge across Oregon Inlet in conjunction with addressing problematic or "hot spot" areas located on NC 12 from the southern terminus of the existing bridge to the community of Rodanthe. The SDIES addresses five alternatives located within the study corridor, two utilizing a new Pamlico Sound bridge and three utilizing a shorter parallel bridge corridor adjacent to the existing bridge with improvements to NC 12.

Pamlico Sound bridge alternatives involve an approximate 17.5 mile bridge located from Rodanthe and extending north in Pamlico Sound approximately 5 miles west of Hatteras Island bypassing Pea Island National Wildlife Refuge and terminating near the current northern terminus of the existing Bonner Bridge. Alternatives developed within the Pamlico Sound bridge corridor involve two design options at the southern terminus in Rodanthe, a curved terminus option directly tying the bridge to NC 12 and an intersection option.

The Parallel Bridge Corridor proposes a shorter, approximate 2.7 mile, bridge to be constructed parallel to the existing Bonner Bridge. The alternatives within this corridor also include improvements to NC 12 from Rodanthe to the southern terminus of the bridge, approximately 12.5 miles. This section of NC 12 is located through the Pea Island National Wildlife Refuge with shared jurisdiction with the Cape Hatteras National Seashore. The Nourishment Alternative would retain NC 12 on existing location and incorporate approximately 6.3 miles of beach and dune nourishment in 4 locations at an expected return interval of 4 years. The Road North/Bridge South Alternative would utilize an approximate 2 mile bridge at the southern terminus transitioning through the Refuge tying into existing NC 12 and continue on existing location for 2.6 miles. From that point NC 12 would be relocated through the Refuge west of the existing roadway for 7.1 miles with 2,100 linear feet of dune construction, to the southern terminus of the Oregon Inlet Bridge. The All Bridge Alternative is similar to the Road North/Bridge South Alternative with the exception of the relocated sections of NC 12 being constructed on a bridge. Two road segments will be utilized with this alternative, one near Oregon Inlet and one north of the Refuge ponds.

We have the following comments related to the parallel corridors and the Pamlico Sound Bridge alternatives:

For the purpose of this evaluation both the Road North/Bridge South and the All Bridge alternatives will be incorporated into the same analysis due to similarities in impacts. Direct impacts associated with these alternatives consist of 90.3 acres of impact to the refuge with 78.2 acres of wetland impact for the Road North/Bridge South alternative and 89.6 acres of refuge impacts with 12.3 acres of wetland impacts for the All Bridge alternative. These are substantial permanent impacts to a federally owned natural area. Pea Island National Wildlife Refuge is utilized by waterfowl, wading birds and shore birds such as terns, black skimmers, Wilson's plover, American oystercatcher and the federally listed Piping plover. Although the All Bridge alternative does reduce the wetland impacts associated with relocating the road west of the existing location, disturbance from construction activities coupled with shading impacts over wetlands will change current vegetation characteristics and habitat suitability. Furthermore these are direct impacts to a 4(f) resource; further consideration of this alternative would be inconsistent with past NCDOT projects.

The third parallel bridge corridor alternative involves retaining NC 12 on its current alignment while utilizing approximately 6.3 miles of beach and dune nourishment. The estimated amount of sand needed to nourish the four areas identified approximately every four years is in excess of 46.6 million cubic yards of compatible sand. The document revealed that retention of NC 12 in its current location even with the extensive beach nourishment would continue to leave the roadway susceptible to overwash and potential breach depending on storm intensity and frequency. As stated in section 1.2 of the SDEIS, one purpose of this project is to, "Provide a replacement crossing that will not be endangered by shoreline movement through year 2050." Therefore, this alternative does not appear to meet the purpose and need. Additionally, Barrier island overwash provides important nesting and foraging habitat for shorebirds including the federally threatened Piping plover. The current requirement to maintain NC 12 eliminates this essential habitat. When the roadway is breached or over washed, sand is scraped off the roadway and incorporated into a berm to protect the road; the important overwash/sand flat habitat is perpetually lost impacting waterbirds that depend upon it for foraging and nesting.

Beach and dune nourishment has frequently been utilized by NCDOT as a means to protect NC 12. Nourishment does not allow for the natural migration of sand on the Barrier Islands. As listed in the SDEIS section 3.1.3.3 under the National Park Service Plan, "realizing the problems that the managed dune system caused the estuaries…The government no longer attempts to stabilize the Outer Banks artificially but lets natural processes take their course. In its 1991 *Draft Revised Statement for Management*, the NPS affirmed a policy of managing the Seashore in ways "that support the natural processes of barrier island dynamics..." (NPS, 1991)." NCWRC supports allowing the natural processes to return to the barrier islands. It is these processes which create and maintain habitat for wading and shore birds. Beach nourishment projects have shown adverse impacts to the invertebrate forge base shore birds and wading birds depend upon. These impacts can be both short and/or long term depending on the characteristics of the sand used for the project. Even if impacts are short term, with an expected re-nourishment rate of 4 years, short term impacts will be repeated, therefore continually degrading habitat Pea Island Nation Wildlife Refuge and Cape Hatteras Nation Seashore was established to protect. Section 2.6.3.4 states: "Any nourishment program will need to consider the effect of sand placement on beach and near shore invertebrate populations and their recovery." This analysis will need to be completed prior to further consideration of this alternative.

During review of the SDEIS we noted limited information on the availability of compatible sand. Environmental impacts notwithstanding, there are several issues that need to be addressed prior to continuing any consideration of this alternative. NCDOT's cumulative sand needs for the Outerbanks should be considered. NCDOT currently has proposed alternatives for R-3116a-b which would utilize an anticipated one million plus cubic yards of sand. The SDEIS identifies probable sand source locations including Oregon Inlet dredging and offshore sites, however the document states the need for Oregon Inlet dredging will be reduced with all alternatives therefore decreasing the available sand. There is no information concerning the compatibility of sand sources identified in the document. Further consideration of the nourishment alternative will require extensive compatibility analysis to determine the viability of these sand sources.

Dredging activities in conjunction with the mechanical positioning of sand to nourish the beach and build the associated dune structures are additional environmental concerns with this alternative. Commitments from NCDOT disallow the use of a hopper dredge for bridge construction; however this commitment has not been made for collection of material for nourishment. Dredging and dune reconstruction activities can impact sea turtles and shorebirds. Nesting periods for shorebirds and sea turtles generally cover a time period from April 1 through November 15; any recommended nourishment activity during this time frame could impact these species.

Historically this alternative has been the most expensive alternative at a projected cost of $644,050,000 compared to the Pamlico Sound Bridge alternative costing $424,890,000. Table 2-9 outlines the use of a cost discounting model used to adjust the projected cost of the nourishment alternative to $344, 800,000 now less than the Pamlico Sound bridge alternative. According to 2.6.3.3 cost discounting is based in theory upon a benefit versus cost type of analysis. The analysis shows that most alternatives only have a slight reduction in cost while the nourishment alternative is reduced by almost 50% since the benefits of beach nourishment are

spread out over the life of the project. However, it is unclear how a benefit-cost analysis can be conducted on an item as unpredictable as the life span of beach nourishment. Recently, NC 12 had extensive areas of beach and dune nourishment that were lost in as little as one week. It was also not clear if the rate of inflation was included in this cost estimate, since the nourishment alternative will carry cost 50 years beyond initial completion.

The fourth corridor represents the Pamlico Sound bridge alternatives which are composed of a 17.5 mile bridge with alternatives varying only in terminus options in Rodanthe. This alternative focused on removing NC 12 from areas with high erosion rates between Rodanthe and the Northern tip of Hatteras Island and avoiding impacts to the refuge. The current western alignment of the bridge was designed to minimize impacts to submerged aquatic vegetation (SAV) by locating the bridge in waters deeper than 6 feet. Some SAV impacts were unavoidable where the structure nears shore and ties back into existing NC 12. Although similar in direct impacts to SAV with the nourishment alternative at 0.31 acres versus 0 .20 acres, shading impacts are the greatest of all alternatives estimated at 9.20-8.90 acres. SAV impacts can be avoided and minimized during construction of this alternative by utilizing work bridges in areas of existing SAV. Based on current estimates, approximate 8 miles of dredging may be required for barge access during construction with the intention of allowing barge operations in waters 8 feet in depth. The location of the proposed dredging is unclear; however the document states no dredging required for the construction of this alternative will occur in areas containing SAV.

Water quality issues are a concern with this alternative due to storm water runoff associated with a bridge of this length over SA waters, and temporary turbidity associated with construction. The application of Best Management Practices and Design Standards in Sensitive Watersheds are expected to minimize the impacts to water quality however it is unlikely these impacts can be avoided.

On the northern tip of Hatteras Island, the terminal groin was permitted to protect the southern terminus of Bonner Bridge. If the Pamlico Sound Bridge alternative is selected, it is likely the terminal groin will no longer serve that purpose and therefore will be removed as a condition of the '404' permit. This structure currently anchors the southern shore of the inlet. Removal of this groin will permit the inlet to migrate south, thus eroding the northern tip of Hatteras Island. The removal of the groin will return the natural processes of inlet migration to the island restoring natural wading and shorebird habitat. However, terminal groin removal will likely threaten the National Register-listed former Oregon Inlet US Coast Guard Station.

The NCWRC has conducted a thorough review of the SDEIS for the replacement of Herbert C. Bonner Bridge and the associated improvements addressing a long term solution for seashore encroachment on NC 12. Environmental impacts associated with the parallel bridge alternatives are unacceptable. Both the Road North/ Bridge South alternative and the All Bridge alternative represent unacceptable impacts to fish and wildlife resources and their habitat. Additional information related to amounts of compatible sand is needed for consideration of the nourishment alternative. However, beach and dune nourishment of this magnitude will impact invertebrates important as forage for shorebirds and waterbirds in addition to sea turtle nesting habitat. With a frequency no longer than 4 years these impacts can be expected for the life of the project. Nourishment does not allow for natural process to develop the habitat needed to enhance waterbird and sea turtle populations on the barrier islands. The Pamlico Sound Bridge was

developed to avoid the impacts associated with the parallel bridge alignment alternatives. After evaluating all alternatives, the NCWRC believes the Pamlico Sound Bridge corridor to be the Least Environmentally Damaging Practicable Alternative.

Thank you for the opportunity to comment. If we can be of any further assistance please call me at (919) 528-9886.

cc: Gary Jordan, U.S. Fish and Wildlife Service, Raleigh
Brian Wrenn, DWQ, Raleigh
Bill Biddlecome, USACE, Raleigh
Chris Militcher, EPA
Cathy Brittingham, DCM

North Carolina Wildlife Resources Commission

Richard B. Hamilton, Executive Director

MEMORANDUM

TO: Melba McGee
Office of Legislative and Intergovernmental Affairs, DENR

FROM: Travis Wilson, Highway Project Coordinator
Habitat Conservation Program

DATE: March 26, 2007

SUBJECT: North Carolina Department of Transportation (NCDOT) Supplement to the 2005 Supplemental Draft Environmental Impact Statement (SDEIS) and Draft Section 4(f) Evaluation for the proposed replacement of Herbert C. Bonner Bridge; in Dare County, North Carolina. TIP No. B-2500 SCH Project No. 07-0283.

Staff biologists with the N. C. Wildlife Resources Commission have reviewed the subject supplement to the SDEIS and are familiar with habitat values in the project area. The purpose of this review was to assess project impacts to fish and wildlife resources. Our comments are provided in accordance with certain provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

NCDOT proposes to replace the Herbert C. Bonner Bridge across Oregon Inlet in conjunction with addressing problematic areas located on NC 12 from the southern terminus of the existing bridge to the community of Rodanthe. In January 2006 we reviewed the SDEIS for impacts associated with five alternatives consisting of two Pamlico Sound bridge alternatives and three alternatives that would replace the bridge adjacent to the existing bridge. The 2006 SDEIS comments are still applicable for those alternatives and are attached.

This memorandum is intended to address impacts associated with the two alternatives presented in the 2007 supplement consisting of replacing the bridge adjacent to the existing bridge with phased or as needed bridge construction in locations threatened by shoreline erosion. Four phases are proposed with either alternative. The Phased Approach /Rodanthe Bridge

Alternative would utilize four phases to construct NC 12 as a bridge for the entire length of the project except for 2.1 miles in the southern half of the Refuge. The Phased Approach/ Rodanthe Nourishment Alternative would vary in the southern portion of the project where beach nourishment would be utilized to protect the existing NC 12 in place of a bridge. Permanent jurisdictional impacts for the Phased Approach /Rodanthe Bridge alternative are 3.11 acres and the Phased Approach/ Rodanthe Nourishment Alternative consist of 3.08 acres; both alternatives will include 12.45 acres of temporary impacts to jurisdiction habitat.

Throughout our involvement with this project we have consistently maintained the need to select an alternative that will allow the natural processes to return to the barrier islands. The creation and preservation of habitat utilized by wading and shore birds in addition to sea turtle nesting habitat depend on this natural succession. The supplemental document promotes the phased approach alternatives as an alternative that will allow barrier island processes to take place by elevating the roadway and permitting the shoreline to progress inland while "passing" underneath the bridge structure. Essentially elevating NC 12 will allow the shoreline to naturally evolve and progress inland, however the habitat created will be severely impacted by the presence of the bridge structure.

Coastal waterbird habitat such as overwash zones, inlets, and sand flats created in the vicinity of the phased approach bridges will not provide appropriate habitat while in close proximity to the bridge structures. Coastal waterbirds require sandy areas with unobstructed views for predator detection; elevated structures not only provide an obstruction but also a location for predation birds such as crows, raptors and grackles to perch near waterbird habitat. Once the final phase has been completed, this condition will exist for approximately 10 miles to the southern termini of the project.

In addition the structure will impact the ability of sea turtle habitat to properly function. As mentioned in the document sea turtle nesting is both light sensitive and temperature sensitive. Structures that produce a shadow on the beach can alter sea turtle nest incubation temperatures (Mrosovsky et al. 1195. Thermal effects of condominiums on a turtle beach in Florida. Biological Conservation 74: 151-156). Sea turtles exhibit temperature dependent sex determination, reduced temperatures associated with shading could alter sex ratios to a degree that may affect population growth over time. Furthermore any elevated structure located in the vicinity of sea turtle nesting habitat will need to be designed to eliminate artificial lighting such as street lights or head lights from reaching the beach or nesting areas. Artificial lights near the nesting areas can disorient hatchlings.

Construction impacts related to the phased approach alternatives include: nighttime construction zone lighting, temporary construction impacts, disruption of waterbird utilization of Pea Island National Wildlife Refuge and disruption of sea shore habitat use. In contrast to other alternatives there are cumulative impacts associated with the phased construction. Section 2.2.2.4 shows the total construction time frame is estimated to be 12.5 years of construction over approximately the first 20 years. This presents a significant scale of construction over an extended time frame. Impacts associated with the cumulative effects of prolonged construction were not adequately discussed in the supplement; NCDOT should provide this information prior to selecting an alternative. Once an alternative is selected, recommended environmental

commitments designed to reduce impacts to these species including a shorebird and sea turtle nesting area construction moratorium from April 1 to November 15 should be developed.

The Phased Approach/ Rodanthe Nourishment Alternative differ by incorporating beach nourishment at the southern project termini instead of a bridge including 1,500 feet of seashore within the Refuge. NCWRC comments submitted January 17, 2006 addressing impacts associated with the parallel bridge with beach nourishment alternative are applicable. Our comments are attached and begin on page 2 fourth paragraph and continue through page 3 second paragraph.

We have reviewed the data provided in the supplemental SDEIS and will consider these additional alternatives along with the previously described alternatives in preparation for the selection of the LEDPA. We expect to continue participation in the 404/NEPA Merger process for this project. Thank you for the opportunity to comment. If we can be of any further assistance please call me at (919) 528-9886.

Attachment

cc: Gary Jordan, U.S. Fish and Wildlife Service, Raleigh
John Hennessy, DWQ, Raleigh
Bill Biddlecome, USACE, Raleigh
Chris Militscher, EPA
Cathy Brittingham, DCM

COUNTY OF DARE
Office of the Board of Commissioners
P.O. Box 1000, Manteo, North Carolina 27954
(252) 473-5700
Fax (252) 473-6312

December 7, 2005

Mr. Carl Goode
NCDOT
1583 Mail Service Center
Raleigh, NC 27699-1583

Re: Herbert C. Bonner Bridge Replacement
Oregon Inlet

Dear Mr. Goode:

I am writing to you on behalf of the Dare County Board of Commissioners in connection with the Herbert C. Bonner Bridge replacement. The Dare County Board of Commissioners supports the 2.7 mile parallel bridge alternative and encourages DOT to make all reasonable efforts to begin construction of this bridge as quickly as possible.

As you are aware, the replacement of the current Bonner Bridge is critical. It is our understanding that the stability rating of the existing bridge is four on a scale of one hundred. As the only land transportation route to Hatteras Island and as the main route to Ocracoke Island, the Bonner Bridge is vital to the residents of Hatteras Island and Ocracoke Island and to the economies of Dare and Hyde counties.

The Dare County Board of Commissioners supports the "short bridge" alternative for a number of reasons. This alternative will allow the replacement of the existing bridge sooner which is imperative to Hatteras Island and Dare County. This alternative will also save the tax payers significant amounts of money which will allow other important road projects in the area to proceed.

The short bridge alternative will guarantee full public access to Pea Island and will preserve safe and efficient hurricane evacuation routes. This alternative is sensitive to the environment in that it requires less dredging and therefore minimal construction impacts to the Pamlico Sound and its submerged aquatic vegetation and shellfish habitat.

Finally, the short bridge alternative will enhance the stability of Oregon Inlet by allowing the retention of the Terminal Groin which stabilizes Northern Pea Island and Inlet Channel. This stabilization will reduce the channel dredging requirements and have fewer impacts on the Pamlico Sound than other alternatives. The construction of the short bridge will further maintain full public access to the state-owned historic Oregon Inlet Coast Guard Station.

For these reasons, and others, the Dare County Board of Commissioners reiterates its support for the 2.7 mile parallel bridge alternative and again, encourages DOT to continue to work diligently to make the Bonner Bridge replacement a reality in the very near future.

Sincerely yours,

Stan White
Chairman
Dare County Board of Commissioners

Town of Nags Head
Post Office Box 99
Nags Head, North Carolina 27959
Telephone 252-441-5508
Fax 252-441-0776
www.townofnagshead.net

April 2, 2007

Mr. Carl B. Goode, Jr. P.E.
Human Environmental Unit Head
1583 Mail Service Center
Raleigh, NC 27699-1583

Dear Mr. Goode:

The Town of Nags Head Board of Commissioners at their January 4, 2006 Regular meeting approved the attached resolution urging the North Carolina Department of Transportation and the U.S. Fish and Wildlife Division, U.S. Department of the Interior, to replace the aging Herbert C. Bonner Bridge over the Oregon Inlet with a parallel bridge immediately.

If you have any questions please do not hesitate to contact me at 252-441-5508.

Sincerely,

Charles L. Cameron
Town Manager

CLC/mhg
Attachment

RESOLUTION NO. 06-01-002

Resolution by the Nags Head Board of Commissioners urging the North Carolina Department of Transportation and the U.S. Fish and Wildlife Division, U.S. Department of the Interior, to replace the aging Bonner Bridge over Oregon Inlet with a parallel bridge immediately

WHEREAS, the Herbert C. Bonner Bridge spanning Oregon Inlet is a critical transportation link to and from hatteras Island, and is important to maintain for the public safety, business and commerce, tourism and quality of life of residents and visitors to Dare County; AND

WHEREAS, the Herbert C. Bonner Bridge has reached the end of its reasonable service life and the North Carolina Department of Transportation proposes to replace the Herbert C. Bonner Bridge and has presented two alternatives; AND

WHEREAS, over five million people visit Dare County's Outer Banks annually generating in excess of 620 million dollars in direct tourism expenditures; AND

WHEREAS, the primary reasons for travel to the Outer Banks are the natural, cultural and historic resources; Dare County is home to two national wildlife refuges, the nation's first national seashore, and two national parks; AND

WHEREAS, the Cape Hatteras National Seashore is home to one of America's greatest public beaches, the Cape Hatteras Lighthouse, Chicamacomico Lifesaving Station and is a popular migratory pathway for over 400 species of birds at Pea Island National Wildlife Refuge; AND

WHEREAS, twenty-six percent of Dare County's tourism-related revenues are generated by Hatteras Island Visitors, and a majority of Northern Beach visitors include a day trip to Hatteras Island and Ocracoke Island during their trip to the Outer Banks; AND

WHEREAS, the Nags Head Board of Commissioners agrees that the preferred replacement bridge is the parallel bridge corridor; and replacement of the Herbert C. Bonner Bridge must begin immediately.

NOW THEREFORE BE IT RESOLVED that the Nags Head Board of Commissioners urges the North Carolina Department of Transportation, the U.S. Fish and Wildlife Service, and all other involved parties to build a bridge parallel to the existing Bonner Bridge and maintain the navigational channel through Oregon Inlet and provide no less than equal access to the entire northern end of Hatteras Island known as Pea Island.

Adopted this the 4th day of January 2006.

M. Renée Cahoon

M. Renée Cahoon, Mayor

THE TOWN OF NAGS HEAD N.C. 1961

ATTEST:
Carolyn F. Morris, Town Clerk

A-60

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
P.O. BOX 1890
WILMINGTON, NORTH CAROLINA 28402-1890

August 16, 1991

IN REPLY REFER TO

Regulatory Branch

RECEIVED 1991 AUG 21 PM PLANNING DIVISION

Mr. L. J. Ward, Manager
Planning and Environmental Branch
North Carolina Department of Transportation
Post Office Box 25201
Raleigh, North Carolina 27611

Dear Mr. Ward:

This letter is in response to your May 30, 1991 request for the Corps of Engineers to be a cooperating agency in the development of the Environmental Impact Statement for the proposed Bonner Bridge on N.C. 12 over Oregon Inlet in Dare County (B-2500).

The requirement for a Section 9 permit from the U.S. Coast Guard will preclude the need for an individually processed permit from the Corps of Engineers unless approachway fills are to be located in Section 404 wetlands. Although an alternatives analysis has not been completed for this project as requested in our letter of July 22, 1991, it is our understanding that some wetland fill will likely be required for development of the approachways. Accordingly, the Corps agrees to cooperate with you in identifying the information that is required for the Environmental Impact Statement to satisfy Corps of Engineers' permit application requirements.

We would also like to take this opportunity to point out to you the need for DOT to identify the construction techniques that will be employed so that requirements for dredging and filling incidental with bridge construction can be included in your application to, and permitted by, the Coast Guard.

Thank you for your continued coordination on this project. If you have questions please contact Mr. David Franklin at telephone (919) 251-4952.

Sincerely,

G. Wayne Wright
Chief, Regulatory Branch

Copy Furnished:

U.S. Coast Guard
5500 Robin Hood Road
Norfolk, Virginia 23513

A-2

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
P.O. BOX 1890
WILMINGTON, NORTH CAROLINA 28402-1890

IN REPLY REFER TO

January 16, 2001

Project Management Branch

SUBJECT: Removal of Existing Piles Foundations. Replacement of Bridge 11 on NC 12 Over Oregon Inlet

Mr. T.V. Rountree, P.E.
State Bridge Design Engineer
North Carolina Department of Transportation
1000 Birch Ridge Drive
Raleigh, North Carolina 27610

Dear Mr. Rountree:

This is in response to your November 7, 2000, letter in which you requested our review of plans for the removal of Bridge 11 (Bonner Bridge) on NC 12 over Oregon Inlet. Specifically, you requested our input on what depth the existing bridge piles foundations should be removed after construction of the new bridge.

A review of the plans by our Navigation Branch and Coastal Engineering Section, identified a concern regarding the impact the bridges may have on the flow through the inlet in terms of any significant change to the existing tidal prism. This concern has been raised previously with respect to the proposed Oregon Inlet jetties. This may have already been addressed in your Environmental Impact Statement and other planning and design documents for the bridge. But it appears that the flow conveyance of the new bridge and remaining old bridge piling should be the same as the existing bridge or a change in tidal prism will result. Therefore, the existing piles should be removed to at least -25 feet mean low water for navigation safety and possibly deeper for equivalent flow conveyance.

If you have any questions regarding the above comments, please contact me at 910-251-4730.

Sincerely,

Daniel Small
Navigation Project Manager

A-61

U.S. Department of Transportation
United States Coast Guard

Commander
Fifth Coast Guard District

Federal Building
431 Crawford Street
Portsmouth, VA 23704-5004
Staff Symbol: (ob)
Phone: (804) 398-6422

16590
10 Jul 91

Mr. L. J. Ward, P. E.
State of North Carolina
Department of Transportation
P. O. Box 25201
Raleigh, North Carolina 27611-5201

Dear Mr. Ward:

This is in response to your letter dated May 30, 1991, concerning the participation of the Fifth Coast Guard District Bridge Section.

We agree to be a cooperating agency in the preparation of the Draft Environmental Impact Statement for the proposed replacement of the Herbert C. Bonner Bridge on NC 12 over Oregon Inlet.

If you should have any questions regarding this matter, please contact Mr. Bill H. Brazier, Bridge Specialist, at (804) 398-6422.

Sincerely,

T. E. BERNARD
Captain, U.S. Coast Guard
Chief, Aids to Navigation
and Waterways Management Branch
By direction of the Commander
Fifth Coast Guard District

U.S. Department of Transportation
United States Coast Guard

Commander
Fifth Coast Guard District

Federal Building
431 Crawford Street
Portsmouth, VA 23704-5004
Staff Symbol: (Aowb)
Phone: (757) 398-6422

16590
26 Nov 96

Mr. H. Franklin Vick P.E., Manager
North Carolina Department of Transportation
Planning and Environmental Branch
P.O. Box 25201
Raleigh, NC 27611-5201

Dear Mr. Vick:

This responds to the telephone conversation between Bill H. Brazier of my staff and Julie Hunkins from your office, concerning the publication of a Preliminary Public Notice for the Herbert C. Bonner Bridge, located in Dare County, North Carolina.

Concluding our review of the proposed plans for the new Bonner Bridge, we have determined that the increased navigational clearances for the bridge of 200 feet horizontal and 75 feet vertical should adequately accommodate existing and future navigation through the Oregon Inlet channel. Therefore, a preliminary public notice will not be required.

Following the completion of the design and Environmental Impact Study, we will publish a Public Notice. It will serve as notice of the changed horizontal and vertical clearances, and will become part of the Findings of Fact for the Coast Guard bridge permit.

If you should have any questions regarding this matter, please contact Mr. Bill H. Brazier at (757) 398-6422.

Sincerely,

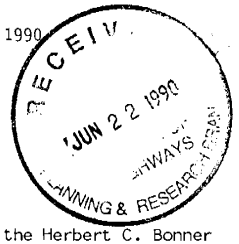
ANN B. DEATON
Chief, Bridge Administration Section
By direction of the Commander
Fifth Coast Guard District

A-62

United States Department of Agriculture
Soil Conservation Service

4405 Bland Road, Suite 205
Raleigh, NC 27609
Telephone: (919) 790-2905

June 19, 1990



Mr. L. J. Ward, P.E.
Manager, Planning and Research Branch
N. C. Department of Transportation
P. O. Box 25201
Raleigh, NC 27611-5201

Re: Feasibility Study of the Proposed Replacement of the Herbert C. Bonner Bridge in Dare County, North Carolina on NC 12 Over Oregon Inlet, State Project No. 8.1051201, TIP No. B-2500, Federal-Aid No. BRS-2358(15)

Dear Mr. Ward:

This is in response to your request for Important Farmland Information. There are no important farmland soils within the project area.

Sincerely,

Bobbye J. Jones
State Conservationist

cc: J. David Hodges, Jr.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701-5505
(727) 824-5312, FAX 824-5309
http://sero.nmfs.noaa.gov

AUG - 4 2008 F/SER31:SKB-EH

John F. Sullivan, III, P.E.
Division Administrator
North Carolina Division
U.S. Department of Transportation
Federal Highway Administration
310 New Bern Avenue, Ste. 410
Raleigh, NC 27601

Dear Mr. Sullivan:

This responds to your May 30, 2008, letter and March 2008 Biological Assessment (BA), requesting informal Endangered Species Act (ESA) section 7 consultation by the National Marine Fisheries Service (NMFS) regarding construction of a new bridge (and demolition of the currently-existing bridge) over Oregon Inlet in Dare County, North Carolina. The North Carolina Department of Transportation (NCDOT) has determined that the proposed action may affect, but is unlikely to adversely affect, sea turtles and shortnose sturgeon under NMFS' jurisdiction. This consultation is being conducted with NCDOT as designated by the Federal Highway Administration, North Carolina Division (letter dated April 8, 2003), pursuant to 50 CFR 402.08. NMFS' determinations regarding the effects of the proposed action are based on the description of the action in this informal consultation. You are reminded that any changes to the proposed action may negate the findings of the present consultation and may require reinitiation of consultation with NMFS.

NCDOT proposes to replace the Herbert C. Bonner Bridge and then remove the existing structure. Bonner Bridge is part of state highway NC 12 and provides a highway connection between Hatteras Island and Bodie Island. The bridge replacement and removal is Phase I of the Rodanthe Bridge Alternative Project that includes elevating an additional 12.5 miles of NC 12 over Pea Island (Phases II to IV). This consultation includes and is limited to the impacts of Phase I, the demolition and replacement of Bonner Bridge, as it is the only portion of the project that involves in-water work that may impact species listed under the ESA under NMFS' purview.

The mid-span of the existing bridge is located at approximately 35.770594°N, 75.534906°W. The new Bonner Bridge will begin at the southern terminus of the existing structure on Hatteras Island and extend north across Oregon Inlet for 2.6 miles, ending near the northern terminus of the existing structure on Bodie Island. Sixteen to 24 piles (66-inch diameter, pre-stressed concrete cylinder) will be used per bridge foundation; a total of 46 foundations are estimated for the bridge span. An additional eight piles will be required at each of the two approach spans (16 total). Piles will be placed by a combination of jetting and driving. The total pile footprint for the Bonner Bridge is estimated at approximately 0.5 acre. No de-watering is required; no cofferdams will be utilized during construction. Total construction duration and timing associated with Phase I of the project is 3.5 years (42 months) including 32 months of underwater work from 2009 to 2013 (BA, p. 7). No time-of-year restrictions are assumed during project construction and demolition of Bonner Bridge.

After the new bridge is constructed, the old structure will be removed. The substructure will be mechanically removed to at least 25 feet below the mean low water. The superstructure concrete dock will be broken into smaller pieces by sawing and jack hammering. Deck pieces and superstructure beams and girders will be loaded onto a barge by a crane and towed, or placed onto trucks and transported via the work bridge. No debris or components from either structure will be allowed to enter into the water or remain on the benthos following construction or demolition. No explosives will be used. In-water disposal of the concrete superstructure is not authorized.

Temporary work bridges may be constructed. While there are numerous alternatives for work-bridge construction and removal, normal activities include: driving of piles, installation of wooden deck materials, and mechanical removal of support piles by either cutting them off at the substrate or pulling up via cranes. Further, materials or debris are not permitted to enter the water at any time, or remain on the benthos following construction or demolition. The applicant specifies that the NCDOT Standard Specifications will be followed; Section 402 specifies that leaving remnant materials in place is not permitted, and removal of components from the water is to be done in such a fashion as to minimize siltation. Work bridges are expected to be constructed over wetlands as well as open water, and turbidity will be minimized when possible and practicable in the areas of known submerged aquatic vegetation (SAV).

For much of the project area, construction barges will float above the bottom of the inlet without the need for dredging a flotation channel. Dredging will be required in areas where water depths are less than 6 feet; where dredging is needed for a barge channel (120 feet wide), it will be done to a depth of -8 feet. It is expected that the barge channel will require continuous dredging to maintain; dredging will be conducted with either a pipeline or cutterhead dredge, hopper dredges are not authorized. Dredged work channels would be restricted to open water or nearby unvegetated shallow-water areas to the greatest extent practicable. Materials dredged from the channel may be deposited in-water, but SAV and hardbottom areas will be avoided. Following Phase I, the channel will refill naturally.

NCDOT will implement a special provision for the protection of threatened and/or endangered species; it will comply with NMFS' March 23, 2006, Sea Turtle and Smalltooth Sawfish Construction Conditions (enclosed) that restrict in-water activities when listed species are observed in the project area. However, NMFS agrees with NDCOT that bridge construction or demolition activities do not need to stop when a protected species is sighted in the proximity of construction *if the construction activities are not in the water* (see NCDOT response letter dated May 30, 2008, Response 1). The in-water moratorium prohibits pile installation and removal

and activities associated with bridge construction and demolition when listed species are present, but does not restrict terrestrial activity.

Federally-listed species that may occur in the area of this project are below. No other listed species under the jurisdiction of NMFS occur in the action area, nor is designated critical habitat present.

Common Name	Scientific Name	Status
Kemp's ridley sea turtle	*Lepidochelys kempii*	Endangered
hawksbill sea turtle	*Eretmochelys imbricata*	Endangered
green sea turtle[1]	*Chelonia mydas*	Threatened
loggerhead sea turtle	*Caretta caretta*	Threatened
leatherback sea turtle	*Dermochelys coriacea*	Endangered
shortnose sturgeon	*Acipenser brevirostrum*	Endangered

Among the five species of sea turtles that may occur in or near the project area, some sea turtle species are much more likely to be present in the project area than others. The loggerhead sea turtle is the most common species in the project area, and green and Kemp's ridley sea turtles also occur in the project area, though considerably less frequently. Leatherbacks and hawksbills are very unlikely to be present due to their foraging and life history characteristics. Leatherbacks are primarily pelagic feeders, foraging mostly on jellyfish in deeper, offshore waters, though they will occasionally follow their wind-driven prey closer inshore. Sponges, the preferred foraging habitat for hawksbills, are likely sparse in the vicinity of Bonner Bridge, so hawksbill presence is likely to be very rare. These species will not be considered further in this consultation. Shortnose sturgeon have been largely extirpated from North Carolina waters. NMFS believes shortnose sturgeon are unlikely to be present in the project area (S. Bolden, pers. comm. to NCDOT, November 19, 2007); this species will not be considered further in this consultation.

Project impacts to foraging habitat differ between the three sea turtle species that may be affected by the proposed action. Adult green turtles are known to feed on seagrasses; therefore, they may be found in the nearshore area on the leeward side of Bodie Island where they may be encountered by the dredge maintaining the channel. Kemp's ridley and loggerhead sea turtles may be found foraging in the vicinity of the dredged channel and other project areas, as they are known to forage in any area with adequate food availability, including hard-bottom, submerged aquatic vegetation, oyster reefs, and sand and mud substrates, consuming crabs and other invertebrates.

NMFS believes that the project is not likely to adversely affect sea turtles under our purview (see 50 CFR 224.101(c) that delineates jurisdiction for sea turtles to NMFS while they are in the water, and to U.S. Fish and Wildlife Service while on land). We have analyzed the proposed action and believe the only routes of potential effects to sea turtles are from interactions with construction machinery, temporary construction-associated turbidity, avoidance of the area

[1] Green turtles in U.S. waters are listed as threatened except for the Florida breeding population that is listed as endangered.

resulting in lost nesting or foraging opportunities, disruption of hatchling sea-finding behavior, and obstructed passage through Oregon Inlet during bridge demolition/construction. These potential effects will be discountable and/or insignificant based on the following: 1) Implementation of construction guidelines will aid in preventing interaction with any turtles that may pass through the project site; 2) sea turtles are highly mobile and will be able to avoid the area during the period of construction; 3) hopper dredges will not be used (rapidly-moving hopper dredges are known to entrain sea turtles in their suction dragheads; however, NMFS has previously determined that non-hopper-type dredging methods (e.g., clamshell, cutterhead, and hydraulic pipeline dredging) are unlikely to adversely affect these species, presumably because turtles are able to detect and move away from the noisy and/or slowly-approaching draghead and thus avoid entrainment); 4) sea turtles will still be able to forage underneath the bridge post-construction, and the project will impact only a very small portion of the available foraging habitat (sea turtles will be able to forage in nearby areas even during demolition and construction); 5) the area does not provide habitat that would be considered of outstanding or higher value than alternative, nearby habitat available to sea turtles, such that long-term avoidance of the entire project area (which is highly unlikely) would have detrimental effects on them, even over the project life (3.5 years); 6) turbidity associated with construction would be limited to that occurring during dredging for barge access and pile driving, and occur in a relatively small portion of Oregon Inlet at any one time; and 7) due to the broad width of Oregon Inlet where the bridge spans it, sea turtle passage into or out of the inlet will not be significantly impeded during demolition, construction, or by the finished construction.

There is potential sea turtle nesting habitat near the project area; however, NMFS believes that bridge demolition and construction activities will have discountable and/or insignificant effects on sea turtles' in-water behavior, including mating, nesting females' approaches to potential nesting sites, and emergent hatchlings' sea-finding behavior or ability. No permanent light fixtures would be installed on the bridge or the approaches, and correct light management would include the use of low-wattage, long-wavelength lighting, which is either shielded, such that the light is visible only on the road, or embedded in the roadway itself (BA, p. 43). Furthermore, NCDOT has completed ESA section 7 consultation with the U.S. Fish and Wildlife Service on potential project impacts to nesting sea turtles.

This concludes NCDOT's consultation responsibilities under the ESA for species under NMFS' purview. Be advised that the consultation must be initiated if a take occurs or new information reveals effects of the action not previously considered, or the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat in a manner or to an extent not previously considered, or if a new species is listed or critical habitat designated that may be affected by the identified action.

We have enclosed information on other statutory requirements that may apply to this action, and on NMFS' Public Consultation Tracking System that allows you to track the status of ESA consultations. We look forward to continued cooperation with NCDOT in conserving our endangered and threatened resources.

If you have any questions, please contact Dr. Stephania Bolden, fisheries biologist, at (727) 824-5312, or by e-mail at stephania.bolden@noaa.gov.

Sincerely,

Roy E. Crabtree, Ph.D.
Regional Administrator

Enclosures (2)

cc: F/SER47 – R. Sechler

File: 1514-22.L.2 NCDOT
Ref: I/SER/2008/03396

A-65

PCTS Access and Additional Considerations for ESA Section 7 Consultations (Revised 5-13-2008)

Public Consultation Tracking System (PCTS) Guidance: PCTS is an online query system at **https://pcts.nmfs.noaa.gov/** that allows federal agencies and U.S. Army Corps of Engineers' (COE) permit applicants and their consultants to ascertain the status of NMFS' Endangered Species Act (ESA) and Essential Fish Habitat (EFH) consultations, conducted pursuant to ESA section 7, and Magnuson-Stevens Fishery Conservation and Management Act's (MSA) sections 305(b)2 and 305(b)(4), respectively. Federal agencies are required to enter an agency-specific username and password to query the Federal Agency Site. The COE "Permit Site" (no password needed) allows COE permit applicants and consultants to check on the current status of Clean Water Act section 404 permit actions for which NMFS has conducted, or is in the process of conducting, an ESA or EFH consultation with the COE.

For COE-permitted projects, click on "Enter Corps Permit Site." From the "Choose Agency Subdivision (Required)" list, pick the appropriate COE district. At "Enter Agency Permit Number" type in the COE district identifier, hyphen, year, hyphen, number. The COE is in the processing of converting its permit application database to PCTS-compatible "ORM." An example permit number is: SAJ-2005-000001234-IPS-1. For the Jacksonville District, which has already converted to ORM, permit application numbers should be entered as SAJ (hyphen), followed by 4-digit year (hyphen), followed by permit application numeric identifier with no preceding zeros. For example: SAJ-2005-123; SAJ-2005-1234; SAJ-2005-12345.

For inquiries regarding applications processed by COE districts that have not yet made the conversion to ORM (e.g., Mobile District), enter the 9-digit numeric identifier, or convert the existing COE-assigned application number to 9 numeric digits by deleting all letters, hyphens, and commas; converting the year to 4-digit format (e.g., -04 to 2004); and adding additional zeros in front of the numeric identifier to make a total of 9 numeric digits. For example: AL05-982-F converts to 200500982; MS05-04401-A converts to 200504401. PCTS questions should be directed to Eric Hawk at Eric.Hawk@noaa.gov. Requests for username and password should be directed to PCTS.Usersupport@noaa.gov.

EFH Recommendations: In addition to its protected species/critical habitat consultation requirements with NMFS' Protected Resources Division pursuant to section 7 of the ESA, prior to proceeding with the proposed action the action agency must also consult with NMFS' Habitat Conservation Division (HCD) pursuant to the MSA requirements for EFH consultation (16 U.S.C. 1855 (b)(2) and 50 CFR 600.905-.930, subpart K). The action agency should also ensure that the applicant understands the ESA and EFH processes; that ESA and EFH consultations are separate, distinct, and guided by different statutes, goals, and time lines for responding to the action agency; and that the action agency will (and the applicant may) receive separate consultation correspondence on NMFS letterhead from HCD regarding their concerns and/or finalizing EFH consultation.

Marine Mammal Protection Act (MMPA) Recommendations: The ESA section 7 process does not authorize incidental takes of listed or non-listed marine mammals. If such takes may occur an incidental take authorization under MMPA section 101 (a)(5) is necessary. Contact Ken Hollingshead of our NMFS Headquarters' Protected Resources staff at (301) 713-2323 for more information on MMPA permitting procedures.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701

SEA TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS

The permittee shall comply with the following protected species construction conditions:

a. The permittee shall instruct all personnel associated with the project of the potential presence of these species and the need to avoid collisions with sea turtles and smalltooth sawfish. All construction personnel are responsible for observing water-related activities for the presence of these species.

b. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing sea turtles or smalltooth sawfish, which are protected under the Endangered Species Act of 1973.

c. Siltation barriers shall be made of material in which a sea turtle or smalltooth sawfish cannot become entangled, be properly secured, and be regularly monitored to avoid protected species entrapment. Barriers may not block sea turtle or smalltooth sawfish entry to or exit from designated critical habitat without prior agreement from the National Marine Fisheries Service's Protected Resources Division, St. Petersburg, Florida.

d. All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will preferentially follow deep-water routes (e.g., marked channels) whenever possible.

e. If a sea turtle or smalltooth sawfish is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a sea turtle or smalltooth sawfish. Operation of any mechanical construction equipment shall cease immediately if a sea turtle or smalltooth sawfish is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition.

f. Any collision with and/or injury to a sea turtle or smalltooth sawfish shall be reported immediately to the National Marine Fisheries Service's Protected Resources Division (727-824-5312) and the local authorized sea turtle stranding/rescue organization.

g. Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the primary consultation.

Revised: March 23, 2006
O:\forms\Sea Turtle and Smalltooth Sawfish Construction Conditions.doc

THE SECRETARY OF THE INTERIOR

WASHINGTON

JUL 05 2006

The Honorable Richard Burr
United States Senate
Washington, DC 20510

Dear Senator Burr:

I appreciate your concern for the aging Herbert C. Bonner Bridge in Dare County, North Carolina. The bridge is the only way for people to drive to and from communities on Hatteras Island for business, recreation, escape prior to a storm, and re-entry after a storm. I agree with you that it is important that we work together to find a way to replace the bridge as soon as possible to protect the health and safety of the public.

As you know, the U.S. Fish and Wildlife Service and the National Park Service have been working for a number of years with the North Carolina Department of Transportation (NCDOT), the Federal Highway Administration, and other State and Federal agencies in planning for replacement of the bridge and for the realignment of North Carolina Highway 12 as it passes through Pea Island National Wildlife Refuge. I appreciate efforts made by the NCDOT to conduct this planning process in compliance with all applicable environmental laws and regulations, including the National Wildlife Refuge System Administration Act of 1997 (Refuge Act). The Refuge Act requires that any new use or modification of an existing use must be found to be compatible with, and not interfere with, or detract from, the fulfillment of the mission of the entire National Wildlife Refuge System, and the specific wildlife conservation purposes of the refuge.

After further review of the situation, I believe that the best way to proceed would be to separate the replacement of the Bonner Bridge, a project whose delay could constitute a clear and present safety issue for all concerned, from the more difficult and less urgent issues of the realignment of the road. We believe the replacement of the bridge itself could be accomplished in a way which is compatible with the Refuge Act, and other laws, if it is constructed within the same alignment or with minor changes to the current alignment. With this understanding, the NCDOT could quickly conclude their planning and begin construction of a bridge to replace the existing bridge that you have told me is an imminent threat to public safety.

The Honorable Richard Burr

I pledge the support of the Department of the Interior to allow replacement of the bridge, providing safe transportation while protecting important wildlife resources on Pea Island National Wildlife Refuge. I welcome an opportunity to discuss this proposal with you in more detail at your convenience.

A similar letter is being sent to Governor Michael F. Easley.

Sincerely,

DIRK KEMPTHORNE

1139078

United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, DC 20240

TAKE PRIDE IN AMERICA

SEP 1 1 2007

The Honorable Michael F. Easley
Governor of North Carolina
Raleigh, North Carolina 27699-0301

Dear Governor Easley:

Thank you for your letter of August 17, 2007, to Secretary Kempthorne regarding the replacement of the Herbert C. Bonner Bridge over Oregon Inlet in Dare County, North Carolina. The Department of the Interior shares your concern regarding the need to expeditiously replace the bridge in a way that meets public safety, environmental and fiscal needs.

In 2003, all of the agencies in this important project reached agreement that the Pamlico Sound alternative was the prudent solution. The North Carolina Department of Transportation (NCDOT) and the Federal Highway Administration (FHwA) now support the Parallel Bridge Corridor, with Phased Approach/Rodanthe Bridge (Phased Approach alternative) as their proposed Least Environmentally Damaging Practicable Alternative (LEDPA). As you know, Secretary Kempthorne has already agreed that replacement of the bridge itself can be accomplished in a way that is compatible with the National Wildlife Refuge System Improvement Act of 1997 (Refuge Improvement Act). The bridge must also be constructed within the same alignment or with minor realignment to meet safety standards.

The U.S. Fish and Wildlife Service (Service) is part of the interagency "merger" team working to develop a plan to replace the Bonner Bridge in a way that meets State and Federal requirements. The team is led by the NCDOT, the FHwA, and the Army Corps of Engineers. These agencies establish the schedule for project-related work activities and meetings. The Service has provided all necessary and appropriate support and input to the process in a timely manner and has exercised all flexibility available within our legal mandates, including the Refuge Improvement Act.

Please note that through the merger team planning process, the Service has requested additional information to allow us to fully evaluate the compatibility of NCDOT's preferred alternative with the purposes for which Pea Island National Wildlife Refuge (Refuge) was established, as required under the Refuge Improvement Act. To date, however, the Service has not received this information. The NCDOT's preferred alternative would replace the existing road with a series of bridges and would be built in four phases; the first phase being the bridge across Oregon Inlet, with remaining phases being constructed as necessitated by shoreline erosion.

While the intent is to construct these new bridges within the existing road's right-of-way, we believe this alternative would require continued maintenance outside of the existing road's right-of-way through the Refuge until each subsequent phase of bridge construction along NC 12 is completed. Current information also indicates that all 4 phases would require at least 13 years of actual construction during a 28-year timeframe. Based on the information that the Service currently has, it is unlikely that we could find this alternative to be compatible with the purposes for which the refuge was established, as required under the Refuge Improvement Act.

The Merger Board met on August 27, 2007, to decide the future course of action for NCDOT regarding this project. The Corps and NC Department of Environmental and Natural Resources concurred with NCDOT and FHwA that the up-front costs of the Pamlico Sound alternative exceed the State's ability to finance the project and, as a result, is not practicable. They also concurred with NCDOT and FHwA that the Phased Approach alternative is the LEDPA. They determined that NCDOT and FHwA should proceed with preparation of a final environmental impact statement (EIS) with the Phased Approach identified as the preferred alternative, but proceed with seeking permits only for Phase I (replacement of the Bonner Bridge). The next step is for the NCDOT to complete the final EIS for the proposed project which is expected in the spring of 2008. The Service believes that, at the conclusion of the NCDOT/FHwA planning process, NCDOT will ask if they need a right-of-way permit based on whatever they describe as the specific design and location of the Phased Approach alternative structures. At that point, we will complete a compatibility determination for the project based on the specific plans provided with that request, if necessary.

Approximately 3 years ago, all of the agencies involved in this important project reached consensus on the Pamlico Sound alternative. While circumstances have changed since then, I assure you the Service and the Secretary remain committed to finding a solution that meets important public safety needs and is consistent with the Federal natural resource laws we are charged with administering.

Thank you for your continued interest in this important issue. If you have any questions or require further assistance, please contact me or Service Director Dale Hall at (202) 208-4717.

Sincerely,

Dave Verhey

Acting Assistant Secretary for Fish and Wildlife and Parks

David Verhey

US Department of Transportation
Federal Highway Administration

310 New Bern Avenue, Suite 410
Raleigh, North Carolina 27601

March 5, 2008

North Carolina Division

In Reply Refer To
HDA-NC

Mr. Pete Benjamin, Ecological Services Supervisor
US Fish and Wildlife Service (USFWS)
Post Office Box 33726
Raleigh, North Carolina 27636-3726

Mr. David Bernhart
Assistant Regional Administrator for Protected Resources
NOAA/NMFS
263 13th Avenue South
St. Petersburg, Florida 33701

Dear Mr. Benjamin & Mr. Bernhart

This letter initiates formal consultation under Section 7 of the Endangered Species Act for the following proposed transportation project in Dare County, NC:

- Replacement of the Herbert C. Bonner Bridge (Bridge No. 11 over Oregon Inlet), NCDOT TIP# B-2500, Federal-Aid # BRS-2358(15), WBS# 32635

The federally-protected species addressed in this consultation include

- Red-cockaded woodpecker (Picoides borealis);
- Roseate tern (Sterna dougallii);
- Hawksbill sea turtle (Eretmochelys imbricata);
- Kemp's ridley sea turtle (Lepidochelys kempii),
- Leatherback sea turtle (Dermochelys coriacea);
- West Indian manatee (Trichechus manatus);
- Shortnose sturgeon (Acipenser brevirostrum),
- Piping plover (Charadrius melodus);
- Green sea turtle (Chelonia mydas);
- Loggerhead sea turtle (Caretta caretta); and
- Seabeach amaranth (Amaranthus pumilus)

In addition, the red wolf (Canis rufus), listed as experimental by the USFWS, is found in Dare County Proposed Critical Habitat for the Piping plover (Charadrius melodus) is also addressed

The Biological Assessment (BA) includes

- a description of the action being considered,
- a description of the specific area that may be affected by the action;
- a description of listed species and proposed critical habitat that may be affected by the action,
- a description of the manner in which the action may affect the listed species and proposed critical habitat, and an analysis of indirect and cumulative effects, and

BUCKLE UP AMERICA

- a compact disc of supporting materials, including
  - 2005 SDEIS;
  - 2007 SSDEIS;
  - 2005 NRTR; and
  - USFWS Manatee Guidelines

Copies of other documents cited in the References portion of the BA (but not included on the cd) will be furnished on request.

Effects determinations are as follows:

Species	Conclusions for USFWS ***Jurisdictional Species***	Conclusions for NMFS ***Jurisdictional Species***
Piping Plover	May Affect, Likely to Adversely Affect	Not Applicable
Leatherback Sea Turtle	May Affect, Likely to Adversely Affect	May Affect, Not Likely to Adversely Affect
Green Sea Turtle	May Affect, Likely to Adversely Affect	May Affect, Not Likely to Adversely Affect
Loggerhead Sea Turtle	May Affect, Likely to Adversely Affect	May Affect, Not Likely to Adversely Affect
Kemp's Ridley Sea Turtle	Not Applicable	May Affect, Not Likely to Adversely Affect
Hawksbill Sea Turtle	Not Applicable	May Affect, Not Likely to Adversely Affect
Shortnose Sturgeon	Not Applicable	May Affect, Not Likely to Adversely Affect
Seabeach Amaranth	May Affect, Not Likely to Adversely Affect	Not Applicable
Proposed Critical Habitat for Wintering Piping Plovers	May Affect, Likely to Adversely Affect	Not Applicable

Please review the attached Biological Assessment and provide us with your Biological Opinion. If you need to meet with us to discuss any aspect of the project during the 90-day consultation timeframe, please let us know and we'll promptly set up a meeting with necessary staff. If you have any other questions, please contact Rob Ayers by phone (919 747 7029) or by e-mail (rob.ayers@fhwa.dot.gov)

Sincerely,

s/ Robert H. Ayers

For John F. Sullivan, III, P.E.
Division Administrator

Attachments

cc: Dr. Greg Thorpe, PhD (NCDOT) w/o attachments
Rob Hanson, PE (NCDOT) w/o attachments
Michael Culp (FHWA HQ) w/ attachments
Brian Yanchik (FHWA RC) w/ attachments

File: BRS-2358(15)
Reading File: 8c05pd01.rha
RHAyers dkr 03/05/08

United States Department of the Interior

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

RECD MAR 19 2008

March 13, 2008

John F. Sullivan, III, P.E.
Federal Highway Administration
310 New Bern Avenue, Suite 410
Raleigh, North Carolina 27601

Dear Mr. Sullivan:

This letter acknowledges the U.S. Fish and Wildlife Service's (Service) March 6, 2008 receipt of your March 5, 2008 letter requesting formal section 7 consultation under the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543). The consultation concerns the possible effects of the proposed replacement of the Herbert C. Bonner Bridge (Bridge No. 11 over Oregon Inlet) in Dare County, North Carolina (TIP No. B-2500) for the following federally threatened and endangered species:

- Red-cockaded woodpecker (*Picoides borealis*)
- Roseate tern (*Sterna dougallii*)
- Hawksbill sea turtle (*Eretmochelys imbricata*)
- Kemp's ridley sea turtle (*Lepidochelys kempii*)
- Leatherback sea turtle (*Dermochelys coriacea*)
- Green sea turtle (*Chelonia mydas*)
- Loggerhead sea turtle (*Caretta caretta*)
- West Indian manatee (*Trichechus manatus*)
- Shortnose sturgeon (*Acipenser brevirostrum*)
- Piping plover (*Charadrius melodus*)
- Seabeach amaranth (*Amaranthus pumilus*)
- Red wolf (*Canis rufus*)

In addition, proposed critical habitat for the piping plover is addressed.

All information required of you to initiate consultation was either included with your letter or is otherwise accessible for our consideration and reference.

Section 7 allows the Service up to 90 calendar days to conclude formal consultation with your agency and an additional 45 calendar days to prepare our biological opinion (unless we mutually agree to an extension). Therefore, we expect to provide you with our biological opinion no later than July 19, 2008.

As a reminder, the ESA requires that after initiation of formal consultation, the Federal action agency may not make any irreversible or irretrievable commitment of resources that limits future options. This practice insures agency actions do not preclude the formulation or implementation of reasonable and prudent alternatives that avoid jeopardizing the continued existence of endangered or threatened species or destroying or modifying their critical habitats.

If you have any questions or concerns about this consultation or the consultation process in general, please feel free to contact me at (919) 856-4520 (Ext. 11) or Mr Gary Jordan at (919) 856-4520 (Ext. 32)

Sincerely,

Pete Benjamin
Field Supervisor

cc: Bill Biddlecome, USACE, Washington, NC
Travis Wilson, NCWRC, Creedmoor, NC
Chris Militscher, USEPA, Raleigh, NC

North Carolina Department of Cultural Resources

James G. Martin, Governor
Patric Dorsey, Secretary

Division of Archives and History
William S. Price, Jr., Director

March 27, 1992

Nicholas L. Graf
Division Administrator
Federal Highway Administration
Department of Transportation
310 New Bern Avenue
Raleigh, N.C. 27601-1442

RECEIVED
MAR 27 1992
DIVISION OF HIGHWAYS
PLANNING & RESEARCH BRANCH

Re: Section 106 Consultation, Archaeological Resources
Replacement of Herbert C. Bonner Bridge on NC 12
over Oregon Inlet in Dare County, B-2500, Federal
Aid BRS-2358(15), ER 92-7936, Dare County

Dear Mr. Graf:

Thank you for your letter of February 26, 1992, concerning the above project. We have reviewed the report on archaeological resources for the alternatives proposed in the draft environmental impact statement and would like to comment.

The background research of the report, both historic and cartographic, was very thorough and well-documented, and we have only a few comments.

1. It would be useful to define the term "Port Roanoke," which first appears on page 22, as the present day Edenton.

2. The sentence "In an effort to avoid a storm that created the inlet, the *Oregon* successfully navigated the waterway shortly after it opened," page 28, is contradicted by the fact that the inlet opened in September, 1846, and the *Oregon* passed through in June, 1848.

In the section entitled "Shipwrecks" we feel the authors fully explored the current state of submerged cultural resource management and research in North Carolina. We agree that shipwreck remains found in a high energy environment, such as Oregon Inlet, have the potential to contain significant archaeological information.

We concur that the preferred bridge corridor just west of the existing bridge holds a moderate potential for containing shipwreck resources. We, therefore, recommend that a magnetometer survey be conducted based on final project design and location. The design of t his survey should take into consideration past bottom disturbing activities and the challenges presented

109 East Jones Street • Raleigh, North Carolina 27601-2807

by conducting a magnetometer survey in the vicinity of the existing bridge and cable crossings.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act of 1966 and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106, codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763.

Sincerely,

David Brook

David Brook
Deputy State Historic Preservation Officer

DB:slw

cc: L. J. Ward

cc: Hankins
Nauck

North Carolina Department of Cultural Resources

James B. Hunt, Jr., Governor
Betty Ray McCain, Secretary

Division of Archives and History
William S. Price, Jr., Director

RECEIVED
JUN 02 1993
DIVISION OF HIGHWAYS
PLANNING & RESEARCH

RECEIVED
MAY 27 1993
DIVISION OF HIGHWAYS
PLANNING & ENVIRONMENTAL BRANCH

May 25, 1993

Nicholas L. Graf
Division Administrator
Federal Highway Administration
Department of Transportation
310 New Bern Avenue
Raleigh, N.C. 27601-1442

Re: Herbert C. Bonner Bridge Replacement, Oregon Inlet, B-2500, Dare County, ER 93-8782

Dear Mr. Graf:

Thank you for your letter of May 5,1993, transmitting the archaeological survey report by Panamerican Consultants, Inc., concerning the above project.

During the course of the survey forty-one magnetic anomalies were recorded within the area of potential effect. Stephen James, principal investigator, determined that of the forty-one anomalies, three have a high potential to be submerged cultural resources that may be eligible for listing in the National Register of Historic Places. If these sites cannot be avoided, additional archaeological investigations will be needed to determine the nature and significance of the three anomaly targets.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act of 1966 and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106, codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763.

Sincerely,

David Brook
Deputy State Historic Preservation Officer

DB:slw

cc: L. J. Ward
Stephen James, Panamerican Consultants

North Carolina Department of Cultural Resources

James B. Hunt Jr., Governor
ly Ray McCain, Secretary

Division of Archives and History
Jeffrey J. Crow, Director

June 5, 1996

Nicholas L. Graf
Division Administrator
Federal Highway Administration
Department of Transportation
310 New Bern Avenue
Raleigh, N.C. 27601-1442

RECEIVED
JUN 07 1996
DIVISION OF HIGHWAYS
PLANNING & ENVIRONMENTAL BRANCH

Re: Herbert C. Bonner Bridge Replacement, Dare County, Federal Aid Project BRS-2358(15), State Project 8.1051201, TIP B-2500, ER 90-8304, ER 95-9106

Dear Mr. Graf:

Thank you for your letter of May 15, 1996, transmitting the underwater archaeological survey report by Panamerican Consultants, Inc., concerning the above project.

During the course of the survey three anomaly clusters were inspected and determined not to be shipwreck remains or potential shipwreck remains located within the project area. Panamerican has recommended that no further archaeological investigation be conducted in connection with this project. We concur with this recommendation since this project will not involve significant archaeological resources.

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

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763.

Sincerely,

David Brook
Deputy State Historic Preservation Officer

DB:slw

cc: Panamerican Consultants
H. F. Vick
T. Padgett

CITIZENS PARTICIPATION
RECEIVED
JUL 29 2003

North Carolina Department of Cultural Resources
State Historic Preservation Office
David L. S. Brook, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary
Jeffrey J. Crow, Deputy Secretary

Division of Historical Resources
David J. Olson, Director

July 25, 2003

MEMORANDUM

TO: Mr. Matt Wilkerson, Archaeology Supervisor
Office of Human Environment
NC Department of Transportation
1583 Mail Service Center
Raleigh, NC 27699-1583

FROM: David Brook p.p. for David Brook
Deputy State Historic Preservation Officer

SUBJECT: Historical Background Investigation: Bonner Bridge Corridor Study Area, Alternative 4, Dare County, TIP No. B-2500, Federal Aid Project No. BRS-2358(15), State Project No. 8.1051201, Division 1, ER 90-8304

Thank you for your letter of July 8, 2003, transmitting the report by Panamerican Consultants, Inc. on the above project. The report is well written and researched. We concur with the author's conclusion that the "potential...does exist for smaller vernacular watercraft...and possibly the remains of shallow-drafted schooners to be located with this area." We also agree with the recommendation that "during subsequent remote-sensing surveys any anomaly clusters with a small gamma deviation and duration be recommended for additional assessment in the form of diver investigation."

We have the following additional comments on the report:

1. (Page 5) The discussion of general archaeological investigation should note that Office of Archives and History's Underwater Archaeology Branch (UAB) has conducted numerous surveys and site investigations in Dare County. Those investigations have resulted in the documentation of 84 archaeological sites. Eleven of those sites are submerged shipwrecks in the adjacent ocean or sound waters while the remaining sites represent shipwrecks or shipwreck fragments investigated on the ocean beach.

2. The report should address the presence and role of New Inlet within the study area. That inlet was open from circa 1738 until 1922. New inlet was located near the center of the

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	Location	Address	Telephone/Fax
ADMINISTRATION	507 N. Blount St., Raleigh NC	Service Center, Raleigh NC 27699-4617	(919) 733-4763 • 733-8653
RESTORATION	515 N. Blount St., Raleigh NC	Service Center, Raleigh NC 27699-4613	(919) 733-6547 • 715-4801
SURVEY & PLANNING	515 N. Blount St., Raleigh NC	4618 Mail Service Center, Raleigh NC 27699-4618	(919) 733-6545 • 715-4801

project area in the vicinity of the present Pea Island Wildlife Refuge headquarters. Although New Inlet served only a minor role for navigation it was important in local fishery activities. Gary S. Dunbar, in his book Historical Geography of the North Carolina Outer Banks (Louisiana State University Press, 1958), provides background information on New Inlet.

3. Although rarely used as a conduit for navigation between Pamlico Sound and Atlantic Ocean, New Inlet created a navigational hazard. In particular, the inlet's flood tide delta in Pamlico Sound created a treacherous area of narrow channels, swift currents, and shallow water. As seen on the 1893 navigation chart (page 33), the flood tide delta extends into the project area. The UAB's historic shipwreck files (discussed on pages 27 and 30 of the report) contain records on twenty-nine shipwrecks in the vicinity of New Inlet. While most of those shipwrecks occurred on the ocean side of the inlet, some may be located in or near the project area. This information should be incorporated into the final report.

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

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763. In all future communication concerning this project, please cite the above referenced tracking number.

cc: Michael Krivor
Panamerican Consultants, Inc.
15 South Idlewild Street
Memphis, Tennessee 38104

bc: Claggett/Lawrence
County

North Carolina Department of Cultural Resources
State Historic Preservation Office
David L. S. Brook, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary
Jeffrey J. Crow, Deputy Secretary
Office of Archives and History

Division of Historical Resources

September 17, 2003

MEMORANDUM

TO: Greg Thorpe, Ph.D., Director
Project Development and Environmental Analysis Branch
NCDOT Division of Highways

FROM: David Brook DBE for David Brook

SUBJECT: Supplemental Draft Environmental Impact Statement, Phase II Historic Architectural Survey Report of Pea Island National Wildlife Refuge, Bonner Bridge Replacement, B-2500, Dare County, ER90-8304

A-74

Thank you for your letter of July 29, 2003, transmitting the Phase II Historic Architectural survey report by Frances P. Alexander of Mattson, Alexander and Associates, Inc.

For purposes of compliance with Section 106 of the National Historic Preservation Act, we concur that the Pea Island Wildlife Refuge is eligible for listing in the National Register of Historic Places under Criterion A in the areas of conservation and social history. The refuge is an outstanding example of the national wildlife refuges that arose during the early twentieth century. The refuge retains many of its key original elements such as man-made dikes and dunes, illustrating the efforts of the Civilian Conservation Corps on the Outer Banks to protect and revitalize natural resources.

We understand that this report was prepared for an additional alternative for the Bonner Bridge Replacement. Please provide a map illustrating the Area of Potential Effect for this alternative. Minus the map, we wonder why the Oregon Inlet Coast Guard Station, a property listed in the National Register of Historic Places, was not included in the report.

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

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	Location	Mailing Address	Telephone/Fax
ADMINISTRATION	507 N. Blount St., Raleigh NC	[illegible] Service Center, Raleigh NC 27699-4617	(919) 733-4763 • 733-8653
RESTORATION	515 N. Blount St., Raleigh NC	Service Center, Raleigh NC 27699-4617	(919) 733-6547 • 715-4801
SURVEY & PLANNING	515 N. Blount St., Raleigh NC	Service Center, Raleigh NC 27699-4617	(919) 733-6545 • 715-4801

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763. In all future communication concerning this project, please cite the above referenced tracking number.

cc: Frances P. Alexander, Mattson, Alexander and Associates, Inc.
Barbara Church, NCDOT

North Carolina Department of Cultural Resources
State Historic Preservation Office
David L. S. Brook, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary
Jeffrey J. Crow, Deputy Secretary
Office of Archives and History

Division of Historical Resources

September 17, 2003

MEMORANDUM

TO: Greg Thorpe, Ph.D., Director
Project Development and Environmental Analysis Branch
NCDOT Division of Highways

FROM: David Brook Rose for David Brook

SUBJECT: Supplemental Draft Environmental Impact Statement, Phase II Historic Architectural Survey Report of the Herbert C. Bonner Bridge Replacement Project through Rodanthe, B-2500, Dare County, ER90-8304

Thank you for your letter of August 22, 2003, transmitting the Phase II Historic Architectural survey report by Frances P. Alexander of Mattson, Alexander and Associates, Inc.

For purposes of compliance with Section 106 of the National Historic Preservation Act, we concur that the following properties are listed in the National Register of Historic Places:

Chicamacomico Life Saving Station, including the Chicamacomico Boathouse on NC 12 at the junction with SR 1247, Rodanthe

For purposes of compliance with Section 106 of the National Historic Preservation Act, we concur that the following property is eligible for listing in the National Register of Historic Places under the criterion cited:

The Rodanthe Historic District on the east and west sides of NC 12 and roughly bounded to the north by Myrna Peters Road and to the south by Joseph Midgett Road, Rodanthe, is eligible under Criteria A: Social History and C: Architecture. The district encompasses eight primary resources, six of which are contributing. The Chicamacomico Life Saving Station and the Chicamacomico Boathouse are included in the district. The Rodanthe Historic District is a rare survivor of a well-preserved fishing village surrounding a life saving station. The district illustrates Dare County life in the pre-tourism age of the mid-twentieth to late twentieth century. The district includes a property type unique to the Outer Banks, the life saving station. In addition, the area encompasses persistent domestic architectural forms and the introduction of nationally popular designs during the early twentieth century.

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	Location	Mailing Address	Telephone/Fax
ADMINISTRATION	507 N. Blount St., Raleigh NC	4617 Mail Service Center, Raleigh NC 27699-4617	(919) 733-4763 • 733-8653
RESTORATION	515 N. Blount St., Raleigh NC	4617 Mail Service Center, Raleigh NC 27699-4617	(919) 733-6547 • 715-4801
SURVEY & PLANNING	515 N. Blount St., Raleigh NC	4617 Mail Service Center, Raleigh NC 27699-4617	(919) 733-6545 • 715-4801

We concur with the proposed National Register boundaries as described and delineated in the survey report.

We believe the Rodanthe Historic District is also eligible for the National Register under Criterion B for its association with the famous Midgett family and heroic rescue operations from the Chicamacomico Life Saving Station.

We are unable to determine the status of the family cemetery associated with the Payne House. Please provide us with a revised Rodanthe Historic District Site map that indicates the cemetery's contributing or non-contributing status.

For the purposes of compliance with Section 106 of the National Historic Preservation Act, we concur that the following properties are not eligible for the National Register of Historic Places:

No. 2 (former) Rodanthe School
No. 3 House

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

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763. In all future communication concerning this project, please cite the above referenced tracking number.

cc: Barbara Church, NCDOT
Frances P. Alexander, Mattson, Alexander and Associates, Inc.

North Carolina Department of Cultural Resources
State Historic Preservation Office

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary
Jeffrey J. Crow, Deputy Secretary
Office of Archives and History

Division of Historical Resources
David L. S. Brook, Director

CITIZENS PARTICIPATION
RECEIVED
APR 29 2004

April 26, 2004

MEMORANDUM

TO: Matt Wilkerson, Archaeology Supervisor
Office of Human Environment
NCDOT Division of Highways

FROM: David Brook Pete for David Brook

SUBJECT: Final Report: Bonner Bridge Cultural Resources Survey and Diver Assessment of Submerged Targets, NCDOT Division 1, B-2500, Dare County, ER90-8304

Thank you for your letter of March 15, 2004, transmitting the final report by Panamerican Consultants, Inc. (PCI) for the above project. During the course of the survey and diver investigation, PCI located no significant archaeological sites within the project area. Therefore, we concur with the report's recommendation of no additional archaeological investigation and a finding of "no historical properties affected" for the bridge replacement project.

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

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763. In all future communication concerning this project, please cite the above referenced tracking number.

cc: Michael Krivor, Panamerican Consultants, Inc.

A-76

CITIZENS PARTICIPATION
RECEIVED
JUN 23 2005

North Carolina Department of Cultural Resources
State Historic Preservation Office
Peter B. Sandbeck, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary
Jeffrey J. Crow, Deputy Secretary

Office of Archives and History
Division of Historical Resources
David Brook, Director

June 21, 2005

MEMORANDUM

TO: Matt Wilkerson
Office of Human Environment
Project Development and Environmental Analysis Branch

FROM: Peter Sandbeck Pete for Peter Sandbeck

SUBJECT: B-2500, Herbert C. Bonner Bridge Replacement Project, Federal-Aid Project Number BRNHF-12(24), State Project Number 8.1051205, Division 1, Dare County, ER 90-8304

Thank you for your letter of February 1, 2005 concerning the above project. We apologize for the delay in our response.

Your letter states that the study area for this project has been expanded to include the maintenance of NC 12 in the Pea Island National Wildlife Refuge, and, as a consequence, your staff conducted background research to evaluate the potential for this maintenance to affect archaeological resources eligible for inclusion in the National Register of Historic Places. A review of the files at the Office of State Archaeology and the results of past archaeological investigations within the refuge led your staff to conclude that the potential for historic properties was low.

The coastal dynamics of this area of the Outer Banks is such that the shoreline and the dunes are constantly shifting and migrating. Prior to the construction and stabilization of the dunes by the Works Progress Administration, much of this area was unstable and subject to frequent overwash. The potential for archaeological resources eligible for listing in the National Register of Historic Places is minimal. Thus, we concur with your staff's assessment that no archaeological investigation is warranted in connection with this project.

We are aware of the US Fish and Wildlife Service's concerns regarding the lack of archaeological investigations in the area of the NC 12 maintenance activities. Their letter of March 16, 2005, from Mike Bryant, Refuge Manager, states that if they were to propose significant ground disturbing activities, they would be required to conduct archaeological investigations. While we agree that the 1979 survey by Thompson and Gardner was not an all-inclusive survey of the refuge, they located no archaeological resources in the area surveyed. This absence of resources indicates that additional survey may not be

warranted in other areas of the refuge. Given what we know of the dynamic nature of the area and the artificial creation of the dunes, it is likely that we would not recommend any archaeological investigation prior to ground disturbing activities. If the North Carolina State Historic Preservation Office had been consulted regarding the need for a survey prior to the 1979 study, it is also likely we would not have recommended those investigations. However, that project was administered by Interagency Archaeological Services in the National Park Service and we were not informed of the project until after the fieldwork was completed.

We stand by our earlier concurrence that no additional archaeological work needs to be conducted in connection with this project as currently proposed.

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

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763. In all future communication concerning this project, please cite the above-referenced tracking number.

cc: Paul Mohler, NCDOT

North Carolina Department of Cultural Resources
State Historic Preservation Office
Peter B. Sandbeck, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary
Jeffrey J. Crow, Deputy Secretary

Office of Archives and History
Division of Historical Resources
David Brook, Director

December 5, 2006

MEMORANDUM

TO: Gregory Thorpe, Ph.D., Director
Project Development and Environmental Analysis Branch
NCDOT Division of Highways

FROM: Peter Sandbeck BBfor Peter Sandbeck

SUBJECT: Addendum, Revised Historic Boundaries for the Rodanthe Historic District, Supplemental Draft Environmental Impact Statement, Phase II Historic Architectural Survey Report, Herbert C. Bonner Bridge, B-2500, Dare County, ER 90-8304

On November 28, 2006, staff from the State Historic Preservation Office and the Department of Transportation met at an Eligibility/Effects meeting to discuss the revised Rodanthe Historic District boundaries for the above project.

Staff of the Department of Transportation provided us with a revised map of the historic district boundaries which excludes the non-contributing Dare County Desalination Plant and the Cornelius P. Midgett/Payne House lot. This lot has lost considerable integrity due to the moving of the Cornelius P. Midgett/Payne House to a new site, the loss of the contributing boathouse, and new development.

We concurred with these findings. However, we believe the boundaries should be further refined.to exclude both the wooded lot across NC 12 from the Cornelius P. Midgett/Payne House lot and the Edward/Joseph Midgett Bungalow. The house is isolated from the historic character and setting of the district by modern intrusions.

We recommend that the Rodanthe Historic District Boundaries follow the proposed revised National Register Boundaries in the Addendum to the Phase II Historic Architectural Survey Report, written by Marvin A. Brown of URS Corporation, submitted to our office April 25, 2006, and found on page 36 of the report. We include a copy of this map with this memorandum..

Please note, the Former Rodanthe School remains a non-contributing resource in the historic district.

	Location	Mailing Address	Telephone/Fax
ADMINISTRATION	507 N. Blount Street, Raleigh NC	4617 Mail Service Center, Raleigh NC 27699-4617	(919)733-4763/733-8653
RESTORATION	515 N. Blount Street, Raleigh NC	4617 Mail Service Center, Raleigh NC 27699-4617	(919)733-6547/715-4801
SURVEY & PLANNING	515 N. Blount Street, Raleigh, NC	4617 Mail Service Center, Raleigh NC 27699 4617	(919)733-6545/715-4801

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

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763 ext. 246. In all future communication concerning this project, please cite the above referenced tracking number.

Enclosure

cc: Mary Pope Furr

COUNTY OF DARE
Office of the Board of Commissioners
P.O. Box 1000, Manteo, North Carolina 27954

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June 5, 2006

The Honorable Richard Burr
United States Senate
217 Russell Senate Office Building
Washington, DC 20510

The Honorable Elizabeth Dole
United States Senate
555 Dirksen Senate Office Building
Washington, DC 20510

The Honorable Walter B. Jones
U.S. House of Representatives
422 Cannon House Office Building
Washington, DC 20515

Dear Senators Burr and Dole and Representative Jones:

I am writing to you on behalf of the Dare County Board of Commissioners to request your help in our efforts to replace the deteriorated Herbert C. Bonner Bridge. The Herbert C. Bonner Bridge is an approximately 3.4 mile long bridge which crosses Oregon Inlet and connects Bodie Island (the northern Outer Banks beaches) to Hatteras Island.

The Herbert C. Bonner Bridge was built in 1963 with a useful life of thirty years. It is now thirteen years past its projected retirement date and is in dire need of replacement. The North Carolina Department of Transportation Bridge Inspection Report from June of 2002, rated the condition of the bridge as "poor". On a rating of 1 to 100, with 1 being the lowest possible rating and 100 being the highest possible rating, the Bonner Bridge was rated as a 4.

The Herbert C. Bonner Bridge is the only means of access to Hatteras Island for the 4000 local residents and 2.5 million annual visitors. The average daily traffic flow across the bridge exceeds 5,000 vehicles per day which doubles to approximately 10,000 vehicles per day during the summer vacation months. In the event of a bridge failure, the only alternative access to Hatteras Island would be to set up a ferry service from the Village of Rodanthe on Hatteras Island to the Village of Stumpy Point on the Dare County mainland. However, at most, a ferry service could transport only 1,300 vehicles per day.

Ferry service would cut the flow of traffic between Hatteras Island and the rest of Dare County by 75% on an average day and by 87% during the peak season.

The negative impacts of a bridge failure to Hatteras Island and Dare County are obvious. The Hatteras Island economy accounts for 27.42% ($71,210,613.00) of Dare County's occupancy taxes and 12.10% ($20,078,139.00) of Dare County's meals taxes. In addition, Hatteras Island accounts for 20% of the taxable property in Dare County with 8,320 taxable parcels valued at $3.1 billion dollars. The loss of the Bonner Bridge would significantly reduce these meals and occupancy taxes and would result in a dramatic reduction in property values on Hatteras Island. These losses would not only cripple the Dare County economy, but would devastate the residents of Hatteras Island.

Because the useful life of the bridge expired in 1993, planning for a new bridge has been on-going for many years. The original bridge replacement plan was to build a new 3.4 mile long bridge immediately west of the existing bridge. The U.S. Fish and Wildlife Service, which controls the property at the northern tip of Hatteras Island (where the current bridge terminates), objected to this plan and since that time has steadfastly refused to allow the southern terminus of the bridge to attach to the northern tip of Hatteras Island.

Since 1993, many discussions have been held, environmental impact studies prepared and public hearings conducted in an effort to resolve disputes with the U.S. Fish and Wildlife Service in order to resolve differences with the U. S. Fish and Wildlife Service and to allow the replacement of the Herbert C. Bonner Bridge. After 13 years of discussion, the options for bridge replacement have narrowed to two alternatives. The first of these alternatives is known as the "corridor one alternative" or the "Short Bridge Alternative" and the second alternative is the "corridor four alternative" also known as the "Long Bridge Alternative".

The Short Bridge Alternative is a six mile long bridge that would extend from the southern tip of Bodie Island to an area several miles south of the southern terminus of the Bonner Bridge. The cost of this bridge is approximately $461,000,000.00. As with the original bridge replacement proposal, the U.S. Fish and Wildlife objects to the terminus point of this bridge alternative.

The Long Bridge Alternative is a bridge through the Pamlico Sound which is approximately 17 miles long and which begins at the southern terminus of Bodie Island and terminates just North of the Village of Rodanthe. The cost of this bridge is in excess of $1.02 billion and, apparently, is the preferred alternative of the U.S. Fish and Wildlife Service.

Funding for the Short Bridge Alternative exists. Funding for the Long Bridge Alternative does not exist and is not available from the State of North Carolina. The cost of the Long Bridge Alternative would exceed the budget for all road projects in North Carolina next year. The citizens of Dare County and the visitors to Dare County are now in the untenable position that a fully funded replacement bridge, that is the only means of

ingress and egress to a vital part of the county, that all agree is in dire need of replacement, that borders upon being dangerous to the traveling public, cannot be constructed because of the bureaucratic objections of the U.S. Fish and Wildlife Service. In the alternative the U.S. Fish and Wildlife Service proposes a seventeen mile long bridge which far exceeds the entire budget of the North Carolina Department of Transportation and is financially unfeasible. As a result, for the past thirteen years and for who know how many years into the future, the residents and visitors to Hatteras Island have been required to use, and will continue to be required to use, a bridge in poor condition and which all agree is in dire need of replacement.

The Dare County Board of Commissioners has done everything possible to resolve these issues. They have been unsuccessful in their efforts and the replacement of the Herbert C. Bonner Bridge does not appear to be any closer at hand. Hurricane season is approaching and we can only hope that the bridge will survive this season and at least several subsequent seasons, given that we are several years away from the completion of a new bridge, even if the current impasse is resolved immediately.

The time to act is now. Government, of which you and the Dare County Commissioners are a part, should not wait until a catastrophe occurs before acting. I am writing to you on behalf of the Dare County Board of Commissioners, the people of Dare County and the millions of visitors to Dare County, to request your help to resolve what has become a frustrating and untenable problem. We ask for your help in obtaining the necessary authorizations from the U.S. Fish and Wildlife Service as well as any other Federal agencies, to authorize the Short Bridge Alternative and thereby allow construction to begin again as quickly and economically as possible. If that cannot be accomplished, then we are asking for Federal funding to pay the cost of the Long Bridge Alternative in excess of the funds available from the State of North Carolina. Federal funding would allow the Long Bridge Alternative to be constructed and would allow us to begin construction in the near future. It is imperative that some action be taken now so that a bridge replacement project, that all involved parties agree is necessary, can begin before the current bridge is destroyed by a storm or continues to deteriorate to a point it is no longer safe to traverse and ruins the lives of many in this area.

Thank you for your assistance in this matter and I look forward to hearing from you in response at your earliest opportunity.

Sincerely,

Stan White
Chairman
Dare County Board of Commissioners

Appendix B

Corridor Public Hearing Transcripts and Comments

B. Corridor Public Hearing Transcripts and Comments

This appendix contains the hearing transcripts for the Public Hearings that were held for the Supplemental Draft Environmental Impact Statement (SDEIS) in November 2005, as well as for the Supplement to the SDEIS in March 2007. This appendix also contains copies of written public comments on the two environmental documents.

NOVEMBER 9, 2005 SDEIS PUBLIC HEARING TRANSCRIPT B-3

NOVEMBER 10, 2005 SDEIS PUBLIC HEARING TRANSCRIPT B-14

MARCH 28, 2007 SUPPLEMENT TO THE SDEIS PUBLIC HEARING TRANSCRIPT B-26

MARCH 29, 2007 SUPPLEMENT TO THE SDEIS PUBLIC HEARING TRANSCRIPT B-37

WRITTEN PUBLIC COMMENTS ON THE SDEIS AND THE 2007 SUPPLEMENT TO THE SDEIS B-53

(alphabetized by last name of commenter)

A B-53

B B-55

C B-79

D B-87

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G B-109

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NON-GOVERNMENTAL ORGANIZATION (NGO) COMMENTS ON THE SDEIS AND THE 2007 SUPPLEMENT TO THE SDEIS **B-240**

Audubon North Carolina **B-240**

Cape Hatteras Electric Cooperative **B-243**

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NC Sea Grant **B-264**

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Southern Environmental Law Center **B-267**

OFFICIAL CORRIDOR PUBLIC HEARING TRANSCRIPT
NC 12 Replacement of Herbert C. Bonner Bridge
Over Oregon Inlet
Dare County Justice Center
November 9, 2005
TIP # B-2500

Okay, it's reached that time to begin so we'll try to start. If we could have your attention, we'll begin. First of all, good evening ladies and gentlemen. I would like to welcome you to this evening's public hearing on the location of the NC 12 replacement of the Herbert C. Bonner Bridge over the Oregon Inlet. My name is Carl Goode and I'm the Human Environment Unit Head from the Department of Transportation. I'll be your moderator for this evening's public hearing.

Before I continue, I would like to introduce to you some other people here with us this evening, representing various functions within the Department, all of whom either have or will have a role in this project at some point in time. So with that, I would like to introduce Dr. Greg Thorpe who is the Environmental Management Director for the Department of Transportation. With the Project Development and Environmental Analysis Unit, Greg is the head of that, we have Rob Hanson, Brian Yamamoto, John Conforti and Beth Smyre. From my office, we have Ed Lewis and Mr. Jamille Robbins. Jamille has been outside there. From Roadway Design, we have Scott Blevins. From our Right of Way Department, we have Albert Joyner and Mike Kinlaw. From Federal Highway Administration, we have Mr. Ron Lucas. From the private engineering firm, Parsons, Brickerhoff, Quade and Douglas, we have John Paige and Roland Robinson. Also with the Project Development and Environmental Analysis Unit, who was outside managing the table Mr. Roy Shelton. From the US Army Corps of Engineers, we have Mr. Scott McClendon. Scott's with the Regulatory Division. He's not with the Division folks. He wanted everyone to know that so that you wouldn't ask those types of questions. He's with the Permit folks.

Does everybody have a handout? If you don't, we've got plenty more. Raise your hand if you don't. There's a lot of information in there. I wanted to go through some of it with you.

Now tonight's public hearing is one step in our process which makes you, the general public, a part of our planning process and decision making process. So we're here tonight to solicit your views on this project, the alternatives that are being presented for this project. That's a very important part of the process and does have a big role to play in the decision making process of this type of project.

We encourage you to participate. You can do that in several ways. You can speak here tonight. This is a formal session, it is being recorded. We will have a transcript made of the recording that will be available to you if you so request. You can also use the comment sheet that's attached to the back of your handout. It's got my name and address and contact information. You can use that or any other letter form of whatever to contact us. Send in your comments. Those written comments are reviewed the same and

considered the same as spoken comments. Or, you can do both. So you could speak and submit comments. We solicit all of your comments. We want to hear from you regardless of your opinions or what thoughts or feelings you have on that. That's fine. That's part of being in this country, you are free to speak how you feel.

A couple of ground rules though we'd like to go by when you do that is first of all this is not a public debate, this is a public hearing. I'm not going to debate with you. There's no way I can win against any one of you and certainly not against all of you. So, we are not going to get into that. We ask also that you not debate among yourselves. That's not going to solve anything. If you have different opinions and you want to speak them, that's fine. I just ask that you allow the people with different opinions to speak in the same manner that you would like to speak. Give them the same courtesy that you would like. So with that, we'll have a fine proceeding this evening.

All of your comments and gathered and these comments may be submitted for 30 days or so from actually tomorrow which happens to fall on a Saturday so I put the 10th I there but I think the 12th. That is a guaranteed time. You can submit comments any time you want afterwards. But, we typically meet sometime right after the comment period internally to go over all these comments. Each one is reviewed. Each one is considered. We try to incorporate comments that we can. The 30 days is just a guaranteed time that will get considered at that time. It doesn't mean they won't ever be considered. It just means at the time that we meat to consider them, that is just a guaranteed time. We will meet internally with various representatives from different agencies and with folks from within the Department. Minutes will be kept of that and those will be available upon request as well.

Now the Herbert C. Bonner Bridge was built in 1962 and is nearing the end of its useful life. So because of that, we're trying to find a replacement for it, and alternative to replace that. Obviously it needs that. So this is the only access or the only highway to the southern Outer Banks and between Hatteras Island and Bodie Island, particularly the bridge. It's on the highway access. There's some theories there, but it's the only highway access that we have. Of course, the replacement structure will save us and serve the same function as the current bridge.

The purpose of the project is to provide a new means of access from Bodie Island to Hatteras Island, for its residents, businesses, services and tourists prior to the current bridges' life. To provide a replacement crossing that takes into account natural channel migration expected through the year 2050 and provides flexibility to let the channel move. It will provide a replacement crossing that will not be endangered by shoreline movement through the year 2050.

Now these are purposes . These are big complicated tasks. There's a lot that goes into doing these.

Now there are essentially two alternatives that we are presenting here tonight for comments. I'll go through those in a little detail with the maps a little later. There's a lot of verbiage in there about each one that I'll leave most of it for you to read. Basically, we're looking at the long bridge or the Pamlico Sound Bridge Alternative which goes out

into the Sound several miles west of Hatteras Island beyond the submerge of aquatic SAV's to have minimal environmental impact to those. We're looking at a parallel bridge alternative that parallels the existing bridge and connects back to NC 12. Now that with that alternative there are three options associated with it. One is using the existing NC 12 with a beach nourishment over a period of time to maintain existing NC 12 as it stands for the next 50 or so years. The other option, another option, is what we call "Bridge South/Road North" which relocates NC 12 to the northern part of the project a little bit to the west to get far enough from expected beach erosion so that the road can be preserved. And, on the South to have a bridge that goes out into the Sound somewhat and comes back into Rodanthe. The third option there is all bridge that starts basically at the end of the parallel bridge and goes to Rodanthe primarily along the island that is west of the existing NC 12.

So we have essentially two decisions/points. One is to select alternatives, if the parallel bridge alternative is selected then we have three options with that. I'll point those out in a little bit in a second. I would like to also introduce to you Mr. Stan White, our Board of Transportation Member who has entered in the back there. But those options are explained in a little bit more detail in your handout. It goes through a little bit of what each one is and the length of each section. It's a lot of detail there. The Environmental Document, the Supplemental Draft Environmental Impact Statement have a tremendous amount of extra detail in that if you choose to read that and there are locations listed in your handout where that may be accessed.

With that … . *(screeching sound heard momentarily)*… It worked then. Okay. We'll just go to Plan B. We never know when the wireless mics … they are very temperamental things. They change around in different locations and depended upon if you have fire stations or TV stations or whatever in the vicinity sometimes that interferes. We'll go to the all tried and true method.

We have here are corridor maps that essentially show the two corridors. On the wall we have these broken down. That's the Pamlico Sound Corridor. This is the parallel bridge corridor. Here they just combine into one map. If you were here this afternoon, over in the next room, we've got more detailed maps to cover the wall and the whole room. They'll be available after the formal session if anybody wants to go look at those. We'll have people over there to answer any other questions you may have about those as well.

Essentially, the east corridor begins in Rodanthe and ends at Bodie Island pretty much at the northern terminus of the existing bridge. So the Pamlico Sound Corridor is fairly simple in terms of explaining it to you. It's a bridge that starts at Rodanthe. There are two options for the terminus there. One, is a curbed option where NC 12 will come and continue on as a curb. The existing NC 12 would key into that at a traffic signal probably, well not at a traffic signal but at this time we don't know but it would be an intersection there. The other option as you come straight in as intersection NC 12 would continue across. One would "t" and one just curves in.

There are some relocations associated with either of those options up to six homes and six businesses with one of them and 5(homes) and 1(business) with the other I think. So we're talking about a 17 ½ mile bridge that is essentially a two lane bridge with 8 foot

shoulders. The section through here would be about 10 foot above the water level. It comes out into the corridor and running out into the sound. I guess it can extend beyond the submerged aquatic vegetation. It comes back in to where the existing bridge is on Bodie Island. The navigation spans are projected to be, well the navigation width between 1600 and 2000 feet. The bridge there would be about 75 feet high. The exact location of that is not known. It will have to be coordinated with the Coast Guard and the Corps of Engineers a little later. So then it will touch down back here near the northern terminus of the existing bridge. The parallel bridge corridor again will start at Rodanthe and essentially come up the island. Then there will be a bridge parallel just west of the existing bridge that will touch down near where the existing bridge is. Within that, this corridor, there are three options that we are proposing. One is maintaining existing NC 12 and by that it means that several spots will be new beach nourishment which we anticipate will require nourishment every four years for approximately the next 50 years to maintain it in our project span. Also with that will be several 10 foot dooms to be put in at certain times and then maintained during the life of the project.

The Bridge South Road North Option, it is hard to see over there, but basically a bridge will come out of Rodanthe somewhat out into the Sound and then touch down back in here. Then NC 12 will be moved to the west of existing NC 12 so that it can be maintained on fill for the rest of the project there. Basically it will be moved about 230 feet west of the projected shoreline.

The other option pretty much follows the road north there and comes down on it own All Bridge. So there are three of those options with the parallel bridge. It gets a little complicated and there are various ways you can do that. You can mix and match those. It can be any combination of those three alternatives are also potential and those are things we have to look at and study as we go along. Once we make decisions of which corridor to select.

Now if you look in your handout there, you will see relative cost, estimated cost for each one. The Pamlico Sound Bridge with the curb terminus, as I mentioned to you earlier, is projected to be $423.7 million dollars; the intersection terminus is $419.4 million dollars, with the parallel bridge the nourishment cost and this is the overall cost over the life of the project, $629.5 million dollars, the road north/bridge south is $299.3 million and the all bridges is $488.7 million.

Now on the next pages you see some typical sections. By typical section, we mean if you cut a slice out of the roadway and turn it on its side that is sort of what it would look like. The top one is the bridge typical other than the Oregon Inlet Bridge which it shows two 12 foot lanes and 8 foot shoulders. That is proposed to be wide enough to just carry the two lanes of traffic. Also to provide turn-around space of some body has to make a U-turn or somebody is disabled on the side, it will give room to go around it. It is also wide enough for helicopters to land on it, a rescue helicopter of some sort.

The Oregon Inlet Bridge is proposed to be 36 feet wide, two 12 foot lanes and two 6 foot shoulders. The typical roadway would be 12 foot lanes, one in each direction with 8 foot shoulders.

Then you have a map that just basically shows the location of the two corridors.

As we referenced, again, the last sheet is a comment sheet.

I do need to go through a little bit of right of way information. Once the project is staked or designed, the project will be staked out. If you are affected by the right of way of the project, a right of way agent will set up an appointment and meet with you and go over the project with you and show exactly how you are affected. He will ask you questions about your property so they can ascertain as much information as possible about the property to help them to make and assessment of that. In so doing, in exchange for property rights, we pay current market value of that property that is required for the project. If you are a relocatee, that is if your home is to be purchased/relocated or your business, the agent will also inform you of your rights there, explain the process to you and explain exactly how you are affected. He will provide assistance to you for relocation assistance. If you want, they can help you find comparable housing. They can help you with moving expenses. If you qualify, they can help you with additional monies for variances and the market value of a comparable house, the differences in rates, moving expenses, closing costs and things like that. So it's a good program where we try to work with individuals as much as possible to make any move as painless as possible. During this process, we must treat all owners and tenants equally, must pay just compensation in exchange for property rights. We must initiate any legal actions if a settlement cannot be reached. If you have other questions, we do have some brochures and we do have some right of way agents back there who will be glad to talk to you after the hearing.

With that, I would like to open the floor up to those of you who wish to speak. We did provide an opportunity for you to sign up prior to tonight's hearing. This just makes it go a little bit more orderly. We did ask that you keep your comments to five minutes or less. If you need additional time, once those who have signed up have spoken, we will provide other opportunities after that for you to speak more or if anybody didn't sign up, after this we will give you the opportunity to speak as well. You can ask questions. Among us all, we'll try to find an answer for you tonight. If we can't we'll get you an answer later.

With that, the first speaker is Mr. Bruce Austin. If you would come up and use the microphone so that everybody can hear you and so that our tape recorder can hear you. Thank you. Mr. Austin.

Bruce Austin: Thank you. I'm Bruce Austin and I am the Chair Elect for the Outer Banks Chamber of Commerce and I am here representing the Chamber of Commerce. I would like to thank DOT for giving us an opportunity for coming out here and expressing our views regarding this important project.

As everyone knows, Bonner Bridge is 42 years old and has probably long outlived it useful life and needs to be replaced as quickly as possible with a bridge that is capable of being constructed within the necessary time frame to maintain full transportation to and from Hatteras Island for which funding is reasonably obtainable in the immediate future. We can no longer afford to delay the construction of this bridge.

Hatteras Island and Cape Hatteras natural seashore are national treasures which attract millions of visitors to this area. Lost of access to Hatteras Island over any amount of time would have an extremely negative affect on the economy of the island, Dare County and the State. Hatteras Island represents approximately 30% of Dare County's revenue base and Dare County is one of four counties that contributes to the State "coughers" in other words give more than they take back.

On the average, over 5000 vehicles a day travel over the bridge and during the peak season this reaches as high as 10,000 vehicles a day. Access would be severely reduced if the bridge were closed. An alternative method of access for Hatteras Island was put in place such as the ferry system. A ferry system would only be allowed to move approximately 13 vehicles a day and would effectively reduce the flow of traffic to Hatteras Island but 75% percent on average, and on up to 80% during the peak season. It's not hard to see how this could have a devastating economic and human impact on this area and the State. Any bridge built needs to maintain access to the northern end of Hatteras Island which is a vital fishing and recreation area within the P Island National Wildlife Refuge; and maintain access to the state owned historic Coast Guard Station which is on the south side of Oregon Inlet.

We need to insure that the southern groin remains in tact and the removal of the groin will hasten the migration of Bodie Island and make navigation through the inlet even more hazardous than it is today. In addition, the removal of this groin will be an unnecessary expense.

We also need to consider the construction of a groin on the northern side of the inlet to protect the new bridge. Without a hardened structure, Oregon Inlet will never be saved. The shorter bridge alternative coupled with a groin, will cost less and allow for continued access by the residents and visitors to the public lands of northern Hatteras Island and assure safer navigation of the inlet into the future.

We waited long enough. Let's get started on the replacement for the Bonner Bridge to protect the economic vitality of the island, Dare County, and its contribution to the State. The safety of the residents and visitors and access to the many recreational opportunities on the islands.

Again, I would like to thank you for the opportunity to speak to night.

Moderator: Thank you Mr. Austin. Jan DeBlieu.

Jan DeBlieu: Good evening. Can you guys hear me? Okay. This is a really hard issue. I am speaking tonight for the North Carolina Coastal Federation. I'm the Hatteras Coast Keeper. Just as much as that, I'm speaking as someone who really loves the island.

I was there last weekend. I will be there this weekend, probably. It's no exaggeration to say that Pea Island was one of the main reasons I moved to the Outer Banks 20 years ago. I have been really torn on this issue because I want to be able to go there. I want it basically not to change. I love it. I always want to have ready access to it.

But change is part of living on a barrier island, there is no way around it. Fighting it is pointless. I have, after watching this for years, I have come to the conclusion that there is no way to maintain a road in its current position down the island without extreme engineering that is going to completely change the natural beauty and quality of Pea Island that I love. Even with *(Inaudible)* nourishment, can be done well without huge environmental cost. How would it be funded? We can't get the money to re-nourish Nags Head, Kill Devil Hills and Kitty Hawk. How are we going to fund the re-nourishment of Pea Island? Even if we find a way, what are we robbing our county of, our schools, our wonderful communities? What are we be spending? What might we be spending that $630 million dollars on besides future nourishment?

Barrier islands shift and migrate. That's a well known scientific fact. The traffic projections in the Draft EIS call for the number of cars using Highway 12 on average summer weekend to nearly double in the next 20 years. To me, that is exactly incredible. Double the amount of traffic in the next 20years. That means we need to maintain a major highway down Pea Island. How are we going to do that?

When I first heard about the proposal to build a bridge down part of Pea Island, I guess the it was the road north/bridge south, whatever it is, I was really excited because I thought what a great answer. It was the best of all possible worlds. A closer look left me with a lot of questions. The DOT engineers tonight help me answer them. The most important question, what happens when the ocean cuts the island in two or in three? The scientists who have studied this proposal agree that this is bound to happen sometime in the next 50 years. What happens? Pea Island will be cut off. I look at the bridge option and I thought, great maybe the bridge will withstand the force of an inlet or a breeze or whatever you want to call it being cut. But, the engineers here tonight tell me that they don't know if that bridge will be able to withstand a major storm. Those questions haven't been answered.

So, in terms of a reliable access the Pea Island or to Hatteras Island, bridging Pea Island through the refuge leaves that liability in serious question.

Financial costs and environmental costs, that is a question that we're trying to answer here tonight. Which is best? In terms of comparing financial cost, it is very, very clear that the bridge components will last for 100 years. This is consistent with a conversation that I have had with DOT engineers over the past few years. Yet the two options, the parallel corridor and the Pamlico Sound Bridge are described as if they will be defunct by 2050 or 2060. No where that I found in the document does it acknowledge that in 55 years the Parallel Bridge, the Parallel Corridor have to start all over again while we can expect the Pamlico Sound Bridge to be in place and functioning for 100 years. The two strongest arguments against the bridge are expense and the environmental cost caused by storm water run-off which is a significant concern to me, an absolute concern to me. Storm water is our biggest coastal pollutant at this point. There is no way to design a storm water collection system for the bridge. It bothers me a lot. However, if those cuts or inlets or breeches are allowed to stay open because there isn't a road that is depended on Pea Island. If those cuts are allowed to stay open, water quality will be flushed. Water quality will be better and that will help mitigate the storm

water coming off the bridge. Water quality is a huge consideration, you know, for all of us. We want to maintain our coastal resources.

I know there are people here tonight who have lots and lots of issues about access to Pea Island about the terminal groin. I think these issues can be dealt with and still have the Pamlico Sound Bridge. In terms of access at the island, you know, I think that we should ask the official Wildlife Service for a memorandum of understanding to guarantee public access to Pea Island. They guarantee access in other areas of the country, there's no reason it can't be done here.

You know, I know a lot of people don't agree with what I have to say tonight, the one thing that I want to remind everybody, is that we are here to try to figure out to best provide a reliable highway long term for Pea Island and Hatteras Island. You know, long term for the least financial and environmental cost. As the information in the Draft Environmental Impact Statement clearly shows the answer to that is the Pamlico Sound Bridge. Thanks.

Moderator: Thank you Ms. DeBlieu. Arthur Hammond-Tooke.

Arthur Hammond-Tooke: Good evening. My name is Arthur Hammond-Tooke. I am a resident of Frisco. I have been here long enough to live through a bunch of hurricanes. I speak tonight from the position of the Windsports Industries particularly kite boarding and wind surfing and the importance to those industries and to most industries here of tourism's.

I totally agree with so much has been said first of all by Mr. Austin about the importance of maintaining the road access for tourism. The fact is that tourism brings to island at least $350 million dollars a year and better a billion dollars worth of real estate investment. That money is essential to maintain the island, its residents, its communities and to pay for the assets, the transportation assets that we need to support tourism and a way the life that we need to support for the future. The point is that we need to realize that if we have a break in the system which runs for more than a few weeks or months then we can see a deterioration in that income stream and then all of these things that we have and hold today that could disintegrate. So along with Jan DeBlieu, I would also like to point out that we have an amazing opportunity to look into the future and make decisions which are long term and which are not based on the next few years or the position that we see at the moment. It seems that we have a opportunity and in fact the requirement to look ahead at two conflicting things. First of all, the fact that the island is eroding and Pea Island is eroding the sea shore is migrating at least 10 foot a year and then in some cases more than double that. That has to be taken into account and is taken into account in the estimation which is made here on the potential movement of the sea shore over the next 50 years. The question is whether that is enough to be prudent. I think that there is in fact a good question as to whether, as has been pointed out by Ms. DeBlieu, that indeed a 250 foot barrier between the island where it would be in a few decades time and a parallel roadway along Pea Island maybe too little a barrier. The risks of having the road systematically cut or eroded or made impossible are indeed considerable. The further that you predict this into the future, the greater those risks are.

So I think in fact what we have to do is to consider also another danger that we see to the flow of tourist dollars and the maintenance of tourists that desire to come here. That is the nature that at Bonner Bridge that we love may have to actually be closed for safety reasons. There is going to be an inspection, again this year with the view to next year with the evaluating what could be done to fix the problems. Unfortunately, we may be facing a situation in the next year or two where the bridge will be closed unless we can find a means of putting in temporary repairs.

Now how long would we have to keep the bridge together, unfortunately the best estimates for all of these projections are that nothing would be in place before the year 2012 and maybe 2015. So this is a very long time that we have to keep the Bonner Bridge operation. We also would have to keep the Pea Island access open for at least that period because nothing else is going to keep transport coming down here without those two key transport elements in place.

So, all of this suggests that what we need really to consider is as the only practical option for the long term is the Pamlico Sound Corridor because then at least we know it is likely to survive whatever else goes wrong in the coastal picture here. If we however make that decision and really tonight is all about getting information and compressing it into a decision structure. If we make that decision, we have to address two very important, two essential points of concern to most people in this room. The firsts is, access to Pea Island. We have to find solutions to that problem whatever route we suggest. We can't make the route contingent on a solution to access Pea Island. Equally important, is the navigability of the Oregon Inlet for the fishing and boating industry. This is absolutely vital but that is being protected on the southern groin. In fact, any change in the bridge, any change will void the permit for the groin. So, what we need to do is to place this as a separate agenda item so that we can address this separately and find a solution which transcends the discussion we are having tonight about the way in which we should be looking for our transport futures. These two things, Pea Island and the Inlet Bridge navigation, are essential.

So, I think once we have decided on this we must realize that we have some other problems. The first is that I deal all the time with tourism. I'm hearing people say should I open my windows while I drive over the Bonner Bridge? What's better for my health if the bridge collapses? We have to address the safe access problem and we need to a publicity campaign once we have decided what we want. We also need to have an explicit community and government, that is Federal, State and Local government commitment to the permitting issue, I'm sure we have that because we have huge cooperation for lost of the funding and we have to be involved in the details of that when the time comes. Thank you.

Moderator: Thank you sir. Mr. Steve Thompson. Is Mr. Thompson not here? Mike Daniels.

Mike Daniels: Thank you for the opportunity to be here. I guess I should go ahead and apologize to my partner. This evening I got kind upset a little bit down here. Then when you come to these meetings you are on …. I wanted to talk about it.

My name is Michael Paul Daniels. I'm 79… *(cell phone starts ringing)* Oh this blessed phone. I'm 7949 Borne *(Inaudible)*. I look around and I don't see many local people here. You know I remember when the bridge was built. I've been across the bridge many times. I've been told many times in Hatteras Island that "I'm going to give you 30 minutes to get back across if you get back to Wanchese because I was dating a girl from Buxton down there. But you know, this issue, this bridge has gone on and on and on. We make our living going underneath of it. It's got worse and worse. You know if something is not done, real, real soon, the bridge is going to be torn down

because we're having to turn to go sideways. We're having to go under the high tide and in daylight. So, you got to imagine what we are going through. You people just sail across it and you can go any time you want to go day or night. We're just in a different situation.

We're for the short bridge. We feel really that it's a emergency situation right now that if they put the groin on the north side which would stop the sand from going in to the inlet and would open the inlet up. It would stop the migration of the sand down out at the beach and that would give you some … but if something does not happen and is done to this bridge immediately, we are in some real, real trouble.

When I look at this long bridge and I say what in the world is going on? Who can imagine putting this thing in the middle of the sound? You know we have tractor and trailers that go to Fulton Fish Market. We go every day, five days a week. You know coming back across Chesapeake Bay Bridge Tunnel, those tractor and trailers are empty and the wind is blowing. They won't let you go across the bridge. Has any body stopped and made any consideration about those people down on Hatteras Island where the wind blows 60 or 70 miles an hour? Are you going to tell them that you can't go across the bridge? I mean there are a lot of things. I look at this big thing in the sound and we can't fish. What is it going to do? Are there any studies that have been done or what's going to happen to all of the grass or all the fish? What is going to happen? You know we've got a simple problem here. So many people have got involved and I love Jan DeBlieu to death. So many environmentalists have got involved with this thing that it has made this thing a monster. You know, enough is enough. I mean, these people in Hatteras have got to get back and forth to work and we have got to be able to go fishing. I was coming from Plymouth, I think December 28th or 29th and I counted coming back from Plymouth, I'm getting 100 boats and trailers that are using that inlet in one hour. It's more than commercial fishing. It's recreational fishing. It's cravenness. It's everything. It's in Pirate's Cove. I hate to say it but I'm going to say, I'm going to tell the truth. In 1990, our Senator passed a rule for no structures on the beach. I think he is wrong and I've told him that. Things need to be changed. You have to have structures on the beach to hold the sand. The same thing for the island down there. When you've got a place that is blowing through there you have got to go back and fix it. Yes, if the ocean could break through down here in Nags Head, you know what they are going to do, they're going to do the same thing they did down in Buxton. You're going to bring a dredge out there if it's 45 inch or whatever, we are going to be shut it back up. That's what we've got to do. We're here. If we're going to leave it be like it is, let's take the rocks away from everywhere. Let's take the rocks away from all the roads. It's no different. How come you can have rocks along the road and you can't have rocks on the beach. I'm not saying put rocks everywhere on the beach but it needs to be studied for these hot spots and if it works leave them there. If it doesn't work, take them up.

This thing has got way, way out of hand. I'm sorry I'm here. I'm sorry I got … but you know I got 10 brothers and 4 sisters and I've had to move my family to another state to make a living. Enough is enough. You know what I mean? You guys don't understand. You're sitting in Raleigh. You know you don't understand how important it is to these guys that have got to get back and forth to work. If you had to

ride that ferry and I haven't rode it in a long time and I'm hoping I don't have to do it any more but it could happen again. Thank you so much for your time.

Moderator: Thank you Mr. Daniels. Bob Muller.

Bob Muller: Let me put this back up high. Thank you very much Mr. Goode for the opportunity to speak. My name is Bob Muller and for the last three weeks, I have the privilege of serving as the Mayor of Nags Head, North Carolina.

My Board took an opportunity to review the EIS at our November 2 Board Meeting. We had a couple of observations that came out of a consensus discussion at that meeting. The first one has already been stated very well by everybody who has spoken and it is the only thing that really matters in this discussion is providing a dependable solution to the transportation problems for Hatteras Island. If people can't get back and forth to Hatteras Island, the discussion is about access, environmental issues, and cost are meaningless. As I understand the EIS, each of these studies, each of these proposals provides (*Inaudible)* a similar engineered solution with a 50 year life's span. If that is the frame work on which we are going to evaluate them then I hope you will use that frame work consistently and not go applying other standards to it because if you wanted a 100 year road on the shore bridge corridor you could then engineer that. So if the bench mark is 50, let's look at 50. With that said, we think the original issue that has not been addressed in the driveability of each of these is the issue that Mr. Daniels spoke to. It's not hurricane evaluation but it's traveling across the Pamlico Sound Corridor Bridge during high wind events. Last May we had a northeaster. We had wind gusts of over 90 miles an hour. Gale force winds are not uncommon on the Outer Banks in the fall and spring northeasters. People drive through them all the time. They can lasts for days and days. This bridge needs to take that into effect because if you are going to stick somebody 8 miles off shore in a semi truck blowing around, they're not going to make it. You're going to end up having serious (*Inaudible)* you're going to end up having serious transportation problems. We're not engineers. You folks are. We hope you'll look at that particular problem.

Additionally for the Town of Nags Head access to Pea Island is an enormously important element to our economy and to the economy of the entire Outer Banks. Looking at the alternatives that were suggested in the EIS by Fish and Wildlife the first one was beach driving. We just don't see beach driving, *(Inaudible)* hazards of the problems we are having on Hatteras Island for beach driving. Beach driving compared to our wild life refuges is not a reasonable alternative. The sand or unimproved river would move the Visitor's Center closer to Rodanthe. Moving the Visitor's Center to Rodanthe is not providing access to the Pea Island wild life refuge. We think the original alternative that provides good safe transportation and provides it at a reasonable cost at an acceptable level of environmental impact and mitigatible level of impact and that's the parallel bridge road north bridge south alternative. The Bridge South addresses the most prevalent and most likely area for the bridge, the road north provides long term protection to the road and the cost is the lowest cost looking at the discounted cost and in terms of total cost. As far as the Nourishment Alternative goes, if the Federal Government wants to spend $40 million dollars on beach nourishment, I know a place where I can do it. And, we would be happy to see it.

We believe the best alternative is the Road North Bridge South Parallel Bridge Alternative. We strongly endorse that alternative to you. Thank you very much.

Moderator: Thank you Mr. Muller. Danny Couch.

Danny Couch: Mr. Goode I do want to thank you and your staff. I enjoyed speaking with you fellows for several times now in regards to this. I think you've done a fine job here.

I'm a life long resident of Hatteras. I'm 8th generation Tarheel. I cannot support this 17 mile bridge. There are some issues that I want to point out. We've reached a point in this issue with the bridge here where we have got to start thinking about the needs of people and I'm going to put it to you this way. I feel like the State of North Carolina is allowed itself to be held hostage by the Fish and Wildlife Service. They have an uncompromising position on what should be done there with their refuge. They call it the crown jewel of wildflower refuge in the United States and I don't doubt that but I would like to remind you that it happened with a public road through it. We don't have tobacco carrying our economy in this state any more. What we do have is tourism. We are going to send the message to 4 million people who visit our beach every year that if we build this 17 ½ mile long bridge, we're going to effectively tell the Federal Government that we want you to manage our beaches for us. We're going to effectively shut down 20% of the finest most glorious beach in North Carolina the Cape Hatteras National Sea Shore, and depend on the Feds to allow us access. They have difficulty running the refuge, they're going to have difficulty running reasonable access to people who want to go to the beach.

My children and their children have earned the right to be able to continue to make a living based on the legacy of good judgement that we've had with our Department of Transportation these many years. I would like to see that continue. I would like to see them take the initiative here to not compromise our ability to make a living by denying access of up to 20% and also to continue to provide the great quality of life that we enjoy on the Outer Banks. I'm a small businessman. There are small business people in here. We live and die every day. When we put ourselves in the position here where we've knocked ourselves out to build the Outer Banks into a world class designation, certainly one of the finest beaches in the United States, what kind of message are we sending to people of what we've done in the past has not been good enough for you here and we're going to go ahead and change things. It's just going to give people some incentive to go somewhere else. We can't have that , there's too much at stake here now.

I would like to ask the Department of Transportation to take the initiative here and be the champion of providing traditional access that has served us well for several decades. Look in here at some of the figures here, the Pamlico Sound Bridge versus the Parallel Bridge. You know I see a figure here for nourishment of $629 thousand dollars, 629.5, I question here. Yes beach nourishment is expensive but I question how that seems to be an elevated figure. If your idea was to give me sticker shock well you have done it. I would like to say this, we have tourism benefits all 100

counties in the state. If we've got to move a little bit of the sand around so people can continue to enjoy what is in North Carolina scenic byways right on through and experience what it's like to drive down a barrier island, then let's do it. We provide, we supplement tourism with our ferries, the Hatteras and Ocracoke Ferry. Down there people marvel at that. It's what brings them back. The Outer Banks is a region. It's not little municipalities in any of the unincorporated areas. People want to experience the entire Outer Banks. We have the upper $175 miles of whatever figure of the Ocracoke to continue to provide a first class visitor experience. If we build a 17 ½ mile bridge, I read out here on one of the boards that it would be a tourist attraction. When is concrete and steel a tourist attraction? I agree that I would submit to you that being able to drive down that wild barrier island we have got to move a little bit of sand. That is some serious aesthetic beauty here, not concrete and steel. Thank you sir.

Moderator: Thank you Mr. Couch. Ben Sproul.

Ben Sproul: Thank you again for having us here today. We really appreciate you taking the time to listen to what we have to say. My name is Ben Sproul, I a long time resident of this area. I'm speaking to you as just a resident but I'm also speaking in several other capacities. I'm the new president of the Restaurant Association, one of the major engines of the economy here and also given to the state as someone else pointed out. I'm also sitting as President sitting on the Transportation Advisory Board and on the Outer Banks Transportation Task Force.

I do a lot of thinking about the transportation issues as well as members as of the association do. Of course, they're concerned about the recreational aspects that we need that we don't want to loose. I'm a big fan of Pea Island and as a person I would go down there all the time. I've got a bunch of friends that have put together that organization that you might have heard of and probably have read about called "Save Pea Island. Org". They collected thousands of signatures via email saying hell no to the 17 mile bridge. I was surprised that there was anybody that lived here that was for it. I've even addressed some of those concerns myself. I'll just go off on that tangent right now which is you know that area that washed out during Isabel. It's fresh in all of our minds because it was a terrible time for the folks to go through down there and the entire area we lost a lot of business. The restaurants particularly felt it even all the way up in Duck. We felt it because the whole area thought about that big breech. This bridge does not address that problem spot. We're never going to stop all the hurricanes from coming and knocking us around at some point , we've gotten use to and it is something that we'll live through again and again. God help us.

This bridge right here, I don't see anything going for it, myself. I see it as a feather in somebody's cap of the "Amazing Bridge Builders of America" will probably be excited about it. Maybe there's a "I Like Driving on Mom's(*?*) Bridge" Club. But nobody around here is a member.

Well let me move on down here. That was interesting that little thing that you guys have. I love the little stickers. It's a great way to have a meeting. However, I think you were a stretch for reasons to do this. Yes, we've got access because we've got at bridge that is 30% passed it's life span because we can't get a decision made about this

thing and it's ticking everybody off. But the little post its, all we're talking about here is access. Yes we've got the Fish and Wildlife at the table, we've got several other Federal agencies at the table and everybody is doing their part to get concurrence points, I believe that's the language. Hopefully, everybody is working together to get to a plan that everybody can sign off on because nothing is going to make everybody happy. That's going to make the most people unhappy around here I'm here to tell you. When it comes to environmental impact, we know the DOT and you guys are watching out for us there. There is going to be some fish harmed no matter what we do. Hopefully that's been mitigated.

Evacuation, no kidding. Of course that's on the list. Economic development? Nobody has built a bridge for anybody's economic development around here. We've been developing our own economy. One little small business like mine at a time. No one is going to build a bridge for us or bring any sand from the Federal government although that may be changing today, at least with dredging. But …

Let me go on to one other point that is totally my own views and the view of the Restaurant Association which I will say although we had a mixed vote, we came down and said officially, we're for nourishment in general. I personally am not. I think that it's bad technology. It's the dredging industry in bed with the Corps of Engineers. That's dirty money and it doesn't work anywhere and especially work on the Outer Banks. There is other technology out there. I want to beat this drama until I die because it's going to take several lifetimes to get it through to people. The harden structure issue is a great idea. We're way ahead of the curve on the years ago when we said no harden structures. We've saved ourselves a lot of headaches. We've learned a lot in that time. I encourage everybody here and especially you guys to check out "Erosion.Com" if you haven't seen it already. It's home *(Inaudible)* technology that is less than a couple of million dollars a mile that when installed underneath the sand, you cannot see it. It creeps in at an amazing rate. The more sand that is stirred up in our area, the better. It was a huge success in Saudi Arabia and in our Great Lakes and areas that have short periods of wave action high, impact wave action like we have. Pouring sand on the beach is not going to do it. I'm here to tell you. The scientists will all back me up on that one.

So that's my own personal few cents on it. Again, thank you very much for taking the time to listen to me and all the people I represent.

Moderator: Thank you Mr. Sproul. Tom White.

Tom White: Thank you for the opportunity to be here and speak to you about this very controversial subject. I'm getting to close to it. *(Referring to the microphone.)*

I'm President of the Coast Wildlife Refuge Society. We're a nonprofit organization of about approximately 800 members. We provide volunteer support and do fund raising to support the two refuges in Dare County, Pea Island and Alligator River. We're separate from the National Fish and Wildlife service however, we're here to support them and support the refuges. In fact, the Pea Island Visitor Center was built entirely with the funds that we raised. It is staffed with volunteers from our organization.

Our Board of Directors has also considered the option and we do support the Fish and Wildlife position of the long bridge. I will not go through all the reasons because all of them have already been iterated. Jan DeBlieu for one, I totally agree with what you said. But the existing Highway 12 road continues to experience substantial overwash and erosion. I used to fish off of that beach in the 50's when the place called the Old Boiler and you could drive a boat between it and the beach probably high tide. Low tide you probably would get about 20 yards. The last time I fished was in the '70's and that thing was over 100 yards off the beach. That erosion rate is pretty rapid. The building of dumes, exacerbates every erosion problem. It's been shown many, many times having barrier dooms causes erosion rates to increase because of the sand from the waves cannot deposit sand on the beach, it digs it out. So, the preservation measures that are being used are in effect are counter productive in just require more and more engineering and more and more money and more and more work.

One of our thoughts and big concerns is what happens when you have one of these hurricanes like I believe was the 44 hurricane. I can't remember. I don't remember it. I went right there then. It hung around way down South for about a week and turned ferocious north east winds in this area. I can easily see, we can easily see that we have a major washout long before an evacuation is called or completed. With the results there will be many stranded people on Hatteras Island. Greatly increasing the lost of property and life. I think is a very important consideration.

Another consideration regarding the short bridge or what you call the North Bridge South Road North is that the, as I understand it, the right of way the State of North Carolina does not have the right to relocate the right of way through Pea Island as it does in Cape Hatteras National Sea Shore because that reservation was made in the deed to the Federal Government. In Pea Island it was not. So that to relocate that entire roadway further to the west as we are required substantial negotiations with the Department of Interior to obtain new right of way and I think it would be easier to negotiate the retention of the jet once the bridge is there removed because driving through there if you relocate the road further to the west, you're going to be going through substantial marsh lands and wild life empowments. I think that would be difficult and almost impossible to do without further legislation. I say it might be easier to negotiate the retention of the jetty. I think that would be a good project to pursue at the earliest possible moment because I see the value of that (*inaudible)* for the stabilization of Oregon Inlet and I do think that's important. So, I don't think that is mutually exclusive with the long bridge.

In short, we feel like the Road North Bridge South alternative, number one, I don't think the figures are very realistic of what it would really cost to do all of that construction. I think you're looking at double what you have because that's just my opinion. But we do feel like the short bridge is simply short sighted. Thank you.

Moderator: Thank you Mr. White. Amy Pickle.

Amy Pickle: Thanks allowing us the time to speak today. My name is Amy Pickle. I'm with the Southern Environmental Law Center and I'm here today to offer our

comments on behalf of the Southern Environmental Law Center and North Carolina Environmental Defense.

A lot of my points have already been made today so I'll just try and hit on the highlights so that we can have as many people speak as possible. The first is to just say up front that we are here to support the Pamlico Sound Corridor Bridge. This is a difficult and complicated and obviously very controversial issue, what we do with our waters and how we access both the sound side and the ocean and what we do with the land, both the Federal lands, the public access and all of our residences and businesses up and down the Outer Banks. This obviously one that is important to everybody here. From our point of view, the Pamlico Sound Corridor Alternative is the most cost effective. The initial cost is obviously greater but as we've heard and we've discussed already, the nourishment aspect and the continual maintenance of Highway 12 is something that will be a cost to the State of North Carolina imperpetually. As long as that bridge is tied from the north end of Pea Island to the Bodie Island, we're going to have as problem with maintaining Highway 12 in this area. So whether we talk about the cost of the project lifespan over 25 years or 50 years or 100 years, that cost for maintaining that portion of Highway 12 will always be there. When we originally looked at the engineering estimates for a 100 year lifespan of the bridge, we're talking about $1 billion dollars over the course of that 100 years to maintain Highway 12. That's a significant expense even when we cut it back to 50 years, we're still talking about nearly $630 million dollars in nourishment. That's also a significant expense. We're talking about spending depending on which estimates you look at whether in the Draft EIS or engineering estimates that have been done over the past 10 years, we're looking at anywhere between $1 and $10 million dollars a year to maintain this stretch of roadway.

The second point is that the Pamlico Sound Corridor Bridge is just more dependable. It's something that we can count on to both the move all of the tourists life blood out onto the Outer Banks and to move folks off when they need to get off. So, I know that the Pea Island National Wildlife Refuge receives a little less than 3 million visitors a year. Some of those are counted as simply driving through and some of those are actually visiting Pea Island National Island Wildlife Refuge as a destination. The important thing is to get those folks there so they can experience the area and then that we have a safe and dependable way to get off he island for both the residents and the vacationers who are there. I think this has already been mentioned but in 25 years we're looking at almost doubling the amount of cars that are on the road. So the Draft EIS says that peak volume in the summer or on the weekend when everybody is out on the roadway, we're looking at roughly 14,000 cars or a little bit more and in 25 years we're talking about nearly doubling that, so that's 25,000 cars that will be traveling over that roadway. Those folks need to be able to get where they need to go and be able to patronize our restaurants and our local economies and be able to get off in the event of a unexpected or little bit expected hurricane coming through the area.

There are four recognized hot spots, I think, everybody knows about them that are regularly subject to overwash and erosion. This is occurring even in minor storm events. This is not something that is occurring only in extreme weather events. It is a continual maintenance of keeping this roadway accessible for everybody and keeping access in both to choose a wildlife refuge and then all the way through it.

The other thing is something that Jan brought up that I want to make sure that we hit upon is that the panel of geologic experts looked at this stretch of area and said with a lot of confidence that we're looking at a breech or a new inlet within the next 50 years. So that's something that we're going to have to look at regardless of what bridge option we choose. That's going to be coming through and the cost estimates on filling it back in are an additional $10 million. So that's something that is going to happen in this area. The location that it is most likely to happen is north of Rodanthe. It's going to be there. If we have the Pamlico Sound option that inlet is not going to have a dramatic effect on our transportation in and off the island.

I guess just the third point is something that we have not hit on is that the Pamlico Sound Bridge Corridor Alternative is the one that is the most environmentally responsible and frankly it's the only one that meets the federal legal requirements. So the Fish and Wildlife Service has an obligation under the National Wildlife Refuge Act to determine whether or not uses that go through Federal lands are compatible. In order to be compatible they have to meet the wildlife services primary objective. That's for the conservation of wildlife. I sort of had it in my mind, because I wanted to talk about how important this area is, this urban national jewel which is built and brought up for other folks. But from the Fish and Wildlife perspective, their mission statement says and I'm just going to quote this right out of the Wildlife Refuge Act, it said that they are to ensure the biological integrity diversity and environmental health of the refuge system or maintain for the benefit of present and future generations of Americans. That's there job is to make sure that the biological integrity in that environmental health of that area is maintained. Fish and Wildlife Services is taking a look at what it takes to do that. In order to do that they're going to have to, the best option or way of looking at it is the Pamlico Sound option. In order to continue to maintain North Carolina 12 that use can not legally be found to be compatible with the Fish and Wildlife Service mission. They cannot choose that option and be meeting their Federal requirements.

The second set of the legal requirements that I want to be clear about is within the Federal Transportation Act that is required for a 4F analysis. You all will see within the Draft EIS. There has been an official whole section devoted to it. That requires that you cannot in order to use actual refuge land, you have to determine that there is not another alternative. In order to run something through Federal land there cannot be another prudent alternative. If you're going to run it through the land, you have to do it in such a way that you mitigate and you minimize any type of environmental damage to these federal lands that are held in trust for all of the US citizens.

We have perfectly viable alternative to using these Federal lands in the Pamlico Sound Alternative. That does minimize all of the environmental damage that we've already talked about. So, in the interest of time, I'll just summarize by saying that obviously we're very much in support of the Pamlico Sound Bridge and look forward to continuing conversations. Thank you.

Moderator: Thank you Ms. Pickle.

That concludes those who have signed up prior to tonight's hearing. I'll now open the floor up to anyone who has any additional comments that they would like to make for the record. If you do, let us know … Yes sir? If you would, please come up and use our microphone. Give us your name please if you would also.

Harry Shiftman: I'm Harry Shiftman. I recently retired from the Marina Operation for 30 years in Manteo. I thank you Mr. Goode for the workshop session this afternoon. It was very helpful, a lot of good information, and exchange of information.

I dare to say that I probably have more information about Oregon Inlet than anybody in this room and probably in this county and maybe in this state, having studied it intensely since the early '80's. The only problem is that I can't remember it all. It is a very complex environment. It is a very beautiful environment.

One of the things before it leaves my short memory if I can leave the mic for a second, look at this bridge at the end of the 50 year life cycle have we put in what we are going to do with it then? Have we brought in the cost of the removal of that large bridge? That would be certainly a large expense. In speaking of removing bridges, when the drawbridge at Oregon Inlet is taken down wouldn't it make intelligent … I know sometimes the government and intelligence may not necessarily work together but wouldn't be common sense to take that and make north groin at Oregon Inlet? In the EIS and other documents, it says that bridge material would be very suitable for that type of thing. We need something on the north side of Oregon Inlet to protect the bridge or approach the bridge on the north side. I will give you tonight a document which shows what happened during the Ash Wednesday storm when we had a breech and we had strong currents going against the bridge. This could also happen again on the new bridge whether it would be the long bridge of the short bridge, we need that structure on the north side.

There was … I'm sorry an organized presentation, so I'm jumping around a little bit. But there was some ascertation *(sp?)* this evening that DOT or the State of North Carolina doesn't have right of way down Pea Island. I beg the differ with that. I've researched that. The research has been pretty expensive. In my opinion and the opinion of the attorneys that researched that, the State of North Carolina does have that right. I'll be glad to furnish you with that information at some later time if you wish.

One thing that I saw in one of the documents from Fish and Wildlife is they consider all open waters are classified as wetlands. That was in the feasibility study that is on page 2-47. Also, I would like to say that I think the Parallel Bridge would be the best alternative to be chosen. Maybe a combination of things. I don't think we should lock in on just one thing, but start with the Road North Bridge South. We may have to do some nourishment. We may have to bridge an area. But over a 50 year period, it will be more economically feasible. It would allow access. It would allow us to … Also there was a comment made earlier that if we did build another bridge even parallel to the this bridge, the terminal groin would have to be removed. I beg the differ with that. It would still protect the approach to the bridge. That would meet it's requirement and it would be left in place. For those who don't know, there is a stipulation in the permit that the terminal groin if it does not perform the service for

which it was designed, that is protecting the bridge in the north end of Pea Island, it must be removed. That would be another expense that would need to be put into the mix. I think by having a groin on the north side and south side of the Oregon Inlet and a new bridge without the repair problems that we have to had which caused some blockages and create shelling in Oregon Inlet, I think the dredging expenses would be more efficient and less. Lord knows we're not getting enough dredge money. There is another governmental promise from the Feds that we were going to get all this dredging which hasn't happened. We don't get the money to do it, they say we don't have the money.

While we're doing … if we choose the parallel bridge, while we're doing the Road North Bridge South, maybe you could take a look at wave continuators for the hot spots. This is somewhat experimental but I'm going to leave a packet with you about that that I would ask that you look into, research it, don't take my word for it, I'm not saying it works, I'm saying it deserves a chance and if something could be worked out in an experimental manner, this one is reported to withstand hurricane conditions and ocean environments and if you can work something out to do a demonstration project, one of those hot spot projects would be a wonderful thing. But at least we could be trying other things while we're doing the most intelligent thing that gives us access and allows us to retain the terminal groin. For a 50 year period that seems to be the most intelligent choice.

The next thing on my list says Lila's house on Check. So, I've run out of things to write down. I'll leave my information with you. *(A lot of laughter from Mr. Shiftman and audience.)*

Moderator: Thank you Mr. Shiftman. Thank you sir.

Do we have anybody else who would like to offer any comments for the record? Yes ma'am.

Marsha Brown: Hello. Thank you for giving me the opportunity especially since I didn't sign up out there. My name is Marsha Brown. I've been a realtor in Dare County for 22 years. I've worked on Hatteras Island for 14 of those years. Ten of those 14 years in property management.

In listening to the comments, and listening to people who have concerns about the environment, and concerns about the pipe and plovers and critters on the beach, and the turtles and things like that, we all love that. And, we all love Pea Island. But I'll tell you what something I don't hear a lot from environmentalists, is the preservation for life, it's nature, it's critters, and looking at the sunset in Pea Island. We all love Pea Island. I have a commercial fishing son. My daddy was a commercial fisherman. He owned a charter boat. Anybody who is an environmentalists that doesn't know what it is like to wait for your son to come home safe because of navigating the inlets doesn't know a lot, in my opinion. That's with all due respect.

It's an emotional subject to me and a very passionate subject to me because our county and our heritage is the fishermen. They're not getting the respect that

they deserve. They're not credited for their intelligence. They're not credited for their hard work many times too often.

One thing I wanted to mention, during all those times that I was in property management, and I stayed at work during hurricane or stayed until it was a time that all my guests were out and I knew they were safely out of the houses, and I knew my properties were secured. I knew that my staff was out. Then it was time for me to go. That's the way it's supposed to be. Sometimes you can't get out even with the way it is right now. You can't leave because at a certain point you just can't. Can y'all imagine the folks on Hatteras Island most of who I talked to over the last couple of years and RWS especially. If all those folks were shut down and could not safely leave Hatteras Island and their home, a place where they are trying to shut there business down. Secure their businesses, secure their homes. Make sure their jobs and everything is taken care of and their staff is taken care of.

Y'all don't know what it's like; people that come in here from other areas that did not grow up here. The people who don't work and navigate the waters do not know and understand. You don't sometimes ask the people that you should. If they don't have PhD's or all kind of certifications they're not of value for their opinion. I respect everybody here and I thank the good Lord for everybody's opinion in this world. It makes it go around. But, I'm just going to tell you, I've been to meetings about the bridges and heard how much the people of Hatteras Island want the long bridge. Well, the majority of folks that I've talked to down there don't want the long bridge. They're concerned about getting medicine. They concerned about the ride across the Sound to go to a drug store or their doctor. What's going to happen to all those folks when they can't leave because the winds are gusting like they were talking about earlier? Y'all that don't live on Hatteras Island and don't appreciate those circumstances need to re-evaluate. I can tell you what, something that is pretty to me is the beach and the sand and the beauty that God gave us. But, something more beautiful is the see my son come home and feed his family and feed you and feed our guests and create jobs on our docks, driving trucks, hauling fish, packing fish. I just ask that some of y'all think about that. I appreciate it very much. Thank you.

Moderator: Thank you Ms. Brown. Do we have others who would like to make comments for the record?

Robin Mann: Hi, my name is Robin Mann. I am here for several reasons. I represent the Dare County Marine Association. It's a new association, we're a little less than a year old. We have about 85 members already. Also, my husband and I, Paul Mann, we build sport fishing docks in Mann's Harbor. I also used to live on Hatteras Island and I live it down there. I love Pea Island. I love crossing the Oregon Inlet Bridge.

I will tell you that the groin is extremely important to navigation. There's a lot of people here as Marsha said, that depend on that navigation. There's a lot of people who love Pea Island also. But, if you build that larger bridge … as we mentioned earlier the Chesapeake Bay Bridge get closed a lot because of wind and that is way out there in the Sound. There's a lot of winds here that happen when the weather people do not even call for them. I've seen many in the last few years. Actually just this past year,

trees in our yard blew down from a wind that they didn't even call for. You can't even hold furniture out on your deck a lot of times because winds are going to come and gust and (*Inaudible*). So there's a lot of times that the people are going to be driving on that bridge and there going to be gust of winds that aren't called for and that's going to be very dangerous.

I just wanted to say that we support the small bridge. We support keeping the groin. We also submitted some letters to you today from several other organizations that are larger than ours that also support the small bridge. Thank you.

Moderator: Thank you Ms. Mann. Any other comments?

Okay, as mentioned earlier, we do have a little board out there with sticky notes that if you haven't participated in that we encourage you to do so. It's just want you think about those subjects or whatever. Of course you got comments sheets that you can write about any other subject. It's just something to try to get a little more information from you of what is important to you and it gives you four choices there. There could be others, those were just four that we came up with. If you haven't gone through that we encourage you to do so after the hearing. We still have maps next door. We'll have people over there if you have any additional questions or you want to see anything else there.

With that, I thank you very much for your participation in the decorum. We appreciate your turn-out. I hope you comment. We will repeat this again tomorrow night in Rodanthe. So, with that I'll close the hearing and thank you very much.

Hearing Adjourned.

Carl B. Goode, Jr., P.E.
Moderator
Human Environment Unit
Unit Head

CBGjr:dnh

November 9, 2005

OFFICIAL CORRIDOR PUBLIC HEARING TRANSCRIPT
NC 12 Replacement of Herbert C. Bonner Bridge
Over Oregon Inlet
Rodanthe Waves Salvo Community Center
November 10, 2005
TIP # B-2500

Good afternoon ladies and gentlemen. I would like to welcome you to tonight's public hearing on the location of the NC 12 Replacement for the Herbert C. Bonner Bridge. My name is Carl Goode and I'll be your moderator for this evening's public hearing.

Before I continue, I would like to introduce to you Mr. Stan White who is the Board of Transportation Member for this area.

Stan White: Thanks Carl. I welcome everyone tonight on behalf of the DOT and Dare County Commissioners. We welcome you here as part of this input process. I'm sure all of you are aware that this is a long and agues process that DOT has to go through on any project be it bridge replacement or construction of a new highway. This is just part of the process. Certainly no decision will be made here tonight and quite honestly, the folks here tonight are not the folks that will make the decision. I ask you to please treat these folks with the respect that I know you will because they are certainly doing their job.

What we have here is a very controversial issue plus a very costly issue. What we all want to be is certainly good stewards of our environment and good stewards of our taxpayer's dollars. With that said, there is a number of DOT officials around the room. Some of them are from the local division and certainly some of the planners and staff from Raleigh. If you were here earlier for the time comment and ask questions in the back, I'm sure you had some questions that were answered. Hopefully, those were answered. If not, here in the process tonight, I'm sure they will help to clarify these issues.

Again, I ask you to be respectful of different opinions. All of us have opinions. I learned a long time ago when I got married there's certainly two opinions in every situation. There's certainly difference of opinions how this process should be accomplished and what the end results should be. Again, I do thank you for your participation and your input in this second and final phase of the public hearing phase that we are going to have here in Dare County for the final EIS. Thanks again.

Carl Goode (Moderator): Thank you Mr. White. Just to clarify the final as far as the selection process for the alternatives. There may be later ones once we get an alternative selected to look at more design issues.

I would also like to introduce to you some other people here representing various functions within the Department all of whom either have or will have a role to play in this project. From our Division Office, we have Mr. Bob Capehart and Mr. Jerry Jennings. Most of them are back there in the kitchen right now. From our Right of Way Department we have Mr. Mike Long. Mike is over here. From our Project Development and Environmental Analysis Branch out of Raleigh, they're the ones that are responsible for seeing the environmental documentation completed, we have Mr. Brian Yamamoto, Mr. John Conforti, Ms. Beth Smyre and Mr. Roy Shelton. From my office representing the Public Involvement we have Mr. Ed Lewis and Mr. Jamille Robbins. From Roadway Design, we have Mr. Doug Taylor and Mr. Byron Cowell. They are back there trying to find chairs and things. From the Federal Highway Administration, we have Mr. Ron Lucas. There is Ron over there. From the private engineering firm who has actually been preparing the documentation, Parsons Brickhoff Quade and Douglas, we have Mr. John Page and Mr. Roland Robinson. From the Army Corps of Engineers, these are regulatory permit people not the dredging people, we have Mr. Scott McLendon and Mr. Bill Bittlecom. They are over here.

Okay, did everybody get a handout now? Let's make sure because we want to go through some of the information in there. There's a lot of the information that is important in a handout. There are a couple of chairs up here still. There's a chair over here, two over there and two up here.

Tonight's hearing is one step in the Department of Transportation's process for making you the general public a part of the planning process for the project. We're here tonight to solicit your views on the location, that is the various alternatives for the replacement of Bonner Bridge over the Oregon Inlet. Now that this opportunity is here, we encourage you to participate in this process. We solicit your comments. That is our purpose here tonight. So we encourage you to do so. You may do that in a couple of different ways. First of all, you may speak here tonight. We have a sign-up sheet that many of you signed up for prior to tonight's hearing. We'll use that first, go through that and then we'll open the floor up for many other comments after that.

On the back of your handout is a comment sheet. You can use that or any other form of paper or whatever to send in written comments. There is a guaranteed period for that which is the next 30 days. I think December 12 on a Monday, we're saying December 12th that will guaranteed that those comments are included in the decision making process. We'll accept comments any time but we generally meet as described in your handout after the comment period is over internally to go over each and every comment and try to address them and to try to include what we can in this process. So to guaranteed that, you need to get them in within the next 30 days.

Those written comments are considered the same as the spoken ones. Your spoken comments will be recorded tonight. The transcription will be made of that recording and a copy of that will be available to you on request. The meeting we have after the comment period, we call a post-hearing meeting. Minutes will be made of that meeting as well. You may request a copy of that if you wish.

As Mr. White alluded to, one of the things that makes these hearings work a lot better is if you look at it as a public hearing rather than a public debate. I'm not going to debate here with you tonight. We'll try to answer any questions here that we can among us all. If we can't, we'll try to get you the correct answers. We're not to here to argue with you. If wouldn't serve any purpose. We're here to solicit your comments. By the same token,

we ask that you not argue among yourselves. We know that there are differing opinions. That's fine. This is part of what makes this country as great as it is, is that we have room for differing opinions. All that I ask is that you allow those speakers the same courtesy to present their comments, as you would like if you were presenting comments. With that, I think this should go fairly well.

Now the current Bonner Bridge was built in 1962. Now it is nearing the end of it's useful lifespan. So we're looking for alternatives in how to replace that. Of course NC 12 is the main connection Bodie Island and Hatteras Island. It's the main form of transportation at least by automobile between the two. A replacement bridge would serve the same function as an existing bridge.

The purpose of the project is to provide a new means of access from Bodie Island to Hatteras Island for its residents, businesses, services and tourists prior to the end of the present bridge's life. To provide a replacement crossing that takes into account natural channels of migration expected in the year 2050 and provide the flexibility to let the channel move, and provide a replacement crossing that will not be in danger of shoreline movement through the year 2050. That is the purpose. That is a big task and very complicated.

Now tonight, we are looking at two primary alternatives. I'll go through those a little more detailed when I go through the maps. The Pamlico Sound Bridge Corridor and the Parallel Bridge Corridor, those are just names that we gave those because one is in the Pamlico Sound and one parallels the existing bridge.

That's the first decision point. Within the Parallel Bridge Corridor there are three other options that we can consider as well. We have come up with three different ways to make the Parallel Bridge Corridor NC 12 Maintenance viable. One of those is called with nourishment, that is maintain existing NC 12 with beach nourishment and sand dunes. One is with road north, bridge south. That is move the existing NC 12 west of the northern part of the project which would tie into a parallel bridge and parallels this existing Bonner Bridge and build a southern part onto a bridge to the west of existing NC 12. Then the third option is to build the entire corridor on bridge west of existing NC 12.

The Pamlico Sound Corridor has two options at the end here in Rodanthe with the terminus there. One is curved and one is an intersection. The curved one of NC 12 will come off of the bridge and keep going and existing NC 12 would intersect into it. The other one would turn at NC 12 and keep going, as coming off the bridge would tend to that.

Many of you were here this afternoon or earlier tonight. There are details of those in the other room that we have. Many of you have seen that. They will be in there after the hearing. You can look at those again in greater detail. We just didn't have room to put all those out here tonight. Now a verbal description of the corridor is in your handout. It pretty much explains a number of details associated with each one. In the preserved time, I won't go through all of those right now.

Now this is a Federal aid project. That is 80% Federal funds, 20% State funds. The Federal Highway Administration would be the lead agency in this. Ultimately it is responsible for the final decision, not necessary alone, but along with the NCDOT. Our decisions now are made in concert with a number of environmental agencies/regulatory agencies. Many of these agencies have to grant permits if we are to construct and so we work with them all the way through the process to gather their input and their concurrence as we progress. So, we've agreed on a purpose and need. The agreement has been made for these two alternatives to present for comments and to basically make a decision between these two is where we are. That process is explained in your handout as well in a little more detail. The joint decisions that are made among a number of agencies and this will probably be in the higher level of government before it is over.

Now the estimated cost that we have come up with are also in your handout. The Pamlico Sound Bridge with the curbed terminus $423.7 million dollars, intersection terminus $419.4 million dollars, the Parallel Bridge Alternatives with nourishment, beach nourishment, $629.5 million dollars, the road north/bridge south $299.3 million dollars and with the all bridge $488.7 million dollars.

Look on the next sheet. You'll see what we call typical sections. That is, if you just cut a slice out of the roadway or bridge and turn it on its side this is what it would look like. The Oregon Inlet Bridge on the bottom shows two 12-foot lanes, one in each directions with 6-foot shoulders. The other bridges would be 12-foot lanes with 8-foot shoulders. We thought the 8-foot shoulders would provide for breakdown lanes. Some one may have problems and need room enough to pull over the same width as a standard parking space. It would provide for U-turns and would be wide enough for an emergency helicopter to land. If we are on the roadway section and there are two 12-foot lanes there with 8-foot shoulders, four of which would be paved.

You have a general map there that shows the variation of each of the corridors and sort of how that would look in terms of the location.

The last sheet is just a comment sheet. Again, it's got my contact information and address and everything. You can use this or any other form of written comment that you would like to submit.

I would like to briefly go through the map just to show you in general what … I realize some of you can't see this probably. We do have the general corridors up here. Then we have them broken down up there with a little more detail. Essentially we have the Pamlico Sound Corridor, it goes up here. This is probably about 5 miles west of the island into the sound. That's to get beyond this area here which contains a lot of submerged aquatic vegetation for instance these. We need to get beyond those so as to not disturb them. This bridge is about 17 ½ miles long. Again, it is 40 feet wide. There has been a lot of questions about the navigation channels which would be up here. The bridge there would be about 75 feet high. The navigational channels would be about 200-foot spans versus the current, which I think is about 160. Those would continue from 1600 to 2000 feet. So it would be a much wider channel than what you have now. The exact location for that will have to be determined in conjunction with the Coast Guard and the Army Corps of Engineers. Again that … well we normally go south to north so it

would begin here in Rodanthe. Again, we have the two alternatives. Again, better pictures of those are in the other room where it is in greater detail. One of them, this would continue and go like so with NC 12 stopping. The other one would come in here like so with NC 12 and keep going. Under this, NC 12 would be kept open until an area about there, somewhere along there, just south side of Rodanthe for access to the community here. Other parts of NC 12 that would be open there would have to be worked out with the Parks Service as far as access to the refuge. The Parallel Bridge Alternative, a bridge west of existing Bonner Bridge, would be constructed. It would be very similar in terms of length. Again, the channels would have to be worked out, the navigational channels. Again, they would be about 75 feet high navigational channels.

There are 3 options, one is maintaining existing NC 12. That would include beach nourishment at several spots projected to be at every 4 years for 50 years. In addition to that, there would be some dune construction as well. All of that is to keep the island at bay so to speak to keep the existing NC 12 open. Another option is to call the bridge south/road north. That puts NC 12 on fill west of the existing NC 12 a distance of about 230 feet west of the projected shoreline in the year 2060. So that would continue on fill most of the way down to here and the bridge would take off into the Sound and not quite as far but curb back into Rodanthe, right outside of this building basically is where we are projecting that right now. The third option would be in a similar location west of NC 12 but it would be on bridge the entire length of the project. It still would come out here to the sound and come back in. That would have several spots where it would be on fill to provide access onto the NC 12 for the refuge.

I need to go through a few right of way details with you and our process on that. Some of the alternatives do have right of way impacts. Once a route is selected and approved, the proposed right of way will be staked on the ground so that each property owner can tell where the project will be. The property owners will be contacted by a right of way agent who will inform you of your rights and explain to exactly how you will be affected, explain the project to you in detail. The agent may ask you about your property and try to gather as much information to you as he can so that he can make an appropriate appraisal of the property. In this process, the Department of Transportation will either use our professional appraisers or higher local fee appraisers to make an appraisal of your property. In so doing, that portion of your property will be appraised at the current market value at the time of the appraisal, not tax value but market value. It's done much the same way as a real estate transaction and the way your property would be appraised there.

If you are a Relocatee, that is if your property is to be or your home or business is to be relocated, the agent will also inform you of your rights in that situation and explain the procedures to you as how we implement that relocation program. He may help you location of comparable housing if you so desire, explain all the procedures in detail, provide moving aides for you, in this case moving expenses may be paid. Also if you qualify above the actual property value, there are funds available for such things as closing costs, increases in mortgages, additional value of comparable homes and things like that. We do have an agent here tonight if you have any questions about that. In greater detail he will be able to explain that to you and be glad to do so later this evening.

With that, I want to open the floor up to you for your comments. We had asked that you limit your comments to 5 minutes. We've got a bunch of speakers tonight, so we may need to adhere to that as much as we can. Mr. Lewis up here will be our timekeeper and try to inform you when it gets near the 5 minute mark. That's just in deference to everyone else, so everyone gets a chance. Once we go through this list here, if you have additional comments, we'll give you that opportunity again if you didn't sign up and want to speak after we finish this list here, we'll give you the opportunity to do so. We just want to make sure everyone has the opportunity but we want to keep it limited so that everyone does get a fair chance. Again, you can submit written comments, in addition to this, or besides this. So we just want to give you every chance we can. We want to be fair to everybody at the same time. So the first to speak here is Scott Leggat.

Scott Leggat: Leggett.

Moderator: Leggett? Okay. If you would please, come to a microphone so everyone else can hear you and so that our tape recorder can hear you.

Scott Leggett: Thank you. My name is Scott Leggett. I'm the Chairman of the Outer Banks Chamber of Commerce. I'm also (*Inaudible)* representative to the Tourism Board and I am a resident of Rodanthe.

I have a question that I wold like to begin with. That is, why is this taking so long? Like everyone else in this room, I'm struck by the images of the aftermath of Hurricane Katrina along the Gulf Coast. Two scenarios in particular come to mind. The first is a before and after arial view of several miles stretch of homes and businesses to the east of New Orleans. Two days before the storm, I would have had a difficult time of distinguishing the area from the Outer Banks. It could have been Rodanthe, Avon or Buxton. Just four days later, another fly over revealed a view that was completely unrecognizable. The devastation was so complete that even the debris was washed away. The only thing visible was groups of pilings sticking out of the ground where homes had been.

The second image that is seared in mind is of the flooded parishes of New Orleans. Homes and lives destroyed as water continued day after day to pour through broken levies. It was long before we learned that engineers as well as State and Federal officials had been well aware of that the levies were old and could not withstand a direct hit by a hurricane, let alone, one like Katrina. Now after hundreds of lives are lost and tens of thousands ruined there has been a call to action. I would like to suggest to you that the bridge cross Oregon Inlet that is every bit as much a life line to us as those levies are to New Orleans.

I hope these images are seared on your minds. As engineers, bureaucrats and public officials, you have known for years about the precarious condition of the Bonner Bridge. We are living on borrowed time. Privately, high ranking DOT officials have shared the opinion that it will be a minor miracle if the existing bridge can stay in use until replacement is completed.

Tonight, you are presenting several alternatives to us. I doubt … I have no doubt that there is not a enmity among us as to which plan is best. However, I do believe we do share the one opinion that is get it done, get it done now. Do not put our lives and property at risk. Do not put our lives and property at risk. Do not leave us out here while you sort through the red tape and apeas certain interests. Get it done. In the end, we'll make you this pledge. We will hold you accountable. Do not share the legacy of FEMA.

I would like to share a few facts about the economy of Dare County and Hatteras Island. Most businesses here would be hard pressed to recover a big loss of the bridge even for a short term. Every thing we do is depended upon that stream of traffic crossing that bridge. Dare County is one of four donor counties to the State treasury. That is we contribute more than we draw out. Hatteras Island accounts for 25 to 30% of the county's revenue from the occupancy of meal taxes and property valued at over 3.1 billion dollars accounts for another 20% in property taxes. The lost of revenue to the rest of the county would also be catastrophic. In 1990 when a portion of the bridge was taken out by a barge, businesses in Kitty Hawk, Nags Head, and Duck reported 50% decreases in business. The impression conveyed by the media was the entire Outer Banks was inaccessible. The affects of loosing a portion of that tax revenue would be devastating to Dare County. It would affect every service that this county provides including schools and health services. Many people have positioned us as a local issue. Nothing could be further from the truth. The impact of loosing one of four donor counties would be devastating to our already struggling state treasury. It would have a domino affect on the rest of the state affecting roads schools and every variety of public works. But, this isn't even a state or regional issue. This is a national issue. According to DOT's figures on an average day over 5,000 cross the bridge, and during the summer it exceeds 10,000. Each year, approximately 2 million vehicles cross the Bonner Bridge. These are not local people crossing that bridge. There are only 4,000 of us. These are mostly visitors from all over the country who have spent thousands of dollars to visit this national treasurer. The Chamber of Commerce's position on this is this, any plan adopted must maintain access to Pea Island in its entirety for both recreational and conservation uses. The navigational channel at Oregon Inlet must be guaranteed and maintained. The growing on the south side of the inlet should remain in place. The second groin to protect the channel should be part of the project on the north side of the inlet. More than anything else, this project needs to be expedited. It is already years late. All the involved agencies must show good faith. Don't play with our lives and our livelihoods. Just get it done.

Moderator: Thank you Mr. Leggett. John Robbins. Danny Couch. Arthur Hammond-Tooke.

Arthur Hammond-Tooke: My name is Arthur Hammond-Tooke. I am a resident of Frisco.

I am in the wind surfing/kite boarding sports industry. I lived here long enough to have experienced many hurricanes. Windsurfing and kite boarding are here because this is an extreme environment. We get winds and wave action. We live in one of the most dynamic marine environments in the world. We get visitors here every thing that has been said is absolutely true about our dependence on visitors. Visitors need road access. They are coming from shorter and shorter periods. Time is very much of the

essence. They have to have rapid access and they know the charter aircraft will bring in the thousands of people that want to windsurf and kite board here every year.

We must realize both for all the ideas that are already mentioned tonight, we are ready to keep our eye on that particular issue. We need to make sure that nothing severs this particular link that that we have in the short term.

The choices that we are looking at today are the short and the long bridge plus variations are actually 50 year choices and even possibly more. So the things that we have to, I think, keep well in mind is that in this process of time there are going to be huge changes in the environment. Migration east that runs west off the coast, 10 foot a year is guaranteed and there may be even catastrophic changes such as we saw with Isabel which destructed badly and required big changes and changes of plans are definitely likely to occur over the period that we are talking about. We need to have a plan which makes sense today and for the next bunch of years.

Unfortunately the choice between the two options here with variations is obscured by two other issues. The first is that we have to have access to Pea Island. This is because our visitors demand and our children demand it. We have a right to do that. We need to make sure that access is at least negotiable and that we have a positive crack at making sure that we get the access that we need.

The second non-negotiable is that we have to have the Oregon Inlet navigatibility guaranteed for a long time. The hope is of some of us that if we choose to the parallel option, we get at least our hands on the goods. Possession is 9/10's of the law and we can h old our own if we make that choice. That may be true but it also may not be true. The more, I've asked a lot of people and I want to pay tribute to the way questions have been answered in this process or consultation. We have been told, I think, the truth very, very easily. I personally got an amazing amount of information which has been considered difficult to get a hold of, I think, by a lot of us, that has been very much available to us.

So, the question is, what is the best way to secure these three objectives, access, road access, Pea Island access and the navigation process here. There are all tied together. It seems to me that we have to also take into account that the Bonner Bridge is run out of time and we can see it die and we could have a catastrophic problem at Pea Island for a number of reasons. We need to have some kind of an action plan and I suggest as follows. First of all, we need to stabilize the Bonner Bridge for the time arising to 2012. That is the earliest that we can see any of alternatives coming into action. It's probably 2015. That's ten years from now. The bridge is unlikely to last as long unless we do something perhaps using reinforced (*Inaudible).*

We have to commit resources to keep Highway 12 open for the same period. Before we get into these other options, we have to keep it open.

The third thing we have to do is to keep the navigation open. This we cannot just rest on whether we can keep the permitting for the southern groin. It's much bigger than this question and needs to be addressed in engineering.

Lastly, I think we need to assure the tourists and business owners that we have a solution here that we can safely come to this part of the world. I get asked all the time, when you drive over the bridge should you have your windows opened or closed? This is a joke but it indicates that there is concern. We also need permitting and commitment to funding at some of these stages. Thank you for your time.

Moderator: Thank you sir. Ted Hamilton.

Ted Hamilton: I'm Ted Hamilton. I live in Rodanthe about half my time.

I submitted written comments to you guys but I wanted to just point out a couple of things. I attended the meeting in Manteo last night. A couple of things didn't come up there and I haven't heard them come up here. One is related to the electric service. The report you have indicates that's not a problem. The services switches as you come down the long bridge or parallel to it. Cape Hatteras Electric has indicated that if they were required to abandon the line through Pea Island and come down the long bridge or parallel to it, would require about a doubling of the present capital investment which would then translate into that alone a 20% increase in electric rates. That's something that needs to be taken into account when you are making a decision on which way this is going to go and it relates to the access to Pea Island. If Pea Island's access goes away then they can't get up there to maintain that electric line and will be forced to come down the long bridge. I haven't seen that addressed in your report or by anyone so far at these meetings.

The second thing is, the Park Service has indicated to us that there are four birds that they are concerned about and have to close off large sections of the beach because the State is concerned about these birds yet in your report, I only find one of those birds so somebody has gotten it wrong and I'm hoping it is the Park Service working on old information.

The last thing is there was a lot of discussion at the meeting last night about possible wind events closing a long bridge similar to what happens at the Chesapeake Bay Bridge Tunnel. The discussion mainly revolves around large trucks. However, when the tunnel bridge is closed it also affects cars or vehicles with car top carriers. In addition, that bridge tunnel is not a designated evacuation route purposely so. So this being an evacuation route, I think the wind problem is something that needs to be seriously looked at for that long bridge. Thank you.

Moderator: Thank you Mr. Hamilton. James … Is that Charles or Charley? Is he not here? Nick duPont.

Nick duPont: My name is Nick duPont. I'm a relatively new property owner of Rodanthe. As such, considering previous comments, I probably represent real small potatoes.

I agree with everything that the previous speakers have brought up. Particularly I visited this area for the reasons that are already mentioned. Now I own a

house here for that reason. I realize this is wild area. It's probably why we come here and why I'm here. It's just a wonderful thing to experience when you're (*Inaudible)*. I in no way would like to give that up.

Unidentified Female: Could you speak up some please?

Nick duPont: Certainly. I'm sorry. Great. Thank you. I appreciate the way both these proposals are well thought out. I like their approach of not trying to out engineer among Mother Nature and consideration of shore location in years to come. My concern is that I'm really not keen about any solution that effectively cuts off a property owner or a community from its accesses to the Sound. That's with either of these, that would be a consideration in certain areas of Rodanthe.

I went over in detail, I guess, with an engineer this afternoon about the problems of the Southern end of Pea Island and how vulnerable that area is to changeable shore line. I kind of understand that. If it was just me and I was the only one on the island I guess I would take my chances with Mother Nature. I just don't think that is a keen idea for any one else to do. I just hope that this solution would not kind of bury the whole end of town.

Other than that, I kind of agree with everybody else. Thank you.

Moderator: Thank you Mr. DuPont. Collins Gray. Mr. Gray? Frank Jacob.

Frank Jacob: Wow. De ja vu. It seems like we did this before didn't we about 3 or 4 years ago? Or was it maybe 27 years ago when we were talking about Oregon Inlet growing since (*Inaudible)*.

I think the most important thing that we really need to look at here is the bridge. I mean there is all great wonderful what ifs to which direction we're going to go in whether it is that corridor there or this one. Obviously we want everything. But if we don't have the bridge we're not going to get anything. I'm in the real estate and construction business. Most of you know me but I don't do any rentals. We are represented here by some of the bigger rental firms here. Just imagine the economy of this island. Should the bridge be out 3 months during prime time how many endowers this affects, the whole livelihood of their county not just the individuals working but everyone. This is what we really need to take a look at. I think we need to come up with a band aid right now. Let's get working on that first bridge. Let's make a parallel of the bridge. I don't believe anybody can make all the answers right now. I mean, points were brought up on another break point, of course the (*Inaudible)* … or course the blacktricity of a high rise bridge. I often said, why not just make a roadway right on top of the road that we have here and just keep on going. I don't know why it has to be 25 feet high. It would seem to me that 6 or 8 feet would be but the engineers will figure that out.

Also, has anybody ever done in borrings? I just went down to Cape Lookout last weekend which I go to quite frequently. The railing got away from me. We get to the Outer Banks where there, is no road and no electricity for 28 miles of island

inlet, common inlet to go. You see Mother Nature working at her best. There's no bulldoze dunes. All right. The beach fills up naturally. All right. Then, another inlet forms swash inlet. I guess it was through Hurricane Isabel. But before Hurricane Isabel I drove across Swash Inlet and high tide/low tide it didn't matter. When we start pushing up these dunes and pumping up all this beach nourishment, then we're just really making a big problem. Go up to New Jersey and take a look. They have some pretty wrecked sea walls. There's no more sand left. Mother Nature had a chance and Pea Island washed over instead of pounding up against these massive dunes that were built in the '30's and just are eroding away. I remember when I came here in the sixties right after the bridge was built. There was a mile and half more of Hatteras Island on the north end. Over in the Bodie Island side there was at least another half a mile under the bridge. Everybody starts in there dredging and doing this and doing that. But by the time they find out they're making mistakes you've got so many government agencies in here. I think what we need to do right now is provide access to Hatteras Island to this 3,000-10,000 people that live between here and Ocracoke. But your whole livelihood, the children, the schools, and the tax dollars , everything was so important. Let's get the short bridge working and work our problems from there. But otherwise, we'll still be here in 27 more years and probably running a ferry service. Thanks!

Moderator: Thanks Mr. Jacob. Wes Hutchinson.

Wes Hutchinson: First of all, I would like to thank you guys for setting up the public hearing. I think it is very informative experience so far and then when I say it with what I have to say next it and that sounds like criticism to me. I did it but overall, I think it is very, very useful. I do have written version of this statement but I'm jut going to plow through and read it.

I'm a property owner in Mirlo Beach Development in Rodanthe. I'm living in Rodanthe this year because I am on subaticle from the University of Pennyslvania where I'm a professor of marketing. I mentioned my profession because comment I would like to make is based on my knowledge both on economic of decision making.

The handouts that we received today to help us understand the issues in preparation for public hearing that had cross figures in them. These cross figures were presented were misleading because they are undiscounted and as such make the nourishment alternative be the most expensive option. Bear with me because I know this is going to be a little bit technical but you'll get to the core of the idea. In using approriately discounted cost estimates, it is critical to make sound financial decisions because dollar sense today is much more valuable than dollars spent 20-40-60 years in the future. The Supplemental Draft Environmental Impact Statement reports discounted costs estimates using a 5% discount rate is which is low. It's very conservative. I lost my place here, sorry. In this analysis which is the one our handout was based on, the nourishment alternative is the second least expensive at $345 million. The North-South Bridge is least expensive at $280 million. The Parallel Bridge with the all bridge is the most expensive at $460 million. Then the Pamlico bridge alternative is about $395 million. The statement explaining why discounting costs are important, and in notes I'm quoting the full report here to say. The alternative with lower discounted costs can be

viewed as providing a better return on the investment of state resources. And so my request here as I strongly encourage you guys when you're reporting these costs, report discounted costs in all the public communications including hearings and reviews and in press releases mainly because it is just kind of wrong to position nourishment as the most expensive alternative by about $200 million dollars.

I personally have not decided yet which alternative I favor but with using undiscounted costs it misleads the public and is exceptionally misleading about the cost of the nourishment alternative. There's no rational analysis including the nourishment alternative and it's more expensive than either of the Pamlico Bridge Alternatives.

The second less critical but still important point, is not (*Inaudible)* in the handout, it may be in the full report, I haven't read the whole thing, is the option value of these alternatives. The nourishment alternative clearly has the highest option value in a sense that it could later be converted into one of the other Parallel bridge alternatives but not vice versa once we have built big bridges. (*Inaudible)* the rate of erosion and can actually be higher or lower than is stated. If it is too high we can actually build the bridges plans to the other plans but it can also be lower than estimated. There are also reports out, and many of you are more familiar with these than I, that the Sand bypassing route from the dredging has lead to accelerated rates of erosion which is kind of why we are having this discussion. But in any case there may be solutions out there 5 and even 20 years out there that solve that problem and we suddenly experience less a lower rate of erosion and it would have greater option values from nourishment. So again, I'm not necessarily advocating it but my point is that the current positioning is very, very misleading. Thank you.

Moderator: Thank you. Gary Langner.

Gary Langner: Good evening. I'm a resident of Rodanthe. I'm also a teacher and I make that drive over the bridge every day during the school days when school is in session. I'm here to speak to you on that behalf but I'm also the President of the Home Owners Association for Mirlo Beach and that's the segment of housing that's kind of new to the neighborhood down the north end here of Rodanthe.

The impact of some of these plans on our particular community I think would be terribly adverse in particularly the views that would allow the decrease in property values, the lack of rental, etc. that might be affected by the bridge community some of this sight particularly the short bridge that might be added onto the corridor. A couple of things that a lot of people have spoken tonight and residents who have lived here a lot longer than I have, you can probably tell from my speech that I haven't lived here for a great deal of time. I still talk funny. But, you know, sometimes an outsider looking in can sometimes give you a view that perhaps the you don't see as you come in here or if you run a daily life. We all know that we have a beautiful place here. We know that Ocracoke Bridge was rated the number 2 beach in the United States. Just about the time I moved here, I read a travel magazine and I saw where Highway 12 was rated as the second most scenic highway in the United States. As I see some of the plans that we're talking about here, we're going to have a definite impact on the way that road looks. Once we start changing that, we're not going to be getting that back again. That

something that we have that we can be very proud of here because you won't find anything else like it in the United States. I think that to preserve that as long as we possibly can regardless of the cost is something that Mother Nature has given us and that we shouldn't give up very easily without considerable study going into it.

So, from the aspect of the people of Mirlo Beach, from the aspect of somebody who had moved here and maybe resides here, I think that the proper thing to maybe do in this situation is go ahead and build that short bridge and get it in as quickly as we possibly can. Then look at the alternatives that exists as things change over the future. There is nothing that says that we have to build bridges in other locations immediately that we have to elevated it. As I drive down the road every day now they are rebuilding the sand dunes. For the past year, some of those sand dunes have grown to be 30 feet wide. We are already putting a lot of money into that particular project and we are going to be putting a lot more money into it possibly before this bridge is finished. So, you know, if we take a look at that then the cost of that initial construction is not in comparison with some of the other options because we have already done some of that along the way even though it may have to be done every 4 or 5 years.

The other thing that I would like to get a commitment from is being a property owner and that is (*Inaudible)* a couple of the options. Highway 12 is going to end right at our property and affect a very few of those houses past there where Victory Station is a little bit to the north there. We would like to get some kind of commitment from the Highway department that road will be maintained and we can get access to our property. We may loose access to Pea Island if some of these plans go in to place. But, I think that is a very wrong thing to also do. We would also like to have that commitment so that we will know that we will b able to get to our properties if one of the other options is affected. Thank you.

Moderator: Thank you Mr. Langner. Bernie Tetreau.

Bernie Tetreau: I'm going to pass because I have nothing unique to offer. If I do I'll write it in.

Moderator: Okay, thank you sir. Roger Hendrickson.

Roger Hendrickson: Yes, I'll second that.

Moderator: Okay. Bob Davis.

Bob Davis: I'm Bob Davis from Buxton. Many years ago I considered the only feasible thing for us to do with the long bridge, the Pamlico Sound Corridor because no matter what we did out in this island it wasn't going to hold up very long, no matter what we do there. After seeing some of these alternatives, I think I have changed my mind.

Number one, I'm a recreational angler. I like access so I want us to have a plan here that will allow us access to these beach fronts along here. I don't think you can work with Route 12 the way it is and keep it going very long at all especially with the

rising sea level. I think the best compromise we can see right now is the elevator bridge along the entire length of the island. Actually, my idea on the long route was not that great big loop but to come straight behind the island and to go this shallow water area. You would create as much habitat with those footings than you would be destroy by plopping those things down the channel of the water. That's something for the environmental people to argue.

Whatever you do and whatever bridge you decide, I think you want to eliminate any incandescent lighting/artificial lighting on those bridges. The bridge we have coming into Manteo now just has reflectors on it and was built in such a way to give optimum visibility at night with reflectors. I think that type of construction needs to be done with whatever you do here. Get rid of the artificial lighting all along the length of it. Give us access. I think when you destroy the old bridge, you leave that south end existent and possibly as Marc Bassnight indicates you put a lower level in there with gratings so that fishermen can go there for recreational fishing. It's a very popular place right now for recreational fishing. Some of our commercial guys get down there and utilize that to get big (*Inaudible).* I think that is up to you and that of course implies that you can have access to the base of that bridge which you don't get when you have a 17 mile concept.

I think that we need to start pouring concrete tomorrow on the footings of the Pamlico Bridge Corridor design just to get across the inlet. Get started right away. Go ahead and finish your plans for whatever else you are going to do to connect up to it that you can do tomorrow and the next day. Get started digging that new bridge. I think that is all I have. Thank you.

Moderator: Okay, thank you Mr. Davis. Barbara Ackley.

Bob Davis: I forgot one thing. I was in favor of wash over on Pea Island to provide habitat for birds and get some of the pressure off of the southern part of the island with park service.

Barbara Ackley: I'm Barbara Ackley from New Jersey but I live most of the time in Buxton.

Bob just took what I was going to add. We have a lot of problems with concerns with recreational dues as well as bird habitat and turtle nesting on the Buxton section particularly but also up at Oregon Inlet and Ocracoke. It seems as though it is a wildlife area. It seems to me that the all bridge raised section would work very well especially out to be nourished. We need to let the dunes go, the island move under the bridge, bird habitat be developed, turtle nesting allowed, as the island migrates to the west of us and to the south. This could all happen with no other problems. We need to have pull off areas, as I understand have been suggested. I understand there are three of them and that's a good idea at the northern end of the visitors' center on the southern end. There needs to be parking lots there so that people on bicycles and automobiles can park there and use those areas for surfing, fishing, beach walking, whatever. I just lost it. We need to have an *(Inaudible)* trail for those areas on the whole length of Pea Island so that people can get off the island on over to these trails which can be changed depending on

how nature works. These ideas I would like to suggest and hope that this would be a possible answer, a partial answer, to some of the problems we're having in the recreational areas of Cape Hatteras national seashore and allow for increased wildlife habitat.

Moderator: Thank you ma'am. Tim Midgett.

Tim Midgett: Good evening. I appreciate the opportunity to be here. My name is Tim Midgett. I'm a native, a life long resident, a property owner, a business owner of Hatteras Island.

I have some written comments that I would like to read for the record if I can if you all would bear with me. I entitled these comments, "The Bridge to Some Where". By now I'm sure everybody has heard of the bridge to no where. I forget how many billion of dollars it is for the *(Inaudible)* people it serves on an island when half of them don't want. Hopefully the residents do want the bridge.

Okay, "The Bridge to Some Where". 'North Outer Banks Region has become one of the states primary tourism destinations hosting millions of visitors each year from all over the world. In recent years the region has been among the top four regions in the state in tourism generated revenues. Only in Charlotte-Mecklenburg, Raleigh-Durham, Greensboro-Triad regions boast accommodations greater than the Outer Banks North Carolina. In 2004, the area was credited with earning $618 million dollars in tourism related revenues from $15.8 billion dollars worth of tax assessment and *(Inaudible)* in our county. Of North Carolina's 100 counties, Dare County has parentally ranked among the few counties recognized as a donor county meaning they send more tax dollars to Raleigh than they qualify in state funding mechanisms. Just think this means that 90+ counties state wide depend upon the contributions. Obviously we are thinking about somewhere when we speak these numbers and we talk about what they represent in North Carolina. Hatteras Island contributes significantly to the before mentioned revenues. It recognized as a vital part of the lure of the Outer Banks. Historically the Island's seven villages and its few thousand year round residents are looking to fund the approximately 25% of the overall tax dollars county wide. Furthermore, it is a known fact that the majority of visitors to the area at least take the day trip down the banks through Hatteras Island and across the ferry to Ocracoke Island. Those ferries provide a tremendous service and certainly are a huge attraction within themselves. The state run ferry system is the envy of many states nationwide and is a very costly endeavor for the North Carolina Department of Transportation. However, it is a system that boast tremendous pride within a state.

'One might wonder what happened to Bonner Bridge at *(Inaudible)* and capacitated for some reason. For those of us who are here and remember the bridge being out of service after being a strut bridge in 1990, it is not above money. Not only the island's revenue take another side but the entire economic engine that is the Outer Bank economy was impacted enormously. Our fine friends in Ohio, New Jersey, New York, Pennsylvania and throughout the nation must not have known which of the areas the bridges were down. They stayed away in droves. Why would anyone waste a vital vacation and visit an area which is partially inaccessible. They didn't. Trust me, it was

not a pretty picture. Do we have to go through that again before anyone takes notice? I respectively submit to you that it is time to get on with the show. No more studies. No more debates about a 17mile monument *(Inaudible)*. No further tail dragging and internal bickering. Build the bridge in a general area where it now exists and extend the southern terminus to the further south beyond the other hot spot. Then work towards satisfying the Federal agencies by agreeing to submit to subsequent phases intended by an elevated roadway or an upper land bridge of the other refuge *(Inaudible)* hot spots of Rodanthe. The citizens of Hatteras Island *(Inaudible)* down our bags and all North Carolina had a stake in this bridge. Please do what is right and get on with construction of the short bridge alternative immediately. Thank you.

Moderator: Thank you sir. Steve McQuillan.

Steve McQuillan: Thank you very much. Thanks for providing this opportunity. I own a couple of properties on the island and it's a great privilege to come down here. I also remember as a little boy going across on that ferry years ago. And, I own two properties. In 1990 when the bridge was out for just a short time, it took 5 hours to get across waiting in line. Revenues were way down that year on both my rental properties. I'm sure a lot of people had that experience.

So there are a lot of great ideas that people have on different parts of it. I'm just concerned about a couple of things. Number one, the nourishment idea runs the risk of having a major storm come and cut the road, even like what happened by Hurricane Isabel. That took about a few months to repair. If you leave that option open, then you run the risk of still devastation even by like what happened by Hurricane Isabel. That took a few months to repair. If you leave that option open you run the risk of still devastation regardless of that.

My biggest concern is in all these different alternatives it says that they need the permission of the Fish and Wildlife Service to go with these so what happens if everyone agrees to this and maybe you don't agree. That means nothing gets done. So that's why I'm concerned. I know it's going to be a fight but maybe that's the only thing that can save us. That has to be considered because that outways the risk of that. Also, I guess, and I don't know much about the environment that much, but it just seems like a major …I'm sorry *(Mr. McQuillan dropping things on the floor. Audience laughing.)* I have hard time visualizing myself how having over a bird nesting area is all that compatible with it. On the Bonner Bridge I guess the birds are going to go no matter where you build the bridges. The birds are going to get struck and killed and stuff like that. I just don't know. So, I guess this would have to work out. I don't have a big preference but I think the nourishment issue is not that viable because you still run the risk of a major disruption that could be very devastating economically to the area. If a long bridge with nourishment aren't going to be acceptable to wildlife then I think we need to know that.

By the way, just one other thing, as a preservationists I love the old life saving station at the north end. I hope something is done to save that. It's just deteriorating and I realize you might say, it's not our responsibility but something should

be done. Either it could be relocated or preserved in place or whatever by something should be done with it. Thanks very much.

Moderator: Thank you. Tom Murphy.

Tom Murphy: I'll respond to the previous speaker. The old Coast Guard Station at the north end of the island is owned by the North Carolina Aquarian Society. They are working on plans for that building. You might call up and talk to those folks.

My name is Tom Murphy. I lived in Rodanthe since the Spring of 1986. For most of those years I commuted fairly regularly between Rodanthe and Manteo to work.

I favor the long bridge. I started about 15 years ago listening to Pete Cuvvy and saying the real answer is to build a bridge from Rodanthe to Wanchese and just abandon the Oregon Inlet Bridge completely. That's not the proposal here but it's close. I favor the long bridge for a number of reasons. One, I am convinced that it is the only truly assured means of safe evacuation from this island during a storm event. You all who live here know it doesn't take much of a storm to close Highway 12. Those of us who have to decide when to leave if a storm is coming have to decided 24 to 48 hours ahead of time because the road north of here is very likely to be closed well before the storm gets to us. I realize the long bridge may be dangerous or risky or nervous making for high profile vehicles especially trailers and motor homes. I don't know the answer to that. I do know however, that the short bridge alternative is going to have a half a mile span up 75 feet. The long bridge alternative will not have that. So, I'm not sure that the wind problem for high profile vehicles will last only until the long bridge.

I will admit that … another reason that I favor the long bridge is because the predictions about what's going to happen at Highway 12 there made by experts. I've known Stan Riggs a long time. I've heard him talk about these things. But even Stan knows that nobody knows where is the erosion going to take place. When is it going to take place? How fast is it going to take place? How deep is it going to cut into the island? What's not said here tonight is that there are two places where an inlet is likely almost at any moment if we have a storm? One of them is immediately found at the existing bridge where there is a fast moving channel just inside the island and water so deep that there is not enough any where around to fill it up. The other is just north of Rodanthe right in here, an area which is almost as somebody told me earlier tonight, it is exactly the same addition now as it was just this side of Hatteras Village just before Isabel. So whether we project the erosion lines to be here or there or here by 2012 or 2020 or 2030, somebody said if you want to make God laugh tell him about your future plans. Nobody really knows where that erosion is going to be. None of our experts, our experts and I trust them, but even they that they don't know for sure.

The second reason that I favor the long bridge is an environmental concern. Now obviously anything we do is going to have some negative impact on this environment. The birds would be better off if we weren't here. But that's not an option. So what do we do that has the least environmental impact, the least negative impact? I'm convinced that the Pamlico Sound Bridge will have the least environmental impact. It

will impact a large open body of water which regularly flushes itself rather than impacting a fragile piece of land where there is extensive environmental concern. It could have a severe and even catastrophic impact upon the Pea Island refuge to build that elevated road all the way through. Never mind that 20 years from now that road could be on the beach. The impact would have, I'm convinced that Pea Island would be a quite interesting place, if it didn't have all that traffic passing through it. The Fish and Wildlife Service is mandated by its own mission to provide accesses to its refuges. That's not going to become closed the public up there. We may not be able to drive every vehicle we might want to drive in there. We may not be able to go everywhere we think we ought to be able to go but that will be open to the public. The environmental improvement that would occur if this major roadway were no longer there would be helpful.

Finally, I'm convinced that the Long Bridge will become a tourist attraction all by itself. I can see people saying let's go down and drive on that 17 mile bridge we've been hearing about. I like driving through Pea Island. I really do. I used to love driving into Manteo and going up through Pea Island and Bodie Island. That's a pleasant drive. I think along the bridge will be a pleasant drive as well. I favor the Long Bridge Mr. Goode.

Moderator: Thank you Mr. Murphy. Ray Nickols. Is Mr. Nickols here? Sidney Murdock is it?

Sidney Murdock: Good evening. Thank you for holding this meeting and taking our input. I live in Buxton.

I work for AutoBan North Carolina. On behalf our 12,000 members we would like to state our support for the Long Bridge. We feel that if it's looked at from a transportation reliability perspective, an economic perspective, that considers all the rest with some benefits. From an environmental perspective, it's the best approach. We'll submit more detailed comments on the EIS but our biggest concern right now is that document does not fully address the geological and biological benefits of over wash. Regarding access, AutoBan would be expected. We have a lot of people who enjoy birding in that category and spend a lot of time at Pea Island. We realize that's an issue and think that can be worked out.

I'm going to take my AutoBan cap off and just speak a resident of Hatteras Island. As an individual, I share the concerns about the status of Long Bridge. But, while those concerns are legitimate I wonder if we are loosing an opportunity here because of our short term concerns to address what are going to be long term issues that will be facing this community for long after I'm gone and most of the people in this room are gone.

Whether we like it or not, we've got about 12 feet of erosion that is grinding on the beach up there just north of Rodanthe. That's going to happen whether we put sand there or not. Do we want to gamble and for how long do we want to gamble? This long bridge will take 3 of the 6 high risk spots out of the equation and provide reliable transportation. Now we hear about re-nourishment. I followed these

projects in a lot of places for quire a while. Just look at Nags Head. They have an approved project that they are trying to get funding for to keep their houses from falling into the ocean. They don't have funding yet and that doesn't look good especially with the Federal Budget situation. It's not just going to be the refuge. We're going to be having to think about this for not only peons but in front of all the villages, in front of Buxton, the east end of Ocracoke, above Hatteras. We hear Sam will go out there every 4 years under renourishment. I walked that beach quite a bit doing surveys for (*Inaudible)* and for the last three falls they've dumped stand on that beach with the pipeline dredge. Most of it is gone by the next summer.

We remember Dennis. We remember Isabel. People who were here long before me remember the Ash Wednesday storm. They will happen again. The only question is if. I personally support the Long Bridge. I hope others will too. Thank you.

Moderator: Thank you sir.

That concludes those who signed up prior to this meeting. Now I'll open the floor up to anyone else who would like to make comments for the record. So please make yourself known and come forward. Sure. If you would, state your name for the record. While he's doing that, I would like to take this opportunity to thank very much the local civic organization for the hospitality here providing facilities for us, providing the refreshments, the food for us. Local ladies supplied that for us and we appreciate it very, very much.

Unidentified Male: *(Inaudible)*

Moderator: I'm sorry.

Unidentified Male: *(Inaudible)*

Moderator: Okay, yes sir.

Stuart Couch: My name is Stuart Couch. I'm a resident of Buxton, North Carolina. I have lived here, as we say, "pert near" all my life. I graduated from Hatteras High School, attended East Carolina University. I have a business in Avon and I have a business in Buxton.

I support the short bridge. There's a number of reasons. I don't know how many head on collisions we've had between Rodanthe and different sections of the beach but we have a short narrow corridor. When these corridors collide, people die. You can still get to them because the rescue trucks can go up and down the side roads and get to them. It impedes traffic and when it does it backs up for miles and miles and miles. If there is a hurricane evacuation and we think that a long bridge is the answer, I don't think its going to be answered because there is a head on collision on the long bridge. I think it's over. I think it will tie up traffic for 8-10 hours while rescue trucks and everything tries to get up there.

I also think it is prohibitly expensive. I realize that we live in a beautiful place. This is Cape Hatteras National Sea Shore. It's not Yosemite Wildlife Refuge and there's a difference. People live here and the birds live here. I think when there's a balance between the birds and people that the people have to take precedence over the birds. There's tons of areas around here and when you talk about the happiness of humans and those folks who live here and try to work and play and do, there's got to be a compromise. It's got to be balanced and not punitive to people who live down here for the pleasure of people who don't live down here and don't know what it's like. I think that we should build an elevator roadway along the hot spots on the back side of the sound and in different areas and get the bridge done as soon as possible. There is a tremendous amount of money and livelihood. In order for thing for people to have down here to access the mainland and for the mainland to access us, I think we should start on the short bridge as soon as possible. Thank you.

Moderator: Thank you Mr. Couch. Do we have any others who would like to make comments for the record? Yes sir.

John Couch: My name is John Couch. I run two businesses in Buxton. The prior speaker was my brother. My much older brother.

Access, access, access. What I'm talking about is that we've heard tonight about long bridge and short bridge. A long bridge is not going to do any good all if you have an inlet. Cutting through at Buxton is not going to make any difference when you get to the bridge to begin with. The State of North Carolina and Dare County, Hatteras Island and the rest of the Outer Banks cannot afford to give up 13 miles of access in Pea Island. I've heard tonight that it's mandated into the wildlife, you know, their mandate. But, I don't really believe that. You can go to the website at Back Bay up there in Virginia at Sand Bridge and you see the access they provide to you. It's what's convenient to them, not convenient to you. It's mandatory that any option that we take whether it is a short bridge or long bridge, it should be fully negotiable that the access to Pea Island to the very end is there and open. I agree with the second speaker tonight, Mr. Arthur, that it is very important. This is cultural. This is your heritage. This is traditional access. Why would you want to give it up. There's a lot of people in here that is are much older than I am. Now remember coming on the ferry with my brothers. I remember going across the bridge there just north of Buxton. *(Inaudible)* There's always going to be hot spots. It's not terribly convenient to live on the Outer Banks but here we are living here because it's a beautiful place.

We cannot afford, the county cannot afford to give up 13 miles of access. This were one of the most unique areas in that with this access 13 miles, this is one of the State's most treasurable access and it something that we depend on. I don't think that we can go up that access. I'm in favor of the short bridge. Let's build it tomorrow.

Moderator: Thank you Mr. Couch. Yes sir come right ahead.

John Luper: Thank you for the opportunity to speak. I'm John Luper. I'm a native of 51 years of Hatteras Island. I served on the Outer Banks Task Force for the past 4 years previous for this past year.

One thing, I've got all of the inside information on this whole project being very frustrated after 4 years of dealing with it. You talked about options. There is really one option, the way I see it, being that is the short bridge alternative. This option, this concrete jungle out behind us is nothing but a … It actually originated I think it originated from the Refuge (*Inaudible)* in 1997 I believe it was. It's actually not something that would have normally come about other than being kicked off Federal land. I favor entirety the short bridge alternate. As John said, it's not easy living here on the Outer Banks. We have our problems and other hot spots but if you can just keep the bridge in tact, you build another short bridge we'll be fine.

I know Mr. Hamilton spoke very out frontly. He probably may have done just as much research about the EMC. I sit on the EMC Board of Directors. He is correct, it would almost double our plant value. That is somewhere between $30 and 40 million dollars that we have to go on this piece of concrete jungle here. That's it, attached to it. We are looking at all the alternates as an EMC. I think his figure of about 28% was correct of what we have attached to that new bridge.

Again, I favor the short bridge. I think it is the best solution. Thank you.

Moderator: Thank you sir.

Yes ma'am back there.

Leslie Ferguson: Good evening everyone. My name is Leslie Ferguson. I'm a transplant from Massachusetts. I've been living here in beautiful Rodanthe for 6 years. I'm a resident of course. I also work for Dare County in the Finance Department. I'm also very sensitive to the ENTs here that are in the room as I work specifically in the ambulance billing office.

So I've heard lots of things about the car crashes. I've heard lots of talk about money. I'm sensitive to everything and I thank ya'll for being here. I've been enlightened on a few issues that me personally I wouldn't think about. In traveling that road 6 days a week and then especially during the summer. I'm a small buiness owner and the fact that I'm a wedding minister. I travel and it's very important for me to get where I need to go on that road. I kind of walk in between both of them but if I can just put a thought in your heads as you write your comments tonight, whether it be the short bridge in the mean time just a quick fix and just hang a left onto Highway 12 and just we all decide maybe to just build a long one. Please consider portions of the road that are 4 lanes instead of just two so that we can pass safely around the RVs so that the EMTs can get your relatives and you loved ones and your friends up to the hospital. Thank you very much for our time.

Moderator: Thank you. Is there anyone else who would like to make a comments. Yes sir.

Let me remind you also that again you certainly can submit written comments. We would love to have them they are considered the same as spoken. We

also have our full exercise over here. If you got you sticky notes when you came in, we would just like to hear from you and consider it important and help us to evaluate a lot of comments and help us make decisions.

Yes sir. Go ahead.

David Kenny: I'm David Kenny. I live in Solvo.

It strikes me that the long bridge makes a great deal more sense from an engineering and maintainability standpoint. You are not going to have to worry about it flooding because the water will run right off the sides. You are not going to worry about all the *(Inaudible)* sand off because here is no sand to blow off this place. Having said that, I think two of the last three speakers were absolutely correct. If that option is chosen the bridge needs to be wider for significant portions to allow for safe passing, to allow for wrecks to be cleared and to allow for emergency access. Thank you.

Moderator: Thank you Mr. Kenny.

Are there others? Okay here is your opportunity. Okay that's fine. Yes sir.

Eric Stomp: My name is Eric Stomp. I'm a property owner, business owner and resident of the Wades area here.

A couple things that I've noticed that nobody has really talked about is one of the greatest thing about coming to this island to get on the way down here. Riding on this 17 mile bridge probably won't give you the same feeling that you get when you cross that short bridge and come back onto the island you know.

Another thing that hasn't really been taken into consideration is all the damage that we received from Isabel and when they redid all the power lines has re-grown significantly since all that happened. I feel like the bridge carried along with the road bed would probably be a better idea because for two reasons you could also possible keep the existing road open for recreational traffic. Traffic does not seem to be quite as in a hurry as all the construction traffic that we see down here and that type of thing. Possibly a dual road bed would be a better idea having the present road be maintained from the short bridge splitting off into the raised road bed and keeping the existing one open as well. That way, there would always be two alternatives instead of ditching one and going with a different one. You know. That's about it.

Moderator: Okay, any one else? Yes sir.

Ray Speck: I don't know if I'm going to get to this but I'm going to try. My name is Ray Speck. I was born on this island 5 years ago. I'm in favor of the short bridge. My belief is as this gentleman said, you cut right next to this building and it's going to quote my property. So I'm not in favor of the long bridge at all. Thank you very much.

Moderator: Thank you.

Yes ma'am.

Betty Gray: Thank you for permitting me to speak. My name is Betty Gray. I'm a life long resident of Hatteras Island. I'm lucky that I grew up with dirt roads, no electricity and not tourists. So needless to say, I'm in favor of replacing the Herbert Bonner Bridge in its present location. I'm not in favor of this 17 mile bridge. I recommend you get on it just as fast as you can. The hot spots that we have/raised to elevate the road where the hotspots are. Thank you.

Moderator: Okay, thank you. Any one else.

Okay, thank you very much for you participation, for coming out. We appreciate your comments. Please feel free to send any comments that you have. Good night and again thank you.

Hearing adjourned.

Carl B. Goode, Jr., PE
Moderator
Human Environment Unit, Unit Head.

CBGjr:dnh

OFFICIAL PUBLIC HEARING TRANSCRIPT
Design Public Hearing for
Replacement of Herbert C. Bonner Bridge
On NC 12 in Dare County
Dare County Justice Center
March 28, 2007
TIP# B-2500

Thank you I think we do have everybody in now. We do have some people still outside. *(screeching sound from speakers)* Hopefully this won't do that anymore. Good afternoon ladies and gentlemen. Good evening. I would like to welcome you to tonight's public hearing on the location of the NC 12 Herbert C. Bonner Bridge over Oregon Inlet in Dare County. My name is Carl Goode and I'm the Head of Office of Human Environment in the Department of Transportation, and I will be your moderator for this evening's hearing. *(screeching sound again)* We'll go to plan B for right now.

Before I continue, I would like to introduce to you some other people with us this evening who will have a role in this project as it's being developed. We do have some people here. First of all we have Ms. Laurie Cole with DOT, and she got trapped back there and she can't get out the door. We've got it covered so, any how. From our division office, Division 1, we have Mr. Anthony Roper our Division Engineer. Anthony is there in the back. With him, we him we have Bob Capehart and Jerry Jennings. From our Right of Way Department, we have Mike Kinlaw. Mike's been here all afternoon, he's back there. From our Project Development and Environment Analysis Branch, the people who oversee the preparation of the environmental documents, we have Mr. Rob Hanson, Brian Yamamoto and Beth Smyre, that's back there. From Roadway Design Unit, our design folks, we have Mr. Doug Taylor, Byron Cowell, and Doug Hermatie. From Federal Highway Administration, we have Mr. Ron Lucas. From Parsons Brickerhoff, a private engineering firm who has actually been doing the documentation for this project, we have Mr. John Page, he's in the back there, Mr. Bobby Morgan, and Mr. Roland Robinson.

Does everyone have a handout? Did anyone not get one? We have plenty. There's one back there. I need to go over some information with you in these handouts. There's some things we need to cover.

First of all, the Purpose of the Project is to replace the Herbert Bonner Bridge, of course. The purpose is to provide a new means of access from Bodie Island to Hatteras Island for the residents, businesses, services, tourists. It will provide a replacement crossing that takes into account the natural migration of the channel expected through 2050 and provide the flexibility to let the channel move. That sounds easy but it's a lot more involved than that and, to provide a replacement crossing that will not be endangered by shoreline movement through the year 2050.

Now tonight's hearing is one step in our process for making you, the public, a part of our overall decision making process. We're here tonight to gather comments from you, the public, to be used in our decision making process. Now there are a number of factors that go into the decision. It is not a unilateral decision by DOT, but they include costs, safety, constructability, the impacts to the environment, and public comments are also used in the decision making process.

Now tonight, we're presenting a supplement to the Supplemental Draft Environmental Impact Statement. There is a draft of the Environmental Impact Statement, then there was a supplemental that we had the hearing on in November of 2005. Part of our process is to take into account what the public says and the public comments. Comments relayed to us at that time suggested a couple of new alternatives to look at. So we prepared a supplemental to the Supplemental Draft Environmental Impact Statement and those two in addition to the previous five are being presented here tonight for public comment.

Now one thing I would like to say, the Draft Environmental Impact Statement in terms of the laws of environmental impacts doesn't mean it's the first draft, it doesn't mean it may have grammatical errors and things like that, that type of draft. Actually, the draft looks at the corridors and locations. Once a location is chosen to go forward, then there's a Final Environmental Impact Statement which looks further and refines the impacts of that particular corridor. After that, there's a Record of Decision which the Federal Highways actually approves the location that was selected after the draft. So, this particular hearing is a supplement to the supplement to the draft. So after this then the next step would be to select an alternative that would have further environmental review during the Final Environmental Impact Statement. To you who don't see that every day, I know that sounds a little complicated and it is. But, it's a process that we have to go through by law.

Now tonight is your opportunity to participate in this process. We encourage you to do so. You may do so in a couple of different methods. First of all, this is a formal hearing and it is being recorded, we will have a transcript made of it, and you're encouraged to speak here tonight and have your comments on record. We already have a list of those who have signed up previously to speak. Once that list is completed, anyone else who wishes to speak afterwards will be given that opportunity as well. Now at the back of your handout is a comment sheet. You may submit written comments also. They will be accepted through April 17. Those written comments will be considered exactly the same as the comments spoken here tonight. So you may submit spoken comments here, you may submit written comments using this form or any other form or email or whatever or you may do both. Both is fine. There's a couple of methods there you can use.

There's a couple of guidelines we like to go by at these hearings. First of all, it's not a public debate. I'm not going to argue with you. There's no way I can out argue any of you much less all of you, so we're not going to do that. It's to hear you not to hear me other than what I have to present. Also we ask that you give others the same opportunity to speak as you would like to have so we ask you to not argue amongst yourselves. Everyone has a right to submit his comments, so we just ask that you provide the courtesy to let them do that.

Now once we get these comments, we will meet in a few weeks and we will go over each and every one of them internally with Federal Highways and other agencies and people within the department, and try to incorporate all the comments that we can. At that

meeting, we will have minutes taken. If you desire a copy of those minutes, you can request a copy and we'll be glad to give them to you.

Of course this is a Federal Aid Project. The relationship is there. It's 80% Federal money and 20% State. The relationship is given to you there in your handout.

Now we've already discussed some of the purposes but the need of the project, most of you are aware that the Bonner Bridge was built in 1962. It's been subjected to a lot of scour and other things in the area. It's in the near the end of its reasonable service life. So we're looking to replace that.

Now we have two corridors and I'll go over those in greater details in a moment. There's two basic corridors. You can see these on the maps over here. The first primary corridor is the Pamlico Sound Corridor which is a 17 ½ mile bridge out into the Sound beginning north of the Oregon Inlet and ending in Rodanthe. Now there's a couple of alternatives associated within there in Rodanthe and I'll show those two in minute as well. Then we have the Parallel Bridge Corridor which begins at the same place and still ends in Rodanthe. There's five different possibilities for that corridor. There's only two corridors per se but there's several possibilities with each corridor. Now especially with this corridor here, the document is written so that we can mix the alternatives. We can start with one alternative here and end up with a different one down here. So the five alternatives let the possibility exist to mix and match those depending on the impacts and costs and things like that. So there's a number of options available but there is still two corridors.

First of all, like I said, we've got the Pamlico Sound Corridor. The alternative is to a corridor and that basically is like I said the 17 ½ mile bridge that begins on the north side of the inlet where the current bridge is and goes into Rodanthe but going out into the Sound. This bridge is proposed to be about 40 feet wide, two 12-foot lanes, with 8-foot shoulders on either side. This you've seen before, it has two ending alternatives or options in Rodanthe. One is the curved terminus where by the bridge will come in and curve and continue on with NC 12 to the north t-ing in there. The other on is the intersection where the bridge will come in at a 90-degree angle with NC 12 and have an intersection with it. So that is the Pamlico Sound Corridor with the two end options.

Then the Parallel Bridge Alternative, with NC 12 maintenance will have the beach nourishment, the road north/bridge south, and the all bridge, those all the ones that we brought here in November of 2005. Again, after that comments came in and some other options were suggested which we've looked at and those are the two new ones here in Red; the phased approach with the Rodanthe Bridge and the phased approach with the Rodanthe nourishment. Now the beach nourishment, and I'm going through all of these, they're all still on the table so I'm going through all of them, has a parallel bridge which is a replacement bridge just west of the existing Oregon Inlet Bridge. It would include a number of dunes to route, a number of 10 to 20 foot high dunes to be replenished roughly every 12 years or so. It will include beach nourishment in about four different locations to be replenished every 4 years roughly for the next 50 years or so. That is the beach nourishment. Then NC 12 in that area would remain the same since it is west of the proposed shoreline in 2060. We have the road north/bridge south alternative. Again, we

have the replacement for the Bonner Bridge there. It relocates NC 12 in this area through here it's located to the west again inside the proposed shoreline for 2060. It also has some dune locations if needed. That would be placed as a part of this alternative. The (Inaudible) Bridge near Rodanthe will swing out into the Sound just north of Rodanthe and would come back into the town much like the ones we showed you for that particular alternative. Then here NC 12 would remain the same since again, it's inside the projected shoreline. The all bridge alternative, again, we'd have the parallel bridge as before. Then we would have a bridge going south to again just north of Rodanthe. Then we would have the same bridge going into Rodanthe swinging out to the Sound and coming back in. We'd have a couple of access points here for the refuge there in the yellow those two points. Then we'd have NC 12 to remain as it is again in that same area would be still protected.

Now the two new alternatives that we want to present tonight in addition to the others, is the phased approach alternatives. This is the Rodanthe Bridge is what we're calling that. Again, we'd have the bridge for Phase 1, now this would be built in phases as required as the shoreline recedes. So the idea is to be just ahead of the ocean in building these. So Phase 1 includes the bridge across Oregon Inlet. Phase 2 would be bridges here, here and down here. Phase 2 would include the Rodanthe Bridge and we'll show you a little bit about this later, but the bridge would go on into town. It would be directly above the existing NC 12 with a one-way service road on either side of that bridge for local access. Phase 3 would add a bridge here. Then Phase 4, would add bridges here and here. These are, of course, the Phase 1 talking about 2009 or so starting that. Phase 2 would be after 2013. Phase 3 after 2020. And, Phase 4 after 2030. Again, NC 12 would remain the same there.

The Phased Approach with the Rodanthe Nourishment, the same bridge here crossing the Oregon Inlet replacement to the west of the existing. The same Phase 2 bridges. The difference in the Phase 2 bridge here going into Rodanthe, it would be shorter. It would not go as far into town. It would stop basically just north of town. Beach nourishment would be placed there in lieu of the bridge going further into town to protect NC 12 there. Then Phase 3 bridge would be built. Then Phase 4 bridge. So the only difference between the two alternatives is this area right here. One has a longer bridge going into Rodanthe and the other shorter with beach nourishment.

These are in your handouts as well. They're just portions of what the bridge would look like. You would cut a slice out of it and turn it on its side and look at it. This is one in Rodanthe and you could see a bridge here, two 12 foot lanes, 8-foot shoulders. It would be approximately 33 ½ feet high. Here is the existing NC 12 which would be removed and then two or one-way on each side roads for local access.

This is a typical bridge within the refuge. Again, that's in the handout as well. Again, it's two 12-foot lanes with 8-foot shoulders on either side. And, about the same height.

This is sort of a planned view of what it might look like in Rodanthe. Here you've got the NC 12 Bridge with the shoulders. The one way frontage roads/service roads for local access. At three locations, we would be proposing the cross streets to have a cross there for access that goes underneath the proposed bridge. So you'd come here and go back,

go back and so forth. So that's pretty much the alternatives, all seven of them now that we wanted to present to you.

Now also in your handout, you have this long sheet here that has each alternative described. It also has some of the key impacts it has and some of the considerations that are involved with each alternative. I would read that to you but it would take a while. I'll leave that up to your reading pleasure. But it does describe and the document has of course more information in it. This is just sort of a synopsis.

In the upper right hand corner, you'll see the proposed cost estimates. Those are estimates that are in ranges. There are a number of factors and we're looking way out into the future. With materials and construction costs the way they have been going the last few years, the inflation associated with that, we're trying to give low and high ranges of what we think they are rather than specifics. There are a couple of disclaimers underneath that but these are costs that have been developed from consulting with bridge folks all over the country, our own history of bridge costs. So it's all relative expenses but they are the ranges at this particular time in 2006 dollars that we are projecting. Now in the current TIP, our Transportation Improvement Program for the next 7 years, 2009, there's $221 million dollars in the Fiscal Year '09 that is funded for this project right now.

Now I need to go over some right of way procedures with you. When the plans are approved and the design is completed, right of way will be staked on the ground. There are some properties that would be affected. There's probably not going to be a lot of staking done out there if that's the selected alternative but especially in Rodanthe and up in here where we do have some right of way claims. Right of way will be staked on the ground. Affected property owners will be contacted a Right of Way Agent. Plans will be explained. The property owner will be advised as to how we will be affected. He will be advised of his rights as well. The agent may ask you about your property and try to ascertain as much information as he can about your property. He using the information, the Department of Transportation either using our professional appraisers or hiring local fee appraisers will make an appraisal of your property at its highest and best use at the current market value. During this process, the Department of Transportation must treat all owners and tenants equally, must fully explain the owners rights, must pay just compensation in exchange for property rights, must furnish relocation assistance if that's required, and must initiate any legal actions if a settlement cannot be reached. In addition, if you are a relocatee, that is if your home or business has to be purchased or you have to be relocated as a part of this project, then that agent will also explain to you exactly how it affects you, what your rights are, provide any assistance which you may need and explain procedures to you; but also offer moving aid, perhaps moving expenses if you qualify. Also, if you qualify above the property value, there can be payments for such things as additional closing costs, mortgage increases, additional value of comparable homes and things like that.

Okay at this time, I will open the floor up to you for your comments. We'll going to try to make these microphones work. Okay. I will call up your name as you signed up. We did ask you to limit your comments to about 5 minutes. We would appreciate if you would adhere to that. Once, those that have signed up have spoken, we will provide an

opportunity for anyone else who would like to make comments or those who have already spoken for additional comments. So, our first speaker is Mr. Jack McCombs.

Jack McCombs: After 22 years in the military, cardinal principle, never go first and never volunteer. I don't know how I got on top of this list, I just made a phone call and here I'm on top.

Moderator: You were the first one.

Jack McCombs: I'm here to represent two groups, one is the Outer Banks Transportation Task Force and I'm the Committee Chairman for Bicycles and Pedestrians. The second group I represent are cyclists, not just current cyclists but the many, many, many thousands of cyclists that will be cycling through the Outer Banks during the lifetime of the new bridge. What we're primarily interested in is safe cycling over this new bridge but we look at it as a system in the Outer Banks and I'll get into that a little bit later. What we're not interested in and have taken no position on is the bridge option that's going to be chosen. We don't have a dog in that fight and glad we don't.

I live in Kill Devil Hills. I've probably cycled more miles in the Outer Banks than anybody that lives in the Outer Banks. I've cycled between 200 and 300 miles in the Outer Banks through Currituck and Dare County, primarily. I go over all the bridges in the Outer Banks accept the Oregon Inlet Bridge because I believe that bridge is so unsafe that I will never go over it. Okay. I have talked to cyclists that come up over the bridge and when you talk to them they're in a state of shock. The last guy I talked to, he came up from Florida on his way to Maine. He told me every time traffic approached him from the rear he stopped pedaling and grabbed the rail and held on. That's certainly not something we want to happen with the new bridge.

I was very pleased when I came down here today and saw that all the different options on the table will include 8-foot shoulders. I was told by John Payne that they'll be high rails and not low rails where cyclists could get blown off the bridge. They're also, in the case of the 17 mile option, they'll be "lay-bys" or places where a cyclists could get off the road completely and off the shoulder. So, if he had to get off the road and do some repairs there would be somewhere to go there.

Now let me make it very clear for those that doubted. We're going to see many, many thousands of cyclists cycling through the Outer Banks, through Currituck County, through Dare County and through Hyde County. Cycling has and will continue exploding growth. You all know the reasons for that, for health reasons, for recreation reasons, and for the cost of fuel is going up so high that people are going on the bicycle. All you have to do is look around the Outer Banks. There's a lot more people now riding bicycles than ever before. We have one of the bike shop owners here right now, Chip Cowans, sitting down here and he can testify to the fact that he is selling a lot more bicycles than he used to.

For cyclists that are going through the Outer Banks and they are using Ocracoke as a weigh point, there is no practical alternative than going over the Oregon Inlet Bridge. You cannot west and then go down. It's not a practical thing to do. The

Outer Banks is very attractive. We all live here. Most of us chose to live here because it's so attractive. That's what brings cyclists in. So they're going to ride through the Outer Banks whether it's safe or not. The Wright Brothers Bikeway was created by the three counties Dare, Currituck County, and Hyde County. That's a bikeway that runs from Corolla down to Ocracoke. That's well advertised. It's on the maps from NCDOT. So that fact is well known to many cyclists that come into the Outer Banks. Unfortunately, they don't understand what Oregon Inlet Bridge, the Bonner Bridge, is like. Many of you probably do not know that this is also the Atlantic Coast Bicycle Route that runs from Florida to Maine. That by itself attracts a lot of cyclists. Believe it or not, there's a lot of people in this country like myself that like to ride thousands of miles on bicycles. Not it goes without saying, and DOT will confirm this, there are Federal and there are State standards for the construction or the overhaul of bridges that mandate that you will make provisions to accommodate bicyclists if it's presumed that cyclists will be using that route. I'm not going to get into the details of what makes it safe for bicyclists. Those are fairly well known. Most if not all are in all the different options.

Now as I said before, we're talking about a system. There's two programs that are going on right now that will impact cyclists in the Outer Banks and attract many thousands into the Outer Banks. One, is the work that the Transportation Task Force and it's Bicycle and Pedestrian Committee is doing. We're well underway to defining a complete network in the Outer Banks to enable pedestrians and cyclists to cycle and walk safely all over the Outer Banks. Now those recommendations will be made to the County and to the Municipal Governments, but you can expect over the next 6 to 10 years that we're going to have a much safer environment for cyclists. That's going to attract a lot of people.

The second part of this system that I want to talk about is the Mid-Currituck County Sound Bridge. As most of you probably know, that was recently approved. If that bridge is built with accommodations for cyclists, you can expect to attract a lot of people down from the north to cycle down here because in the wintertime those people cannot cycle in the northern states. It's just too cold up there. We can cycle all year round.

I'm going to leave you with one thought. I'm going to give you an example. In October of every year, Salisbury, Maryland has a bike gala. It only lasts 2 days. They attract over 6,000 cyclists there. These are not people who are racers, these are just ordinary people who like to ride bicycles. You have a 100 mile ride there, metric century a 20 mile ride. Then they have dinners. It's a real festival for 2 days. If we were to do the same thing down here and we're starting to have preliminary talks about that, we could bring in a lot more people than Salisbury because we have so much more to offer down here. We would do this in the off-season when our economy largely hibernates. We could bring in, constantly, thousands of bicyclists to ride in the Outer Banks as long as it is safe to do so. So what I would ask you to think about is our economy in the off-season and the fact it's very possible and we're going to begin to work to bring these people into the Outer Banks. Thank you very much for your time. I have the written statement if anyone would like a copy of this.

Moderator: Thank you Mr. McCombs. A couple of issues there, the Parallel Bridge, the one over Oregon Inlet, the replacement bridge I think has 6 foot shoulders as opposed to 8 (foot). All the rest are 8 (foot). The Mid-Currituck Bridge is a while off yet. There's a lot of work to be done on that yet. Bruce Matthews.

Bruce Matthews: Good evening. My name is Bruce Matthews. I'm a resident of Manteo. I'm an employee of Surfer's Sound Realty. Surfer's Sound have offices both in Salvo and Avon on Hatteras Island. Currently I work out of the Avon Office. I'm also a member of the Replacethebridgenow.com Committee. Needless to say, I travel over the bridge every single day.

My purpose in speaking tonight to encourage all parties involved to a greater sense of urgency to get this project done. I must confess that after spending 35 years in the private sector, having owned and managed multiple companies, I am completely unaccustomed to the amount of time that it is taking for this project; not just to get the project completed but to even get it off the ground. That's right, we have been talking about this plan for 16 years. Five years ago, the bridge received a safety rating of 4. When I first heard this, I thought wow 4 out of 10, that's not too good. But it was 4 out of 100. I believe this is a potential life threatening situation and the delays in getting this project underway is a travesty.

Personally, I think the short bridge option is the only real viable one. This option is common sense. We do not have the funds available from either local, state, or federal sources to build a 17 mile bridge. I like the short bridge option with the phase approach in Rodanthe nourishment. This option takes into consideration that bridges will only be constructed as needed. It appears to have the least impact on wetlands of all the short bridge options and allows Pea Island refuge access.

I also can't imagine driving 17 miles on a bridge in 40 to 50 mile and hour winds which occur often on Hatteras Island at the end of a very nice summer's day or often during spring noreasters. I know, I've driven through them often. We need to deal with what is the best solution today and taken into consideration today's homes as well as the common sense goals and objectives of today.

With that haven been said, if the choices of the long bridge or a different short bridge alternative and the funds can be made available then I would fully support that chosen option. Why? Because I know the collapse or lack of a bridge will have disastrous consequences for the citizens of Hatteras Island which currently number approximately 5,000 permanent residents and 50,000 during the summer session. It will have disastrous consequences for the citizens of Dare County. Currently between 25 and 30% of the occupancy tax comes from Hatteras Island. About 20% of the property values are on Hatteras Island. It will have significantly negative consequences for the citizens of North Carolina. Currently, Dare County is a donor county to the North Carolina Revenue Tax System. It will also have a significantly negative impact on the wildlife in the Pea Island refuge. That's right, the wildlife. Our Federal Parks System and Department of Fish and Wildlife depend on public support and funding. We sometimes forget that. If the public does not have access and cannot enjoy the refuges like I do as I drive you through the refuge daily, then slowing and surely just like the deterioration of the bridge,

the support of these beautiful resources will erode. Without the public's financial support our park and refuge system cannot survive. Ask any member of the park service of fish and wildlife today who has had to deal with budget cuts or lack of funding.

I often travel through Pea Island with a camera and a fishing rod. It's a source of beautiful pictures of snow geese, white pelicans, tender swan and the most gorgeous Pamlico Island sunsets. Sometimes I even occasionally bring home fresh speckled trout for dinner or a bucket of fresh oysters. I love Hatteras Island. I want a bridge now. Please make it happen. Thank you very much.

Moderator: Thank you Mr. Matthews. Richard Lawrence.

Richard Lawrence: Thank you very much for the opportunity to say a few a words.

I'm a cyclist and my concerns are similar to Jack McCombs'. Whichever bridge option it is, I just want to be sure that it's safe for cyclists. I'm 80 years old and I'm worried about, I'm concerned about the generations coming on. Not so much for me, but for the younger people now in this influx of tourism that we should have. I started biking when I was 59 years old. So that's 21 years. I keep track of my miles and last week I passed 211,000 miles. So I do a lot of biking and I've done a lot of biking down here. It's a wonderful place. I've probably biked over the Bonner Bridge 70/80 times. I'm certain. I cringe every time I come over it. It's pretty tight cycling. The new bridge out here, the Virginia Dare Bridge, I've been over it at least 50 times since it's been built. It is safe. It's got a nice shoulder. It's got high railings. It's got a turn-out at the top of the bridge.

So really I'm concerned about three things that have probably been covered or at least talked about by Jack. One of course is the shoulder and we're talking about on the shorter bridge 6 feet, and on the longer bridge 8 feet shoulders. I'm guessing that's from the white line to the railing about it, is that correct? Would that be the shoulder there, from the white line to the concrete about it for the railing?

Moderator: Yes.

Richard Lawrence: Okay, that's very good. That's very good for cyclists. Now I didn't see anything in the writing, I did hear Jack talk about the railing. But, the railing out here is satisfactory. We can't have a low railing like that bridge going to Edenton. It really would be dangerous particularly in windy conditions. But this bridge, the top railing is 51 inches and that is a good/safe height. And, I'm hoping, or we're asking/demanding, not asking but demanding that we have that railing height also.

The third thing would be the turn-outs that have been discussed. Of course on this long bridge, you've got this 8 foot all the way, 8 foot shoulders. It's not so important there but on the shorter bridge like the Virginia Dare Bridge out here, we do have a turn-out at the top to rest or repair a bicycle or whatever. I feel we should have some type of a turn-out even on the shorter bridge and maybe the bigger shoulders on the long bridge would be okay.

But anyway, my big concern is safety for cyclists. We want them to come here. You do hear a lot of stories about these people that come up. This is the main way to go North and South. So, that's what we want is safety for the cyclists. Thank you very much.

Moderator: Thank you Mr. Lawrence. Allen Lee Burrus.

Allen Lee Burrus: My name is Allen Burrus. I'm a resident of Hatteras Village. I live on Hatteras Island. I need to correct this but some don't realize that it's all together. It is certainly there.

I wear the flower tonight for the young sailor that died and was buried today. I don't usually wear those or explain that right up front. I'm very much for the parallel bridge. I'm very much for the phased approach with the nourishment at Rodanthe. But as much or as well as some of the others who have articulated, the biggest thing for us that live on Hatteras Island and work on Hatteras Island and want to have visitors to come to Hatteras Island is this taking way too long, way too long. We want to get it done. You know there's a catch phrase for everything, but let's get it done. You know, let's go ahead and make decisions. Some might not be popular with me or others but what I would like for the control group to do is to make a decision and let's get on with what we're going to do. Thank you.

Moderator: Thank you Mr. Burrus. Beth Midgett.

Beth Midgett: Hello my name is Beth Midgett. I'm also a resident of Hatteras Village. Tonight I'm the spokesperson for the Citizens Action Committee to Replace the Bonner Bridge.

We appreciate the opportunity you're providing to be heard as the citizens that are most affected by this decision. Our group formed as a grass roots organization in Spring of 2006 to help bring a human face to what we felt like had become a detached and scientific debate that had stalled over the replacement. We created a website www.replacethebridgenow.com. To educate the public, we have the issue impact assignment to rub out a tool through which the public can contact their elected officials and demand action.

Just yesterday evening from a pretty unlikely reporter I was reminded just how important the work that our group does. I don't know if anybody has seen that new show that's out, "Are you Smarter than a 5th Grader"? It's kind of a funny show. I love it because it makes me feel humble as an adult to see how smart 11 and 12 year olds are these days. I was never that smart when I was 16. Anyway, I think it's a question that we would ask ourselves, are we smarter than a 5th grader? Last evening, I received a batch of letters written by the 5th graders at Cape Hatteras Elementary School. They would like me to submit them on their behalf for public record. These hearings are a little bit too late for them to come and we felt it's important for them to be heard. I read them and I was really in awe of the grasp that they had of the situation. I was also brought to tears by a few of them understanding how they were feeling about this.

I know many of the people in this room are not making the decision here. But, you are our messengers and we need this to be heard. I'm going to read a letter from a young lady.

"Really I think that they should build the short bridge that way people could still access Pea Island and enjoy all of the wildlife. People who do photography for a living can take some really interesting photos there and it is a nice place to just go and just plain rest. Also, I think that they should build it as soon as possible because my father has to drive over it twice a day just to go to work. We worry about him all the time."

I have the formal resolutions and all the various things that the new municipalities have passed here in support of the replacement that I was going to present. But, doesn't her letter really get to the heart of the matter. Our group believes that through all this debate to drag on any further constitutes a clear and present safety issue for all concerned. We cannot stress enough the gravity of the situation as it stands. We expect a humane and equitable decision that takes into consideration not only the legitimate environmental concerns but also the immediate need for replacement, the true reality of available funding and the safety of the traveling public. This bridge is the sole means of access for millions of people that visit Cape Hatteras national seashore and Pea Island National Refuge here, both of which are national treasures. This bridge is also the middle life line for almost 5000 residents of Hatteras and Ocracoke Islands that use it everyday. The reality is that we now have a bridge that is failing. No one can promise us that it's going to last even until we can replace it. What's going to happen then?

Make no mistake, the emergency that we are now facing is not a natural disaster caused by natural forces. It's a manmade disaster of monumental proportions. In this case, our public officials are refraining to act in relation to the performance of their official duties have failed us. They've caused this emergency. It's past time for this decision to be made. We need everybody to stop shucking their responsibility, step up to the plate, and make what's going to be a tough decision. Let's not disappoint the children, the 5th graders, please. Thank you.

Moderator: Thank you Ms. Midgett. Amy Pickle.

Amy Pickle: Good evening, I'm Amy Pickle. I'm with the Southern Environmental Law Center and I'm here to present comments on behalf of North Carolina Audubon Society, North Carolina Wildlife Federation, and the Southern Environmental Law Center. I apologize for my voice. I'm just getting over being quite sick.

It seems like I was just here presenting comments on the original Supplemental Draft EIS. And like other folks have mentioned, this has been quite a long process. I'm surprised that of the comments that I've heard so far at how many of the points that I actually agree with. Figure on it's been nearly 20 years since we've actually started wrestling with the decision about whether to repair or replace Bonner Bridge. Although we might disagree about the preferred option is, we are in absolute agreement

that the current bridge needs to be taken out of service as soon as possible and construction started on an alternative.

Pea Island National Wildlife Refuge is at the core of this debate. As everybody knows, Hatteras Island and Oregon Inlet are a part of this dynamic shoreline that we all know and love. The Refuge is subject to ocean overwash and high ocean shoreline erosion rate, inlet formation, and other impacts associated with large storm events, sea level rise and general barrier island dynamics. While many of these natural processes are not a perfect for a transportation corridor, they're essential for the life of the refuge. These resources, as Mr. Matthews and Mr. Burrus mentioned, are the draw for our tourists, our anglers, our birders and other outdoor enthusiasts and as I've heard tonight, also cyclists. Many members of all of our organizations regularly regulate and enjoy all of these resources and we absolutely support access to all parts of the refuge. It's how we learn to love it. It's how we learn to appreciate just by being there.

We support protecting the Refuge and assuring access for all people as long as that is compatible to the purposes of the refuges to conserve wildlife. If we don't protect those resources, the folks will stop coming and, as Mr. Matthews also mentioned, the funds will dry up for protecting it. North Carolina 12 and it's continual maintenance are steadily degrading the Refuge and interfering with the Fish and Wildlife Services duty to protect these resources. The Pamlico Sound Bridge is the only transportation corridor, in our opinion, that protects that Refuge. We agree that the access is important and tonight we call on Fish and Wildlife Services to develop a conceptual access plan as part of the Pamlico Sound alternative. It should allow continual access of the traditional uses of the Refuge in a manner that's compatible with the services congressionally mandated mission to conserve the resources.

The focus of the supplement has been the so called phased approach. The phased approach is not a viable alternative. It would keep North Carolina 12 under construction for nearly the entire life of the project. That's nearly 50 years. Each of those bridge segments will take at least 3 ½ years to build and they're done in 3-year increments. So, every other year we'll be under construction. Furthermore, the intermediate short bridge locations are estimated based on current shoreline erosion predictions. But shoreline changes are often ethotodic as we know and they're incredibly difficult to predict accurately. An inlet could form or a shoreline erosion could take place before the planned bridge phase even gets underway. Even if the phased approach could be completed in coordination with Mother Nature, the final project is a long bridge on the beach or in the Atlantic Ocean. As the supplement acknowledges, the final phased approach would interfere with fishing, with surfing, and other beach and outdoor activities and how limited or no access to the refuge. The Pamlico Sound Bridge is safer, more reliable and more protective of the environment. It's more protective and safer … safer and more reliable because it would not have to continue to maintain North Carolina 12 on Pea Island. NC 12 is built on a rapidly eroding shoreline and is often impassible as y'all know because of sand and overwash. The Pamlico Sound Bridge, however, would not be washed out by storms, nor would it be affected by the severe erosion that hobble NC 12. The Pamlico Sound Bridge does offer safe and reliable transportation off the islands when storms threaten. Pamlico Sound Bridge will allow the Fish and Wildlife Service to preserve the natural beauty of Pea Island National Wildlife Refuge and

anglers, birders and outdoor enthusiasts to take advantage of the what the land has to offer. Because the continues maintenance to NC 12 requires frequent dredging , beach filling and bulldozing, areas that would otherwise provide perfect habitat for shore birds would be degraded or destroyed. By choosing to build the Pamlico Sound Bridge we are choosing to preserve the refuge and the wildlife that lives within it for all of us to enjoy.

The bottom line is that the Pamlico Sound Bridge is the best replacement for the Bonner Bridge. It's safer, more environmentally responsible and overall a more logical decision. The time has come for North Carolinians to demand that the construction begin on the sound bridge. Thank you very much for your time.

Moderator: Thank you Ms. Pickle. Jeff Malarney.

Jeff Malarney: Good evening, my name is Jeff Malarney. I'm the Chairman Elect for the Outer Banks Chamber of Commerce.

The Outer Banks Chamber of Commerce is concerned about immediately addressing the replacement of Bonner Bridge to the Oregon Inlet. The state of North Carolina has over $200,000,000 budgeted in the TIP for the replacement of the bridge to be constructed. Construction cost estimates for the Pamlico Long Bridge are between $900 and $1.4 billion. The Pamlico short bridge estimates are as low as $260 and as high as $350 million dollars, placing that project in a much more reasonable position to begin construction immediately and without delay. The economic impact caused by delay resulting in interrupted traffic flow to Hatteras Island could be sizable. In 2005, Hatteras Island accounted for again, 20% of the taxable property value in Dare County with over 8000 taxable parcels valued at over $3 billion dollars.

The parallel short bridge option allows the improvements of NC 12 to be undertaken in future phases which alleviates the need for large single lump sum payment to be funded immediately. The long bridge as opposed would require all the funds up front with an estimated difference of approximately $600 to $7 million dollars. These funds do not currently exist. In addition, we haven't discussed but need to the electric cooperative replacement for the power transmissions lines for both the long and the short bridge. Facilities for the Pamlico Sound long bridge option will range between $33 and $50 million dollars. The impact of the increased investment would require the Hatteras Electric Cooperative to increase retail electric rates for Hatteras at approximately 25%. Power transmission facilities for the parallel short bridge option, in our estimation, would not increase rates. The economic impact would not only affect the local area but also the rest of the state. Dare County, as was previously stated, is one of the few donor counties in the state. Dare County's ability to remain a donor county would be seriously impacted or interrupted if traffic flow to Hatteras Island were to be impacted by a storm event or serious damage to the bridge. Hatteras Island encompasses approximately 25% of the county's tourism revenues and those would be greatly diminished or limited in the event that there was a bridge impact or damage. Thank you.

Moderator: Thank you Mr. Malarney. Warren Judge.

Warren Judge: Thank you. I'd like to welcome everybody here tonight and thank DOT and the TB for coming. I know we've all been at this too long because this has got to be at least the 3rd set of these that we've done. People you only see that you do this from Raleigh they feel like they're family back home. And Beth, Beth Midgett, I appreciate you bringing that up about the 5th graders. For all of y'all who live in Dare County, if you haven't seen the skate park at the Fesson Center, I want you to get in your car tomorrow and drive across the bridge we're talking about. Go down the Resident Center and see our pride and joy of the Dare County Parks and Recreation skate board park. There was a letter writing campaign by the children, where are you Beth, by the children and students of Hatteras Island that they covered the seven county commissioners office with letters and emails. They now have a skate park. So Beth, I want you to get every one of these gentlemen's names and business card tonight and we've got some projects for the secondary students on Hatteras Island.

Dare County Board of Commissioners entered this debate 4 or 5 years ago when all of a sudden within months we were told in Raleigh in the summer of 2001, a bridge was close to beginning construction. All of a sudden the 17 mile bridge alternative surfaced. We convened a meeting with the Secretary of Transportation of the North Carolina Department of Transportation and the high ranking officials of US Fish and Wildlife in Atlanta. We were told several things. One, Hwy 12 would not be maintained in Pea Island. Fish and Wildlife said they would not discuss access until the bridge was under construction. We just didn't feel like we would represent the residents of Dare County and it's millions of visitors if we sat idly by and did not speak up and represent our people. We feel it's critically important that a Dare Countyian or a visitor of Dare County or North Carolinian should have access to Pea Island. It's argumentally one of the most beautiful beaches that they are and certainly a treasure that we enjoy every day and share with the world every day.

People have alluded to the economics. There's no doubt that loosing the bridge would be economic devastation to Hatteras Island with severe impact to Dare County for decades. The one building block in Northeastern North Carolina is the spring board that this section of the state is getting from our economy. You all well know this as you travel through Currituck County and into Tyrrell and you see the construction. You see the development moving out of Dare County and the businesses and homes. It's an easy drive and not only that because of land prices. The economy, the economics dip they said.

But, I want to stress the life/safety issues, how critically important that is. We all learned a lesson during Isabel, the simplest things that we all took for granted, going home and taking a hot shower, being able to reach over and get a bottle of water, took 2 hours and 45 minutes for us to deliver from Stumpy Point to Hatteras Village. We don't want to look towards any type of extended time in having to do that for all of Hatteras Island. It was a difficult thing to just maintain the basics of life for our 260 some residents who were in the village at the time of the hurricane.

I assume we got a minute. I've taken a minute. How many do I get? I know Malcolm's grinning on that one.

But seriously we've got families, we've got generations of people on Hatteras Island that goes back hundreds of years. We don't want to loose that culture. We don't want to loose that way of life. Certainly the close of that bridge whether it's some calamity was struck and damaged as we had in 1990 of the fall or rather due to extensive repairs that those things had to be closed down. With our way of life, we just don't deserve that. North Carolinians all over the state get numerous changes if they're in Raleigh or Charlotte. We want, we need this bridge. We need a bridge now. We need to make this decision process, we need to speed up. We've studied it, we've heard 16 years. It's taken way too long. So, I ask all the powers that be, let's get a bridge built. Let's start on it. Thank you.

Moderator: Thank you Mr. Judge. Steve Pain? Paws.

Steve Paws: Hi everybody. I thank you for his opportunity to speak tonight. My name is Steve Paws. I work at the Pit Surf Shop in Kill Devil Hills. I'm one of the managers there.

When the first issue of the 17 mile bridge came up, as Warren pointed out, a couple of years ago it kind of took all of us by surprise. At that time me and a bunch of other local folks formed a committee to look into the matter with a grassroots organization called the "Save Pea Island Coalition". At the time we formed it because we were concerned about access. We started as a group of surfers who wanted to make sure that our rights and abilities to go down and enjoy the resources of Pea Island stayed in tact. What we found out through our resources was while there were issues with the 17 mile bridge with access, that there were huge concerns with safety, with cost and the environment. All of which have been spoken to already this evening.

So, I want to make a quick note about the environment. I want to point out that, so far, the only person that has spoken for the 17 mile bridge is a group that doesn't reside here in Dare County. I would say personally that the Audubon Society, they're the folks that are advocating a 17 mile bridge are at best misguided in their thoughts. To date, I have yet to see a plan of any kind of environmental impact statement or study that compares what is going to happen to all aspects of wildlife involved in the 17 mile bridge. Should it be built? I want to point out that if they dredge 17 miles of sound, they're going to dredge right through 17 miles of pristine submerged aquatic vegetation. And, they're going to go directly through crab slough, which some of you may not realize we're the last pristine open waters oyster beds left on the entire East Coast.

On top of that, I don't know how many cars hit birds every year on the bridge but I know I see lots of dead ones when I drive over. Unfortunately, this makes me sad. I can only imagine what happens on 17 miles of bridge.

Lastly, there has been no mention of the fact that it would need considerable run-off and trash thrown out the windows, that's going to go into the sound. Now I realize that they're may be a net gain or a net loss involved in the 17 mile bridge alternative but the best I can tell there has been no study made that does any type comparison that gives us a good basis to make a decision off of. So, I think it's

misguided and a mistake to say that the environment is going to gain considerably from the 17 mile bridge. I want to point out to everybody that in the draft summary of the refuge itself they put forth what they're desire is for the future, for their program at the refuge. They say they would prefer Alternative 2. Without going through a lot of detail, I will read for you one piece of it. It says, 'This staff would continue to conduct extensive environmental education interpretation program with the assistance of 30,000 hours of volunteer service every year.'

This is the type of thing that happens right now on Pea Island . It's fantastic. People come from all around the country here. There are local residents who fish and surf and hang out, pick up shells, which is my mom's favorite thing to do. They all go down there to Pea Island for that. Make no mistake, the first time we went around in this process, it was made clear to us by the folks of the refuge that if a 17 mile bridge goes in , and the DOT would want you to believe that they would address access later down the line, but the folks in the refuge have nothing in their budget and no mandate to provide access as part of their plan. Access as we know it on Pea Island would disappear, straight up. It's been made perfectly unequivocally clear by the refuge folks themselves and all the folks in the parties and we've discovered this over and over again, when you go and sit through these meetings.

So, I would submit to you that anything that says that an environment is going to gain unequivocally and the July access is some where down the road of the 17 mile bridge is put in, it's just plain wrong. So, I hope you'll consider that as you think about what to do next. I'm with you and all the resident of Dare County who are frustrated at the time it is taking to do this. We were hoodwinked once with lack of preparation warning of the process and now we've managed to drag the process on 6 more years. I think that's lousy. I hope that we will al choose for a shorter bridge option and we'll choose to do it now.

Moderator: Thank you Mr. Paws. Jeff White.

Jeff White: Good evening, my name is Jeff White. I work for Caps End Media and I live here in Manteo. I appreciate the opportunity to talk. I really don't want to be redundant so I'll be really short and sweet.

My worry is access for Pea Island for a lot of different reason. It's obviously enhances our quality of life being residents here in North Carolina and Dare County. But, I'm also concerned about the tangible economic impact that we would have if we loose access. There are tons of people that come down here for Pea Island. I volunteer at Pea Island at the Wildlife Refuge. One of the big events they have "Wings over Water". It's amazing. I don't know how many of you guys are into birding. I'm not that big a birder but go to one of these events. You'll be blown away. I've talked to people from Canada, Oregon, Chile. Some one from Chile came to "Wings over Water". Now that's one section and they came because of Pea Island and they can access it. They talked about how easy it is to access it now and how amazing it is that they can see so much there. But there's also, with the birds, there's photographers, there's the fishermen. Me, I'm and avid surfer, and there's no place to me in the world that speaks like Peas

Island. I really fret to think about loosing that to go to a place. There is a place now that you can be out in the water and look over the dunes and see the beach and see part of Outer Banks as the good Lord attended it, no building, no condos, pristine. The idea of loosing that just really scares me. I think I speak for a lot of people. I think we need a bridge. It's been way too long. We're beating a dead horse as we're going around it. We need something now and the short bridge is what makes sense. Thank you very much.

Moderator: Thank you Mr. White. Chris Dillon.

Chris Dillon: Hello, I'm Chris Dillon from Senator Marc Bassnight's office. Amy's got the hardest job in the room. I've got to give to her that she comes to these things.

Senator Bassnight sent me down here. He apologized for not being able to be here today. He's in Raleigh right now and he sends his best. He asked me to read a letter that he wrote this afternoon which was the first time I've seen that in a while.

> 'I appreciate this opportunity to share my thoughts on the alternative proposal to replace the Bonner Bridge. While I plan to submit additional comments as part of the formal comment period, I did want to let everyone here know tonight that in my mind, there's only one real alternative to replace the existing bridge with a parallel bridge immediately for the sake of the safety of residents and visitors. We all know that the condition of the existing Bonner Bridge is putting residents and visitors at great danger. It is also clear that there is disagreement about the best way to address refuge access, road maintenance, nourishment options and other issues. Although these issues are very important, I'm convinced that the top priority before us must be to build this new bridge as quickly as possible. As public officials, we are obligated to provide for safe travel within our state. The more we delay, the larger the risk grows for our people and we cannot afford to wait any longer.
>
> The DOT now has around $276 million available in the TIP to replace the bridge. Cost to build the parallel short bridge which runs along the path of the existing bridge starts at around $260. Depending on the specific design, we could reach $347 million. If the state does choose a costlier short bridge option, it will be a challenge but not a impossible one to find the remainder of the funding needed to complete the project. Building the 17.5 mile long bridge however will cost $930 million to 1.4 billion, that means we have to find anywhere from 650 to 1.12 billion to complete this option. If we could realistically secure this amount of funding, I'll be happy to support the long bridge alternative. However, I feel the short bridge options are the only realistic ones because they are the only truly affordable ones. To pretend otherwise merely continues to put the public's safety at unnecessary risk.
>
> A parallel short bridge supported by Interior Secretary Dick Kenthorn, Governor Easley, Senator Burr, and the Department of Interior and Homeland Security. State and Federal highway engineers have found that this option is feasible and the funding will be easier to secure. The parallel bridge must proceed as quickly as possible. The safety and piece of mind for both residents and visitors depend on it. Thank you very much.'

Moderator: Thank you Mr. Dillon. That concludes those who signed up previously to speak. Do you want to …. Okay? We'll open the floor up now for others who would like to make comments. Obviously you do. If you would, please state your name for the record please sir.

Jerry Belonis: Good evening I'm Jerry Belonis. I'm a local. Good evening Mr. Goode. Thank you for being here. I thank you for allowing me to speak. Fellow citizens. I also want to thank two people here tonight. They're remarkable people and that's Jack McComb and Richard Lawrence.

Jack says he cycles 200 miles. That the week. That's every week of the year. And Richard, Richard does a lot better than that. He does 300 miles a week every week since he's been 59 years old. This is a remarkable group of cyclists. I'm not even close to that. I only do about 120 miles a week. I cycled over the Bonner Bridge. I don't do it too often. I cycle over every bridge in this county. I've cycled over a lot of bridges in this country. I've never cycled over anything that is 17 ½ miles long. The most I've ever done on a bridge is about 12 miles. The Virginia Dare Bridge is 5 miles. So you're talking about a bridge that is three times bigger than Virginia Dare Bridge. That's a truly remarkable bridge. Jack would probably cycle that. I know Richard would cycle that dozens and dozens of times.

My concern is just with the guardrail being a height so it won't cause a biker to be blown over the side of the bridge, and also to maintain that shoulder as Jack mentioned. He said hat this shoulder was not done very wide on the Bonner Bridge now. So, for safety reasons, we need a shoulder on any bridge short or long and we need a railing that would protect cyclists. Thank you very much.

Moderator: Thank you Mr. Belonis. Yes sir, please come head.

Dr. Andrew Martinez: Hi, I'm Dr. Andrew Martinez. I'm the Pastor of Outer Banks Presbyterian Church. Glad to be here. Thanks to NC DOT for holding these hearings. I'd like to speak for people, that's what I usually do. Since I'm preaching Sunday I will not be long winded but I'll be brief.

(Inaudible) tend to spend. It's just the way it is. Safety is the major purpose for government. So, be safe. Avoid what happened on the cruise line last week when they lost two tourists overboard. Another reason I listen to the bicyclists is because they are low impact to the environment. Bicyclists are low impact tourists. So listen to us, we make good tourists. That's it for bicyclists. They tend to spend, be safe, protect

them. That's the purpose for government, a purpose and they're low impact tourists so another reason to listen.

Finally, access to Pea Island is essential. I represent members in my church who serve in Pea Island in the summer as well as during the rest of the year. We want to appreciate God's wonderful creation. Thank you very much.

Moderator: Thank you Dr. Martinez. Do we have others who would like to make comments? Yes ma'am come on.

Jonna Midgett: I'm Jonna Midgett from Rodanthe. I had not planned to speak tonight so I hadn't prepared anything formal. I had not planned to be here but came by and decided to stay because I won't be able to be in Rodanthe tomorrow night at the hearing. I hadn't heard anyone comment from my particular status, I guess. I am a resident where some of the proposed bridges are going to impact from the acquisition standpoint.

Like Mr. Matthews or someone said, there's family that could have been on Hatteras for hundreds of years. On one of those, and having lived on a property in Rodanthe where the bridge would come in. Like Mr. Matthews and others, I do cross the bridge at least twice a day coming to work in Manteo. I just want to make the comment that I agree with the short bridge proposal absolutely. If there is a phase, if there is an option other than beach nourishment, definitely phase 2 where it would not impact permanent residents. It would be a total life change but for those folks where the bridge would come in particularly on the 17 mile bridge. I just can't imagine the difference that impact would have on folks living right there and people do live right there. One of them … it's just hard to imagine. It would not be welcomed decision but we do need a bridge now. I've had a life preserver in my car for years so, just in case, I made the fall. Thank you.

Moderator: Thank you Ms. Midgett. Yes ma'am.

Lisa Duke: Good evening, my name is Lisa Duke. I did not plan on speaking either otherwise I would not have my jeans on. I'm a teacher at First Flight High School and I taught at Hatteras Secondary School last semester. I was planning on staying but after the Thanksgiving Day storm when I left at about 10:30 one of my sons was crying because they said you have to get home now are you are going to get stuck here. I requested a transfer. I think someone needs to speak for perhaps the students who are picking from a small pool of people who are going to live in Hatteras. It is certainly a lifestyle that you need to be prepared to live in when you're down there and being cut off from the rest of the world is certainly a consideration. Not all of us are cut out for that. I think that we owe it to the citizens of Hatteras Island to build this bridge now. We do have teachers who are driving to Hatteras to teach. We also have a teacher that is coming the other way and teaches at First Flight High School. We can't wait any longer. It's not just for educators, there's so many people that drive across that bridge. I see the students and I saw them at their worse moment being scared that their teacher was going to fly over the bridge. When I got to the other end of the bridge, I got on the telephone and I called back to the main office and I said, 'Somebody needs to get these kids home. This is horrible. We can't do this again.'

So, the other note, I also need to speak for the students at First Flight High School. I brought a few of them up here tonight. Everybody left, I told them they could leave at 8. My students at First Flight High School are very concerned about the long bridge because guess what they do? They surf at Pea Island. So, for their voice, I would like to certainly I can't wait to tell them that you guys were here tonight and they talk about it all the time. They can't even consider Pea Island not having an access to it. So, any way, we just need to do it right now.

Moderator: Thank you Ms. Duke. Yes sir.

Malcomb: My name is Malcomb. I'm from Manteo. I want to thank all of y'all for coming down from Raleigh to hear what's being said tonight. I was at a meeting the other day and I was told that I'm not a chairman of anything so I don't represent anybody. I don't even represent my wife at this meeting tonight.

I have a fond affection for Hatteras Island. Allen is back there. I used to sit down there is the springtime and fish on the charter boats. People on Hatteras Island were always real good to me. I was down there today. I went down there to buy a gun. I thought about that bridge and how shaky it was. I don't know if you were involved years ago when there were folks from the Department of Transportation actually when it dropped a few inches. I can remember that story. A lady from Southern Environmental Law, I'm an avid hunter, an avid outdoorsman. I think most of the people who live in Dare County are. I'm not picking on you, but I will invite you some place so that Oregon Inlet Sound. So I fished in that Sound. Right where that bridge would go is a great speckled trout fishing hole. We used to be able to hunt out there. I didn't get to go out there much because we weren't allowed to because I didn't have a boat. But, I did slip out there every now and then and the duck and goose hunting is probably some of the best in the county. The clam out there, that environment out there is hugely important to us as the refuge area. I would say that is a great importance to the refuge for those waters out there. If you build a beltway around Raleigh it would affect the wildlife. It would affect the landscape. Anything that we do affects the landscape. I have the utmost confidence in the Department of Transportation leadership of our state to build a bridge or any structure that would take that into consideration.

I've heard a lot of speculation about the importance to our economy and particularly the Hatteras Island. Hatteras Island is important to the economic impact to Dare County. It's more than that. It … and I don't know really how to say this best, although Mr. Goode you made a statement to me that makes a lot of sense. I think that it is something that is at the focus of what we are talking about. Is the bride as at the end of its service life? Those were your comments. If a had a father or a mother, or loved one in a hospital in dire need of cancer treatment. If they're in dire need of dialysis, I wouldn't hold hearings. I'd find the best surgeon I could and I'd take immediate action. That's where we are now with this situation at the bridge. There will be some right decisions for some and the decision will be wrong for others but I think the most important thing tonight is to make a decision. If Mark says a bridge, a parallel bridge with the phased approach and nourishment, I'd trust Mark with that decision because I do

not believe he would do anything that was not in the absolute best interest of Dare County, Northeastern North Carolina, or the state in general.

So, as you go back to Raleigh or wherever you may come from, please think of us. Think of that patient in a hospital room needing that surgery as that bridge does at the end of its life so desperate for help. That's what I urge you is to please help and do it now. Thank you.

Moderator: Thank you sir. Is there anyone else that would like to make a comment for the record? Okay.

I appreciate your participation. We do have down at the far end of the hall, we do have the maps still posted. We have had that there all afternoon. If anyone wants to stop by there and look at more detailed drawings of these, there will be people that will be there for a while. Again, thank you very much and we'll close the hearing.

Hearing Adjourned.

Mr. Carl Goode, Jr., PE, Moderator
Human Environment Unit
March 28, 2007

Typed by Demorris N. Hukins

OFFICIAL PUBLIC HEARING TRANSCRIPT
Design Public Hearing for
Replacement of Herbert C. Bonner Bridge
On NC 12 in Dare County
Rodanthe-Waves Salvo Community Center
March 29, 2007
TIP# B-2500

Good evening ladies and gentlemen, I'd like to welcome you to this evening's public hearing on the location of the NC 12 replacement of the Herbert C. Bonner Bridge. It's bridge No. 11 over the Oregon Inlet in Dare County. My name is Carl Goode, I'm the head of the Human Environment Unit in the Department of Transportation and I'll be your moderator for this evening's public hearing.

Before I continue, I would like to introduce to you some other people who are with us this evening representing various functions within the department. First of all, I would like to introduce Mr. Stan White, our Board of Transportation Representative from this division. Mr. White would like to say a word or two.

Stan White: This is going to be real quick. Carl, thank you for the introduction. I want to thank all of you folks for coming out tonight, certainly for being a part of this process. I want to thank DOT and all the DOT employees that are here for coming tonight to make everybody aware of what the process is. If you can figure the process out, you're doing better than I am and I've been on the Board for 6 years. But certainly since this new alternative was (Inaudible) allowed for the bridge on Pea Island and that's when DOT had to do the supplemental to the supplemental EIS. This is just a part of the process. It is a process that DOT has to follow by law. Sometimes it seems long and cumbersome. But again, I want to thank everybody for coming tonight and being a part of the process. Thank you.

Moderator: Thank you Mr. White.

We have others from our Division office. We have our Division Engineer, Mr. Anthony Roper, he's back here. With him is Sterling Baker. Is Sterling still here? Okay, from the Federal Highway Administration, we have Mr. Ron Lucas. From our offices in Raleigh, we have Mr. Laurie Cole, and Laurie is in the back there. Also from our Communications Office, we have Mr. Christian Brill. From our Project Development and Environmental Analysis Branch, we have our Branch Manager, Mr. Greg Thorpe. Greg is over there. Also, these are the folks who oversee the preparation of the environmental documentation, we have Mr. Rob Hanson, Brian Yamamoto, and Brian is way in the back, and Ms. Beth Smyre. She's way in the back as well. From my office, helping me is Mr. Ed Lewis and he will be our timekeeper as well tonight. We do ask that you limit your talks to about 5 minutes. Ed will remind you when that time is up. From the Roadway Design Unit, our designers, we have Mr. Doug Taylor, Desire Kamadi and Mr. Byron Cobb. They're back there in the closet. From our Alternative Delivery Unit, these are the ones who oversee among other things, our Design Build Operations, we have Mr. Roger Rochelle and Mr. Mitch Hindi. They're back there somewhere. From our Private Engineering Firm, who has actually done the documentation for this, we the firm of PB, we have Mr. John Paige, Bobby Norburn, and Rowland Robinson. And, from the Army Corps of Engineers, this sort of serves as a joint hearing for them in our process, we have Mr. Scott McLendon and Mr. Bill Bilkim.

Did everyone get a handout? Does anyone need a handout? There's information in here we want to go over with you.

Of course as a part of this project, the Department of Transportation proposes to replace the Herbert C. Bonner Bridge on NC 12. The purpose of this project is to provide a new means of access from Bodie Island to Hatteras Island for its residents, businesses, services, and tourists before the end of the current Bonner Bridge's service life; to provide a replacement crossing that takes into account natural changes in the migration of the channel; and to provide a replacement that will not be endangered by shoreline movement through the year 2050.

Tonight's hearing is part of the process for making you, the general public, a part of the planning process and the decision making process. The public comments that we are soliciting you here tonight, those comments are just one portion of the decision making process. It's a very involved process and includes such things of course as cost, environmental impacts, safety, public comments and a number of other things. You're an element of the overall process but are a very important part of the process. In fact, comments received from the last hearing actually instigated what we have tonight, the two new alternatives for what we're looking at.

Tonight we're looking at again, a couple of alternatives that are included in the supplement to the Supplemental Draft Environmental Impact Statement. The Environmental Impact Statement is something that we have to prepare under law to document the impacts of a project like this. During the process of this project, a number of things have changed. There was an earlier environmental document a number of years ago, a draft document. We did a supplement to that which we presented to you in November of 2005. Since we've made changes to that, we're doing a supplement to a supplement. Now this is a Draft Environmental Impact Statement. By that, I mean when I say "draft" we're looking at alternatives. We're looking at various alternatives. It's not a grammatical change, although that may be included, but it's more of less looking for location. Once we zero in on a location, we do a Final Environmental Impact Statement which looks more closely and refines environmental impacts for the chosen location. Once that is completed, there is a Record of Decision, which is another document that Federal Highways has to approve which actually approves the location. So, this is one step. There is still some more steps coming up. This is generally the longest step. Then once that is completed then we have to start seeking the permits from environmental agencies on order for us to construct.

Now we encourage you to participate in this process. That's why we're here. We're here to gather comments from you. You may do that in a couple of different ways. In a few moments after I go over information I have to go through, we'll provide you with the opportunity to come up and offer comments, spoken comments, for the record. This is a formal hearing. It is being recorded. We will have a transcript of it available if you so

desire. So you may speak on the record here tonight. At the back of your handouts is a comment sheet. You can use that sheet or any other letter or email or whatever. Or you can send in written comments. We'll accept those up to April 17. The written comments are reviewed and count exactly the same as spoken comments. So you may speak here tonight, you may write in or you may do both. We encourage you to do so.

Once we receive these comments, we meet internally with various other agencies and local officials, and we go over each and every comment. We go through these and try to incorporate whatever we can and try to address all of those that we can. So I assure you that each comment will be reviewed.

This is a Federal Aid Project, 80% Federal funds, 20% State funds. The relationship of what occurs there is there in you handout.

I think the need of the project is, form what we've heard, is pretty well understood by most folks that there is a need to replace the current bridge. So, that sort of creates the need. We've given you that information as well.

Now we have two distinct corridors that we are presenting tonight. We have maps up here showing them even though I realize some of you have difficulty seeing them. But, we have the Pamlico Sound Corridor which is basically the 17 ½ mile bridge out into the Sound. Then the have the Parallel Bridge Corridor which has the new Oregon Inlet Bridge paralleled west and paralleled to the existing one. Then we have several alternatives in each one. There are two alternatives to the Pamlico Sound Corridor. Both of them relate to the end points here at Rodanthe. I'll show you a little bit more of that later. Then there are five potential alternatives near the Parallel Bridge Corridor. I'll go through those in more detail as well.

Now the document is written such that particularly these alternatives or options over here in this corridor can be mixed and matched. We can take part of one and part of another and put them together. So, we don't necessary have to follow one all the way through. It can be part of one and part of another. We often do that on purposed so that we can get the best possible alternative to meet all the needs to minimize impacts and reduce cost. So I just wanted to make sure that you are aware of that.

The Pamlico Sound Alternative, as I mentioned before, is the bridge, y'all have seen this before, north of the existing Bonner Bridge. It goes out into the Sound. It's that distance out to some environmental sensitive plants that are underwater in that area to with (Inaudible) and comes back in at Rodanthe. Now that has, as I mentioned, two end points at Rodanthe and possibilities. One is the curved terminus where the bridge comes in here, touches down, the roadway is curved and continues down NC 12 in that manner. The existing road up here would "t" in like so. The other is what we call the intersection terminus where the bridge would come straight in and have a 90 degree intersection with NC 12. So those are the two alternatives associated with the Pamlico Sound Corridor.

Now the Parallel Bridge Alternative, again, those are in this corridor here. The three that we brought before the beach nourishment, the road north/bridge south, the outer bridge and the two new ones that we showed you are in red, the phased approach with the

Rodanthe Bridge, the phased approach with Rodanthe nourishment. The Parallel Bridge/Beach Nourishment Alternative, again all the rest of these will have an essentially the same parallel bridge west of the existing Oregon Inlet Bridge begins with that. Then we have a series dunes. Again, this is the nourishment alternative. There's a series of dunes 10-20 feet high that have to be replenished about every 12 years. Then we have a series of location with beach nourishment that will be replenished about every 4 years. NC 12 would essentially remain where it is and we would have the beach nourishment. The road north/bridge south alternative, again, would have the parallel bridge west of the existing bridge. Then we would relocate portions of NC 12 to the west behind the projected shoreline for 2060. This is in the northern section of the island. We would have a series of dunes perhaps there as needed. Also to help protect that, there would be a new bridge coming out of the refuge and going out into the Sound and swinging back into Rodanthe as part of this. That's the road north/bridge south alternative. The first of NC 12 right here would remain as it is since that's not projected to be in danger in the near future.

The all bridge alternative, again we have the parallel bridge at the existing location. Then we would build a series of bridges further to the south. We would leave two areas there for access. Again, we would have the bridge that goes out into the sound and comes back into Rodanthe undoubtedly to access parts for the Refuge. Then NC 12 would remain the same in that area, again, because it is protected as it is.

Now tonight we're presenting two new alternatives called the "Phased Approach", one's Rodanthe Bridge, one's Rodanthe nourishment. We begin with Phase 1, which replaces the existing Bonner Bridge which is essentially in the same location as before. This will start to occur around 2009. Phase 2 would include a bridge here, here, here trying to stay ahead of the shoreline erosion. These are projected after 2013. Phase 2 would also have a bridge coming into Rodanthe. This would be elevated above the existing NC 12 and would come through in this area. It would have two parallel one-way roadways on either side of that bridge for local traffic with access. Phase 3 would build another bridge there. That's projected after 2020. In Phase 4, we would fill in the gaps after 2030. So essentially you'd have a bridge from here all the way down to here and then from here all the way down into Rodanthe. Again, NC 12 there would remain the same. So, all of that would eventually be bridge and that would be bridge as well. The phased approach with Rodanthe nourishment alternative, again, we would have the bridge here west of the existing bridge. We have the two phased two bridges exactly the same as to the north there. The Phase 2 bridge coming into Rodanthe would be shortened. This would extend approximately 1600 feet south of the Refuge border. So it would be shorter and would not come into town like the other bridge would. We would supplement that area with beach nourishment. Then the Phase 3 bridge would be the same as before. And, the Phase 4 bridge would be the same as before as well in the same time period. Here we would still have bridges all the way down to this point within the Refuge and then a shorter bridge in that area.

These are in your handouts and these are some typical sections of the bridges that if you just cut a slice out of them, turn it onto the side, it is sort of what it would look like. This would be for the bridge in Rodanthe. It's about 33 ½ feet high, two 12-foot lanes, with 8-foot shoulders. The existing pavement is there and that would be removed. Then for our

local access, there would be a 14-foot roadway one heading south, one heading north that provide local access.

This is a bridge in the Refuge. It is essentially the same as this up here. Again, it's about 33 ½ feet, two 12-foot lanes and 8-foot shoulders. This is what it would look like from above, through Rodanthe. Then we have NC 12 on the bridge here. The one way frontage roads, one heading south, one heading north. The existing side street would be and it is proposed to have three locations like this. The crossover would go underneath the bridge and you would have access that way.

We have also in your handout, this large sheet which has some explanation for each alternative or each option. It has various impacts associated with each, and other considerations. I'll leave that to you, I won't read through all that because we would be here a long time reading that which you can look over that. I will like to point out that there would be two natural resource impacts. In all of those, the wetland impacts are higher than they should be. Those impacts include wetlands and open waters. So the open waters should be taken out of that which has been sent to you from the Corps of Engineers and their public notice, the corrections are in that. It's also available on the Outer Banks Task Force website. That would be tf.org. It has the correct numbers for that. But they are a little bit lower than what you see there.

Also in the upper right hand corner are your cost estimates for each option or each alternative. The bottom numbers are darker and they are sort of the totals . It's arranged there. Some of this is pretty far out in time. Right now the way construction cost and fuel cost have risen over the last few years, it's kind of hard to pinpoint that so we try to give you a range of low to high what we expect at this particular time. There are also some other disclaimers written below it there. But, those are the general cost estimates that we're looking at right now.

Then the other sheets have some of what I just went over as well. Then the last sheet is a comment sheet on which you may submit comments.

Now I do need to go through some right of way and relocation procedures with you. Some of those are written in your handout as well but I'll go over them briefly with you. Once a route is selected, design is approved and completed, then the right of way will be staked on the ground. The individual affected property owners will be contacted by a right of way agent. This agent will ask you questions about your property and try to determine as much as he can about your property. He will advise you of your rights. He will advise you exactly how you will be affected and will explain the plans and the project to you. Based on this information, and looking at other sales in the area, much as a real estate agent would do, the agent or one of our hired fee appraisers will make an appraisal of that property at it's highest and best use at the current market value at the time of the appraisal. That appraisal is the amount of compensation that would be offered to you in exchange for your property rights.

During this process, the Department of Transportation must treat all owners and tenants equally, must fully explain owners' rights, must pay just compensation in exchange for property rights, if needed, must furnish relocation advisory assistance, and will initiate

legal action if a settlement cannot be reached. In addition, if you are a relocatee, that is your property or business will be purchased or relocated as a part of this project, the agent will also advise you on your rights there, explain the procedures to you, offer any assistance that he can, offer moving aid. Moving expenses, if you qualify, may be paid. Also if you qualify, above the property value you may compensated for such things as closing costs, increase in interest rates or increase of the value of comparable housing. That's a brief overview of that. It's a fairly complicated procedure. But, at the time that would occur, you would be contacted and everything would be explained to you in detail.

Now I would like to open the floor up to you for your comments. We have a couple of sort of guidelines that we like to go by. First of all, this is not a public debate for me and you. This is for you to speak, this is not for me to argue with you and I don't intend to. So, we would like to hear your comments. We'll try to answer questions if we can or get answers for you. But, it's really for your benefit to offer comments for the public record. By the same token, there may be those in here don't agree with everything with else everyone says. Well that's fine. We just ask that you give the opportunity to the speaker in the same manner as you would like to have if you were speaking. So, if you would, just let people speak, and show the courtesy to hear them and we'll be fine.

Now at the advertising, we did indicate that we would like to limit your comments to around 5 minutes. Mr. Lewis will be helping me in that respect. We do have a number of speakers here. The only reason for a time limit is to give everybody a fair chance before it gets too late and you have to go home. We'd like to get everybody in who signed up. After we go through this list, we'll open the floor up to other comments if you would like to make or some other who didn't finish who signed up then you can get another opportunity there as well. But, we'd like to get these in first and we'll get started with that.

Please come up and use our microphone. Again, this is being recorded and everyone else would like to hear you as well. So the first speaker is Mr. William Brobst.

William Brobst: Good evening. As the first speaker I have the privilege of saying thank you to the DOT staff for coming here, for holding this meeting and for publicizing it so well that it has brought this crowd. That's wonderful. I am Bill Brobst. I'm President of the Wheels of Dare Bicycle Club based in Kitty Hawk.

We represent the thousands of bicyclists who live on the Outer Banks and the tens and the hundreds of thousands of bicyclists who come here every summer every year to visit the Outer Banks. They come here to ride their bicycles and to ride their bicycles in what has become one of the most bicycle friendly areas in the mid-Atlantic area. I also served as Chairman of the DOT's Bicycle Committee for many years. Prior to that, I served as the acting Assistant Secretary for Safety of the US Department of Transportation in Washington.

Let me say at the offset that it's our recommendation that the replacement bridge regardless of the length of that bridge be built to accommodate bicyclists. This includes the roadway sections that will be improved if that choice is made. At least 6-foot paved shoulders on the bridge surfaces on the bridges and at least 4-feet on the

roadways is smooth shoulder free of debris and damage. High bicycle free bridge railings; it's a little scary being on a bicycle and having an 18-wheeler come by and not have that high railing there to protect you from going over. We want rumble strips on the side of the outside traffic lane, not on the shoulder surface, but on the edge of the traffic lane. Warning signs to alert motor vehicle drivers of the presence of bicycles. A bike route markings so that the bicyclists can find there way although if the long bridge choice is made they won't have much choice, and rest areas or turn-outs every few miles. We understand from discussions early this afternoon that most of those provisions are already being considered.

There will be bicyclists on the new Bonner Bridge just as there are on the present one. There's no practical alternative north and south. The attractiveness of the Outer Banks itself brings bicyclists and brings tourists here. They bring their bicycles and they rent bicycles. The Bonner Bridge is a major component of the Wright Brothers Bikeway which was established several years ago by the Boards of Commissioners of Currituck, Dare and Hyde Counties. It runs from Corolla in the north to Ocracoke in the south. It's also part of the nationally recognized Atlantic-Coast Bikeway which runs from Maine from Florida. We see a lot of those interstate bicycle pass through.

The Outer Banks has a mission established by the transportation task force to encourage and increase in the use of bicycling and walking as a form of transportation. The more bicycles that there are on the roadway the fewer bicyclists with fewer cars there are on the roadways. The bicyclists are touring bicyclists. The interstate bicyclists, local visitors that are going back and forth and up and down the bikeway. Recreational bicyclists, a lot of them are training for competitions. They're just out for exercise and recreation. Family outings, sight seers and there will be other children on that bridge also. DOT's Division of Bicycles and Pedestrian Transportation did a survey several years ago and indicated that there are almost 700,000 people who ride bicycles at least once each year on the Outer Banks, tourists and residents. That's a lot of people. Thousands of them are going to be riding over that bridge.

Yes, a thousand bicyclists is a lot. But, a thousand bicyclists in a day, 10 hours, that's a 100 bicyclists every hour. On a busy summer day, you've seen them. They're out there and they're all over the place. The economic benefits of encouraging that many bicyclists to come to the Outer Banks, they are numerous and significant and we really must make sure to provide them a safe place to ride. We've all heard the horror stories of closer encounters of the worse kind between motor vehicles and bicyclists. Over the past dozen years, we've had several deaths and a lot of injuries on the Outer Banks in cars and bicycles speeding under bad circumstances. Motorists who are either inattentive or disrespectful of the bicyclist right on the road put bicyclists at a serious. When a bicyclists meets a motor vehicle under those conditions who ever is right or wrong, it's going to be bad for the bicyclists. We understand that safety cost money. The necessity and cost effectiveness of these bicycle safe provisions are well known and accepted by both Municipal and State governments. Obviously, the longer the bridge, the more costly the bicycle safe provisions will be.

Bicyclists are not as much concerned about how long the bridge as they are about how safe it is. Although, the thought of riding a bicycle 17 miles over all of

that water will give a lot of them cause to stop and think. That's appropriate. The Wheels of Dare Bicycle Club takes no position with regards to the length of the bridge only it's safety. Thank you.

Moderator: Thank you Mr. Brobst. Noah Kahn.

Noah Kahn: Hello, I'm Noah Kahn and I represent the Defenders of Wildlife. It's a non-profit conservation organization with over 9,000 members in North Carolina and 500,000 members nationwide that works to protect all native wildlife and its habitat.

I'm going to speak kind of quick tonight since I have a lot of things to get in so try to bear with me. The whole reason we're here tonight is to discuss the need for a safer more reliable bridge across Oregon Inlet. But, the bridge is only part of the issue. You can't have a bridge without a road leading to it. Given the massive natural erosion or rates of frequent over wash on Pea Island, if you simply replace the Bonner Bridge and maintain the current road through the Refuge, you would effectively be building a bridge to nowhere. Conversely, the proposed Pamlico Sound Alternative or long bridge strategically uses Pea Island as a buffer against strong storms. Elevated and away from the power of the ocean, the long bridge would not be closed after every storm that rolls through the Outer Banks.

We're also here today to discuss newer alternatives, the so-called phased approach alternatives. These offered in the latest supplement to the Draft EIS do very little to alleviate the expected impacts of maintaining Highway 12 through the Refuge. The Supplement states that portions of the road would be elevated, "as necessitated by shoreline erosion". An informed skeptic might conclude that this rather non-binding language would essentially preserve the status quo of so-called beach nourishment, sand fencing, dune springing and would continue the practice of strapping sand and the ocean water off of highway 12 with alarming regularity. Even if the money and the will remains in future years to actually construct the elevated portions, we still arrive at a situation that turns the National Wildlife Refuge into a perpetual construction zone. Certainly we cannot regulate the mission of a national wildlife Refuge to a status that is subordinate to 50 years of road and bridge construction.

In addition to the phased approach alternatives, maintaining the fragmentage of the Refuge and costing at least as much as the long bridge, this alternative would also be detrimental to recreational visitors as well. As stated in the Supplement, the "bridges associated with the phased approach ultimately would move to the shoreline and then offshore into the Atlantic Ocean as the shoreline erodes underneath the bridges". Of course, this statement assumes a regular and predictable erosion rate which we all know is certainly not the case out here where any one devastating storm is capable of breaching the entire island and forming a new inlet. With Highway 12 eventually running through the Atlantic Ocean, fishing and surfing will be impacted not to the mention the tremendous maintenance cost of maintaining a bridge in the ocean surf.

Building a shore bridge also undermines Congress' requirement that the environmental health of a national wildlife Refuge be preserved. Beach erosion rates have up to 16-feet per year according to the North Carolina Division of Coastal

Management are continuing to march the ocean westward to the road. To counter this, artificial dunes have been built, sand fences erected and countless grass clumps planted, all at tremendous cost and labor. This activity greatly disrupts natural processes on these ever shifting islands. The westward march of the island due to erosion, coupled with rising sea levels due to global warming will force Highway 12 to be relocated several hundred feet to the west into the Refuge wetlands as acknowledged in the original alternatives or force the elevation of Highway 12 for many miles through the Refuge as outlined in the newer phased approach alternatives. Either way, elevating the road or relocating it west a few hundred feet is like applying a band aid to a self-inflicted wound.

With any of these short bridge alternatives, the habitat fragmentation caused by new right of way or bridge structure with all its associated harms to wildlife and habitat is incompatible with the purpose of Pea Island Refuge as a sanctuary for migratory birds. The biologist of the US Fish and Wildlife Service had previously said so until a brand new political appointee at the Interior Department misused his political power to overrule them.

In summary, in all alternatives involving a parallel bridge over Oregon Inlet, Highway 12 no matter realigned or elevated, remains under constant threat from sand and water over wash or the formation of a new inlet from severe storms that would take 3 to 6 months to close. As the coastline creeps ever westward toward the road, the likelihood of Highway 12 being impassible for periods of time will only increase. This is an unacceptable safety risk to the residents and the 4 million people that pass through Pea Island each year.

Let's please use a little common sense. The long bridge through Pamlico Sound is the only alternative that avoids issues of Refuge compatibility, maintains the environmental health of the area, ensures a safe reliable evacuation route anytime storms may threaten, preserve suitable habitat for fishing and surfing and cost effective in the long term. Defenders of Wildlife endorses the Pamlico Sound Bridge alternative. Thank you.

Moderator: Thank you Mr. Kahn. Allen Burris.

Allen Burris: My name is Allen Burris. I live in Hatteras, Hatteras Village. Been there a while. Parents, grandparents and great grandparents, and great-great grandparents, and great-great-great grandparents have all been there a while or lived right in this area.

I usually love it when someone starts off by telling us we're no where. You know it just always just lights my fire. I live in Hatteras Island in North Carolina in the country of United States of America. That's no where. I'm sorry, I just can't accept that. I had to report it.

I'm for a bridge that we can afford. I want to build one. I have listened to this argument for almost 20 years and I've come to the conclusion that the only bridge that's acceptable is one that they can build. If it seems like the only one that they can build is a parallel bridge, then build it. You know, the argument's time is over. What

people want to do is come and offer all these alternatives and stall it for another 20 years and hope that we end up in the ferry. That's not acceptable. Having grown up here, riding ferries, I didn't like it then. The State bird should have been a green head because if you sit up there in line they each you up. There was no moving around about it at all, there was no other way to go with it. After Isabel, I had to go a four-hour ferry to somewhere and thank God we had it or we would have been in a mess. But, I'm telling you it's not a pleasant experience to be in the middle of a sound with 40 mile an hour wind or 35 mile an hour wind and waves washing up under the vehicles on the ferry. So you know when somebody talks about, 'Well let's build one out there', and the sound. You know I think that's nice if you've got the money and the got to the time and you live somewhere else and you don't worry about the electricity to go up 25% and don't worry about your co-op coming up with $30 million dollars to put the electricity across there.

You know that all fine and well to say that and to take that high road, but the fact remains we need a bridge. It's get her done time. We need to build one that can be built safely and quickly and that's the parallel bridge.

And now I'm sorry to say that I put these things on to read a letter from Senator Bassnight who couldn't be here tonight. He's caught in some negotiations in Raleigh. I hope he wins, I'll be frank with you, because I know he's looking out for us. It says,

> 'Dear Secretary of Tippett, DOT officials, members of the Board of Transportation, local officials and concerned residents,
>
> I appreciate this opportunity to share with my thoughts in the alternative proposals to replace the Bonner Bridge. While I have planned to submit additional comments as part of the formal hearing comment period, I did want to let everyone here know tonight that in my mind there is only one real alternative. To replace the existing bridge with a parallel bridge immediately for the sake of safety for residents and visitors. We all know that the conditions of the existing Bonner Bridge is putting residents and visitors at risk every day. It is also clear that there is a disagreement about the best way to address the Refuge access, road maintenance and other issues. Although these issues are very important ones, I am convinced that the top priority before us must be to build a new bridge as quickly as possible.
>
> As public officials we are obligated to provide for safe travel within our state. The more delay, the larger the risk grows to our people and we cannot afford to wait any longer. The Department of Transportation now $276 million available in the Transportation Improvement Plan to replace the bridge. Cost to build a parallel short bridge which runs along the path of the existing bridge starts at $260 million and depending on the specific design could reach $347 million. If the State does choose a costlier short bridge option, it would be a challenge but not an impossible one to find the remaining of the funding needed to complete the project. Building the 17.5 mile long bridge

however would cost between $900 million to $1.4 billion that means we have to find anywhere from $650 million to $1.2 billion to complete this option. If we could realistically secure this amount of funding, I would be happy to support the long bridge alternative. However, I feel that the short bridge options are the only realistic ones because they are the only truly affordable ones. To pretend otherwise, merely continues to put public safety at unnecessary risk.

A parallel short bridge is supported by the Interior Secretary Doug Kepthorn, Governor Easley, Senator Burr, the Department of Interior and Homeland Security. State and Federal Highway engineers have found that this option is feasible and the funding will be easier to secure. The parallel bridge must proceed as quickly as possible. The safety and piece of mind of both residents and visitors depend on it.
Marc Bassnight, State Sentator, District I'

And I can say to you, get her done. Thank you.

Moderator: Thank you Mr. Burris. Lance Midgett.

Lance Midgett: I pass.

Moderator: Okay. Harold Brennen Jr.

Harold Brennon Jr.: Good evening everyone. My name is Harold Brennon. My family and I have been visiting the Outer Banks for 25 years and been living in this area for the last 10. The first 7 years we owned property at 16th of August Street. I'm from Connecticut and a civil engineer in new construction. My family basically loves this area.

We've watched the progress of this design. Basically we favor the replacement, the immediate replacement of the Bonner Bridge with the parallel bridge and also favor the beach nourishment portion of the job. We definitely don't like either of the multitude options of bridges for Pamlico Sound, 3-foot high bridges through the center of (Inaudible) Rodanthe. Number one, they are extremely costly and I'm sure at some point in time someone when they are building the bridge say this is the bridge forever and no bridge will last forever. So if you put it in hundreds of billions of dollars for bypass bridges, I'm sure everyone will be surprised when that needs to be replaced. Where is that money coming from at whatever rate that is?

I'm also very concerned with the attitude taken by the state. Some of the local officials in Dare towards property owners. We've come down here and are speaking for many people from where ever North Carolina and many, many other states and invested lots of time, lots of love, blood and money into this area. We are basically the basis of your economy. I had a long discussion with some of the engineers and consultants of these earlier this afternoon, I appreciate their time and their thoughts. Basically what the state is doing is building a bridge to let the rest of us float away. If

you go by (Inaudible) Rodanthe through Myrtle Beach, those 22 houses along the road will be gone in 3 years. The next row of houses, including mine, will be gone in the next 10 years. Then on and on and on. If someone doesn't start looking out for the rights of the property owner, you're all going to run across this at some time, you're only going to hit the projected path of destruction of the ocean.

I think the answer here is get out into the water, get out into the shore, and deal with the problem. The problem is the shoreline. Let's not just hide and build above it and make it try to go away. We need to deal with issues that have caused this and there are many concerns, many opinions on what the original Bonner Bridge have affects down here, the dunes that were built. I'm sure the with the great (Inaudible) with the United States of America and the government and the state and the engineering as it comes and it gets better every year, we can come up with much better alternatives as time goes on. That's one of the reasons why we support this nourishment issue because it gives us more time to get into this and to think of some better, cheaper alternatives for keeping the status, protecting the land and the property that we all have down here and making a safe and continued stable area. Thank you.

Moderator: Thank you Mr. Brennon. James Charlet.

James Charlet: Thank you DOT for not only hearing us but listening to us.

Not all of us will agree on a lot of the details but I think almost everyone in this room will agree on certain basic things. We all want a new bridge. We all want it as soon as possible. We all want it cost effective. We all want it to have the least impacts and we know they're going to be negative impacts.

I'm not only a full-time resident of Salvo but I'm speaking right now as the Site Manager for Chicamacomico Life Saving Station. Our concern is this, across the street is one the historical and cultural crown jewels of Hatteras Island. It's already difficult for us to attract visitors when they can just pull off the highway. The concern we have is for the alternative, which puts a 33-foot bridge in the air going down to Joe Bobs. If that happens, I don't think they'll turn around and come back to see us. We're a struggling non-profit. We rely very heavily on visitation. I'm just afraid if that alternative comes through, we may loose Chicamacomico.

Moderator: Thank you Mr. Charlet. Tim Midgett.

Tim Midgett: Good evening. I appreciate the opportunity to be here. I'm Tim Midgett.

I'm speaking on behalf of our local family business. Now it's in its third generation. It was founded some 70 years right directly across the street from here. We employ a number of approaching 100 folks here on Hatteras Island currently. In the off-season, that number approaches 300, so it more than triples on a seasonal basis particularly on weekends. We expect to play host to some 10,000+ families this year and do that pretty much routinely. The business of course is growing. Moving from that business, looking more countywide, Dare County is one four donor counties in the 100

counties in the state of North Carolina. Meaning, we're one of four that sends more money to Raleigh than we get back from Raleigh. That means 96 counties rely on the income that we produce. Hatteras Island pre-annually is ranked or has produced some 20 to 25% of that income. I think we are an economic force to be reckoned with statewide and there are a lot of people who rely on us. The 200 +/- (plus or minus) folks that I say we employ on a seasonal basis, the majority of those folks are from inland counties. There's some counties that are less fortunate than us and counties that work survived. Some of these folks drive 3 to 3 ½ hours 2 and 3 days of the weekend to come out here and work. So Dare County is not just a geographic area by any means there anymore. Our influence is spread throughout the state.

I can't leave this podium without speaking about the potential environmental impacts that the 17 ½ mile bridge. Some gentleman earlier spoke of speaking from a practical standpoint. I've got it from a practical standpoint that 17 ½ mile bridge has got to have more environmentally impacts than any short bridge alternative. I certainly speak in favor of the parallel short bridge alternative from subsequent beach nourishment. Thank you for this opportunity.

Moderator: Thank you Mr. Midgett. Dr. Pierre Richie.

Dr. Pierre Richie: Good evening Mr. Goode. Good evening everybody.

My family and I have been coming here for 36 years. I'm speaking not as a visitor but as someone who considers himself to be a part-time visitor. I was very moved on the weekend when talking with some of our friends, some of whom like Mr. Burris, goes back generation upon generation. They said, 'We want you to stand up on Thursday night because we know you're good at doing that kind of thing.' I've given testimony in more countries around this world than I know how to count. I would never have imagined 36 years ago, or 30 years or 36 months ago that I was going to stand up at a public meeting on behalf of people who have been here their whole lives to try and express a point of view.

I want to express the view that you're now, I think, beginning to experience as a course sir, and that is the short bridge alternative. My friends and I also did our homework. We actually did look at all the other alternatives, we spend a lot of time reading that material which I appreciate. I also want to extend the appreciation to your staff who are here today. There was one young man who I think talked to me for the better part of an hour looking through all of my questions making sure I did understand it correctly. I did not want to stand up here tonight ignorantly either on my own behalf or the behalf of other people.

Here's our assessment. Why is the Sound Corridor not the right choice? It's not the right choice because, one, it offers the least flexibility across the time. It's an all or nothing proposition. It's not only the most expensive but it is also includes the greatest number of unknowns. I think that every single one of us would be a very arrogant person to think that we can know what something that has never been tried before is going to produce. We may say it's our best guess that it's the better choice but to say with certainty, for example, that it's the most environmentally friendly, it's just

something that we do not know. We do know what the impact of being of what's in place already. Any of these alternatives has imperfections with it. The imperfections that we know and will learn how to deal with, that includes, and I say this with true respect, rather you are a sea turtle or whether you are a human being, all of us have to adopt to Mother Nature. None of us can forget over a 50 year cycle what that's going to be. So, we've got to position ourselves to have some flexibility.

So the short bridge alternative, as we see it, has several advantages. One, it allows for the quickest most immediate replacement and least endangers the economy of all the communities on this island. It is the most cost effective. It allows the greatest flexibility particularly, and I was very glad to hear you mention that in your opening comments. Not many people have responded to it. But, this notion of mix and match. When you look at the short bridge various alternatives, these are not mutually exclusive. One of the things you can do by replacing the Bonner Bridge immediately with the short bridge is look to see over time what you really need to do. We're willing and potentially need some elevated and where might we potentially be able to use the existing road surface? You can't do that with the other alternative. You're in or you're out.

So, the last comment that we wanted to make were based on Rodanthe. It is a comment that was just made a few minutes ago, the notion of a bridge entry into Rodanthe. Whether it is the Sound version of the short-bridge version, just sounds terrible. It's terrible because if you've ever been here, and I try to be here very little in the summer to be honest with you. I mean I'm here when most other people aren't here. I'm here January to March and April, as much of it as I can get. But there when there is all those other folks the congestion with what is going to be involved with those kind of bridge alternatives let alone the visual pollution. If you want to talk about environmental impact, let's also talk about the human environmental of that kind of visual pollution.

So with respect, we suggest that the sensible and the common sense approach drives compellingly the short bridge alternative with a phased in approach that allows not a decision to be made today on which elements of the phase must be done in 2015 or 2020. That will get evaluated as time evolves. The one thing that we would ask is the decision making process related to those phased in approaches be done in a timely way, that it be recognized that there is a decision that needs to be made. The end product of it can't come into life until five or six years down the road because of the way things need to be funded. So keep the process, when we talk about the process, keep that process moving in the phased in approach. Thank you.

Moderator: Thank you Dr. Richie. Gary Langner.

Gary Langner: Good evening. My name is Gary Langner. I'm a full-time resident here in Rodanthe. I also teach school in Manteo. I teach computer science up there and have been there for 3 years. I am here more so to represent Mirlo Beach Home Owner's Association of which there is certainly going to be some impacts on any of these things that are going to be implemented but some are more severe than others.

I'm a little bit surprised to be speaking here again just about a year and a half after I spoke the last time. Because, when I left this meeting, I felt like there was

more of a voice towards a certain resolution to this particular matter at that particular time. The letters that I received back from the commissioners, the senators, from this particular area all kind of indicated that the short bridge proposal was the one that was going to be the one that was going to be considered. Then now we come back and we're addressing the same thing again and added a few elements to it as well. I say I'm a little bit surprised but I'm not truly amazed because I also worked for the US Senate at one time and I understand how some of these processes work.

I would like to talk about our read just a statement about how the Mirlo Beach Home Owner's Association, what are feeling is on this particular thing. We strongly opposed all Rodanthe bridge options. We can only support the parallel bridge corridor nourishment alternative. All of the Rodanthe Bridge options that are currently being advocated do not take into account the concerns of those who will be most affected by them, mainly those who own property in Rodanthe. All the options that call for constructing a bridge at, near or through Rodanthe include either, one, a long bridge that runs the full length of Pamlico Sound, any of the Pamlico Sound corridor alternatives; two, a shorter span bridge that skirts the Pamlico Sound connecting Highway 12 just south of the Pea Island Refuge and with sound side Rodanthe connector such as the road north/bridge south all the all bridge alternatives; or, do we support number three, and elevated roadway directly through Rodanthe. Neither of the phased approach alternatives will have significant adverse impact on our community. Only the parallel bridge corridor with nourishment alternatives will have a positive impact on our community. And, for that reason alone is the only one that we can support.

I'm not going to re-iterate some of the reasons that were heard at the last meeting or we've probably already said tonight or maybe said later on about the economic impacts on the area here. I know that by the elevated bridge road at Rodanthe it would probably, absolutely destroy any business that is going to try to survive in this particular community. I know over the last 3 years, I've seen many businesses spring up and try to make a go of it year-round here in Rodanthe and are starting to make some progress. I don't think that will continue to happen. I think that would finish off Rodanthe as having any kind of economic basis for a year round type of activities and businesses that we might particularly have here.

I'd like to be just a little bit facetious at this particular time. I'd like for you to try to pretend that the people at Mirlo Beach are a bunch of piping clovers and sea turtles. I think you know where I am going to go with this particular idea. But, it seems like sometimes we give more consideration to that and to the human beings that are already living here and own properties. This elevated bridge that is proposing through Rodanthe, is going to affect not only the 75 to 80 houses that are currently in Mirlo Beach but also all the way up and down the island past where that bridge is going to come down. Those houses are going to decrease in value entirely. They are going to become perhaps relics unrented and eventually dilapidated. If you could imagine a bunch of piping clovers then turtles want to live underneath the Chicago elf. That's similar to what the proposal is tonight. I don't think that there will be reproduction in that particular case not that we are advocating that necessarily. But, I think that if we're given the same kind of consideration that they do to wildlife and put that in perspective, I think that we'll see that particular bridge is not a good alternative for anybody that lives in Rodanthe.

We simply ask that you reject all the Rodanthe Bridge options and support the parallel bridge corridor with nourishment alternative. Further we ask that you begin implementing the replacement option now as we stated in the last meeting.

Moderator: Thank you Mr. Langner. Scott Leggat.

Scott Leggat: Good evening, my name is Scott Leggat. I'm a resident of Hatteras Island. I own property here in Rodanthe, two of them actually, both within that dotted line on the maps there that says 60 years worse scenario. It makes you feel real good.

Well here we age again. As Gary said, eighteen months ago it seemed like we were in the same spot. I have to think that if only words were bricks we'd have a bridge to Ocracoke by now.

I'm here tonight actually representing the Outer Banks Chamber of Commerce. I'm the immediate past President. It's the position of that board to do the parallel bridge and to build it now. Businesses throughout the Outer Banks would be … are impacted when the bridge goes out, when the barge hits the bridge. Businesses up North lost 30% of their business because the media said the bridge to the Outer Banks was out, and not even to mention what happens here on Hatteras Island. Hatteras Island contributes 3% of this county's tax revenue. What would the impact of that be if suddenly we weren't able to make that contribution? What would happen to our schools? What would happen to trash collection, to other public services, i.e. our police force or health care? That would impact the entire county.

Another thing is, Dare County of only four counties in this state that are regarded as donor counties. That is, we add surplus funds to the state coffers, we add more in than we draw out. It's suddenly one of those donor counties is taken away from the state coffers, the entire state is going to be affected by this. So the Chamber wants to do as Alan said, the solution that is most immediate and gets it done now.

Now, I like to talk personally a little bit about this. I go my chamber duties out of the way. I'd like to say that I resent the way that this quest has been positioned as a pro-environmentalist versus anti-environmentalists. Hatteras Island residents live on an island with over 70% of the land set aside for conservation. A significant portion of that remaining land is regarded as undevelopable. Residents here are good stewards of the land and the seashore. It's why we're here. We're the volunteers who make the national park viable. We're the ones who pick up the trash along the roads and along the shoreline and protect the turtle nesting areas, who surf and fish these waters and teach our children that is a treasure to live here and that they are fortunate to be here. We do this because it is a part of our life. We don't have to be persuaded to do this by slick magazines that cost a lot of money. We do it because of our love and commitment to this place. We do it with out toes in the sand and not behind a desk in Raleigh or other metropolitan cities. The residents of Hatteras Island are the real environmentalists and conservationists. We don't just beat our chest publicly to let everyone know how good we think we are.

I want to address the adherent hypocrisy of letting nature take its course. Everyone one here knows from 7th grade Earth Science how a maritime force develops. It begins with grass established in itself in loose soil. Eventually shrubs begin to grow and as the soil becomes more stabilized. Taller trees with deeper rooting systems establish themselves anchor in the soil. Anyone driving through Pea Island knows that 'let nature take it course' is only a practice when it doesn't interfere with the other priorities. Fish and Wildlife routinely burns the grasslands and bush hogs the brush pouring hundreds of gallons of diesel fuel on the ground in the process, billowing smoke that pollutes the air and can be seen from dozens of miles away. They do this to protect birds from predators and it must be working well because this year they had to euthanize hundreds of geese due to overpopulation. Dozens of acres of land were cleared for the retention ponds. In the meantime, a maritime force doesn't stand a chance.

These actually may be good practices for a wildlife refuge. I don't know I'm not an expert there. But, please don't stand on your holier than thou pulpit and preach to us about letting 'nature take its course' and telling us who the real environmentalist is. Those of you who evaluate the testimonies that you'll hear tonight, I would ask you to give weight to the true conversationalists, those who live here on Hatteras Island and the Outer Banks, no matter what their preference is. Last, to the paid staff and lobbyists of the so-called environmentalist's organizations who success here tonight will be part of their performance reviews and annual evaluations. Thank you.

Moderator: Thank you Mr. Leggat. Beth Midgett.

Beth Midgett: I don't know how I got the luck to follow Scott but that was great. Whoa. Last night I spoke as the Chair of the "Replace the Bridge Now" Committee. Tonight I get to speak for myself. I'm still nervous no matter who I am.

I'll quickly restate the obvious. No matter what decision is made, please move forward as quickly as the law allows. Our lives depend on it.

None of the options are absolutely optimal. All have drawbacks. All are going to meet change to the accesses and visually to the island. All of us are going to have to compromise our wants in some way to make this work. My greatest fear is the result of any further inaction. I heard clearly at last nights meeting, everyone agrees that something must be done now. The government agencies such as NCDOT, Federal Highway, FEMA with the Department of Homeland Security, local officials, private citizens, the environmental groups, such and Southern Environmental Law Center, Defenders of Wildlife, NC Audubon, all agree something needs to be done and done quickly. That's mean that if we're all being truthful with one another and agree that safety and protection of lives and livelihoods is a main priority, you will do nothing to further delay the chosen project if your option is no chosen. If that happens, that someone delays it needlessly, I will and all of you should feel as if you've been lied to. I personally will help fight with what I've got to see the chosen option moves through.

That being said, I need to say that I've got fears about the long bridge being chosen. If money were not an issue, that might be an option. However,

unfortunately funding is very much an issue. What good will it do if we choose an option that we can't get the money for? It's as good as no choice at all. There's another bridge in another state that we've had held up as an example to us. Please forgive me because I'll probably murder the names because they're French. It's been mentioned as a model for us to follow. It's LA 1. It's a corridor that goes to Lake Forchina, or Port Fortune. It is a port that actually allows 75% of the gulf of Mexico deep water oil production to come in. The road to it is sinking. They're having all sorts of problems as the bayous and erosion and everything. They're facing similar situations to what we are. It's projected that port will serve as 4% deep water plans and 58% of all offshore drillings in the Central Gulf in the next 30 years. It's also the land base for the Louisiana Offshore Oil Port which serves 50% of the US refinery capacity. They cannot get that project fully funded in one shot. That's who we're going to be fighting against for funding. I know we're special but when you put up against the energy of the United States, I don't think there's going to be any contest. If we're fighting for funding, that's who we're going to be fighting. That's just scares the bejesus out of me.

So personally the short bridge approach with nourishment and let's see how it works and do the best we can with that. Because, face it, we feel like we're worth a lot but there's a lot of needs out there that the rest of the country might need more than what they need here. I just, I know we're special but we're not anything against energy. Thank you.

Moderator: Thank you Ms. Midgett. Warren Judge.

Warren Judge: Thank you and good evening. Thanks DOT for hosting this tonight and last night and spending the hours that you have with us and trying to once again explain these maps that so many of us have probably looked at least six public hearings by this time by now. I thank all of y'all for coming. I'm representing your interest and our collective interests. I thank all of y'all who have spoke before me and who will speak after me. We so much appreciate those that will get up and voice their opinions. We so much appreciate all of y'all that who will sit in the audience and lend us your support.

As I was driving down today and was crossing the Oregon Inlet, I never looked. I had never seen the shade of green that the water was. In fact, I was on a conference call with the county manager and finance director. I said, 'You guys need to leave the office and get over here and look at this inlet. Get on the bridge.' It was absolutely beautiful. Then I had a horrible thought. If I were ferried because the bridge wasn't working, I would have missed the pleasure of that beauty. Three or four years ago your county commissioners got deeply involved in this issue because with the 2004 version of the 17 mile bridge, we were going to loose Pea Island. We, the folks who live here. There are 6 to 7 million people who visit Dare County every year. We were going to loose our access to Pea Island. How dare they? We, the people of the United State, how dare they take one of the most beautiful places on this earth and deny it to its people.

Economic impact, I know that you folks that live on Hatteras Island worry about this everyday. I know water on the road can disrupt your life, can cancel needed doctor's appointment, and can make EMS transport impossible. It can just be the ruin of

your day. Y'all aren't alone in that. We all in Dare County share that. Trust me, you've heard some economic figures quoted. I just want to re-emphasize that point. 20% of the occupancy or the property tax paid in Dare County comes from the residents/the property owners, whether they live here or not, the residents of Hatteras Island. 23% of the annual occupancy tax, 20% of the sales tax come into the county coffers from this island. Y'all are not alone if there was a tragedy with the bridge. Not alone at all. We all would feel that impact.

We appreciate the men and women across this great nation of ours who have invested in our island, who have invested in our county, who have helped us create the economy that we all have enjoyed living, whether we're the carpenter framing the house, the sheet rock hanger, the clerk or the shop owner that's selling the gifts, and the grocery stores, the restaurants, the hotels, the rental cottages, the people that clean them, the people that inspect them. We all live off of this. We cannot afford to loose our economy. None of us in Dare County can afford it. I think Scott spoke so well to what happened after the barge hit the bridge and he was absolutely right.

Let's leave economics for a second and let's talk about our people. If we were counting fast enough when Allen was up here talking, he recited at least six generations of his family. Tim Midgett spoke earlier. We know he probably can trace the same line. I know that so many of y'all sitting in this room are living on the land that has been in your family for hundreds of years. You can trace your forefathers' back to the lucky people who were able to reach the shore after they were shipwrecked. We don't want to loose Hatteras Island.

Scott, I single you out again. 'Let nature take its course', I'm so glad to hear you talk about that. I say, let that person who tells us 'let nature take its course', that tell us who live here what to 'let nature take its course' with our lives, then I say to those people, 'let nature take its course' with your life. Don't go to the doctor when you're sick. Don't go get that bone set when it's broke. Don't have that lifesaving operation. If we have to 'let nature take its course', everybody needs to 'let nature take its course'.

They're throwing me off folks, but one last thing. 60 mile and hour noreaster tonight. Let's just suppose. You don't have to answer me, but when you turn left out of this heading north if you're heading north, would rather fight what we have now in the Bonner Bridge or turn left just above Max and drive on a 17 mile bridge. Thank you.

Moderator: Thank you Mr. Judge. Johnnie Robbins.

Johnnie Robbins: My name is Johnnie Robbins. I'm from Skyco on Roanoke Island, but my mother is a Midgett. Our family originated right here, Rodanthe. I got to Skyco by way of Stunky Point.

This bridge replacement project has been studied, examined, re-examined. It's been cussed and discussed long enough. It's time to be pro-active, aggressive, but realistic. That won't work because it's not feasible. We can't afford it. We're told that this will work and we can afford it. So, we need to build it and we need to build it now.

The answer is the 2.7-mile bridge over Oregon Inlet. We need to move forward with a maintenance program between the bridge and Rodanthe. A maintenance program that will take from the options that have been laid out in the plan and use the techniques that are necessary as we go forward over time with nourishment being an important part of it.

I agree with the folks that have talked about the visual pollution of a bridge coming into Rodanthe and through Rodanthe. Folks, I believe somebody mentioned something about a Chicago elevated highway. We don't need that here. Now there are those that say that this can not work. That is better, because the environmental impacts here are not acceptable. Well, a couple of other speakers have eluded tonight there has been expressed much concern for the wildlife. I think that most all of us share those concerns. We want this to be done in the least attrucive manner. However, I think the time has come for us to show some of this concern and compassion for the safety and economic well being of the people who live here and the visitors who come here and support our economy. Tourism is the backbone of Dare County's economy. This bridge, as Scott stated earlier, this bridge doesn't just affect Hatteras Island. It doesn't just affect Dare County. It affects all of the Outer Banks and much of northeastern North Carolina. Scott reminded us of what happened when the bridge was breached by the dredge that took out a section of it. When he said that the, well he didn't exactly say this, but the people in Cincinnati and Baltimore and other places who heard that bridge was out, a number of them changed their vacation plans because they assumed we can't get to the Outer Banks, the bridge is out. So, it hurt all of us, not just the people of Hatteras Island but it spread from Nags Head to Corolla and beyond.

Do we in Dare County deserve this investment, this public funds that will fund this bridge? As Tim Midgett and a couple of others have mentioned, we are a donor county. We're only four, I think Stan said, there used to be five today there might be four, donor counties that actually send more money to Raleigh that comes back in services to our county. We're important folks, not just because I live here but I think that view is expressed by all of these people who save their money all year so they can spend one a week a year where we are fortunate enough to live all year. Can we afford this bridge? Yes, we can afford it. Do we deserve it? Yes we deserve it. And, the time has come for it to be built.

Moderator: Thank you Mr. Robbins. Brian Van Druten.

Brian Van Druten: My name is Brian Van Druten. I'm a resident of Buxton. I've lived on Hatteras Island for 22 years.

The Supplemental Draft EIS from 2005 states that the goal of the Bonner Bridge replacement project is convenient, daily, and emergency access. To this, I have look at all the alternatives and without a doubt, the long bridge is the only option that fulfills this goal. In the 2005 Supplemental Draft EIS, one of the figures show that there is a potential for five inlets to form along Pea Island by 2060. The data used in this figure … *(the first tape stops here and then picks up on the second tape leaving out a portion of this sentence)* …2060, how would a bridge that doesn't bypass this area provide

convenient, daily and emergency access? The phased approach in the supplement to the SDEIS tries to address these threats by constructing a series of three to six bridges through Pea Island at a cost of 1.1 to 1.4 billion dollars. Some questions come to mind. First, how can we be assured that these bridges can be built for today's estimated cost when we couldn't accurately predict in 2005 what these projects would cost today? The parallel bridge cost went up 36 to 81% in less than 2 years. The long bridge estimate went up 124 to 242%. It's operation and maintenance went up a staggering 29,600 to 39,478%. I wish my stocks would do that. If the cost to build the phased bridge went up on 50%, it would cost us 1.7 to 2.1 billion dollars. Considering the phased approach scope is out to 2030, there is no way to accurately predict what the phased bridges would cost.

My other questions with the phased approach, what happens if we build the parallel bridge and one the two major threats to Hwy 12 happens to cut off the new parallel bridge? The two major threats to Hwy 12 at time are an inlet at the s-curves and the sound side erosion at the southern terminus of Bonner Bridge. Either of these would cut off access to the new parallel bridge giving us a 250 to 350 million-dollar bridge that we can't get to. If there was an inlet open at the s-curves then an attempt was made to fill it as was done with the inlet that created after Isabel. Just think of these things. Number one, the sand would have to move twice the distance it was in Hatteras? Two, if it happened in the winter would a dredge company feel safe putting a dredge in Oregon Inlet? Three, after it was filled in a phased bridge was needed, how much would it cost and how long would it take to build a bridge that would need to withstand ocean waves and current? With the sound side erosion at the southern terminus, the solution addressed in the SDEIS is another phased bridge. How long will this take to build? I believe we could have the long bridge completed long before we would have to deal with the aforementioned problems. Why should we deal with problem until 2060 when it can be solved and considerably less time by building the long bridge?

In closing, there's some people I want you to think about that would be affected by no convenient daily and emergency access on and off Hatteras Island. Think of our student athletes who already travel long distances to compete. Riding a ferry adding 3 hours to their travel that is already 2 to 3 ½ hours is tough. It's been said traffic flow would be cut 89% by the loss of the bridge. Think of my brother in law who runs a charter boat who needs the flow of tourists to fill his parties. Think of my stepmother who works for a real estate company coordinating house rentals who too needs the tourists. Could they keep their jobs? Think of a man at my church family who has medical problems who has probably made eight trips via ambulance off this island in the last 6 months. Could he get rapid medical attention? What if the weather wouldn't allow him to be flown off? Can our seven villages survive such fate? Kindly think of my wife and I who commute daily to Manteo for our jobs. We need convenient daily access. If the ferry were the only option for an extended time and there was not real solution, we would have to sell our home at a sacrificial price and move away from our family, friends, church, and way of life. Solve the problems please. Build the long bridge. Thank you.

Moderator: Thank you Mr. Van Druten. James Gray.

James Gray: I'm a I'd say lifelong resident of Buxton. A lot of my time was spent off the island working. I finally moved back in '93. I'm a graduate engineer of NC State. I've spent 40 years in engineering with NASA and actually retired as chief of engineering in NASA *(Inaudible)* Center.

I just have a few comments to make. Most of my thoughts were well expressed by a couple of the previous speakers. One, the long bridge is ridiculous. Almost as ridiculous as elevating the current right of way. Both of those from an engineering standpoint are just totally ridiculous and should be forgotten and buried. The other approaches, pieces of them I think are good. But, the mix and match technique that you mentioned earlier that was used on some of those alternatives actually destroys the value of more stuff. I think that the phased approach, the short bridge, using the phased approach over time will give us the best workable solution.

The only other comments I have is really somewhat critical of the work that your people have done, primarily, in the documents that you have put out. With my engineering experience I would thought that I could walk right through and could understand what you were trying to say. I think probably a lot of the people here will agree. I have never had as much trouble understanding the way that these alternatives were presented, the wording that was used as I did in this. I would like to see your people give a lot more attention in any future thing like this to putting out something that the average person can read and understand what you're trying to say. Thank you.

Moderator: Thank you Mr. Gray. Natalie Kavanagh.

Natalie Kavanagh: Thank you. There are so many familiar faces out there tonight. I grew up here. After a brief stint in the real world, moved back and I plan on living here the rest of my life. So, the bridge decision is very important to me.

My grandfather, Vernon Lee Perry, was an engineer for North Carolina Department of Transportation in the 1950's and the 1960's. His district was here in northeastern North Carolina. He was involved in modernizing the road system for our area. One of NCDOT's most impressive accomplishments of that time was meeting the challenge of building bridges to improve access to the Outer Banks. It truly changed the way on our islands. I could never talk to my grandfather about this time because he passed away before I was born. But, my grandmother Georgia remembers the day that Oregon Inlet ridge was open. She talks about how excited everyone was to have such an amazing bridge linking us to the rest of the world. Now, it is time for a new bridge. Again, it is a challenge but one that has to be met. I became concerned about the new bridge within the past year.

I have been following the ups and downs of the bridge decision over several years and kept thinking that it would work itself out at anytime. Anytime, they will decide what to do. Anytime, we will see construction begin. What motivated me to become actively involved was hearing this story from a friend. She often takes senior citizens who can no longer drive on trips off the island. One day she was driving several ladies up to Nags Head for a chance to do some shopping. As they approached the Bonner Bridge, several of the ladies began rolling the winds down knowing they

generally do not like the windows down and that all wind rushing though the van was not pleasant. She asked, 'What are you doing?' They calmly replied, 'We want to be able to swim out of the car if the bridge falls down while we are on it.' That's a shame.

Folks, I think anytime is now. We need the decision to be made now and we need the construction to begin now. There has been much controversy on where to build the bridge and whose needs are the most important. I personally prefer to be on a bridge the shortest amount of time possible. I have spent time in both Louisiana and Florida and I don't care for being on those long bridges. When accidents would occur, you would be stuck for hours. It was harder to get help for people. It was a longer wait for the accident to be cleared up. In Tampa Bay, the Skyway Bridge was beautiful but the wind would blow a little bit and it would close. You would have to change the whole plan for that morning's commute. It never blew there like it does here.

The long bridge option would cost the taxpayers a huge amount of money to build if North Carolina could even swing. I would hate to think of what programs are being sacrificed in other areas of the state because of our bridge cost when there was a more economical solution available. The long bridge would cost the residents and homeowners of this island almost 30% increase in electric bills. That would make my electric bill almost $200 or more a month for a long time. My husband insist on keeping he heat down to save on electric. If you build the long bridge, I'm going to freeze every winter.

I look forward to the drive through Pea Island Refuge every time I go off the island. The natural beauty of the Refuge makes the trip enjoyable. I like seeing the waterfowl in the wintertime and the shore birds in the summer. I like being able to pull off on the side of the road for a minute if I want to stop and look at something. Perhaps, it is the casual experience of the Refuge, but I don't usually have the time to drive up there and hike around all day. This drive lets me experience it on my own time and leisure. Access to Pea Island is of great importance to the economics of our area. Visitors from both Nags Head Inn and the Hatteras Island Inn in the Outer Banks used to be *(Inaudible)* and bird watching trails of this refuge. It is the best place to go to get that truly isolated experience in the barrier islands especially for those visitors that don't like crowds. To loose the ability to get to the Refuge and it's miles of beaches would hurt the total tourists experience of travel in our area.

As a businessperson on Hatteras Island, I know we need our bridge replaced as soon as possible. We cannot plan ahead for our businesses to grow without knowing if we will have a way for people to get here. We already see the visitors and homeowners worried about the future if the bridge is shut down before a new one can be completed. Our community is completely depended on a new bridge being constructed and Hwy 12 being maintained. Make a decision and begin building now. Your decision will let us be safe in our travels on and off the island. It will provide for our economic future, our existence as viable community. Your decision will enable us to ride over the bridge with our rolls up. I want to be there when that new bridge's opening day so I can feel excited about what an amazing bridge we have linking us to the rest of the world. Thank you.

Moderator: Thank you Ms. Kavanagh. Susie Perry.

Susie Perry: I'm Susie Perry. First of all, I would like to thank the State and County officials as well as all the volunteers for all their support and efforts on this project.

My husband and I moved to Buxton 33 years ago. The current Bonner Bridge was 11 years old. That bridge was the beginning of tourism here on Hatteras Island as we know it. It allowed easier access for people to visit, purchase property and build business and retire here. This has created the need for daily deliveries of supplies and reliable access to medical facilities for residents and visitors alike. It has also created the need for more homes, more businesses and therefore, more mortgages and commercial loans that need to be paid. Evacuation is a major concern. If a ferry system had to be implemented because the new bridge is not been completed in time, visitors will be stranded here. Residents will not leave and the impact on our resources will be overwhelming.

Through delay after delay, the current bridge has gone passed it's intended time and if it doesn't last until a new one can be constructed, economic disaster will truly occur. Those of us who have been through the process of a disaster loan do not want to go there again. It's past time for a decision to be made and construction on a replacement bridge to start. Thank you.

Moderator: Thank you Ms. Perry. Wayne Mathis.

Wayne Mathis: First of all, thank you for allowing us the opportunity to come here and express our opinions. I think the NCDOT and it's staff have done a commendable job although I see you've been criticized a lot as this has gone on.

I think everybody here has agreed on a couple of things. They agreed that providing a reliable transportation link from Hatteras Island to the mainland is needed. As a public safety issue and the necessity to cross Oregon Inlet is probably the biggest hassle in that whole process. The Bonner Bridge has been good for Dare County. There has been various discussions of the economic implications related to the construction of the Bonner Bridge. It's essential to the welfare, well being, and the economic survival of the eight villages located within Cape Hatteras National Seashore, not only the seven on Hatteras Island but practically to the village of Ocracoke, and the inhabitants of Ocracoke Island as well. Because, in the event of a emergency evacuation and given the capacities of various State Ferry Systems, most of those people are going to have to come up here through Hatteras to get to safe Refuge.

The Bonner Bridge has been responsible for creating and economy out here in the Outer Banks. I'm not an economists but you've heard the fact that North Carolina is a donor county. Or, Dare County is a donor county in North Carolina. It is produced a population boom here. It's brought many visitors here that are the main stay of our current economy. It's brought many retirees such as I to this island where I intend to live the rest of my life, hopefully. All this depends on having convenient access and

the continued economic growth and lifestyle here on this island is dependent on having that access we've become used to by virtue of the Bonner Bridge.

Now one of the major hurdles has been discussed is funding. It appears that funds are now available to replace that bridge with an alternative that is long overdue. It's been considered the fast … I believe Secretary Kemp Act Session in the identification of a suitable landing site, we can do this. I'm an engineer by profession. I'm not an economists or politician. I don't want to dwell on their discussions. I would like to join the comments of my fellow colleague engineers here and discuss a couple of things that I think should be important is selection among the alternatives. Those are first and foremost - public safety, second - functional reliability, third - practicality of the proposed solutions, and fourth – the engineering elegance of the solutions.

Well anyway, I feel very strongly that the bridge, the short bridge alternative or parallel bridge alternative is probably the optimal choice given the alternatives we have for a couple of reasons. First of all, safety. When the weather is fine here, either one of these routes is going to be transversable or traversable. But, when you need that bridge most in terms of an evacuation, that is when the differences become apparent. First of all, it's been pointed out that in high winds the longer bridges tend to be closed due traffic restrictions. High vehicles are banned from the Chesapeake Bay Bridge when the winds recede I believe 35 to 40 miles an hour. You heard some discussion about the bridge in Louisiana. That goes out to the petroleum terminal. That's a long bridge as well. That is identified, I believe, as one of the most hazardous highways terms of accidents. The longer a bridge, the more total accidents you're going to have on it. In other words, if you want to minimize the chances of a bridge being obstructed due to a traffic accident, keep the bridge as short as possible.

Well, at any rate, in a nutshell because I'm aware my time is going, I think that the choice in terms of reliable transportation advocates keeping your wheels on the ground to the maximum that seems possible. As far as elegance and flexibility and versatility and functional practicality, the mix and match virtues of one of these two proposed alternatives offers great advantages. You're not going to compelled to overbuild. You're not going to be compelled to create something until the time of actual need. It is very difficult to look 60 years out in the future in an environment as such as ours and predict what this place is going to look like.

You've talked about the effect of the failure of the bridge when the barge struck it and delays were ensued. I have you contemplated the events of the creation of an inlet. It is a lot easier to restore a land route than it is to restore a bridge that is 17 miles long out in the middle of the sound. How quickly can you get this back in place? At any rate, the versatility is an advocate here. The engineering elegance, this opportunity to mix and match to produce what is needed to do the job at any given time, I think an important consideration. One alternative offers that opportunity and the other seems politely disregard it. It says we're going something in place and it's going to be there for the next 60 years and that's it. Well, I prefer to take a versatile approach on projects such as this. At any rate, for these reasons, I feel that considering safety, reliability, the ability to have something in place when you need it, the ability to adjust

that change in dynamic conditions are all reasons why I would advocate looking at the short and parallel bridge alternative.

Now, I'll close with one last thought, the practicality of a solution. You've heard time and time again that the money is in place right now. The opportunity exists today to select one of these alternatives and get a bridge in place. We don't know how the funding is going to occur if another alternative is selected. That in my mind is the approval of what one of my early college professors tried to teach me. He said, 'Don't try to make water flow uphill in you solution.' I think trying to gain funding for one of these things is going to be like pumping water uphill or making water run uphill by itself. Thank you sir.

Moderator: Thank you Mr. Mathis. Frank Jakob.

Frank Jakob: Yeah hi, I'm Frank Jakob. I live here in Salvo. I just got a knee replacement here. I'd love to take it back but they said after 63 years, okay I needed a new one.

So, I wanted to make sure I got a point to come up here tonight. Because, just before I was leaving, I said to one of the locals down here, I said, 'Hey come on let's get up there to Rodanthe and take a look and see what they want to do here with this new bridge.' And he turned around to me very quietly and he said, 'Oh just go ahead and let them take the ferry when their ready to come down here.' That's about what it's going to amount to guys.

I've heard about five years of planning. We had three alternatives, I think, the last time when I was here, maybe it was four. Now, I'm not to sure if it's five or seven. But let's face it. We need a bridge. We can't predict the future 60 years from now, 30 years. Federal government can't do it for sure. They can't even get us out of this war in 18 months so how are we ever even going to sit here and try to predict something 40 or 50 or 60 years from now? I mean, Oregon Inlet came in 1886 and Ocracoke and Hatteras were connected together. I mean, erosion is a fact of life, okay. We need a short bridge in here. We need to do what we got in our pocket right now. Let's just get a bridge going alright? This is great. It looks great on paper but it's not just going to happen, number one, we haven't got the money for it and it's just not going to happen at all. We're just wasting more and more time. If we don't get something done now, twelve more months from now we'll be back with eleven alternatives. So my suggestion is I concur with Marc Bassnight on and *(Inaudible)* that a majority of the people who live here on Hatteras Island is that we need a bridge. Let's just get working with it. As days go by and years go by, we'll figure out the other alternatives. We need some beach nourishment. It's really very simple. It just getting very, very complicated tied up in here in all this politics. Thank you.

Moderator: Thank you Mr. Jakob. Frank Folb.

Frank Folb: I think if you look back there I'm by way of Frank Folb from Avon and Buxton. I've lived on this island fulltime for thirtysome years now.

Maybe it was many generations like some of the other folks. My father came here in the 1920's. The biggest statement I can remember my dad making in 1962 is, 'Your grandfather would have never believed this.' Of course, I don't think he would believe what we're going through now. They say 5 years ago and 7 years ago in Avon, at the Avon Fire Department, Marc Bassnight, I'm not sure if you were there, US Fish and Wildlife was there. We were talking about this same thing. Marc made the statement that bridge can lasts 10 minutes, 10 hours, 10 days, 10 years. But it's going to take work now and we need a bridge now. How long ago that was has sort of slipped my memory, but I know if was more than five and we're still talking about it. It seems like it was the same kind of meeting as this one. US Fish and Wildlife told us that they weren't going to maintain that road to Oregon Inlet. A lot of us got in an argument that night, that we had to have that road through Pea Island. Then they came up with the long alternative and we've been sitting on it since then. We need a bridge. We need it now.

Those hunters and those fishermen that wanted that wildlife place up there and I think donated that land to US Fish and Wildlife. We've helped some of them. Probably a few of them, we might have to look down to but they're shaking their heads that's not what they designed that area for. They enjoyed it. That was there to help, not only the birds but the enjoyment of the people. It's time we built the short bridge. We put the pilings in. We put the bridge across there and we start with that. We give them the alternatives of the mix and match and getting on down here. We'll see what the future shows us. We'll fix it as we need to. We need that bridge across Oregon Inlet before we don't roll our windows down and we get trapped. Thank you.

Moderator: Thank you Mr. Folb. That concludes those who signed up prior to the hearing. In a second, I'd like to open the floor up to anyone else. Prior to that though, I would like to thank your local civic organizations and others who provided your food over there and helped us out with the location here and everything. I offer a lot of appreciation to those folks, most of them from here who really helped us out a lot.

At this time I'll open up the floor to anyone else who would like to make comments on the record. Yes sir. If you would come up. Use the microphone and if you would state your name for the record.

Jack Painter: Hi everybody. My name is Jack Painter and I'm retired teacher and coach and a retired soldier. I'm mostly retired from everything.

We do own a business here on Hatteras Island. I've heard a lot of good reasons for a building a bridge tonight but the one that I haven't heard and I'm really kind of disappointed is the one that's most important to me. We learned our lesson partially in Isabel and we also learned it in Alex when we trapped so many people on this island. Nobody has mentioned the 1,000 children who are down there in those school houses and those homes who are getting ready to go those school houses. Now I'm going to tell you something Mr. Goode. Thank you for the opportunity. We need to get them off the island when the storm hit, when we really need to evacuate. We know what happened when we got category 5 waves and category 2 winds. What happens when we get category 3 and category 4 and we don't have a bridge? I want to know who from the State of North Carolina and the Department of Transportation and the rest of you folks

have been weaseling around on this decision for 5 years is going to come down here and help us evacuate the bodies? That's what I want to know because I've coached those kids. And I tell you something else, if you think for 5 seconds that Coach Painter is going to come across that bridge in February when it's blowing 35 –17 ½ miles with a busload of kids, that's not going to happen folks. I won't even take a school bus … I don't even like going across the Bonner Bridge when it's blowing that hard. They closed roads in Wyoming and they don't even have a bridge there when it blows that hard. They don't … That's right. They close I-80 on a regular basis. Go up and have a look. I'm not concerned anymore about plan. I'm concerned about execution because the lives of the children of Hatteras depend on it. It's that simple. Wildlife is important, children matter more. The environment is important, children matter more. Our economy is important. Our children matter more. We can't risk their lives any longer. No more hidden agendas. No more politics. No more agency in fighting. No more counting beans. Build the dang gone bridge.

Moderator: Thank you Mr. Painter. Are there others? Yes sir.

Mike Fahity: Good evening to everyone. It's been really educational. My name is Mike Fahity. My wife Vicky and I make our home in Frisco, North Carolina.

I want to touch on some topics that nobody seems to have mentioned yet regarding first Mr. Kahn and the protection of wildlife. Has anybody given consideration to the fact that if we 'let nature take it's course' that its going to wipe out Refuge as it is right now and push all that sand right back and whatever Refuge is going to be left is going to be parked right under that bridge? Okay that's number one. Number two, in considering the cost of the bridges, what I found out from one of the representatives tonight is the cost of taking apart the Bonner Bridge is included in all the proposals. If you look at it as a percentage of the cost for each of the two major alternatives, it's a much larger percentage of the cost of the short bridge than it is of the long. So the short bridge is even cheaper to build than what's been stated in the State's cost matrix. That's number two, because the bridge has to be taken down either way and if it isn't taken down parallel with the construction of the bridge at some point and we do we get a big storm, the remnants of that bridge when it comes down are going to go right into the new bridge. Okay, so that's going to be a tricky engineering proposal as well. What do we want to put more at risk, the 17 mile long bridge that's going to be out of service plus the Bonner and all the money that has to go in there and having to repair it, or, the shorter bridge? You have to take into consideration the worse case scenarios. The other example, I'm touching back on the Refuge moving, is as that all moves, what becomes exposed? It becomes Rodanthe. If Pea Island moves, Rodanthe is then the point and we already having trouble with that as far as erosion concerns with the hot spot at the north end of town. It's going to be substantially magnified as a problem if nature takes it's course. It's a dumb ideal. It's not environmentally sound. It's not going to help the Refuge or all the wild animals. Ultimately it's going to hurt them in a major way. It's another one of these high concept ideas that in fact is impractical or makes no common sense.

The other issue with that as far as the course of the bridge itself, we've had all these safety concerns. It think the one gentleman that was the a proponent of the long

bridge was mentioned here, if the road is built properly, those safety concerns are addresses whichever selection we make. It doesn't matter if it's the long bridge or the short bridge, the safety concerns are addressed. That's not an issue. What is an issue is what's the Federal government going to do to help us? Are they going to maintain those dunes and the beaches, if North Carolina pulls out? And the answer is no. They're not going to come up with hundreds of millions of dollars to replenish those beaches over the next 50 years so that erosion figure they're quoting is inaccurate. It's going to erode faster. Again, it's going to take out the Refuge.

The saddest thing I've seen is this whole policy about letting 'nature take it's course'. We manage the environment all across this country, all across the world. Look at the Dutch and their dike systems. What we have to have is the vision leadership to stand up and draw the line literally here in the sand and say this is going to be our land. The State of North Carolina has the responsibility to it's citizens to preserve that land, not just for property owner's rights but for the rights of everyone in this country. This is the last stretch of pristine beach on the East Coast of the United States except for some portions up in Maine. It is THE best beach that I've ever seen in my life and I've been down in Costa Rico and lots of places where there's supposed to be fabulous beaches, Caribbean Islands and everything else. This is as good as any of them. We're talking about letting a third of that beach get blown away, basically, by storms. If we take 17-mile route, we're going to add the cake to nature and we shouldn't. The bottom line, we have to replenish and if we have to replenish and do a good job of it, we do it that way if we don't need all the bridges. We definitely need the Bonner Bridge and we need it now. But if we don't replenish, we're going to loose Rodanthe too in 50 years.

So, the bottom line is there is only one solution. In particle terms, if we're going to preserve the lifestyle of northern villages on this island, there's only one solution. It is the bridge over Oregon Inlet and it's beach replenishment. Anything else we're going to loose more than we gain. Thank you.

Moderator: Thank you Mr. Fahity. Do we have others who would like to make comments for the record? Yes ma'am.

Jo Matha: Hi my name is Joe Matha. I'm a relative newcomer to this island.

A lot of people have spoke here have lived here for many, many years and have generations before them that have lived on this island. My husband and I just bought land, a house in Rodanthe over the last 1 ½ years. I have to say this is one of the most beautiful places. We've traveled a lot and we've seen here. As you mentioned, it just made me want to get up and speak, because I think in that alternative you are literally abandoning a beautiful area that for generations just like we've found, that should really be preserved. In this alternative, you do have to consider safety and I understand, working against nature, but, replenishing the beaches and digging or addressing the hot spots where you need to. And, building the bridge just makes so much sense because this is something really beautiful that's over here.

You know north of the islands in Corolla and Nags Head is nice but when you come through Pea Island and when you come through the Bonner Bridge and you

come into Rodanthe, there is something very, very special over here. Maybe people who live here appreciate it, but it's just a natural treasure to me that really should be addressed. So, I think that you're absolutely right that it should be preserved and everything should be done to try and preserve it. Thank you.

Unidentified Male: I'd like to point one other thing, if they build the wrong bridge, the State of North Carolina is probably going to default on it's access rights, which means if there is an issue further down in history and they have a problem, we're no longer going have the legal authority to act on that land. Right now, as long as we maintain the road access right, North Carolina can act on it's own if the Federal Government decides not to. We don't want to loose those access rights.

Moderator: Do we have others? Is there anyone else who would like to make a comment for the record? Yes sir.

Unidentified Male: *(Inaudible)*

Moderator: You need to come up here.

Unidentified Male: I have a broken foot and I prefer not to. I'll speak as loud as possible.

With the long bridge alternative, I think we would be giving into a series of events that would occur on the island over time that if we give in to building a bridge for every problem, well then you might as well build one in front of Rodanthe pier. I've seen water run up in through there. You might as well build one from Avon to south of *(Inaudible)* there. People started driving on the beach here to get up and down the island so it's evident that over years we have to repair the bridge. That's part of living on the island. I think it's outlandish as a far as money is concerns, time. If you just look at the length in comparison, it's going to take six times as long to build that long bridge. If time is the main concern here which that seems to be, I don't think we have the time for that long bridge. I think we should stick with the way that we've been taking care of Pea Island over the years which is you put it back together when it gets blown apart in the storm. That's part of what we know how.

Moderator: Okay. Thank you sir. Is there anyone else who would like to make a comment for the record? Okay if not, thank you very much. I appreciate your coming out. I appreciate your participation. We still have the maps back here for a little while if you would like to look at them, but I'll close the hearing.

Hearing Adjourned.

Mr. Carl Goode, Jr., PE, Moderator
Human Environment Unit
March 29, 2007

Typed by Demorris N. Hukins

B-52

November 7, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

We, the undersigned organization, would like to inform you of our position on the replacement of the Bonner Bridge over Oregon Inlet.

Our membership is comprised of businesses and individuals that depend on Oregon Inlet for their livelihoods. Safety through the inlet is our first concern. We have followed the progress of the replacement of the aging Bonner Bridge and are very alarmed over the lack of attention by NC DOT to take this opportunity to ensure safe navigation through the waterway.

Although NC DOT is responsible for marking the navigable channel where it passes underneath Bonner Bridge, perhaps the number of times the navigable channel has moved in the past year alone has not been associated with the hazardous and unpredictable condition of Oregon Inlet. Today, conditions are so bad that the charter fleet, whose boats draw only 4 to 6 feet of water, are hitting bottom regularly. During the Pirates Cove Billfish Tournament in August, 32 boats ran aground during a four-day period. Just two weeks ago, commercial fishing boats that traveled through the channel one day found the same path shoaled up and impassible the next. The lives of recreational and commercial boaters and Coast Guard personnel are placed in jeopardy every time they traverse the waterway.

The longer 17 mile bridge alternative will have a devastating effect on navigation. As you may recall, the permit that allowed the construction of the groin on Pea Island clearly stated that if the groin were never needed for the protection of the highway on the south end of the Bonner Bridge, as with the 17 mile bridge alternative, it would have to be removed. We believe the groin has been instrumental in ensuring that the inlet and the navigation channel have not migrated south from under the navigational spans. Removal of the groin will hasten the southern migration of Bodie Island and will eliminate all predictability, what little there is, from the inlet. Additionally, removal of the groin will be an unnecessary and exorbitant expense.

We support the construction of the shorter bridge alternative, assuming the Oregon Inlet Fishing Center will not be adversely affected or done away with. We also support the construction of a groin on the northern side of the inlet to protect the new bridge. Without a hardened structure, Oregon Inlet will never truly be safe. The shorter bridge coupled with a groin will cost less, allow for continued access by citizens to the public lands of northern Hatteras Island and will ensure navigation into the future.

The mission of the NC DOT states that you are to "Provide a safe, modern and integrated multimodal system that expands opportunities and unites citizens in both urban and rural areas in support of Governor Easley's vision for One North Carolina". We hope that you interpret your mission as we do and take this opportunity to complete the new bridge and also protect Oregon Inlet and the North Carolinians who depend on it.

Sincerely,

Mary Adams

Mary Adams

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

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Sincerely,

Sharon C. Aldridge

Subject: Pea Island Restoration
Date: Thu, 29 Mar 2007 19:38:11 -0400
From: "Jon Altman" <altman@aginet.com>
To: <cgoode@dot.state.nc.us>
CC: <alligatorriver@fws.gov>

Carl B. Goode Jr.,
Construction of the long bridge option would be 8 months underway if Dare County didn't force the short Bridge option on us. I support the long bridge option and the complete removal of Highway 12 from Pea Island and the removal of the terminal groin at Oregon Inlet. This would allow for the natural barrier island processes to restore the ecology to the refuge. Stop wasting money trying to fight the ocean and retreat! I am opposed to any short bridge option. I hope the USFWS adhears to the Wildlife Refuge Improvement Act and does what congress orders. A political appointee to the secretary of the Interior doesn't mean you can ignore the laws of congress and the American people. Please seperate access issues from transportation issues. Access can be worked out later. The harder the access the better. I like to earn my surfing waves and fish by walking and leaving the crowds behind! We need more wilderness and hard to get to places since the OBX is completely easy access everywhere. Also I support a ferry option to cross the Oregon Inlet like in the old days, tradational use! Thank You.

Jon Altman
Buxton, NC

B-55

Attention: Heather Maxwell

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

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Sincerely,

Keith and Suzanne C. Baer
18 Spinnaker Ct.
Manteo, NC 27954

COMMENT SHEET

Herbert C. Bonner Bridge Replacement

Formal Public Hearings – March 28 and 29, 2007

TIP Project No. B-2500 Dare County WBS No. 32635.1.3

NAME: Gerald Balonis

ADDRESS: 2128 Colington Rd Kill Devil Hills, NC 27948

COMMENTS AND/OR QUESTIONS:

Please allow a shoulder for bicycles on both the North & South Bound lanes of the bridge. Also keep in place metal guard rails above the concrete barriers on each side of the bridge. Both the shoulder

Comments may be submitted by April 17, 2007 to:

Mr. Carl Goode, Jr., PE, Unit Head
NCDOT - Human Environment Unit
1583 Mail Service Center
Raleigh, NC 27699-1583
Phone: (919) 715-1515 FAX: (919) 715-1501
Email: cgoode@dot.state.nc.us

2473-1172

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

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Sincerely,

Cheryl & Clay Barlow
Hatteras Village

NORTH CAROLINA GENERAL ASSEMBLY
PRESIDENT PRO TEMPORE
SENATOR MARC BASNIGHT

December 8, 2005

Secretary Lyndo Tippett
c/o Carl Goode
North Carolina Department of Transportation
1583 Mail Service Center
Raleigh, North Carolina 27699-1501

Re: Comments on Draft Supplemental Environmental Impact Statement
Herbert C. Bonner Bridge replacement, TIP Project B-2500

Dear Secretary Tippett:

The following are comments on the draft supplemental environmental impact statement for the replacement of the Herbert C. Bonner Bridge at Oregon Inlet, TIP Project B-2500. As a lifelong resident of the Outer Banks of North Carolina, and as the Senator representing the interests of this region, I am very much aware that the replacement of the Bonner Bridge is critical for our region, and that the preferred alternative that is selected will impact the public welfare and safety, culture, environment, and economy of our region for decades to come. This is exactly why I believe it imperative that the Parallel Bridge Corridor be chosen as the preferred alternative.

As you are aware, this bridge is the only highway connection to Hatteras Island in Dare County, and its replacement is long overdue. Replacement of the Bonner Bridge is critical due to the bridge's current structural rating of 4 out of 100. The study of replacement alternatives has been ongoing since 1990, and the current study includes two main alternatives identified as the Parallel Bridge Corridor and the Pamlico Sound Bridge Corridor. Governor Michael Easley, United States Senators Elizabeth Dole and Richard Burr, United States Congressman Walter Jones and myself, have joined the Dare County Board of Commissioners and other leaders in the area in support of the Parallel Bridge Corridor. In general, I believe the Parallel Bridge:

Saves Time and Money – The estimated cost of the Parallel Bridge is $191 million compared to the $424 million cost estimate of the Pamlico Sound Bridge. Construction of the Parallel Bridge is not only more feasible fiscally, it can also be accomplished sooner (which is important given the poor condition of the Bonner Bridge), and allows NC 12 upgrades to be programmed in phases as opposed the large lump-sum funding requirement of the Pamlico Sound Bridge. Funding is in place for the Parallel Bridge Corridor and North Carolina should not need additional funds for this alternative above those currently available in

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funding for Division 1. The Pamlico Sound Bridge is *not* fully funded, and would exhaust the Division's total federal highway funds and state trust funds allocation for the next seven years, bringing to a virtual halt many other significant transportation projects critical to the northeast region of our state. This is neither reasonable nor feasible.

Guarantees Full Public Access – The Parallel Bridge guarantees continued full public access to Pea Island as a significant destination for conservationists, bird watchers, tourists, and recreational fishermen. Public access completely supports the US Fish and Wildlife Refuge mission, and is compatible with providing access for wildlife-dependent recreation as a legitimate and appropriate priority public use of the system. Almost 3 million tourists visit Hatteras Island annually; Hatteras Island generates approximately $155 million in tourism dollars each year. The restriction or loss of this public access would be a cruel blow to the economy of our region, and would deny thousands of residents and visitors from across our country and, indeed, around the globe, access to one of our nation's most impressive and important natural areas. The residents and visitors who currently enjoy commercial and recreational fishing along the banks of and in the waters immediately adjacent to the north end of Pea Island, as well as those who treasure experiencing the bounty of the Refuge's waterfowl, beaches, and rich scenic beauty, should be entitled to continued access to one of our nation's most important natural areas – the Pea Island Wildlife Refuge is, after all, public land, and the public should be entitled to continue their enjoyment of it as they have for centuries.

Minimizes Public Health and Safety Concerns – The Parallel Bridge preserves a safe and efficient hurricane evacuation route, and avoids potential dangers of injury and loss of life in emergency situations that would result from evacuations of up to 50,000 residents and visitors on the longer Pamlico Sound Bridge during pre-hurricane conditions. We have all witnessed the devastation of this year's hurricanes along the Gulf Coast, and we in Dare County suffered tremendously two years ago when Hurricane Isabel ravaged our own costal region. Being able to move our public out of harm's way safely and efficiently is of paramount importance, and it is incumbent upon all of us in government to ensure that the health, welfare, and safety of our public is protected to the maximum extent possible. Forcing tens of thousands of motorists and their families to flee from a catastrophic storm on short notice across a two-lane 17-mile bridge is ill advised and irresponsible, especially with a better alternative available.

Preserves Sensitive Environment – The Parallel Bridge will result in less construction-related dredging and minimal construction impacts to the Pamlico Sound and submerged aquatic vegetation that is critical to fish and shellfish habitat. The Parallel Bridge will also have fewer long-term impacts on essential fish habitats and the Outstanding Resource Waters of the Pamlico Sound. For example, the Parallel Bridge would require less than 2,000 feet of dredging near Oregon Inlet versus eight miles of dredging required with the Pamlico Sound Bridge. The Parallel Bridge would have seven acres of shading impacts, versus 75 acres of

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shading impacts under the Pamlico Sound Bridge alternative, to these outstanding resource waters and fish habitats. Protecting our sensitive environment and fish habitats is essential to maintaining good water quality in the sound and a vibrant fishery. The Pamlico Sound Bridge will produce run-off filled with heavy metals and other damaging pollutants that will drain into one of the most sensitive and important estuary systems in our country for the next five decades. The resulting negative environmental impacts could be (and, I believe will be) significant, and are not fully addressed in the draft EIS.

Enhances Stability at Oregon Inlet – The Parallel Bridge allows for retention of the existing Terminal Groin that stabilizes northern Pea Island and the Oregon Inlet channel. The Parallel Bridge's longer navigation span of 5,000 feet, as compared to the narrower 1,800-foot span of the Pamlico Sound Bridge, will reduce channel dredging requirements and have less impact on Pamlico Sound. Maintaining a stable channel at Oregon Inlet is critical to the economic well-being and public safety of our region's commercial and recreational fishing industries, both of which contribute significantly to the economy of our region and state.

Provides Access to Historic Property – The Parallel Bridge will maintain full public access to the state-owned historic Oregon Inlet Coast Guard Station for future enhancement and educational opportunities. The State of North Carolina has already put millions into stabilizing this facility, which is on the National Register of Historic Properties.

For these reasons, I support the Parallel Bridge and oppose the Pamlico Sound Bridge. In addition to the reasons outlined above, I want to highlight additional concerns I have about the Pamlico Sound Bridge and flaws in the current draft EIS.

I believe the current draft supplemental environmental impact statement is seriously flawed in that it does not include a plan for maintaining access to Pea Island on existing NC 12, not to mention the associated costs and potential environmental impacts of such access. Unless NCDOT formally abandons its right-of-way through Pea Island, state and federal law require that NC 12 be maintained with public funds. This mandate will result in on-going maintenance costs for NC 12 that are not currently included in the cost estimates for the Pamlico Sound Bridge Corridor. Additionally, USFWS has provided no plan for public review and comment for continued access to Pea Island if NC 12 is abandoned. Assuming USFWS does intend to provide continued public access to this important natural area (and I am skeptical as to whether such access would be provided), the costs for continued public access are also missing from the cost estimates for the Pamlico Sound Bridge Corridor, as is any analysis of potential environmental impacts. The current draft EIS should include this information and analysis so that the public can fully understand the entire scope of the Pamlico Sound Bridge Corridor alternative from environmental, economic impact, and fiscal standpoints.

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The current draft EIS is also flawed in that it does not include plans and costs for emergency pull-outs and other public safety measures for the Pamlico Sound Bridge Corridor. Such emergency safety measures are necessary to ensure safe evacuation during storm events, and minimized public safety risks at all times that may arise during any accident or emergency situation on that lengthy stretch of bridge. I fear a situation in which a major traffic accident occurs during a time of heavy traffic flow, most especially during a pre-storm evacuation. Thousands of motorists could become trapped on a 17-mile stretch of bridge five miles out in the middle of the Sound with no way to escape – if this were to occur during an evacuation preceding a major hurricane (such as the Outer Banks experienced during Hurricane Isabel), innocent residents and visitors could be seriously injured or even lose their lives. Emergency pull-outs and other public safety measures must be included in the design of the Pamlico Sound Bridge, and those costs should be included in the draft EIS – since they are not, we cannot fully assess the safety concerns and fiscal cost of the Pamlico Sound Corridor.

Enclosed are two attachments that I wish to be included in the record along with these comments. The first are detailed comments focusing on specific sections of the draft EIS with which I take issue or am of the opinion are flawed. The second are petitions and letters received by Dare County from concerned residents and visitors literally from across our country (and even from some foreign countries) who expressed their concerns over the potential loss of public access to Pea Island and their opposition to the Pamlico Sound Bridge (referred to as the "17-mile" bridge in their communications). These petitions and letters were generated by a grassroots organization named the Pea Island Coalition, and in just a few months during the fall of 2003, with little organizational effort, the Coalition collected over 700 letters and petition signatures, roughly half of which were from areas outside of North Carolina. The level of response to the Coalition's efforts shows that the issue of access to Pea Island and this bridge project is not just a regional or statewide issue, but indeed is one of national interest and concern.

In summary, I strongly support the Parallel Bridge Alternative as the only reasonable and feasible alternative which provides the necessary transportation linkage to Hatteras Island, provides the least overall environmental damage to the National Seashore and the Pamlico Sound Outstanding Resource Waters, and protects public health and safety while ensuring good stewardship of limited fiscal resources. Failing to replace Bonner Bridge is not an option; the only question is which alternative is the preferred one. Our public expects, and deserves, a decision that is fiscally responsible and promotes their best interests. The Parallel Bridge Alternative achieves these goals.

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Thank you for your efforts on this important issue.

Sincerely,

Marc Basnight

Attachments

Cc: Senator Elizabeth Dole
Senator Richard Burr
Congressman Walter Jones
Governor Michael F. Easley
Dare County Board of Commissioners

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DARE CO COMMISSIONERS MEETING HANDOUT
12/5/05

Herbert C. Bonner Bridge Replacement
Parallel Bridge Support Summary

- Bonner Bridge replacement is critical – current stability rating is 4 on a scale of 0-100; study of replacement ongoing since 1990; only land transportation route to Hatteras Island (and main route to Ocracoke Island)
- Two main alternatives identified - Parallel Bridge (2.7 miles) and Pamlico Sound Bridge (17 miles)
- North Carolina's leaders – Senators Elizabeth Dole and Richard Burr, Congressman Walter Jones, President Pro Tempore Marc Basnight, Governor Mike Easley and Dare County Commissioners – support the Parallel Bridge:
  - *Saves Time and Money* – $191 million (Parallel Bridge) versus $424 million (Pamlico Sound Bridge). Replaces the existing bridge sooner, and allows NC 12 upgrades to be programmed in phases to reduce large lump sum funding required for the Pamlico Sound Bridge which is not fiscally feasible. Funding is already in place for the Parallel Bridge – the Pamlico Sound Bridge is NOT fully funded and would exhaust the northeast Division's total highway funds allocation for the next seven years (halting virtually all road projects in the region).
  - *Guarantees Full Public Access* – Guarantees continued full public access to Pea Island as a significant destination for conservationists, bird watchers, tourists, and recreational fishermen. Completely supports US Fish and Wildlife Refuge mission and is compatible with providing access for wildlife dependent recreation as a legitimate and appropriate priority public use of the system. Almost 3 million tourists visit Hatteras Island annually; Hatteras Island generates approx. $150 million in tourism dollars each year.
  - *Minimizes Public Health and Safety Concerns* – Preserves safe and efficient hurricane evacuation route and avoids potential dangers of injury/loss of life in emergency situations that would result from evacuations of up to 50,000 residents and visitors on longer Pamlico Sound Bridge.
  - *Preserves Sensitive Environment* – Less dredging and minimal construction impacts to the Pamlico Sound and submerged aquatic vegetation which is critical to fish and shellfish habitat. Less long-term impacts to essential fish habitat and the Outstanding Resource Waters of the Pamlico Sound.
  - *Enhances Stability at Oregon Inlet* - Allows retention of existing Terminal Groin that stabilizes northern Pea Island and Inlet channel. Longer navigation span of Parallel Bridge (5000 ft. versus 1800 ft with 17-mile birgde.) will reduce channel dredging requirements and have less impact on Pamlico Sound.
  - *Guaranteed Access to Historic Property* – Parallel Bridge will maintain full public access to state-owned historic Oregon Inlet Coast Guard Station.

- **Pamlico Sound Bridge Study is Seriously Flawed – Does not include:**
  - Plan for maintaining full public access to Pea Island on existing NC 12,
  - DOT mandate that state right-of-way be maintained
  - Costs and impacts of NC 12 maintenance alternatives
  - Costs for emergency pull-outs and other public safety measures
  - Complete assessment of potential environmental impacts to Pamlico Sound (such as impacts to SAV's)
- **Timing is Critical – Review Process almost complete:**

  Draft EIS is currently under review. Public Comment period closes December 12, 2005. Anticipate Final EIS in March 2006 and FHWA Record of Decision in August 2006.

  Merger Team Members include: FHWA, NCDOT, US Army Corps of Engineers, US Fish and Wildlife, US EPA, Pea Island NWR, Cape Hatteras National Seashore, National Marine Fisheries Service, NCDENR Division of Coastal Management and Division of Marine Fisheries, NC Wildlife Resources Commission, and NC Department of Cultural Resources.

Public Comments should be submitted to:

Carl Goode
NC DOT
1583 Mail Service Center
Raleigh, NC 27699-1583
Fax: (919) 715-1501
Email: cgoode@dot.state.nc.us

DEADLINE: DECEMBER 12, 2005

Save Pea Island Coalition - Summary of Petitions/Letters Opposing 17-mile Bridge

Background: The Save Pea Island Coalition, a grassroots organization, was formed in 2003. The coalition's purpose was to oppose the proposed 17-mile bridge replacing the Herbert C. Bonner Bridge spanning Oregon Inlet. The basis of the coalition's opposition to the 17-mile bridge was the potential restriction or elimination of full public access to the Pea Island National Wildlife Refuge. The coalition generated hundreds of petitions and letters from concerned residents of and visitors to the Outer Banks who expressed their opposition to the 17-mile bridge. Attached are lists of in-state and out-of-state concerned citizens.

Summary of Petitions/Letters:

In-state (North Carolina):	347
Out-of-State:	372
Total	719

States/Countries represented:

Arizona	2
California	13
Colorado	2
Connecticut	1
Washington, DC	3
Delaware	4
Florida	18
Georgia	3
Illinois	2
Iowa	1
Kansas	1
Kentucky	3
Maryland	40
Massachusetts	1
Michigan	5
Minnesota	1
New Jersey	11
New York	8
Ohio	9
Pennsylvania	28
South Carolina	2
Tennessee	2
Texas	5
United Kingdom	1
Vermont	1
Virgin Islands	2
Virginia	196
West Virginia	7

Herbert C Bonner Bridge Replacement Supplemental Draft Environmental Impact Statement - Comments

General Comments

- Since no proposed alternative includes abandonment of NC 12 right-of-way by NCDOT and access to state and other property must be maintained, and USFWS has not provided any plan for continued access if right-of-way is abandoned, the maintenance alternatives to include beach nourishment and dune construction/maintenance must be included with the Pamlico Sound Bridge Corridor Alternative.
- Prefer the Parallel Bridge Corridor alternative that replaces the existing bridge earlier, and allows NC 12 upgrades to be programmed over several projects and many years to reduce the large lump sum funding requirement of the Pamlico Sound Corridor Alternative which is not a feasible alternative and would exhaust the Division's entire federal and highway trust fund allocation in a seven year period for the thirteen counties in the region. Longer navigation span for the Parallel Alternative will reduce channel dredging requirements and better support channel migration with less impacts to the Pamlico Sound.
- Prefer the Parallel Bridge Corridor and retention of the existing Terminal Groin that stabilizes northern Pea Island.
- Prefer the Parallel Bridge Corridor which guarantees continued full public access to Pea Island as a significant destination for conservationists, bird watchers, tourists, and recreational fishermen and completely supports the US Fish and Wildlife Refuge mission and is compatible with providing access for wildlife dependent recreation as a legitimate and appropriate priority public use of the system.
- Prefer the Parallel Bridge Corridor as it provides less dredging and construction impacts to the Pamlico Sound and submerged aquatic vegetation which is critical to fish and shellfish habitat, shorter bridge alternative over open water should impact less benthic communities, and less impacts to essential fish habitat and the Outstanding Resource Waters of the Pamlico Sound.

Specific Comments

- Pamlico Sound Bridge Corridor

    - No provision for abandonment of NC 12 is included in this Draft EIS, yet this alternative does not include strategy, impacts, and costs for maintenance of NC 12 – recommend inclusion of Nourishment Option w/ the Pamlico Sound Bridge Corridor alternative. NCDOT cannot abandon this right-of-way at this time and must include maintenance costs and impacts of existing ROW maintenance with this alternative. If NCDOT enters into an agreement with USFWS for maintenance of access to state property on northern Pea Island, these costs are public costs, potentially born by Federal Lands Management Program, and must be included in the SDEIS. Therefore, a strategy and their impacts must be included in the SDEIS as well.
    - 17 miles of Bridge should require emergency pullouts similar to Chesapeake Bridge Tunnel every 2 miles; these were not included in the scope or cost estimates.
    - Pamlico Sound Bridge Corridor is referenced on numerous occasions as "compatible with Pea Island National Wildlife Refuge Master Plan," however, this statement is misleading in that only the Refuge Manager can determine compatibility, and the determination must be done in writing. Since there is no written compatibility determination for any alternative, and, the Pamlico Sound Bridge Corridor Alternative is incomplete as it does not include any impacts or costs for the long-term maintenance of NC 12 right-of-way or propose it's abandonment, then, we recommend the use of "may/may not be consistent with" instead of "compatible".
    - Since NC12 will not be abandoned, and on-going maintenance will be required, and the costs and impacts of the maintenance strategy must be included, the Biological Opinion of the impacts to the 14 threatened and endangered species should be revised. The difference between the two alternatives is primarily due to potential impacts to Piping Plover and Green Sea Turtle based on nourishment and dune maintenance activities potentially required by the Parallel Options. Maintenance Alternatives for NC 12 under the Pamlico Sound Bridge Alternative must include those potential impacts to these species as well. Also, known nesting locations for the Piping Plover occur in locations currently protected from erosion by the terminal groin. If the terminal groin is removed with the Pamlico Sound Bridge Alternative, this could directly impact nesting and forging locations of the piping plover.
    - Page XXI Section 9. And Page 2-116. The following permits would be needed from Federal Agencies and lists the US Fish and Wildlife Service (for the Parallel Bridge Corridor only). This may be incorrect in that if the long-term maintenance strategy of NC 12 Right-of-Way requires nourishment, dune maintenance, additional easement, or a special use permit with the Pamlico Sound Alternative, then actions by USFWS would be required for all alternatives, including compatibility determinations for both alternatives.
    - Page 1-23, Section 1.7 Summary. Last sentence is incorrect, as this option may reduce maintenance requirements on the roadway, and reduce the urgency of repair following over wash, but does not abandon this right-of-way and therefore does not eliminate long-term maintenance requirements.
    - Page 2-74 Second Paragraph. Both the Parallel Corridor and Pamlico Sound Corridor may require new utilization of Refuge land if the strategy, impacts, and costs of maintenance of NC 12 are appropriately included for all alternatives. This maintenance strategy should include alternatives to mitigate erosion and potential breach near Rodanthe which is the greatest threat to the right-of-way on the Refuge.
    - Page 2-76 last paragraph. "If the Pamlico Sound Corridor is selected for implementation, the USFWS and the NPS have indicated that they would provide an alternative means of access for visitors to the Refuge...and it would be a public cost…Since the Parallel Bridge with NC 12 Maintenance appears to be the best approach to maintaining paved road access the full

length of the Refuge…If a paved road were not provided by the USFWS, other options including permitting visitors to drive on the beach, or other designated sand route, a jitney service, or moving some visitor facilities…" This statement does not address the underlying issue of NC 12. Because of the state owned property at the north end of the refuge, and no provision is included for the abandonment of NC 12 Right-of-way, the road will remain an NCDOT paved road under both alternatives. Therefore, the strategy, costs, and impacts of maintenance of the entire right-of-way must be included in the SDEIS.

- Support retaining the current terminal groin with all alternatives based on the benefits of stabilization of the Oregon Inlet, protection of the Old Coast Guard Historic Property, and adverse impacts from removal. The 2060 Erosion Prediction Report and findings were based on the retention of the terminal groin and estimates of future erosion with its removal must be made prior to consideration of this option.
- Chapter 3 of the Draft EIS provides a good description of the benthic communities within the Pamlico Sound, particularly the importance of submerged aquatic vegetation and its contribution to Essential Fish Habitat (EFH) and Habitat Area of Particular Concern (HAPC), which describes most of the area along the Pamlico Sound Bridge Corridor. Page 3-71 explains that the environmental integrity of the Sound near Hatteras Island is higher than that of Croatan, Currituck, and Roanoke Sounds. However, Chapter 4 does not adequately quantify the differences of the alternatives as it relates to open water impacts of this alternative to include impacts to EFH and HAPC. The EFH and HAPC are as sensitive if not more sensitive than biotic communities on Pea Island. This analysis used aerial photography to map Submerged Vegetation which is prone to significant errors due to water clarity, water depth, and vegetation density and reaches the conclusion that there will be greater impacts to SAV, EFH, and HAPC from the Parallel Bridge Alternative with less than 3 miles of bridging, 2000 feet of dredging, and 7 acres of shading over open water and waters in the vicinity of Oregon Inlet vice that of 17 miles of bridging, 8 miles of dredging, and 75 acres of shading in the Pamlico Sound is highly questionable and suspect. In many cases SAV impacts were reported in the SDEIS to a one hundredth of an acre, but in numerous locations within the document a lack of accurate SAV mapping was referenced. Impact maps detailing the measurements in Chapter 4 were not available for review. Natural Technical Resource Reports which were available for review, did not quantify these impacts nor support the findings in Chapter 4 in the SDEIS. It appears that the Parallel Bridge Alternative would have much less benthic impacts if the same bridge span lengths were used for it, as were used for the Pamlico Sound Bridge. With almost 70 acres of more shading with the PSBC, the Parallel Bridge Alternative should have the least impacts to the environment (open water, SAVs, EFH, ORW, and coastal wetlands) with the selection of a longer optimal span length. (The SDEIS impacts were based on 150' foot spans for PSBC and 100' spans for the Parallel Bridge Corridor in non-navigational areas).
- The Economic Impacts of change in access, which estimated a loss of 10% of the 500,000 annual visitors to Pea Island based on survey questions, was misleading, as it leaves the respondent with the impression that the options will be a paved or unpaved NC 12. This is not accurate since the SDEIS does not include a strategy for abandonment of the existing ROW and maintenance of access by USFWS. Survey needs to include an estimate of 3 million visitors to Pea and Hatteras Islands which would choose an alternate destination if access to Pea Island was only by off-road vehicles or a "jitney" service.
- Section 4.1.2.3 page 4-6 incorrectly states that the Pamlico Sound Corridor, in the long-term, would be compatible with the NPS's policy of supporting natural processes of barrier island dynamics because maintenance of NC 12 on Hatteras Island by the NCDOT would no longer be required…There are no provisions included in this document for NCDOT to abandon NC12, nor any strategy listed for assumption of access maintenance by USFWS, therefore, maintenance is still required and costs, impacts should be included.
- Section 4.4.1.1 incorrectly states that the Pamlico Sound Corridor would have no effect on the Refuge; this is inconsistent with the lack of an access plan for the Refuge, and a lack of a plan for the maintenance of NC 12. The PSBC alternative does not eliminate the requirement for NC 12 ROW maintenance. The final compatibility regulations pursuant to the National Wildlife Refuge System Improvement Act of 1997, agency comments stated "we understand the Congressional intent regarding existing right-of-ways which is stated in the House Report, 'There are numerous existing rights-of-way on NWRS lands for roads, oil and gas pipelines, electrical transmission, communication, and other utilities. The Committee does not intend for this Act to in any way change, restrict, or eliminate these existing rights-of-way, or to grant the USFWS any authority that does not already exist to do so.'" Therefore, both alternatives should include a strategy, costs, and impacts for maintenance of NC 12, and both alternatives should receive a compatibility determination with all costs and impacts included. Otherwise, if maintenance of NC 12 will be ongoing with the PSBC but not included in the costs and impacts, then maintenance of NC 12 should not be included with the Parallel Bridge Corridor as well.

■ Parallel Bridge Corridor

- If maintenance costs and impacts for NC 12 is added to the Pamlico Sound Bridge Corridor Alternative then the Parallel Bridge – All Bridge Alternative would significantly impact less open water, potentially less SAV, less essential fish habitat, and potentially no differences in impacts to threatened and endangered species. (Piping Plover and Green Sea Turtle biological conclusions must show potential impacts due to nourishment activities for the PSBC)
- Recommend that the Parallel Bridge – All Bridge Alternative be adjusted to use the existing NC 12 ROW. Bridging will eliminate the need to move away from the 2060 projected shoreline erosion locations as compared to the road north bridge south option. Where the shoreline will not be threatened by 2060, bridge may transition back to existing NC 12 pavement for access to Pea Island Refuge Facilities. Temporary easement may be required for on-site detours during construction. Based on the current erosion projections, the NC 12 bridging may not be required until between 2020 and 2030 in most locations. This will allow the existing Bonner Bridge to be replaced more expeditiously than with the PSBC 17 mile alternative, have little new environmental impacts, and fully utilize the existing NC 12 ROW, and avoid

4(f) issues and compatibility determination requirements except for temporary construction easements. (This would be a combination of Nourishment/All Bridge options on existing right-of-way).

- Recommend elimination of the use of "paved road access on NC 12" with the Parallel Bridge Corridor and "access which may not be a paved road" for the Pamlico Sound Alternative in numerous locations. As long as NCDOT maintains NC 12 ROW to the state-owned property at the Old Coast Guard Station, this right-of-way will be paved.
- Section 5.4.2.3 Parallel Bridge Corridor versus Pamlico Sound Bridge Corridor. Since ongoing maintenance of NC 12 with the Pamlico Sound Bridge Alternative is not addressed on the existing ROW on Pea Island, but are understood to be required, then both strategies equally impact the Pea Island Wildlife Refuge with the Pamlico Sound Bridge Corridor having greater impacts to the Outstanding Resource Waters of the Pamlico Sound and greater impacts to the National Seashore. Therefore, PSBC is not a 4(f) or Refuge avoidance alternative, although the current SDEIS fails to quantify these additional impacts and public costs.

Save Pea Island Coalition - Summary of Petitions/Letters Opposing 17-mile Bridge

Background: The Save Pea Island Coalition, a grassroots organization, was formed in 2003. The coalition's purpose was to oppose the proposed 17-mile bridge replacing the Herbert C. Bonner Bridge spanning Oregon Inlet. The basis of the coalition's opposition to the 17-mile bridge was the potential restriction or elimination of full public access to the Pea Island National Wildlife Refuge. The coalition generated hundreds of petitions and letters from concerned residents of and visitors to the Outer Banks who expressed their opposition to the 17-mile bridge. Attached are lists of in-state and out-of-state concerned citizens.

Summary of Petitions/Letters:

In-state (North Carolina):	347
Out-of-State:	372
Total	719

States/Countries represented:

Arizona	2
California	13
Colorado	2
Connecticut	1
Washington, DC	3
Delaware	4
Florida	18
Georgia	3
Illinois	2
Iowa	1
Kansas	1
Kentucky	3
Maryland	40
Massachusetts	1
Michigan	5
Minnesota	1
New Jersey	11
New York	8
Ohio	9
Pennsylvania	28
South Carolina	2
Tennessee	2
Texas	5
United Kingdom	1
Vermont	1
Virgin Islands	2
Virginia	196
West Virginia	7

Pea Island Coalition Petition Signatures/Letters Opposing 17-Mile Bridge
(Collected by the Pea Island Coalition - 2003)

	Name	City	State
1	Ginger Campbell	Avon	North Carolina
2	Brett Landry	Avon	North Carolina
3	Terry Carroll	Boone	North Carolina
4	Russell Blackwood	Buxton	North Carolina
5	Krystal Williams	Buxton	North Carolina
6	Lisa Pipkin	Camden	North Carolina
7	Elton Stone	Camden	North Carolina
8	Robert Petty	Cary	North Carolina
9	Jack Neef	Chapel Hill	North Carolina
10	Lacie Autry	Charlotte	North Carolina
11	Theresa Cates	Charlotte	North Carolina
12	Rachel Moser	Coinjock	North Carolina
13	Susan Termin	Columbus	North Carolina
14	Chris Howell	Como	North Carolina
15	Daisy Daughtry	Conway	North Carolina
16	Lyndsey Fualough	Creswell	North Carolina
17	Kimberly Pawly	Currituck	North Carolina
18	Kathy Kellogg	Currituck	North Carolina
19	Chris Gallop	Currituck	North Carolina
20	Juliana Gallop	Currituck	North Carolina
21	Brian Panky	Currituck	North Carolina
22	Kim Wertz	Currituck	North Carolina
23	Wanda Heaton	Currituck	North Carolina
24	Ryan Heaton	Currituck	North Carolina
25	Graham Heaton	Currituck	North Carolina
26	Bill Robbins	Currituck	North Carolina
27	Betsy Robbins	Currituck	North Carolina
28	Grant Kirchner	Duck	North Carolina
29	Ariana Tweksbury	Duck	North Carolina
30	Gayle Tarlstary	Duck	North Carolina
31	Kimberly Jordan	Elizabeth City	North Carolina
32	Glenn McGinnis Jr.	Elizabeth City	North Carolina
33	Celia Scerbo	Elizabeth City	North Carolina
34	Angela Dan	Elizabeth City	North Carolina
35	Mike Gerent	Elizabeth City	North Carolina
36	Jackson Coberly	Grantsboro	North Carolina
37	Sam Smith	Greenville	North Carolina
38	Jenny O'Brien	Greenville	North Carolina
39	Eileen Pickford	Greenville	North Carolina
40	Morgan Begg	Halifax	North Carolina
41	Holly Petry	Hatteras	North Carolina
42	Jim Hewell	Kill Devil Hills	North Carolina
43	Nancy Hewell	Kill Devil Hills	North Carolina
44	Andrew Harris	Kill Devil Hills	North Carolina
45	Andrew MacIsaac	Kill Devil Hills	North Carolina
46	Steve Bernier	Kill Devil Hills	North Carolina
47	Eady Wall	Kill Devil Hills	North Carolina

48	David Lee	Kill Devil Hills	North Carolina
49	David Reiner	Kill Devil Hills	North Carolina
50	Peter Az Dreher	Kill Devil Hills	North Carolina
51	David Pelliner	Kill Devil Hills	North Carolina
52	Frances Darnell	Kill Devil Hills	North Carolina
53	Fay Bouman	Kill Devil Hills	North Carolina
54	Gitta Shurbey	Kill Devil Hills	North Carolina
55	Tia Bouman	Kill Devil Hills	North Carolina
56	Lynn Shell	Kill Devil Hills	North Carolina
57	Alan Baski	Kill Devil Hills	North Carolina
58	Rich Hopwood	Kill Devil Hills	North Carolina
59	Stephen Baskink	Kill Devil Hills	North Carolina
60	Nancy Shell	Kill Devil Hills	North Carolina
61	Wesley Shells	Kill Devil Hills	North Carolina
62	Tommy Ritchie	Kill Devil Hills	North Carolina
63	Evelyn Rollason	Kill Devil Hills	North Carolina
64	Heather Thompson	Kill Devil Hills	North Carolina
65	Jay Ritchie	Kill Devil Hills	North Carolina
66	T. Reed	Kill Devil Hills	North Carolina
67	Beverly Mann	Kill Devil Hills	North Carolina
68	Mark McHenry	Kill Devil Hills	North Carolina
69	Stephanie McHenery	Kill Devil Hills	North Carolina
70	Laurence Longman	Kill Devil Hills	North Carolina
71	Jeff Rheubottom	Kill Devil Hills	North Carolina
72	Steve Gibbons	Kill Devil Hills	North Carolina
73	Shannon Sutton	Kill Devil Hills	North Carolina
74	Max Drew	Kill Devil Hills	North Carolina
75	Kim Ramige	Kill Devil Hills	North Carolina
76	Jessica Martin	Kill Devil Hills	North Carolina
77	Nigel Culpepper	Kill Devil Hills	North Carolina
78	Steve Thew	Kill Devil Hills	North Carolina
79	Alfreda Stanley	Kill Devil Hills	North Carolina
80	John Manly	Kill Devil Hills	North Carolina
81	Lisa Lather	Kill Devil Hills	North Carolina
82	Susan Lowry	Kill Devil Hills	North Carolina
83	M.E. Pawry	Kill Devil Hills	North Carolina
84	Dawn Gray	Kill Devil Hills	North Carolina
85	Jason Seagill	Kill Devil Hills	North Carolina
86	Lara Bashkoff	Kill Devil Hills	North Carolina
87	Noah Snyder	Kill Devil Hills	North Carolina
88	Comissa Synder	Kill Devil Hills	North Carolina
89	Craig Watson	Kill Devil Hills	North Carolina
90	Garry Bryson	Kill Devil Hills	North Carolina
91	John Matthews	Kill Devil Hills	North Carolina
92	Lynn Capsgress	Kill Devil Hills	North Carolina
93	Drew Biensenn	Kill Devil Hills	North Carolina
94	Melissa Cooper	Kill Devil Hills	North Carolina
95	Sophia Cooper	Kill Devil Hills	North Carolina
96	Jesse Hines	Kill Devil Hills	North Carolina
97	Whitney Hines	Kill Devil Hills	North Carolina
98	Brant Doyle	Kill Devil Hills	North Carolina
99	Sarah Doyle	Kill Devil Hills	North Carolina

100	Sarah S.	Kill Devil Hills	North Carolina
101	Brent Decoy	Kill Devil Hills	North Carolina
102	Jr. Dubose	Kill Devil Hills	North Carolina
103	Nic McCuan	Kill Devil Hills	North Carolina
104	Jody Huddy	Kill Devil Hills	North Carolina
105	Anna Harris	Kill Devil Hills	North Carolina
106	Roxanne Milne	Kill Devil Hills	North Carolina
107	Greg Sharpe	Kill Devil Hills	North Carolina
108	Dan Milne	Kill Devil Hills	North Carolina
109	Jamie Brumbebe	Kill Devil Hills	North Carolina
110	Jax Brumbebe	Kill Devil Hills	North Carolina
111	Bonnie Brumbebe	Kill Devil Hills	North Carolina
112	Sam Brumbebe	Kill Devil Hills	North Carolina
113	Kyle Wotring	Kill Devil Hills	North Carolina
114	Lou Summerlin	Kill Devil Hills	North Carolina
115	Doug Banjak	Kill Devil Hills	North Carolina
116	Marisa Bevan	Kill Devil Hills	North Carolina
117	Michelle Ward	Kill Devil Hills	North Carolina
118	Monica Kotzee	Kill Devil Hills	North Carolina
119	Jacqueline Gamiel	Kill Devil Hills	North Carolina
120	Scott Reamer	Kill Devil Hills	North Carolina
121	Brenda Noel	Kill Devil Hills	North Carolina
122	Frieda Marti	Kill Devil Hills	North Carolina
123	Chris Berry	Kill Devil Hills	North Carolina
124	Eddie Valdivieso	Kill Devil Hills	North Carolina
125	Noah Garrett	Kill Devil Hills	North Carolina
126	Jesse Fernandez	Kill Devil Hills	North Carolina
127	Adam Miller	Kill Devil Hills	North Carolina
128	Amy Miller	Kill Devil Hills	North Carolina
129	Howard Simmons III	Kill Devil Hills	North Carolina
130	Chris Edwards	Kill Devil Hills	North Carolina
131	Reynolds Lockhart	Kill Devil Hills	North Carolina
132	Kevin Holland	Kill Devil Hills	North Carolina
133	Janella Meadows	Kill Devil Hills	North Carolina
134	Alan Saunders	Kill Devil Hills	North Carolina
135	Michael Remige	Kill Devil Hills	North Carolina
136	G.W. Meadows	Kill Devil Hills	North Carolina
137	Cyrus Welch	Kill Devil Hills	North Carolina
138	Douglas Haber	Kill Devil Hills	North Carolina
139	Erich Welch	Kill Devil Hills	North Carolina
140	Bruce Weaver	Kill Devil Hills	North Carolina
141	Michelle Haber	Kill Devil Hills	North Carolina
142	Ed Zawojski	Kill Devil Hills	North Carolina
143	Linda Allen	Kill Devil Hills	North Carolina
144	Natgalie Marks	Kill Devil Hills	North Carolina
145	Kelly Green	Kill Devil Hills	North Carolina
146	Amy Beth Ward	Kill Devil Hills	North Carolina
147	Beth Thomas	Kill Devil Hills	North Carolina
148	Desiree Matlack	Kill Devil Hills	North Carolina
149	Ann Thompson	Kill Devil Hills	North Carolina
150	Nora Fucci	Kill Devil Hills	North Carolina
151	Andrew Garcis	Kill Devil Hills	North Carolina

152	Tracy Selph	Kill Devil Hills	North Carolina
153	Brooks Rainey	Kill Devil Hills	North Carolina
154	Edward Hughes	Kill Devil Hills	North Carolina
155	Wanda Law	Kill Devil Hills	North Carolina
156	Daryl Law	Kill Devil Hills	North Carolina
157	George Bingham	Kill Devil Hills	North Carolina
158	Barbara Noel	Kill Devil Hills	North Carolina
159	Kathy Koeij	Kill Devil Hills	North Carolina
160	Bill Kingston	Kill Devil Hills	North Carolina
161	Wil Sacra	Kill Devil Hills	North Carolina
162	Josh Saunders	Kill Devil Hills	North Carolina
163	Cliff Cartwright	Kill Devil Hills	North Carolina
164	Joey Cater	Kill Devil Hills	North Carolina
165	Mikey Weeks	Kill Devil Hills	North Carolina
166	Fabian Martinez	Kill Devil Hills	North Carolina
167	Avery Tucker	Kill Devil Hills	North Carolina
168	Celeste Waggeren	Kill Devil Hills	North Carolina
169	Katy Paton	Kill Devil Hills	North Carolina
170	Jermey Peters	Kill Devil Hills	North Carolina
171	Nicole Peters	Kill Devil Hills	North Carolina
172	Sean Olice	Kill Devil Hills	North Carolina
173	Heather Thompson	Kill Devil Hills	North Carolina
174	Tommy Ritchie	Kill Devil Hills	North Carolina
175	Lo Gerry	Kill Devil Hills	North Carolina
176	David Irey	Kill Devil Hills	North Carolina
177	Adam Miller	Kill Devil Hills	North Carolina
178	Michael Freas	Kill Devil Hills	North Carolina
179	Emily Ganzert	Kill Devil Hills	North Carolina
180	John Matthews	Kill Devil Hills	North Carolina
181	Megan Walters	Kill Devil Hills	North Carolina
182	Michelle Fornadley	Kill Devil Hills	North Carolina
183	Whitney Hines	Kitty Hawk	North Carolina
184	Ralph Richards	Kitty Hawk	North Carolina
185	Bill Ernst	Kitty Hawk	North Carolina
186	Lorna Ernst	Kitty Hawk	North Carolina
187	Anthony	Kitty Hawk	North Carolina
188	Chris Hess	Kitty Hawk	North Carolina
189	Richard Welsh	Kitty Hawk	North Carolina
190	Kevin Walsh	Kitty Hawk	North Carolina
191	Jason Stanchak	Kitty Hawk	North Carolina
192	Jimbo Ward	Kitty Hawk	North Carolina
193	Courtney Lopes	Kitty Hawk	North Carolina
194	Jon Beckner	Kitty Hawk	North Carolina
195	Jeff Emanuelson	Kitty Hawk	North Carolina
196	Sandra and Fred Schock	Kitty Hawk	North Carolina
197	Fred Schock	Kitty Hawk	North Carolina
198	Christopher Whitehurst	Kitty Hawk	North Carolina
199	Caren Owens	Kitty Hawk	North Carolina
200	Daniel Holt	Kitty Hawk	North Carolina
201	Vincent Toia	Kitty Hawk	North Carolina
202	Ed Hayes	Kitty Hawk	North Carolina
203	Shane Collins	Kitty Hawk	North Carolina

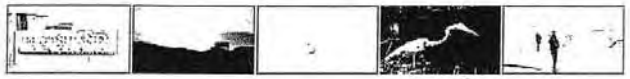
204	Mandy Collins	Kitty Hawk	North Carolina
205	Mojo Collins	Kitty Hawk	North Carolina
206	Jon Younts	Kitty Hawk	North Carolina
207	Patricia Dbelli	Kitty Hawk	North Carolina
208	William Epp	Kitty Hawk	North Carolina
209	Ted Kearns	Kitty Hawk	North Carolina
210	Tom	Kitty Hawk	North Carolina
211	Susan Mosedale	Manteo	North Carolina
212	Dee Dee Thomas	Manteo	North Carolina
213	Elsie Duncan	Manteo	North Carolina
214	Paul Gorin	Manteo	North Carolina
215	Angelia Woody	Manteo	North Carolina
216	Joan Brumbach	Manteo	North Carolina
217	Juanita Wescott	Manteo	North Carolina
218	Denise Mehers	Manteo	North Carolina
219	Kristen Mazzarella	Manteo	North Carolina
220	Michelle Mills	Manteo	North Carolina
221	Shawen Pron	Manteo	North Carolina
222	Art Usher	Manteo	North Carolina
223	Harold Casteel	Manteo	North Carolina
224	Carol Casteel	Manteo	North Carolina
225	Jamie Daniels	Manteo	North Carolina
226	Peter Macsovits	Manteo	North Carolina
227	Martha Gray	Manteo	North Carolina
228	Susan Mauro	Manteo	North Carolina
229	Anna Quidley	Manteo	North Carolina
230	Bruce Matthews	Manteo	North Carolina
231	Troy Johnson	Manteo	North Carolina
232	LM Landeilu	Manteo	North Carolina
233	Ramie Sandehi	Manteo	North Carolina
234	Lou Sanderin	Manteo	North Carolina
235	Kristen Mazzarella	Manteo	North Carolina
236	Megan McCormick	Manteo	North Carolina
237	Amanda Carignan	Manteo	North Carolina
238	Stephen Carignan	Manteo	North Carolina
239	Dana Kelly	Manteo	North Carolina
240	Chris Thorn	Nags Head	North Carolina
241	Angelica Kushi	Nags Head	North Carolina
242	Robert Farmer	Nags Head	North Carolina
243	Nia Thurston	Nags Head	North Carolina
244	Fasen Thurston	Nags Head	North Carolina
245	Jarod Latton	Nags Head	North Carolina
246	Adam Tasdelle	Nags Head	North Carolina
247	Katie Coryell	Nags Head	North Carolina
248	Elizabeth Muglia	Nags Head	North Carolina
249	Sam Buxton	Nags Head	North Carolina
250	Evan Matthews	Nags Head	North Carolina
251	Florence Webster	Nags Head	North Carolina
252	Von Wingate	Nags Head	North Carolina
253	Ruth Balance	Nags Head	North Carolina
254	Sam Thornton	Nags Head	North Carolina
255	Katrinia Passon	Nags Head	North Carolina

256	S. Brower	Nags Head	North Carolina
257	Fred Bamonte	Nags Head	North Carolina
258	Sandy Barmonte	Nags Head	North Carolina
259	Charles Brewer	Nags Head	North Carolina
260	Sue Hancock	Nags Head	North Carolina
261	Rachel Thorp	Nags Head	North Carolina
262	Tonya Bryan	Nags Head	North Carolina
263	Misty Rorck	Nags Head	North Carolina
264	Tim Scannell	Nags Head	North Carolina
265	Jamie Arnale	Nags Head	North Carolina
266	Robert Abbey	Nags Head	North Carolina
267	Roland Nrdahn	Nags Head	North Carolina
268	David wilson	Nags Head	North Carolina
269	Evan Turlington	Nags Head	North Carolina
270	Nick Pincenaz	Nags Head	North Carolina
271	Leora Thompson	Nags Head	North Carolina
272	Melissa Villaflor	Nags Head	North Carolina
273	Sandyfeat Ent. Inc.	Nags Head	North Carolina
274	By the Sea Jewelry	Nags Head	North Carolina
275	Jim Jereb	Nags Head	North Carolina
276	Linda Jereb	Nags Head	North Carolina
277	Jason Forrest	Nags Head	North Carolina
278	Diane Bognich	Nags Head	North Carolina
279	Helen Brauch	Nags Head	North Carolina
280	Brian Wehner	Nags Head	North Carolina
281	John Harris	Nags Head	North Carolina
282	Angelica Kushi	Nags Head	North Carolina
283	Robert Petty	Nags Head	North Carolina
284	Fred Bamonte	Nags Head	North Carolina
285	Margaret Burke	Nags Head	North Carolina
286	Thomas Burke	Nags Head	North Carolina
287	Jane Norotney	Nags Head	North Carolina
288	Mike Murray	Nags Head	North Carolina
289	Zach Kenny	Nags Head	North Carolina
290	Matt Preston	Nags Head	North Carolina
291	Webb Pickeral	Nags Head	North Carolina
292	Corey Shables	Nags Head	North Carolina
293	Tim Goodwin	Nags Head	North Carolina
294	Emilie Allamus	Nags Head	North Carolina
295	John Kenny	Nags Head	North Carolina
296	Kim Kenny	Nags Head	North Carolina
297	Rascoe Hunt	Nags Head	North Carolina
298	Sarah Dykes	Nags Head	North Carolina
299	James Older	Nags Head	North Carolina
300	Pamela Divan	Pinnacle	North Carolina
301	Louis Divan	Pinnacle	North Carolina
302	Robert Halstead	Powells Point	North Carolina
303	Sandy Ferguson	Powells Point	North Carolina
304	Phillip Fergson	Powells Point	North Carolina
305	Chris Seargent	Raleigh	North Carolina
306	Adam Capps	Raleigh	North Carolina
307	Holly Davis	Raleigh	North Carolina

308	R. Scott	Raleigh	North Carolina
309	Hilary Schmidt	Raleigh	North Carolina
310	Jennifer Reby	Richmond	North Carolina
311	Josh Magttes	Richmond	North Carolina
312	Tim Larkin	Richmond	North Carolina
313	Aaron Smith	Richmond	North Carolina
314	Bobby Bradley	Roanoke Rapids	North Carolina
315	Nate Gammer	Rodanthe	North Carolina
316	Debbie Bell	Rodanthe	North Carolina
317	Randy Hall	Rodanthe	North Carolina
318	Ellen Owens	Shallotte	North Carolina
319	Tim Owens	Shallotte	North Carolina
320	Kenneth Bailey	South Mills	North Carolina
321	Kallie Johnson	South Mills	North Carolina
322	Beth Cookson	Southern Shores	North Carolina
323	Laura Holmes	Southern Shores	North Carolina
324	Wattkins Holt	Southern Shores	North Carolina
325	Bernard Mancuse	Southern Shores	North Carolina
326	Lucy Power	Southern Shores	North Carolina
327	Sara Daigle	Southern Shores	North Carolina
328	Jack Baumer	Southern Shores	North Carolina
329	Heather Schuett	Walkertown	North Carolina
330	Maynard Hazen	Wanchese	North Carolina
331	Melissa McLook	Wanchese	North Carolina
332	Joanne McLook	Wanchese	North Carolina
333	Styron Jarvis	Wanchese	North Carolina
334	Carol Saunders	Wanchese	North Carolina
335	Matthew Cahill	Wanchese	North Carolina
336	Stephanie Morell	Whalehead	North Carolina
337	David Yale	Willow Spring	North Carolina
338	Rick Kingston	Wilmington	North Carolina
339	Kevin Kingston	Wilmington	North Carolina
340	Anthony Nguyen	Winston Salem	North Carolina
341	Ronald Maynard	Winston Salem	North Carolina
342	Comissa Synder	Winston Salem	North Carolina
343	Dale Meadows	Winston Salem	North Carolina
344	April Randleman	Winston Salem	North Carolina
345	Douglas Hileman	Winston Salem	North Carolina
346	Michael Nester	Winston Salem	North Carolina
347	Mike Aughenbaugh	Wrightsville Beach	North Carolina

pea island coalit

The "Pea Island Coalition" is a grou concerned citizens whose sole objec to preserve recreational access to Island in a state that's as close to current access as is possible.



The North Carolina Outer Banks is an extremely diverse area that is defined in many different ways - by many different people. The Pea Island Coalition is a group of citizens who are opposed to the current proposal to replace the Bonner Bridge (which spans Oregon Inlet) with a new 17 mile long bridge that will bypass a large and heavily utilzed section of the pristine Outer Banks.

This critical section of Pea Island is a favorite destination for many diverse recreational enthusiast. Pea Island is widely known as:
- **Top East Coast Surfing Destination**
- **Favorite Surf Fishing Destination**
- **Highly desirable 'bridge - catwalk ' fishery**
- **Tremendous soundside fishing at the 'south end' of the current bridge**
- **Top Birding destination**
- **Wonderful secluded beach getaway**
- **Much, much more**

The current bridge proposal bypasses the obvious and more affordable choices for bridge replacement and creates a 17mile mammoth bridge that has no plan for access to the priceless recreational areas that are currently prized by so many people who live on and visit the N.C. Outer Banks.

Currently Proposed to cost $278 million dollars, this new 17 mile bridge will cost taxpayers more than twice as much as extremely viable alternatives.

One of the largest opponents to the more attractive and less expensive alternative is the U.S. Fish and Wildlife Service. Pointing to their Refuge Management Plan, they simply say that a new bridge that would replace the old one is a similar manner does not fit into their management plan.

The Pea Island Coalition feels that this answer is not acceptable and we wish to come to a resolution of this "lack of access as we know it" problem. Please browse our website to see what you can do to help.

Current N.C. DOT Proposal

Pea Island Coalitions' Proposal

Pea Island Coalition Petition Signatures/Letters Opposing 17-Mile Bridge
(Collected by the Pea Island Coalition - 2003)

	Name	City	State	State Totals
1	Alysa Kogan	Scottsdale	Arizona	
2	Brendon Franko	Scottsdale	Arizona	2
3	John Borton	Campbell	California	
4	Melissa Merkle	Fairfax	California	
5	Elliott Rabin	La Jolla	California	
6	Jamie Shelden	La Jolla	California	
7	Ken Schumann	Mammoth Lakes	California	
8	Mark Cousineau	San Clemente	California	
9	Matt Walker	San Clemente	California	
10	Chris Coggan	San Diego	California	
11	Glen Volk	San Diego	California	
12	John Byrd	San Diego	California	
13	Henry Bittner	San Francisco	California	
14	Matt Grant	San Jose	California	
15	Eric Crutchlow	Santa Clara	California	13
16	Eric Kirchner	Denver	Colorado	
17	Tracy Swezy	Frisco	Colorado	2
18	Jamie Klenger	Stamford	Connecticut	1
19	F.M. Gertz	Washington	DC	
20	Pat Cavanah	Washington	DC	
21	Robin Fulton	Washington	DC	3
22	Debbie Brown	Hockessin	Delaware	
23	Patrick Brown	Hockessin	Delaware	
24	Chris Brennan	New Castle	Delaware	
25	Andrew Benson	Wilmington	Delaware	4
26	Michelle Ballve	Daytona Beach	Florida	
27	Karly Blake	Groveland	Florida	
28	Larry Blake	Groveland	Florida	
29	David Glover	Groveland	Florida	
30	Bob Lane	Groveland	Florida	
31	Marianne Blake	Groveland	Florida	
32	Thomas Dugan	Indialantic	Florida	
33	Shawn Sullivan	Jacksonville	Florida	
34	Ron Goldberg	Jupiter	Florida	
35	Gen Why	Jupiter	Florida	
36	Mike Fish	Melbourne Beach	Florida	
37	Bart Pair	Melbourne Beach	Florida	
38	Stephanie Pair	Melbourne Beach	Florida	
39	Andy Rostar	Melbourne Beach	Florida	
40	Joseph Langella	Melbourne Beach	Florida	
41	Dan LaBell	Orlando	Florida	
42	Chris Amsellem	Orlando	Florida	
43	Joseph Crosswhite	Stuart	Florida	18
44	Theresa Hollow	Johnstown	Georgia	
45	Chris Scott	Suwanee	Georgia	
46	David Staples	Suwanee	Georgia	3
47	Marcella Donnell	Chicago	Illinois	
48	Devon Kinney	Northbrook	Illinois	2
49	Desire Christensen	Kalona	Iowa	1
50	Alicia Wilburn	Wamego	Kansas	1
51	Bill Owen	Lexington	Kentucky	
52	Kristen Owen	Lexington	Kentucky	
53	Kimber Wright	Lexington	Kentucky	3
54	Devin Fernandez	Accoheeh	Maryland	
55	Kathleen Youngbar	Baltimore	Maryland	
56	Colleen Kerr	Baltimore	Maryland	
57	Nick Hatces	Bethesda	Maryland	
58	Alek Beynenson	Bethesda	Maryland	
59	Larissa Dorton	Cabin John	Maryland	
60	Charles Hayen	Catonsville	Maryland	
61	Katie LaGrave	Clarksville	Maryland	
62	Charlie LaGrave	Clarksville	Maryland	
63	Uriah Simohton	Elkridge	Maryland	
64	S. Pak	Forest Hill	Maryland	
65	Peter Kelsey	Forest Hill	Maryland	
66	Laurie Roberts	Frederick	Maryland	
67	Kenneth Herrell	Gaithersburg	Maryland	
68	Ralph Langton	Germantown	Maryland	
69	Mary Kemberley	Janettsville	Maryland	
70	Jacqulelene Remage	Jarrettsville	Maryland	
71	S.P. Remege	Jarrettsville	Maryland	
72	Becca Donovan	Olney	Maryland	
73	Darnella Fernandez	Olney	Maryland	
74	Robert McCary	Olney	Maryland	
75	Andrew Naylor	Pasadena	Maryland	
76	Todd Nickelson	Pasadena	Maryland	
77	Matt Nickelson	Pasadena	Maryland	
78	Sam Nickelson	Pasadena	Maryland	
79	Paul Venesky	Ridgely	Maryland	
80	Adam Elchin	Ridgely	Maryland	
81	Lawrence Brauch	Rockville	Maryland	
82	Liz Hill	Rockville	Maryland	
83	Patrick Merkle	Street	Maryland	
84	Beverly Merkles	Street	Maryland	
85	A. Merkles	Street	Maryland	
86	Daniel Broxterman	Takoma Park	Maryland	
87	Matt B.	Wesminster	Maryland	
88	Jason Pickett	Westminster	Maryland	
89	Byron Henze	Westminster	Maryland	
90	Sylvia Cooper	Whiteford	Maryland	
91	Gregory Cooper	Whiteford	Maryland	
92	Ernest Cooper	Whiteford	Maryland	
93	Traci Glass	Woodsboro	Maryland	40
94	Thersea Benso	Amesburry	Massachusetts	1
95	Tim Imolenski	Grand Haven	Michigan	
96	N. Brown	Grand Haven	Michigan	
97	Jeff Grilleland	Grand Haven	Michigan	
98	G. Ialhen	Grand Haven	Michigan	
99	Travis Dahlman	Grand Haven	Michigan	5

100	Colleen Williams	Minneapolis	Minnesota	1
101	Neil Swartz	Califon	New Jersey	
102	Brian James	Haddon Heights	New Jersey	
103	Jonathan Bolos	Hamilton	New Jersey	
104	Sylvia Romero	Magnolia	New Jersey	
105	Amy O'Malley	Marlton	New Jersey	
106	Dean O'Malley	Marlton	New Jersey	
107	Vince Spata	Union	New Jersey	
108	Melissa Gill	Union	New Jersey	
109	Marina Bonanno	Vineland	New Jersey	
110	Nick Bohn	Vineland	New Jersey	
111	Steven Bohn	Vineland	New Jersey	11
112	Zachary Rothman	Bayport	New York	
113	Kathy Smith	Buffalo	New York	
114	Michael Wagnes	New York	New York	
115	Laura Ammann	New York	New York	
116	Pavandeep Sethl	New York	New York	
117	Stacy Vulakh	New York	New York	
118	Alex Vulakh	New York	New York	
119	Michelle Munson	Staten Island	New York	8
120	Grace Mayes	Akron	Ohio	
121	Margaret Losik	Burton	Ohio	
122	Dan Straues	Eastlake	Ohio	
123	Miranda Roach	Norton	Ohio	
124	Andrew Bowman	Norton	Ohio	
125	Amy Bowman	Norton	Ohio	
126	Michele Easton	Novelty	Ohio	
127	Diane Fox	Solon	Ohio	
128	Tim Leaver	Wickliffe	Ohio	9
129	Betsy Harrison	Bethlehem	Pennsylvania	
130	Ryan Fortie	Brookville	Pennsylvania	
131	William Fulton	Camp Hill	Pennsylvania	
132	Judy Clark	Clarion	Pennsylvania	
133	Katie Pietrouchie	Coplay	Pennsylvania	
134	Jamie Sherow	Cranberry Twp	Pennsylvania	
135	John Sheron	Cranberry Twp	Pennsylvania	
136	David Dryden	Drexel Hill	Pennsylvania	
137	Melissa Dryden	Drexel Hill	Pennsylvania	
138	Lisa Maria Johnson	Harleysville	Pennsylvania	
139	Christen Huber	Hollidasburg	Pennsylvania	
140	Laura Taylor	Hummlestown	Pennsylvania	
141	Whitney Marshall	Hummlestown	Pennsylvania	
142	James Eberwein	Lewisberry	Pennsylvania	
143	Alan Yoder	Middletown	Pennsylvania	
144	Kristine Keller	Murrysville	Pennsylvania	
145	Job Godino	Philadelphia	Pennsylvania	
146	Michael haran	Pittsburg	Pennsylvania	
147	Lisa Walter	Red Hill	Pennsylvania	
148	Daniel Myers	Stewarston	Pennsylvania	
149	Kevin Brendell	Walnutport	Pennsylvania	
150	Katie Martens	West Chester	Pennsylvania	
151	Han Martens	West Chester	Pennsylvania	

152	Christopher Tremoglie	West Chester	Pennsylvania	
153	Karen Tremoglie	West Chester	Pennsylvania	
154	Michael Tremoglie	West Chester	Pennsylvania	
155	Cindy Thorne	West Newton	Pennsylvania	
156	Brent Baurna	Whitehall	Pennsylvania	28
157	J. Mark Saunders	Little River	South Carolina	
158	Scott Huffmon	Rock Hill	South Carolina	2
159	Josetine Vaught	Hendrsonville	Tennessee	
160	Chante LaDage	Knoxville	Tennessee	2
161	Elaine Meaders	College Station	Texas	
162	Bob Cox	Fort Worth	Texas	
163	Jennifer Ashley	San Antonio	Texas	
164	John Marks Jr.	San Antonio	Texas	
165	Brad Ashley	San Antonio	Texas	5
166	Alasdair Machay	Hereford	United Kingdom	1
167	Mindy Johnson	Ogden	Vermont	1
168	Gregory Moorman	St. Croix	Virgin Islands	
169	Gabriella Moorman	St. Croix	Virgin Islands	2
170	Dennis Franko	Alexandria	Virginia	
171	Libby Franko	Alexandria	Virginia	
172	Sean Franko	Alexandria	Virginia	
173	Virginia Specty	Alexandria	Virginia	
174	Hart Franko	Alexandria	Virginia	
175	Mary Susan Borst	Alexandria	Virginia	
176	Tom Curcio	Alexandria	Virginia	
177	Kim Sapsford	Alexandria	Virginia	
178	Julia Player	Arlington	Virginia	
179	Chris Ford	Arlington	Virginia	
180	Cynthia Briggs	Arlington	Virginia	
181	Amy Schmidt	Arlington	Virginia	
182	David Helfen	Ashburn	Virginia	
183	Rachel Denton	Ashland	Virginia	
184	Scott Massie	Bedford	Virginia	
185	Twiford Massie	Bedford	Virginia	
186	John Codd	Burke	Virginia	
187	Carl Lesto	Centreville	Virginia	
188	Brian Helmick	Centreville	Virginia	
189	Ericka Pastrana	Centreville	Virginia	
190	Katie Anderson	Charlottesville	Virginia	
191	Kamie Evans	Charlottesville	Virginia	
192	John Wiles	Charlottesville	Virginia	
193	Margaret Massie	Charlottesville	Virginia	
194	Blake Daniels	Charlottesville	Virginia	
195	Amani Politano	Charlottesville	Virginia	
196	Drew Smith	Charlottesville	Virginia	
197	Shawn Schroling	Charlottesville	Virginia	
198	Brad Rsookett	Cheaspeake	Virginia	
199	Jesse Kaufman	Cheaspeake	Virginia	
200	Ron Sparrow	Cheaspeake	Virginia	
201	Mary Tobey	Cheaspeake	Virginia	
202	Dan Toboz	Cheaspeake	Virginia	
203	Evan Good	Cheaspeake	Virginia	

204	Mike Dailey	Chesapeake	Virginia
205	Eden Saeger	Chesapeake	Virginia
206	Andy Jones	Chesapeake	Virginia
207	Chris Bliss	Chesapeake	Virginia
208	Gray Brothers	Chesapeake	Virginia
209	Jon Griffin	Chesapeake	Virginia
210	Steve Janushkowsky	Chesapeake	Virginia
211	Jordan Janushkowsky	Chesapeake	Virginia
212	Dick Vaughn	Chester	Virginia
213	Kim Kurtz	Chesterfield	Virginia
214	Stephanie Neatrour	Chesterfield	Virginia
215	David Brother	Chesterfield	Virginia
216	Andrew Waldeck	Crozet	Virginia
217	Rebecca Abecassis	Culpeper	Virginia
218	Diane Fledra	Disputanta	Virginia
219	Erin Rogets	Emporia	Virginia
220	Jeff Harris	Faber	Virginia
221	Rob Hornfeck	Fairfax	Virginia
222	Pepper Thomas	Fairfax	Virginia
223	Elaine Pastrana	Fairfax	Virginia
224	F.R. Boutin	Fairfax	Virginia
225	Kimberly Eckert	Fairfax	Virginia
226	Caitlin Thomas	Fairfax Station	Virginia
227	Betsy Hughes	Fairfax Station	Virginia
228	Jan Tarkowich	Falls Church	Virginia
229	Robert Drosna	Falls Church	Virginia
230	J. Abencet	Farmville	Virginia
231	David Joyner	Franklin	Virginia
232	Robert Fuller	Fredericksburg	Virginia
233	Jeff Taylor	Fredricksburg	Virginia
234	Rob Abrams	Glen Allen	Virginia
235	Renee Zando	Glen Allen	Virginia
236	Vickie Briston	Gloucester	Virginia
237	Daniel Schlesser	Hampton	Virginia
238	Shauna Hatfield	Hampton	Virginia
239	Brice Tucker	Harrisonburg	Virginia
240	James Guy	Hayes	Virginia
241	Maggy Varghe	Herndon	Virginia
242	Lerry Wall	Hopewell	Virginia
243	Payne Well	Hopewell	Virginia
244	Sarah Well	Hopewell	Virginia
245	Patrick Roche	King George	Virginia
246	Theresa Quinn	Lanexa	Virginia
247	James Barbour	Leesburg	Virginia
248	Judson Warren	Lynchburg	Virginia
249	Ronald Dixon	Lynchburg	Virginia
250	Chad Jenkins	Mannassas Park	Virginia
251	Nick Turner	Mannassas Park	Virginia
252	Bill Dalton	McLean	Virginia
253	Kelly Shores	McLean	Virginia
254	Valerie Davis	Mechanicsville	Virginia
255	Chris Smith	Midlothian	Virginia

256	Stuart Willis	Midlothian	Virginia
257	Debby Francis	Midlothian	Virginia
258	Marshall Francis	Midlothian	Virginia
259	Jason Smith	Midlothian	Virginia
260	Midlly Maffiey	Midlothian	Virginia
261	John Harper	Monroe	Virginia
262	Stacy Hutson	Newport News	Virginia
263	Noelle Baldwin	Newport News	Virginia
264	Claude Jones	Newport News	Virginia
265	Summey Sain	Newport News	Virginia
266	Carl Hanes	Newport News	Virginia
267	John Latta	Newport News	Virginia
268	Pennie Brown	Newport News	Virginia
269	Joe Wood	Newport News	Virginia
270	Michael Hultberg	Newport News	Virginia
271	Barbara Sellyel	Norfolk	Virginia
272	Mark Pearson	Norfolk	Virginia
273	James Norton	Norfolk	Virginia
274	Terry Harrison	Norfolk	Virginia
275	Tara Loftin	Norfolk	Virginia
276	Audrey Whitlock	Portsmouth	Virginia
277	Aimee Simmons	Portsmouth	Virginia
278	J.P. Callan	Richmond	Virginia
279	Ashley Munchez	Richmond	Virginia
280	Sunny Hwang	Richmond	Virginia
281	Krin Kirijas	Richmond	Virginia
282	Andrew Rich	Richmond	Virginia
283	John Claytor	Richmond	Virginia
284	Erin Markowitz	Richmond	Virginia
285	Jennifer James	Richmond	Virginia
286	Evelyn Hardwick	Richmond	Virginia
287	Leslie Young	Richmond	Virginia
288	Kevin Moore	Richmond	Virginia
289	Michael McCee	Richmond	Virginia
290	William Gore	Richmond	Virginia
291	Richard Yhip	Richmond	Virginia
292	Tiffany Yhip	Richmond	Virginia
293	Chris Stauko	Richmond	Virginia
294	Elizabeth Johnson	Richmond	Virginia
295	Timothy Ethier	Richmond	Virginia
296	Jim Wiener	Roanoke	Virginia
297	Casey Wainscott	Ruther Glen	Virginia
298	Michael Fulk	Schuyler	Virginia
299	Chris Rowe	Seaford	Virginia
300	Brian Haley	Silver Spring	Virginia
301	Chere DeMunno	Smithfield	Virginia
302	Michelle Datoe	South Riding	Virginia
303	Danielle Datoc	South Riding	Virginia
304	Matthew Reeves	Springfield	Virginia
305	Rachell Azimi	Springfield	Virginia
306	Earl Worrell	Stafford	Virginia
307	Dee Worrell	Stafford	Virginia

308 Carol Humphreys	Stanton	Virginia	
309 Jessica Marino	Staunton	Virginia	
310 S. Kyle Bunting	Staunton	Virginia	
311 C. Hamilton	Sterling	Virginia	
312 Bill Brooks	Suffolk	Virginia	
313 Ginger Brooks	Suffolk	Virginia	
314 Kathy Hughes	Vienna	Virginia	
315 Andrew Onufrychuk	Vienna	Virginia	
316 Matt Murray	Vienna	Virginia	
317 Rick Jordan	Virginia Beach	Virginia	
318 Beatrice Gray	Virginia Beach	Virginia	
319 Janice Simon	Virginia Beach	Virginia	
320 I. Bruntly	Virginia Beach	Virginia	
321 C.S. Collins	Virginia Beach	Virginia	
322 Alisha Edwards	Virginia Beach	Virginia	
323 Eric Edwards	Virginia Beach	Virginia	
324 Ryan Buck	Virginia Beach	Virginia	
325 Gabe Hemmel Wright	Virginia Beach	Virginia	
326 Sasha Cochren	Virginia Beach	Virginia	
327 Alexia Alford	Virginia Beach	Virginia	
328 Hunter Phelan	Virginia Beach	Virginia	
329 Elns Albests	Virginia Beach	Virginia	
330 Sam Albests	Virginia Beach	Virginia	
331 Taylor Griffin	Virginia Beach	Virginia	
332 Casey Cruciano	Virginia Beach	Virginia	
333 Holly Tankersley	Virginia Beach	Virginia	
334 Will Harris	Virginia Beach	Virginia	
335 John Mock	Virginia Beach	Virginia	
336 Bartow Bridges	Virginia Beach	Virginia	
337 Eric Jeronimus	Virginia Beach	Virginia	
338 Peter Maurer	Virginia Beach	Virginia	
339 Joe Harris	Virginia Beach	Virginia	
340 James Bristol	Virginia Beach	Virginia	
341 Brett Copeland	Virginia Beach	Virginia	
342 Carol Wehner	Virginia Beach	Virginia	
343 Douglas Wehner	Virginia Beach	Virginia	
344 Mike Kressel	Virginia Beach	Virginia	
345 Kim Williams	Virginia Beach	Virginia	
346 Susan Bornako	Virginia Beach	Virginia	
347 Greg Wehner	Virginia Beach	Virginia	
348 Braden Boyd	Virginia Beach	Virginia	
349 Josh Perry	Virginia Beach	Virginia	
350 Ben Riley	Virginia Beach	Virginia	
351 Stephanie Perkins	Virginia Beach	Virginia	
352 Kimberly Meiggs	Virginia Beach	Virginia	
353 Scott Cutchin	Virginia Beach	Virginia	
354 Melissa Black	West Point	Virginia	
355 Angela Berry	Wilksboro	Virginia	
356 Daphane Propst	Wilksboro	Virginia	
357 Stephanie Foster	Williamsburg	Virginia	
358 Raquel Reichert	Williamsburg	Virginia	
359 T. L. Hindman	Williamsburg	Virginia	

360 Mark Reif	Winchester	Virginia	
361 Charles McWilliams	Woodstock	Virginia	
362 Dabnus McWilliams	Woodstock	Virginia	
363 Paul Sanders	Yorktown	Virginia	
364 Donna Reese	Yorktown	Virginia	
365 Amy Kelley	Yorktown	Virginia	196
366 Kevin and Carrie Thompson	Charles Town	West Virginia	
367 Mike Miller	Morgantown	West Virginia	
368 Tammy Miller	Morgantown	West Virginia	
369 Alissa Brun	Weirton	West Virginia	
370 Marie Fazalare	Weirton	West Virginia	
371 Frank Battista	Weirton	West Virginia	
372 Norma Battista	Weirton	West Virginia	7

Subject: Bonner Bridge Comment
Date: Mon, 12 Dec 2005 09:47:23 -0500
From: "Nick Baum" <baumnwa@cps.k12.va.us>
To: <cgoode@dot.state.nc.us>

Mr. Goode,

I am unclear of the context of these petitions, but one thing really stands out to me. This grassroots group has failed to show any significant support from Hatteras Island residents. I feel that since these residents are the constituents that would be most affected by the long bridge option, that they would have a strong opinions on the subject matter. Additionally, I also feel like they should have a bigger impact on the decision. No offense to Dare County residents from the northern beaches, but it is the Hatteras Island residents "back yard" and affects their everyday lives. I am a life long resident of Frisco, North carolina and my family has lived on the island for hundreds of years. I recognize some of the names on their petition, and quite frankly could care less if some surfers and recreational fishermen from Nags Head support the short bridge. I cannot see how their opinions and tourist's opinions should be more valued than the Hatteras Island native's opinions. I am not saying that I do not support the short bridge option, but I am saying that if this group wants to make a legitimate lobby, that they should have concentrated on getting those who are most affected on board with them. I do not think that this petition or its results should hold any weight in a decision making capacity.

Thank you,
Nick Baum

Subject: Replacement Bridge
Date: Fri, 9 Dec 2005 09:24:43 -0500
From: "Olie Bedell" <oliebedell@earthlink.net>
To: <cgoode@dot.state.nc.us>

I'm in favor of the long bridge bypassing Pea Island hot spots.

Olie Bedell
oliebedell@earthlink.net
252 995-3467
P.O. Box 154
Buxton, N.C. 27920

Subject: oregon inlet and NC 12
Resent-Date: Sun, 01 Apr 2007 22:55:22 -0400 (EDT)
Resent-From: abeets@umsis.miami.edu
Date: Sun, 01 Apr 2007 22:55:22 -0400 (EDT)
From: abeets@umsis.miami.edu
To: cgoode@dot.state.nc.us

To Whom It May Concern:
Upon hearing about the proposed changes to Oregon Inlet and NC12, I felt I must take action. I firmly believe that when drastic changes are being considered, the opinions of the locals must be considered. Therefore, I write in support of the parallel bridge and the beach nourishment project. In addition to their harm to the environment, mini bridges would also negatively impact many residents through their locations and the increased noise. Please consider the opinions of those who live there and implement the parallel bridge and beach nourishment projects to Oregon Inlet and NC 12.
Thank you for your time.
Alicia Beets

Subject: [Fwd: OBTF Comments Sumbmission]
Date: Mon, 14 Nov 2005 08:08:57 -0500
From: Roy Shelton <rshelton@dot.state.nc.us>
Organization: North Carolina Department of Transportation
To: Carl Goode <cgoode@dot.state.nc.us>

For the record on Bonner Bridge.

Subject: OBTF Comments Sumbmission
Date: Thu, 10 Nov 2005 20:07:19 -0500
From: "webmaste" <webmaster@dot.state.nc.us>
To: csfreeman@dot.state.nc.us, rshelton@dot.state.nc.us

Ask questions, express concerns, indicate preferences, make suggestions about the project or the web site, or tell us anything else that comes to mind. We are interested in hearing from you.

Enter your comments in the space provided below:

As a long time resident of Avon,I fully support the Pamlico Sound Bridge Corridor with curved Rodanthe terminus as outlined in your Bonner Bridge Replacement SDEIS(NC DOT TIP Project number B-2500).

Tell us how to get in touch with you :

Name : Billy
E-mail : bilcrsn@earthlink.net
Telephone : 252
FAX :

Subject: Herbert C. Bonner Bridge Replacement; TIP proj # B-2500; WBS # 32635.1.3
Date: Tue, 17 Apr 2007 22:00:18 -0400
From: "Chris Brennan" <chris.h.brennan@gmail.com>
To: cgoode@dot.state.nc.us

Mr. Carl Goode, Jr., PE, Unit Head
NCDOT - Human Environmental Unit
1583 Mail Service Center
Raleigh, NC., 27699-1583

RE: Herbert C. Bonner Bridge Replacement

Dear Sir,

As a property owner in Rodanthe, I have been very concerned regarding the planning for this project, and the various options this planning has evolved into. Understanding the original options for the replacement and the newer alternatives, I am very concerned with the proposed path forward which would greatly affect the future of the Rodanthe neighborhood. I am extremely opposed to the planned aerial bridges now proposed for Route # 12 from Mirlo Beach through to its planned termination past the Liberty service station.

My wife and I both favor the proposed parallel Bonner bridge construction, and hope this option is chosen and implemented as soon as humanly possible, for the sake of the full time residents of Hatteras Island and the local economy. We also favor the beach & dune rebuilding (Nourishment) along Route # 12 from the Bonner Bridge to & into Rodanthe. This method of attacking the existing problems has the least ill effect on all fronts: the environment, the residents, the area economy, the project budget and the affected property owners.

As a taxpayer, I would shudder at the cost of most of the various Bridge Options. As an engineer and scientist, I also understand that at elevated wind levels, the ability to use elevated roadways is reduced. This just doesn't make common sense for a major artery (route 12), since very rarely does the wind ever go below 20-30mph, especially in times of true need, such as a storm evacuation. The planned Rodanthe raised Route #12 highway is an abomination to the Mirlo Beach and greater Rodanthe residential area and a waste of taxpayer money.

As a property owner in Rodanthe, our investments drive the local economy. Our purchases & sales drive the real estate market. Our home construction and yearly maintenance dollars run the building market. Our rental homes offer a place for visitors to the island spend their time & money and support the local economy. The State of North Carolina owes much to the numerous people who have come to Hatteras Island and invested millions into this economy, enabling the local economy to thrive and in effect drive the economic health of eastern North Carolina. The economic benefit of the individual rental housing business vastly outweighs the local fishing industry, for which the original Bonner Bridge was built and, according to some learned scientists, is a likely contributing factor in the excessive erosion rates experienced in the Rodanthe coastline, as well as other areas.

All we ask is that the State work with the County and the private property owners to insure local property protection from the ravages of Nature. We seek aid in protecting current property boundaries from excessive beach erosion, using whatever means available (beach nourishment, beach structures - groins, stone rivets or gabions, and minimal low bridges where absolutely required. These methods are reasonably priced, time tested effective and environmentally sound. Yes, they will have to be repeated throughout some time schedule, but when strategically planned and properly financed, they will be effective for satisfactory time periods, and in the long run, more beneficial in the total scheme of things than any bridge option or combination of options. The great majority of the local Rodanthe residents and property owners have similar thoughts on this matter, and most all favor the parallel Bonner Bridge with beach nourishment method of improvement. We hope that those of you charged with this decision process end up following the wishes of those of us who are actually affected by these decisions, and for our betterment, not for our abandonment.

Respectfully,

Chris Brennan
22066 16th of August Street, Rodanthe, NC.

Herbert C. Bonner Bridge Replacement; TIP proj # B-2500; WBS # 32635.1.3

133 E. 2nd St., New Castle, DE 19720
(302-322-1087)

WHEELS OF DARE BICYCLE CLUB

6072 Currituck Road, Kitty Hawk, North Carolina 27949
252-261-3068 Brobst-Hager@mindspring.com
http://www.outerbanks.org/activities/land_activities/bicycling_in_the_outerbanks.asp

William A. Brobst, President

March 29, 2007

TESTIMONY, PUBLIC HEARING, BONNER BRIDGE REPLACEMENT, DARE CO, NC

I am William A. Brobst, President of the Wheels of Dare Bicycle Club, based in Kitty Hawk, North Carolina. We represent the thousands of bicyclists who live on the Outer Banks, and the tens of thousands of tourists who come here every year to ride their bicycles in what is rapidly becoming one of the premier bicycling destinations in the mid-Atlantic region.

Let me say at the outset that it is our strong recommendation that the replacement bridge over the Oregon Inlet, regardless of the length of the bridge, be built to accommodate bicyclists. The features which are necessary for this include

(1) six-foot wide shoulders on both sides of the bridge roadway, for both bicycles and disabled motor vehicles,
(2) a smooth shoulder surface free of damage and debris,
(3) high bicycle-safe bridge railings,
(4) rumble strips on the edges of the traffic lanes but not on the shoulder surfaces,
(5) warning signs to alert motor vehicle drivers of the presence of bicyclists,
(6) bike route markings, and
(7) rest areas or turnouts every few miles.

These features are currently required by the North Carolina Department of Transportation on all highway projects for which bicyclists are likely to be present, although history has shown us that the state does not always follow its own standards. Examples are NC Highway 32 south of Edenton and the Knapp bridge over the Intracostal Waterway in Currituck County. There are also federal construction standards for providing for safety of bicyclists.

For several reasons, bicyclists are definitely going to be present on the Bonner Bridge by the thousands over its lifetime:

First, bicycling has had and will continue to experience explosive growth in the United States.

Second, there is no practical alternative route for bicyclists transiting the Outer Banks.

Third, the attractiveness of the Outer Banks for bicyclists guarantees that they will be riding along the entire length of the Outer Banks, safely or not.

Fourth, the Bonner Bridge is a major component of the Wright Brothers Bikeway, established several years ago by the Boards of Commissioners of Dare, Currituck, and Hyde Counties; this Bikeway runs generally along NC-12 from Corolla in the north to Ocracoke in the south.

Fifth, the Outer Banks and the Bonner Bridge falls along the nationally-recognized Atlantic Coast Bicycle Route, which runs from Maine to Florida. If the replacement Bonner Bridge is not provided with bicycle-safe provisions, this would leave a permanent gap in that bicycle-busy route.

Sixth, our weather permits bicycling throughout the entire year, bringing thousands of tourists and their bicycles from states to the north and west.

The Outer Banks Transportation Task Force has accepted the following mission for the Outer Banks: "To encourage an increase in the use of bicycling and walking as a form of transportation." To accomplish this, the Task Force stated "the Outer Banks must create a bicycle- and pedestrian-friendly area, with an interconnected, safe, maintainable, and affordable bicycle-pedestrian transportation network suitable for residents and visitors." The more bicycles on the bikeways, the fewer cars on the roadways.

It is well accepted in the bicycling industry that, on the average, about one out of every three Americans will ride a bicycle at least once each year. We expect that the percentage might be slightly less than that on the Outer Banks, due merely to our geography. With a year-round population of about 30,000, that means that there are probably at least 5,000 and perhaps as many as 7,000 or 8,000 residents riding a bicycle on the Outer Banks at some time each year. Look around! They're everywhere!! Many of them will be on that bridge over Oregon Inlet at one time or another.

Bicyclists fall into several different categories:

- Touring bicyclists, riding along much of the length of the Outer Banks. This includes interstate bicyclists, local visitors, and residents.

- Recreational bicyclists, including those who ride for exercise and health, fast riders who are training for or participating in competitions, riders in benefit/charity events (e.g., Tour de Cure), slow-moving riders on family outings, and sightseers who might not be keeping a close eye on traffic.

- Commuters who ride bicycles to and from work because they have no other transportation. They might not be able to afford a motor vehicle, or have lost their driving privileges due to driving infractions (multiple traffic citations, DUIs, etc.). This also includes the many hundreds of foreign students who work on the Outer Banks each summer, as well as many people who use their bicycles for minor shopping trips.

- School children riding to and from school.

Bicyclists in the first two of those categories represent the bulk of bicyclists who are already often seen traveling north and south across the Oregon Inlet on the existing Bonner Bridge. This usage will only increase with time. And this is not only just in the summer, but year round.

The NC Department of Transportation conducted a survey several years ago to determine the total number of persons, both residents and visitors, who ride bicycles on the Outer Banks each year, and to evaluate the value of public investment in bicycle facilities. The report of that survey was published by DOT's Division of Bicycle and Pedestrian Transportation, and shows that some 680,000 persons ride bicycles on the Outer Banks annually! Thousands of them will be riding over the Oregon Inlet bridge on their way north and south! The DOT estimated that the annual local economic impact of those bicyclists is $60 million, many times the one-time expenditure of funds to construct those facilities.

Many of the tourists bring their own bicycles, many of them rent bicycles from local businesses. The economic benefits of encouraging that many bicyclists to come to the Outer Banks are numerous and significant. We must ensure that we provide them a safe place to ride.

The NCDOT has identified the Outer Banks as an area in need of many bicycling improvements, and has a standing commitment to improve bicycling facilities and opportunities here on the Outer Banks. Much has already been done over the years by the local bicycle club, the Towns, the Counties, and the NCDOT to make the Outer Banks a safe and desirable place to ride bicycles. Much more remains. We must take advantage of every opportunity to meet that commitment. This is such an opportunity!

We have all heard the horror stories of close encounters of the worst kind between motorists and bicyclists. Over the past dozen years, we have had several deaths and many injuries on the Outer Banks, and even more close calls due to those encounters. Motorists who are either inattentive or disrespectful of the bicyclists' rights to the road put bicyclists at serious risk. It's not always the bad driver, for bicyclists are sometimes their own worst enemies with bad traffic habits. For all these reasons, we often have to take extra steps to provide extra margins of safety for the bicyclist. When a bicyclist meets a motor vehicle under those conditions, it's going to be bad for the bicyclist.

We are all obliged to do whatever is necessary to provide for the safety and comfort of those thousands of bicyclists who will be riding the replacement Bonner Bridge over the Oregon Inlet.

Maintenance of the bridge shoulders is another issue which must be recognized and provided for. Too often, debris is allowed to collect on the shoulders forcing bicyclists to swerve and dodge the debris. This is a major safety issue.

Further, shoulder debris certainly distracts bicyclist's attention from the rest of the environment, and detracts from their enjoyment of the view from the bridge! The Outer Banks Visitors Bureau cites those views as a major tourist attraction.

We understand that those provisions cost money, and the necessity and the cost effectiveness of those provisions are well known and accepted by both municipal and state governments. Obviously, the longer the bridge, the most costly the bicycle-safe provisions will be. However, bicyclists are not as much concerned about the length of the bridge as they are about their safety in crossing the bridge, however long it is. The Wheels of Dare Bicycle Club is taking no position regarding the length of the replacement bridge.

The Wheels of Dare Bicycle Club offers its services and stands ready to provide whatever assistance and advice we can to ensure that the needs of these bicyclists are met in the design, operation, and maintenance of the new bridge.

Mr. Carl Goode, NC DOT
1583 Mail Service Center
Raleigh, NC 27699-1583

12/8/05

Dear Mr. Goode:

I understand you are receptive to comments concerning Oregon Inlet Bridge until December 12, 2005. I favor the parallel bridge for the following reasons:

1-I live on Hatteras Island. This problem has been "fiddled with" far too long. All objections to any option which further delays the completion of the bridge have become trivial compared to the imminent possibility of the bridge's collapse.

2-We can live with the problems associated with keeping the highways (other than the bridge) open to traffic. We cannot reasonably live with the threat of this 40-year-old bridge's collapse.

3-All governmental and environmental agencies can live with their respective 'inconveniences' in order to produce a safe bridge over Oregon Inlet as soon as possible.

Sincerely yours,

Leonard L. Browning, Jr.
Retired Professional Engineer
Buxton, NC
27920

L.L. Browning, Jr
P.O. Box 1389
50202 Hwy. 12
Buxton, NC 27920-1389

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

We, the undersigned organization, would like to inform you of our position on the replacement of the Bonner Bridge over Oregon Inlet.

Our membership is comprised of businesses and individuals that depend on Oregon Inlet for their livelihoods. Safety through the inlet is our first concern. We have followed the progress of the replacement of the aging Bonner Bridge and are very alarmed over the lack of attention by NC DOT to take this opportunity to ensure safe navigation through the waterway.

Although NC DOT is responsible for marking the navigable channel where it passes underneath Bonner Bridge, perhaps the number of times the navigable channel has moved in the past year alone has not been associated with the hazardous and unpredictable condition of Oregon Inlet. Today, conditions are so bad that the charter fleet, whose boats draw only 4 to 6 feet of water, are hitting bottom regularly. During the Pirates Cove Billfish Tournament in August, 32 boats ran aground during a four-day period. Just two weeks ago, commercial fishing boats that traveled through the channel one day found the same path shoaled up and impassible the next. The lives of recreational and commercial boaters and Coast Guard personnel are placed in jeopardy every time they traverse the waterway.

The longer 17 mile bridge alternative will have a devastating effect on navigation. As you may recall, the permit that allowed the construction of the groin on Pea Island clearly stated that if the groin were never needed for the protection of the highway on the south end of the Bonner Bridge, as with the 17 mile bridge alternative, it would have to be removed. We believe the groin has been instrumental in ensuring that the inlet and the navigation channel have not migrated south from under the navigational spans. Removal of the groin will hasten the southern migration of Bodie Island and will eliminate all predictability, what little there is, from the inlet. Additionally, removal of the groin will be an unnecessary and exorbitant expense.

We support the construction of the shorter bridge alternative, assuming the Oregon Inlet Fishing Center will not be adversely affected or done away with. We also support the construction of a groin on the northern side of the inlet to protect the new bridge. Without a hardened structure, Oregon Inlet will never truly be safe. The shorter bridge coupled with a groin will cost less, allow for continued access by citizens to the public lands of northern Hatteras Island and will ensure

navigation into the future.

The mission of the NC DOT states that you are to "Provide a safe, modern and integrated multimodal system that expands opportunities and unites citizens in both urban and rural areas in support of Governor Easley's vision for One North Carolina". We hope that you interpret your mission as we do and take this opportunity to complete the new bridge and also protect Oregon Inlet and the North Carolinians who depend on it.

Sincerely,

Fran Brundage
Outer Banks Assn. of Realtors

Subject: Bonner Bridge Project
Date: Mon, 2 Apr 2007 08:11:41 -0500
From: "Cecilia Caretti" <cscaretti@cox.net>
To: <cgoode@dot.state.nc.us>

Good morning Mr. Goode,
My name is Cecilia Caretti. My family has been vacationing on the Outer Banks of North Carolina, specifically Rodanthe, since I was 9 years old. I am now 47. I loved it so much that my husband and I finally had the ability to buy a piece of land and build a house that we planned to make our home when our youngest child finished college. We worked hard to save our money for this investment. Our children love coming down to Rodanthe. The Outer Banks is a very special place. We always called it our "little place of Heaven on Earth".
My husband and I came down for the information session and hearing on Thursday. We would like to go on record supporting the Parallel Bridge with beach nourishment project. The elevated bridge/road and small bridge out into the sound around Mirlo are both unacceptable to us. They will kill the view of the ocean and sound from our house. I am very worried that the "side" roads will not be maintained properly and thus be the end of the Mirlo and north Rodanthe. We had heard of the need for the new bridge and had figured it would be a parallel bridge, but had no idea all the other "options" were being dreamed up. We would not have bought nor built in Rodanthe if we had known the possibilities existed that we would have a bridge out the front or back of our home. We stand to lose our entire life savings if this is done. Please do what is best for the PEOPLE of Rodanthe and build the parallel bridge with beach nourishment.
Thank you for your time and consideration.
Cecilia Caretti
2037 Silver Lake Drive
Virginia Beach, VA 23464
23198 W Corbina Drive
Rodanthe, NC
CECILIA CARETTI

Subject: bridge project
Date: Mon, 02 Apr 2007 10:59:18 -0400
From: "Ms. Melissa Anne Caretti" <melissa.caretti.05@cnu.edu>
To: cgoode@dot.state.nc.us

I am writing to support the parallel bridge and the beach nourishment project for Oregon Inlet and NC 12.

Sincerely,
Melissa Caretti

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

I, the undersigned resident, would like to inform you of my position on the replacement of the Bonner Bridge over Oregon Inlet.

My clients, friends and family are comprised of businesses and individuals that depend on Oregon Inlet for their livelihoods. Safety through the inlet is our first concern. We have followed the progress of the replacement of the aging Bonner Bridge and are very alarmed over the lack of attention by NC DOT to take this opportunity to ensure safe navigation through the waterway.

Although NC DOT is responsible for marking the navigable channel where it passes underneath Bonner Bridge, perhaps the number of times the navigable channel has moved in the past year alone has not been associated with the hazardous and unpredictable condition of Oregon Inlet. Today, conditions are so bad that the charter fleet, whose boats draw only 4 to 6 feet of water, are hitting bottom regularly. During the Pirates Cove Billfish Tournament in August, 32 boats ran aground during a four-day period. Just two weeks ago, commercial fishing boats that traveled through the channel one day found the same path shoaled up and impassible the next. The lives of recreational and commercial boaters and Coast Guard personnel are placed in jeopardy every time they traverse the waterway.

The longer 17 mile bridge alternative will have a devastating effect on navigation. As you may recall, the permit that allowed the construction of the groin on Pea Island clearly stated that if the groin were never needed for the protection of the highway on the south end of the Bonner Bridge, as with the 17 mile bridge alternative, it would have to be removed. We believe the groin has been instrumental in ensuring that the inlet and the navigation channel have not migrated south from under the navigational spans. Removal of the groin will hasten the southern migration of Bodie Island and will eliminate all predictability, what little there is, from the inlet. Additionally, removal of the groin will be an unnecessary and exorbitant expense.

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construction of a groin on the northern side of the inlet to protect the new bridge. Without a hardened structure, Oregon Inlet will never truly be safe. The shorter bridge coupled with a groin will cost less, allow for continued access by citizens to the public lands of northern Hatteras Island and will ensure navigation into the future.

The mission of the NC DOT states that you are to "Provide a safe, modern and integrated multimodal system that expands opportunities and unites citizens in both urban and rural areas in support of Governor Easley's vision for One North Carolina". We hope that you interpret your mission as we do and take this opportunity to complete the new bridge and also protect Oregon Inlet and the North Carolinians who depend on it.

Sincerely,

Gerelle Carter
252-453-8811 ext. 229

Subject: Bonner Bridge
Date: Tue, 17 Apr 2007 12:11:45 -0400
From: republicana@aol.com
To: cgoode@dot.state.nc.us

Dear Mr. Goode,

As a resident of Dare County, I support the Pamlico Sound Bridge corridor alternative to replace the Bonner Bridge. The so-called "phased approach" does not realistically address natural barrier island migration; and necessitates costly beach renourishment projects that are incompatible with National Wildlife Refuge priorities.

I strongly urge you to abandon the Parallel Bridge Corridor alternative and refocus on an alternative that will not push long-term costs on our children and grandchildren. DOT and Dare County residents need to start searching for long-term solutions, and not simply those that are politically expedient. Thank you for your attention to this matter.

Sincerely,
Ann Marie Chapman
153 Sir Chandler Drive
Kill Devil Hills, NC 27948
(252) 449-0737

Duke University
DURHAM, NORTH CAROLINA
27708-0228

DIVISION OF EARTH AND OCEAN SCIENCES
NICHOLAS SCHOOL OF THE ENVIRONMENT
AND EARTH SCIENCES
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FAX (919) 684-5833

Nelson
Yamamoto
Comfort
Shelton

December 12, 2005

Gregory J. Thorpe, Ph.D.
Project Development and Environmental
Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, NC 27699-1548

Re: Bonner Bridge SDEIS Comments

Dear Dr. Thorpe:

On behalf of the Duke University Program for the Study of Developed Shorelines (PSDS), I am pleased to submit the following comments to the North Carolina Department of Transportation (NCDOT) in consideration of finalizing the Supplemental Draft Environmental Impact Statement and Draft Section 4(f) Evaluation (SDEIS) for the NC 12 replacement of the Herbert C. Bonner Bridge.

After reviewing the SDEIS, it is obvious that the Pamlico Sound Corridor is, by far, the optimal alternative, and we find no rational justification for selecting the Parallel Corridor. When all factors are considered, the Pamlico Sound Corridor best addresses the concerns of transportation reliability, financial costs and environmental impacts. We believe the SDEIS adequately addresses public access to the Pea Island National Wildlife Refuge – the primary issue of local concern with the Pamlico Sound Corridor – while stating that the Parallel Corridor alternative fails to meet several of the project's primary goals.

We encourage NCDOT to clearly delineate the planning horizon for this project (i.e. 100 years or 50 years) and base environmental and economic costs and benefits for each alternative on it.

The following are some specific comments and observations:

Beach Nourishment
According to the SDEIS: "The Nourishment Alternative assumes that NC 12 would remain in its current location and beach nourishment plus dune enhancement would be used to maintain a minimally adequate beach and dune system. The total length of beach requiring regular nourishment would be approximately 6.3 miles (10.1 kilometers). Nourishment would occur in four locations, likely repeated at four-year intervals."

- The definition of what constitutes a "minimally adequate beach and dune system" is unclear.

- Beach nourishment is not a viable shoreline stabilization alternative along rapidly eroding shorelines. Average long-term, post-groin erosion rates along Hatteras Island are upwards of 16 feet/year.
- A more accurate, and conservative, renourishment interval is 3 years.
- It should be noted that there is a high probability that the road will become susceptible, and likely will sustain damage, between renourishment episodes.
- The estimated average cost of performing nourishment along Pea Island is $2,000,000/mile (2004 dollars).
- The estimated costs to close a breach are $7-11 million dollars/event
- The economic impacts of a severed transportation corridor should be considered in cost estimates for the Parallel Corridor.

Other Comments

- It is unclear what the planning timeframe of the project is. The SDEIS discusses future scenarios of varying lengths, making it difficult to evaluate and compare options. The SDEIS, for example, repeatedly states that the lifespan of a bridge constructed in the Pamlico Sound Corridor could up 100 years. But the SDEIS only provides a 50-year assessment of estimated shoreline changes.
- Since fishing catwalks probably would not be placed on a new bridge with either of the replacement bridge corridor alternatives, there is no difference in recreational use with each alternative **(page 4-8).**
- According to the SDEIS, eliminating paved road access to the Seashore north of Rodanthe and the Refuge with the Pamlico Sound Bridge Corridor are not likely to have a major economic impact on the Outer Banks/Dare County area **(page 4-10).** We believe the economic impact, if any, will be minor.
- According to the SDEIS, shoreline erosion is considered a natural process by Refuge officials and is preferable to artificially maintaining the shoreline, despite its threat to Refuge access and facilities. While shoreline erosion may, one day, impact existing Refuge access and facilities, it is not a "threat" because any environmental changes (i.e. changes in salinity of freshwater ponds) resulting from an eroding (or retreating) shoreline or breach will be natural. In addition, access will change regardless of the corridor chosen, and property damage mitigation strategies can be implemented to reduce the vulnerability of Refuge facilities ***5.1.2.7 (page 5-15).***
- Protection and/or preservation of the Former US Coast Guard Station in place is contrary to the mission of the NPS. Many structures of historical significance in Dare County have been relocated, and this structure should be, too.
- Shoreline positions and cost estimates contained in the SDEIS are flawed because they fail to consider the possibility of severe storms and past events, such as the Ash Wednesday Storm of 1962, are treated as anomalies and basically disregarded.

4(f) Statement
Duke PSDS is concerned with project review under Section 4(f) of the Department of Transportation Act of 1966 (49 U.S.C. section 303). The Pamlico Sound corridor is a "prudent and feasible alternative" that avoids any use of, or damage to, the refuge. In addition, the fact that

recreational access patterns will change should not be used as justification for disregarding a more prudent and feasible alternative that will completely avoid the refuge. We believe that failure to utilize the Pamlico Sound corridor alternative will result in significant environmental damage to the refuge that cannot be effectively mitigated. The Federal Highway Administration has an independent duty to review the 4(f) determination, and cannot concur with a positive 4(f) finding for the parallel bridge alternative.

Incompatibility of Parallel Corridor Alternative with Refuge, Seashore and OBTF Goals, Missions and Requirements

The NPS's *Management Policies* (NPS, 2001) is the basic Service-wide policy document of the NPS. The *General Management Plan and Amended Environmental Assessment for Cape Hatteras National Seashore* (NPS, 1984) and the *Draft Revised Statement for Management* (NPS, 1991) serve as the NPS plans for the Seashore. These documents provide for the preservation of the cultural resources and the flora, fauna and natural physiographic conditions, while allowing appropriate recreational use and public access to the oceanside and soundside shores. ***Impairment of park resources and values by projects such as the proposed project is prohibited by law.***

- The Parallel Bridge Corridor with Nourishment Alternative does not support Refuge and Seashore policy that prohibits artificial stabilization of the Outer Banks. (**Summary Page xix**)
- The Parallel Bridge Corridor does not provide a replacement crossing that takes into account natural channel migration expected through year 2050 and does not provide the flexibility to let the channel move (**Section 1.2: Page 1-5**)
- The Parallel Bridge Corridor does not provide a replacement crossing that will not be endangered by shoreline movement through year 2050 (**Section 1.2 Page 1-5**).
- The Parallel Bridge Corridor may not be consistent with the *Pea Island National Wildlife Refuge Master Plan* or NPS plans (**Section 4.1: Page 4-2**)
- The Parallel Bridge Corridor is not consistent with the North Carolina Outer Banks Task Force's goal to develop both short-term and long-term plans for maintaining a transportation system on the Outer Banks in light of recent trends of shoreline erosion and highway overwash on NC 12.

Submitted by:

Andrew S. Coburn

Andrew S. Coburn, Associate Director

Orrin H. Pilkey

Orrin H. Pilkey, James B. Duke Professor Emeritus of Earth Sciences and Director

P.O.Box 237
Rodanthe, NC 27968

Mr. Carl Goode, PE
NCDOT
Raleigh,NC

Dear Sir:

As a resident of Salvo on Hatteras Island, replacing the Bonner Bridge is critical. We appreciate the public hearings and the time for oral and written comments.

Having lived here since 1998, a big concern when leaving Hatteras Island is the condition of Highway 12. The ocean and sound over wash and the blowing sands make it impossible to drive a passenger car to the bridge. When we travel for any length of time, we wonder, what will the condition of Highway 12 be? Can we get home?

We see the NCDOT spending money to sandbag at the S curves, doing bridge inspections, and continually cleaning sand off Highway 12. Replacing sand fencing and replanting sea grass several times a year to keep the dunes safe. Wouldn't it save NCDOT money to build the Pamlico Sound bridge (long bridge)? The cost comparison matrix surely looks like it.

With the long bridge, there would be no problems like there was during the 2006 "Thanksgiving" storm.

We would like to see the Pamlico Sound Bridge, 17.5 miles one, beginning in Rodanthe and ending in the Oregon Inlet Marina area.

Good luck and thank you.

Yours,

Mary Ann & Bill Cohen

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

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Our membership is comprised of businesses and individuals that depend on Oregon Inlet for their livelihoods. Safety through the inlet is our first concern. We have followed the progress of the replacement of the aging Bonner Bridge and are very alarmed over the lack of attention by NC DOT to take this opportunity to ensure safe navigation through the waterway.

Although NC DOT is responsible for marking the navigable channel where it passes underneath Bonner Bridge, perhaps the number of times the navigable channel has moved in the past year alone has not been associated with the hazardous and unpredictable condition of Oregon Inlet. Today, conditions are so bad that the charter fleet, whose boats draw only 4 to 6 feet of water, are hitting bottom regularly. During the Pirates Cove Billfish Tournament in August, 32 boats ran aground during a four-day period. Just two weeks ago, commercial fishing boats that traveled through the channel one day found the same path shoaled up and impassible the next. The lives of recreational and commercial boaters and Coast Guard personnel are placed in jeopardy every time they traverse the waterway.

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The mission of the NC DOT states that you are to "Provide a safe, modern and integrated multimodal system that expands opportunities and unites citizens in both urban and rural areas in support of Governor Easley's vision for One North Carolina". We hope that you interpret your mission as we do and take this opportunity to complete the new bridge and also protect Oregon Inlet and the North Carolinians who depend on it.

Sincerely,

November 7, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet bridge

Dear Secretary Tippett:

As a lifelong resident of Hatteras Island and an 8th generation Tar Heel, I cannot support NCDOT's stance regarding the need for a grandiose 17-mile long bridge.

We have reached a point in the debacle over the Oregon Inlet bridge issue where the needs of people must be the priority. For NCDOT to allow itself to be held hostage by US Fish & Wildlife's extreme, uncompromising position at the expense of our economy and the quality of life of all North Carolinians is unacceptable.

We don't have tobacco or technology carrying North Carolina's economy anymore; what we DO have is tourism, an economic engine benefitting all 100 of our counties. And to sacrifice nearly 25% of North Carolina's most glorious beach, the Cape Hatteras National Seashore, because USF&W wants to control access to Pea Island, is not going to come without a price to the 4 million people who visit the Seashore annually.

My children, and their children, have earned the privilege, based on our legacy of good judgment in transportation matters in this state, to earn a living and to continue to support an exceptional quality of life for themselves and the visitors who depend on us.

USF&W says that Pea Island is "the crown jewel" of wildfowl refuges on the eastern seaboard. It is up to the state of North Carolina and your influential position to remind them that it happened with a public road through it.

Secretary Tippett, on behalf of all North Carolinians, I implore you to make your voice heard and promote the traditional access that serves North Carolina's people and her robust tourism economy so well - build the parallel bridge to the existing one.

The 17-mile long bridge is a bad idea, and ripe for debate in whether or not it is indeed sound engineering. I know your department can do better.

Sincerely,

Daniel C. Couch

Daniel C. Couch
PO Box 1001
Buxton NC 27920

B-85

ERA REAL ESTATE

ERA Coastal Properties

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November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

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6225 N. Croatan Hwy. • Suite D • Kitty Hawk, NC 27949 • Office: (252) 261-0606 • Fax: (252) 261-0605 • Toll Free: (888) 261-6677 • Website: www.era.com

MLS

We support the construction of the shorter bridge alternative, assuming the Oregon Inlet Fishing Center will not be adversely affected or done away with. We also support the construction of a groin on the northern side of the inlet to protect the new bridge. Without a hardened structure, Oregon Inlet will never truly be safe. The shorter bridge coupled with a groin will cost less, allow for continued access by citizens to the public lands of northern Hatteras Island and will ensure navigation into the future.

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Sincerely,

Carl

CARL E CRABTREE

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

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Sincerely,

Carrie Cubine

Carrie Cubine
Benchmark Mortgage
Ph: 252-202-2201

Dare County Oregon Inlet and Waterways Commission
211 Budleigh Street - PO Box 1000 - Manteo, NC 27954
252-475-5628

December 2, 2005

Mr. Carl Goode
NC Department of Transportation
1583 Mail Service Center
Raleigh, NC 27699-1583

RE: Proposed bridge over Oregon Inlet

Dear Mr. Goode:

The Dare County Oregon Inlet and Waterways Commission is concerned with the lack of attention being given to future dredging and costs in the 17 mile bridge option for the replacement of the Bonner Bridge over Oregon Inlet.

As we understand the issue, the terminal groin on Pea Island will need to be removed if the 17 mile alternative is chosen. We feel the groin has played an important role in keeping the inlet located in the general area of the bridge. If the groin is removed, the channel will begin migrating south at alarming rates, effectively removing what little predictability there is at the inlet. The Army Corps of Engineers is trying unsuccessfully to maintain inlet navigation for $7.8 million per year with the inlet being in a fixed area. Removal of the groin will cause dredging costs to skyrocket because the navigational channel will migrate in a chaotic manner.

Everyone seems to be assuming the 17 mile bridge, with a longer navigational span, will alleviate navigational problems since the channel will migrate naturally to deep water under the bridge. However, both the ocean bar and internal channels west of the inlet will have to be dredged to align with the channel under the bridge. If the channel migrates substantially each year, the Army Corps of Engineers will have to constantly dredge new channel paths to ensure that internal, bridge area, and bar channels all connect. This will prove expensive and a permitting nightmare.

We ask that you get some projections from the Army Corps of Engineers as to the movement of the inlet and channels as well as cost of dredging over the lifespan of the 17 mile bridge. We feel that maintaining the current location of navigational channels as well as the current position of the inlet will require the least amount of dredging for the next 50 year period of time that is under consideration; thereby causing us to feel that the current location of the Bonner Bridge is a logical conclusion for the new bridge replacement. As you can see from the statements included in this letter, the constant struggle for Federal funding for maintenance dredging of Oregon Inlet is a never ending battle and to increase the amount needed by relocating the bridge further to the west will result in an inlet that could in fact become impassable in the near future.

Respectfully,

Michael Davenport

Michael Davenport, Chairman

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

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Sincerely,

Peggy Davenport

Robert B. Davis
P.O. Box 1224
Buxton, NC 27920

MR. CARL GOODE PE
NCDOT
RALEIGH NC

DEAR MR GOODE

I PREFER THE SHORT OREGON INLET BRIDGE AND THINK THAT CONSTRUCTION SHOULD BEGIN IMMEDIATELY! ALTHOUGH I LIKE THE PUBLIC ACCESS PROVIDED BY THE "ROAD NORTH/BRIDGE SOUTH" PLAN I REALLY BELIEVE THAT THE "ALL BRIDGE" PLAN IS THE BETTER CHOICE. THE "ALL BRIDGE" NEEDS ONE MORE ACCESS RAMP NEAR THE PRESENT REFUGE VISITOR CENTER TO PROVIDE:

1. RESTROOM FACILITY
2. PRIME BIRD WATCHING
3. PRIME SURF FISHING AREA

A MAJOR ADVANTAGE OF THE "ALL BRIDGE" IS TO ALLOW THE REFUGE TO KNOCK DOWN DUNES AND/OR ALLOW OCEAN OVERWASH AND RESTORATION OF NATURAL BARRIER ISLAND CONTOURS. THIS WILL PROVIDE MORE HABITAT FOR TURTLES + BIRDS.

ABSOLUTELY DO NOT BUILD THE 17 MILE PAMLICO SOUND BRIDGE! THIS WOULD CLOSE PEA ISLAND TO PUBLIC USE! IT DOESN'T MATTER WHAT KIND OF ARRANGEMENT THE NPS OR FWS WOULD PROMISE YOU FOR PUBLIC ACCESS TO THE REFUGE. WE ON HATTERAS ISLAND HAVE LEARNED THROUGH BITTER EXPERIENCE THAT YOU ~~CAN~~ NOT TRUST A FEDERAL AGENCY TO MAINTAIN PUBLIC ACCESS FOR RECREATIONAL NEEDS.

SINCERELY

ROBERT B. DAVIS

COMMENT SHEET

NC 12 Replacement of Herbert C. Bonner Bridge over Oregon Inlet

Corridor Public Hearing

B-2500 8.1051205 Dare County

November 9 and 10, 2005

NAME: Scott Dawson

ADDRESS: 127 Sir Chandler KDH NC 27948

COMMENTS AND\OR QUESTIONS: When the old bridge is torn down I would like to see the remains dumped offshore of Pea Island. Limestone is the main componet of concrete and also of artificial reefs. If the bridge is being torn down anyway, why not put the remains offshore of the S-curves or some other hot spot? It would help with beach erosion, create a good fishing spot as well as surfing. Why dump the remains some other place? All industrialized countries such as England, Japan and Canada sink ships to create artificial reefs to help with beach erosion. California, New Jersey and Florida do the same thing. IT won't cure all our problems but I think it is better than nothing. Hatteras Island is sick of nothing being done to help with the erosion. Route 12 is the only way off or on. My Grandmother was flown off the island last year because the road was flooded and she was hurt. This is a major problem. If the money is going to be spent to haul of the old bridge, then put it offshore of Hatteras Island.

Comments may be mailed to:
C. B. Goode, Jr., P. E.
Office of Human Environment Unit Head
1583 Mail Service Center
Raleigh, NC 27699-1583 Phone: (919) 715-1515 Fax: (919) 715-1501
E-mail: cgoode@dot.state.nc.us

COMMENT SHEET

NC 12 Replacement of Herbert C. Bonner Bridge over Oregon Inlet

Corridor Public Hearing

B-2500 8.1051205 Dare County

November 9 and 10, 2005

NAME: Vela Deeker

ADDRESS: Route 12 Waves, NC 27982

COMMENTS AND\OR QUESTIONS:

I believe the long bridge is a more absolute solution to our problems of access. My family owns small buisnesses and although the idea of open access at all costs is frequently made in favor of the short bridge I believe the long bridge covers our concerns more completely. I also think environmental impact is a concern not to be taken lightly and the long bridge offers a much greater value in terms of long-term environmental stability. As much as people in the meetings seem to scoff at the notion of birds and turtles, I know many and they really are concerned about this. But putting people in this position forces them to be on defense of their business, property, and their families safety. Faced with such staggering obligations, especially those with children and small businesses are more than willing to give up environmental concerns to issues that effect everything they work for. Many people love the environment here, they moved here in spite of difficulties, stayed here in spite of challenges, and wouldn't fight to stay if they didn't care.

Comments may be mailed to:
C. B. Goode, Jr., P. E.
Office of Human Environment Unit Head
1583 Mail Service Center
Raleigh, NC 27699-1583 Phone: (919) 715-1515 Fax: (919) 715-1501
E-mail: cgoode@dot.state.nc.us

Attn:
Heather Maxwell

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

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Our membership is comprised of businesses and individuals that depend on Oregon Inlet for their livelihoods. Safety through the inlet is our first concern. We have followed the progress of the replacement of the aging Bonner Bridge and are very alarmed over the lack of attention by NC DOT to take this opportunity to ensure safe navigation through the waterway.

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Sincerely,

Jessica Delorreyes

Attn:
Heather Maxwell

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

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Sincerely,

Beth Dobney

Beth Dobney

P.S. - A 17 mile bridge?!? How much wildlife will that kill?

November 9, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

The Recreational Fishing Alliance (RFA) is a national 501(c)(4) non-profit grassroots political action organization whose mission is to safeguard the rights of salt water anglers, protect marine, boat, and tackle industry jobs, and insure the long-term sustainability of our nation's marine fisheries.

As such, we would like to inform you of our position of the replacement of the Bonner Bridge, over Oregon Inlet.

Our membership is comprised of individual anglers, charter boats, marine businesses, and boat manufacturers, who depend on Oregon Inlet for their livelihood. Safety through the inlet is our first concern. We have followed the progress of the replacement of the aging Bonner Bridge and are very alarmed over the lack of attention by NC DOT to take this opportunity to ensure safe navigation through the waterway.

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176-B South New York Road Galloway, NJ 08205
T 609 404 1060 F 609 404 1968 JOINRFA.org

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Sincerely,

Jim Donofrio
Executive Director
Recreational Fishing Alliance

STEVE DOWNING
PO BOX 1357
NAGS HEAD, NC 27959

November 27, 2005

Mr. Carl Goode
NC DOT, Human Environment Unit
1583 Mail Service Center
Raleigh, NC 27699-1583

Dear Mr. Goode,

I am writing this letter to comment on the replacement of the Herbert C. Bonner Bridge. After reviewing the two replacement corridors I have come to the conclusion that the Pamlico Sound corridor alternative is the most sensible option.

I believe that maintaining Hwy 12 through Pea Island National Wildlife Refuge such as called for in the parallel corridor will prove to be very expensive and environmentally damaging, if not eventually impossible.

In my opinion, the Pamlico Sound corridor is the best option for providing long term safe travel to and from Hatteras Island.

Sincerely,

Steve Downing

Steve Downing

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

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Sincerely,

Shirley J Delay, Realtor

I have had to move to Currituck County because of the conditions of Hwy 12 and the bridge. I had lived 23 years on Hatteras Island and because of my age decided that it are dangerous to live there any longer.

A 17 mile bridge is only for money-grubbing people.

A shorter bridge in the same area as Bonner Bridge, perhaps side by side for emergency evacuation - similar to Kitty Hawk Bridge, would be more practical, expedient, and economical. Also it would be a great asset for the grains which most of the Islanders want, will help with the erosion on the northern end of Hatteras Island and would permit a safer outlet for the fishing boats.

B-95

Subject: **Bonner Bridge Replacement Project**
Date: Wed, 07 Dec 2005 18:26:58 -0500
From: "Tim Duggan" <tduggan@shawsheenair.com>
Organization: Shawsheen Air Services, Inc.
To: <Billc@ncleg.net>, <Marcb@ncleg.net>, "'Gary Langner'" <glangner@kc.rr.com>
CC: <cgoode@dot.state.nc.us>

Gentleman,

I wanted to take a moment and draft this letter regarding my position on the impending Bonner Bridge decision. I am a long time nature lover and visitor of Hatteras Island. I began coming to the region from my home in Massachusetts as a young man and have returned in each of the past 25 years with my growing family. We have always enjoyed the natural beauty of Pea Island, and all of the characteristics that make Hatteras Island a unique and enchanting place. Several years ago I realized a dream of owning land on the island when I purchased property in the Mirlo Beach development in Rodanthe. Little did I know that our property and the island as a whole would soon be threatened by the massive 'long bridge' replacement proposal. Beyond the obvious negative cost, evacuation and environmental implications that this proposal brings, lays the fact that the very nature of life on the island would be destroyed for the huge number of residents and property owners that would be caught within the perimeter of this "long bridge alternative". I urge you to please consider those of us who would be so badly hurt by this proposal before making your decision. I humbly submit the following for your review:

The homeowners of Mirlo Beach met on December 3, 2005, and unanimously endorsed the following opinions about the alternative plans for a replacement bridge that are described in the Supplemental Draft of the Environmental Impact Statement and Draft Section 4(f) Evaluation for the NC 12 Replacement of Herbert C. Bonner Bridge (SDEIS).

1. Alternatives that include construction of a bridge beginning at a new intersection in Rodanthe and continuing to a point approximately 2 miles north of the Refuge's southern border (i.e., the Road North/Bridge South and All Bridge versions of the Parallel Bridge Corridor) are unfairly damaging to the assets of Mirlo Beach homeowners. As described in the SDEIS (section 4.3.1.2), the panoramic and unobstructed views of Pamlico Sound would be substantially disrupted by the bridge and associated lights of motors vehicles. Also, use of the sound by boaters, kayakers, and windsurfers would be substantially disrupted. These disruptions most affect sound-front properties, but all homes built in Mirlo Beach have significant views of Pamlico Sound and community access to the sound for water activities. This bridge is very likely to cause significant economic loss to both the value of the properties and rental income. **For these reasons, we strongly oppose construction of a short bridge at Rodanthe.**

2. The Parallel Bridge Corridor with Nourishment is the alternative that does the most to protect the assets of Mirlo Beach. The views of Pamlico Sound and sound access would be preserved at their current levels. Nourishment would help protect oceanfront properties. More generally, this alternative represents the least change from the current status of NC 12 and, therefore, runs the least risk of negatively affecting tourism (because of aesthetics, access to Pea Island, and/or fear of traveling on long bridges). Also, it is the second lowest in cost when appropriately discounted over the life of the bridge. For these reasons, we strongly support the Parallel Bridge Corridor with Nourishment alternative. In fact it appears to be the only alternative that has no impact on people and their properties.

3. It is extremely important that a decision be made in the very near future, so that work on the replacement bridge can begin as soon as possible. Should the Bonner Bridge fail, the economic loss and the detrimental effect on our quality of life will be large. In a worst case scenario, the bridge might fail in way that would cause human casualties or fatalities. This planning process began in 1991. Now is the time for action.

4. Regardless of which bridge replacement alternative is adopted, the section of NC 12 running through Mirlo Beach needs to be properly maintained so that home owners and renters have clear and safe access to the properties. Also, should a Pamlico Sound Corridor bridge be built, the concerns of Mirlo Beach homeowners must be fairly considered when an alternative means of public access to the Pea Island Wildlife Refuge is developed (as has been suggested will be necessary).

Thank you for your time and efforts to do what is right for the residents and property owners of Hatteras Island.

Respectfully,

Tim Duggan

Shawsheen Air Services, Inc.

Tel: 978 250 0006

Fax: 978 250 0226

COMMENT SHEET

NC 12 Replacement of Herbert C. Bonner Bridge over Oregon Inlet

Corridor Public Hearing

B-2500 8.1051205 Dare County

November 9 and 10, 2005

NAME: C. A. Duke

ADDRESS: PO Box 111 Salvo, NC 27972-0111

COMMENTS AND\OR QUESTIONS:

A parallel bridge is my favored alternative of those 3 the Nourishment alternative appears to be the best to keep things as they are, e.g., beach access, less impact on power supply. However, recognizing the exhorbitant cost, the Road North/Bridge South is probably the best all around alternative. It would still provide much beach access and cause minimal changes to the power supply.

Get input from the Cape Hatteras Electric Coop. 252-995-5616
Jim Kinghorn, EVP

Comments may be mailed to:
C. B. Goode, Jr., P. E.
Office of Human Environment Unit Head
1583 Mail Service Center
Raleigh, NC 27699-1583 Phone: (919) 715-1515 Fax: (919) 715-1501
E-mail: cgoode@dot.state.nc.us

December 5, 2005

Mr. Carl Goode, P.E.
Manager of Human Environment
1583 Mail Service Center
Raleigh, North Carolina 27699-1583

Dear Mr. Goode,

Attached please find my comments on THE SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT (SDEIS) FOR THE NC 12 REPLACEMENT OF HERBERT C. BONNER BRIDGE, Project No. 8.1051205, TIP No. B-2500. I am in favor of the Pamlico Sound Bridge Alternative, with the Curved Terminus. I have reviewed the SDEIS and listed comments and suggestions relating to the SDEIS.

I represent no organization. While I have over 20 years of on site experience in East Coast barrier island ecology I am not an expert in any of the any related sciences.

I hope my comments can be used to make your document the best objective evaluation of the bridge alternatives. If there are any questions relating to my comments please feel free to contact me at 252-473-6375.

B-97

Sincerely,

James A. Ebert
112 Robert Bruce Drive
Manteo, North Carolina 27954

See Attached Comments

HUMAN ENVIRONMENT UNIT
DEC - 7 2005
RECEIVED

COMMENTS ON THE SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT (SDEIS) FOR THE NC 12 REPLACEMENT OF HERBERT C. BONNER BRIDGE, Project No. 8.1051205, TIP No. B-2500

I attended the public meeting on this document held in Manteo. I am a permanent year-round resident of Dare County (Manteo). Below are my comments on the document and the need for action.

The State must replace the present bridge and while the replacement must meet certain criteria, this is an opportunity to gain additional benefits for the State and area economy.

The Pamlico Sound Bridge option allows for present and future economic benefits in the area of recreation. It also enhances the possibility of soundside ecological studies for issues such as much needed mariculture, and other possible uses of the sound environment. Each of the other NC12 bridge options is more likely to create ongoing issues that will be costly and unavoidable to our children and grandchildren.

It is highly probable that all the parallel corridor alternatives through the refuge will negatively impact refuge resources as noted below and lessen the number of visitors who spend recreation dollars to go to the refuge for wildlife observation recreation. These visitors would tend to be middle to upper income groups that have larger disposable income to spend on their vacation/recreation in this area. Until the area is returned to the natural processes that have been the dependable draw for these visitors their numbers will remain small and their economic benefits to the region and our lower income residents will be spent elsewhere. Particular comments from my review of the SDEIS follow.

- Pg. xiv - (former) US Coast Guard building possible move would not be lost. I have observed larger restaurants moved by barge from the mainland to a barrier island location all in one day. The cost is not prohibitive. This might be further discussed in Chapter Eight. In addition, a sound side bridge (causeway) would be the first of it's kind in the area and it is likely, in time, to become a regional cultural resource.

- Pg. xv, Parks and Recreation - a soundside bridge (causeway) could have one or more restaurants, marinas, fishing piers, eco-tour businesses, etc. These economic entities could defray the cost of bridge construction, and continually pay for modifications, and maintenance. These entities would be additional jobs for this area. I have not found impacts such as this discussed in the SDEIS. These issues could demonstrate further the benefits of the Pamlico Sound Bridge Alternative.

Natural processes such as new inlets could be allowed in the area with a Pamlico Sound bridge. New Inlets would increase water quality with their flushing effect and increase the recreational fishing opportunities of the presently depleted fish stocks. Millions of dollars would be saved by not closing these natural inlets.

Another benefit to the area economy obtained from the Pamlico Sound bridge alternative is that bridge pilings might be used to dock houseboats. This would be a vacation experience usually only found out west. Basic, easily maintained models would be good for rentals. Luxury models could be used as an incentive to encourage beach homeowners to move off our beaches. Houseboats and their upkeep would bring additional jobs and revenue to the area. Regulations to protect the environment could be put in place before houseboats are used. Following and modifying standards and practices in place elsewhere and making use of the expertise of conservation neighbors such as the US Fish and Wildlife Service and National Park Service would ensure these facilities do not harm the natural resources of the area. This would mean additional jobs for the area. Permitting beach homeowners to move to houseboats would allow natural processes to give the area back the beaches. Beaches are the main attraction that has always brought our visitors to the area.

B-98

- Pg xvi, Coastal Conditions; The alterations/mitigation for overwashes, breaches, or new inlets in this area, noted in this section of the SDEIS, would require the US Department of the Interior agencies in the area (National Park Service and Fish and Wildlife Service) to go against national policy and their legislated mandates. This is likely to take much longer than the three to six months noted. Not making these damaging alterations to the natural processes in the area would save millions of tax dollars that could be better used on the Outer Banks.

- Pg xvi, Natural Systems; it should be noted in the Pamlico Sound bridge alternative there is no need to "avoid and minimize wetland impacts". Natural processes could be allowed and the area is likely to have an increase in needed wetland areas. This should also be explained under an indirect and cumulative impacts section in the SDEIS.

It should be noted, it is probable, with the increased westward impacts on the land area from the parallel bridge alternatives, that wildlife and Eco-tourism in the area would decrease.

The Pamlico Sound Bridge alternative, or a slight redesign, could support shellfish mariculture. Leasing these would bring in additional funding for research and would increase jobs and help the local failing fishing industry. With fewer fishermen needing to go through the inlets there should be a

decline in commercial boating accidents (I have noted at several public meetings this is seen as a very important aspect to the area fishermen).

- Pg. xix, Indirect and Cumulative Impacts; The first paragraph is incorrect. The present bridge and road cut the barrier island habitat in two pieces. It is and has been a major direct impact on barrier island natural processes ever since it was constructed. One way to demonstrate this is to estimate how many wildlife specimens (deer, birds, turtles, rabbits, insects, etc.) have been killed on or along this road. In addition it could be estimated how many wildlife specimens were prevented from crossing due to the stressful sight and sound disturbance of passing speeding vehicles. The only way to stop these negative impacts to the natural processes is the use the Pamlico Sound bridge alternative.

It is unlikely as stated "All Bridge Alternative would support the desire of officials responsible for the Refuge and Seashore to not stabilize the Outer Banks artificially". The all bridge alternative is artificial stabilization of the interior of the barrier island which is preventing natural processes just as much as would the beach nourishment parallel bridge alternative. Each of the Parallel Bridge Corridor alternatives does not allow for the stated (pg 2-58) Dare County Commissioners desire for access to the entire Pea Island National Wildlife Refuge.

The "three dunes" noted in paragraph two would be major disruptions to this area of the barrier islands and would negate any land-based benefits to the area. I would suggest the writers of this document communicate in depth and at length with regional university experts in barrier island ecology to correct similar assumptions made throughout this document.

This section and in the SDEIS there is a failure to describe the positive indirect and cumulative impacts of the Pamlico Sound bridge (it might also be designated a causeway) alternative. Allow me to note several of these benefits. (1) The probable tourist attraction of the Pamlico Sound bridge similar to the Chesapeake Bay Bridge/Tunnel, the St. Louis Arch, the Statue of Liberty, lighthouses, and many other impressively large structures of steel/concrete/etc. that increase the numbers of tourists and related recreation dollars to their areas. (2) The potential for Pamlico Sound bridge restaurants, marinas, fishing piers, and home bases for commercial fishing and sound side research. (3) With the expected increase in road use estimated only to 2025, only approximately 15 years into projected the approximately 50-year life of this final product, it is more than rational to estimate another parallel road will be required. This is unlikely to be possible with any of the other bridge alternatives. With sea-level rise, if the parallel bridge alternatives are used there would most probably be two roads then on the ocean side of any remaining barrier island land in this

area. A Pamlico Sound bridge constructed now would make the possible second Sound side bridge in 2030, similar to the Chesapeake Bay structure, much more cost effective. (4) The Pamlico Sound Bridge may be able to reuse the materials of the terminal groin at the north end of Hatteras Island. (5) The (former) US Coast Guard Station at the north end of Hatteras Island has had a questionable future when considering the poor location due to the constant threat from any high-energy weather event such as a category four or five hurricane. As noted elsewhere in this document, it could be moved with moderate effort to a location where it could be saved and used to enhance the Station as a tourist destination.

As you can see the above indirect and cumulative impacts could be more than cost effective and enhance the tourist destination aspects of the Outer Banks.

- Pg. 1-14, Table 1-2; I suggest estimating the traffic for the end of the life of the new bridge. I suspect it is likely to project the need for a second bridge. From models created by regional university scientists, the area is estimated to develop from a barrier island to a string of islands similar to the Florida Keys. Any of the present parallel bridge alternatives would be expensive to maintain structures out in the Atlantic Ocean, with the waves breaking to the west of NC12.

- Section 2; I found little additional information here, or in other sections where additional information was given, to change my comments on the contents of the synthesis section.

- Pg. 2-111; The cost of the Road North/Bridge South alternative is presently presented as $299.3 million. From my review of this SDEIS I find no evidence to verify the accuracy of this number. It requires additional references to ensure it is not viewed as an inaccurate total to lead constituents to the cheapest alternative rather than the alternative with the highest quality. If funding were to be an issue the State should consider this a toll road. This is commonly done throughout the United States. A regional discount option would limit the impact of the tolls on drivers who frequent the road. It might also entice fuel conservation in the form of lowering unnecessary driving or initiating much needed public transportation in the Outer Banks area.

- Pg. 4-38; The "natural channel" noted as "the crack" is often unsafe for vessel traffic and has been the topic of possible funding expenditures to begin maintaining this channel. If this were desirable the bridge might be anchored on the north side of the Fishing Center and US Coast Guard Station. I would not recommend these expenditures just to continue the possible use of "the crack"..

- Pg. 4-40, Pea Island Access; The description of the corridor fails to take into account that the road is likely to be on a raised berm to ensure traffic flow when the area is flooded. This would mean access to the area would be limited to where drive-offs were installed otherwise leaving the road would lead to erosion on the sides and compromise the road surface.

- Section 8; Much of this section discusses actions from the NEPA process initiated in the 1990s. The information on the present actions basically lists meetings and final outcomes with little discussion on the justifications for the meeting outcome.

- Appendix C; I see no use of references such as documents from major area geologists Drs. Orin Pilkey and Stan Riggs (Director of the North Carolina Coastal Geology Cooperative, funded by the State and Federal government). They have both written extensively on barrier island geomorphology. It might help the document to be viewed as a more objective SDEIS if their peer reviewed work were used in the preparation of this SDEIS. As an example, the road setback used may work for lesser high energy weather events, but a category four or five hurricane still has a high possibility of creating another inlet which would require additional funding This is probably not estimated in the present final costs noted in this SDEIS.

In general the present document information would lean readers toward one of the parallel bridge alternatives. If more objective information were to be placed in the document it might better represent the Pamlico Sound Bridge Alternatives. At present the Pamlico Sound Bridge Alternative provides the best answers for the present and future Outer Banks transportation through this area in the fields of natural resource preservation and economic benefits to Dare County and the region.

If there are any questions relating to my comments please feel free to contact me at 252-473-6375.

James A. Ebert

Subject: Comments on Bonner Bridge Replacement; Tip Project B-2500
Date: Sat, 14 Apr 2007 13:07:54 +0000
From: James Ebert <biologistje@hotmail.com>
To: <cgoode@dot.state.nc.us>

Mr. Goode,

I have attached my comments below and also attached the file with my comments to be sure they can be used. I will continue to work with the DOT efforts to have the best bridge replace the current Bonner Bridge over Oregon Inlet and around our valuable National Wildlife Refuge.

If I can be of further assistance please feel free to contact me.

Sincerely,

James Ebert

PUBLIC COMMENTS<?xml:namespace prefix = o ns = "urn:schemas-microsoft-com:office:office" />

B-100

Replacement of the Herbert C. Bonner Bridge in NC 12; April 9, 2007

Tip Project # B-2500, Dare County, WBS No. 32635.1.3

I have lived on the Outer Banks for the past six years. As a retired biologist from the Federal Government spending 25 years working with wildlife and geology issues of a barrier island habitat I note each alternative has pluses and minuses. However, there are more pluses in the Pamlico Sound Bridge alternative and some biological and geological unacceptable minuses in the Parallel Bridge alternative which will negatively impact Pea Island National Wildlife Refuge and the economy of the OUter Banks.

Below are listed some of the many justifications for the Pamlico Sound Alternatives and negatives of the Parallel Bridge alternatives through Pea Island National Wildlife Refuge.

- Global warming and the melting of the glaciers will place much of the barrier island corridor either underwater, in the Atlantic Ocean, or prevent the public access that many of the parallel corridor proponents are championing. Even now with all the soft sand along the present corridor, only four-wheel drive vehicles can pull off the road. This is often an unsafe as most vehicles using the road are traveling in excess of 50 MPH. The present National Wildlife

Refuge parking areas are constantly covered with the moving sand. At present there is no good assurance that there is sufficient good sand in the area available to sustain the needs of the parallel bridge alternatives. Shoreline recession and sea level rise are issues all along the east coast and it is unlikely the federal government will have sufficient funds to subsidize all needed projects. The cost of moving sand off the roadway should be included in any of the parallel bridge alternatives.

- The present corridor and all parallel bridge corridor alternatives continue to cut across miles of wildlife habitat preventing the area from truly being a healthy, productive wildlife refuge. Wildlife either can't cross the road or risk being hit by vehicles. Obviously, any wildlife hit by a vehicle has died sooner that under natural conditions. The road prevents much prey from getting away from predators and limits the breeding and germination abilities of Pea Island wildlife and vegetation. A well planned Pamlico Sound Bridge will have very limited negative affects on these aquatic and marine species necessary to a healthy viable barrier island habitat. This is the wildlife and geologic habitat that is the basis of the Outer Banks visitor/recreation economy.

- The Pamlico Sound Bridge allows for future economic development in the form of attached restaurants, fishing piers, boat marinas and educational aquariums. As the sea level rises, beachfront homes will be lost. One possible alternative is to anchor houseboats to sections of a Pamlico Sound Bridge. All these economic possibilities would be lost to the Outer Banks if the parallel bridge alternative is adopted. Other than the Chesapeake Bay Bridge/Tunnel, no other area along the entire east coast presently has any of these economic benefits. These bridge attachments would enhance the economy of the Outer Banks as time goes on.

- The Parallel Bridge alternative is highly unlikely to be viable after 50 years, while the Pamlico Sound Alternatives could be built upon and improved. It is likely that future generations will look back on the selection of a parallel bridge as both a failure to correct a current mistake and a missed opportunity to increase the area's economic viability. The present proponents of the parallel bridge alternatives base most of their arguments on short term, selfish, emotional issues while a Pamlico Sound Bridge alternative is based on the best science available and would safeguard the future of our children and grandchildren.

- One of the major emotional objections to the Pamlico Sound Bridge is loss of access to the National Wildlife Refuge. The area is set aside primarily for wildlife and so that there will be wildlife for future generations. The 1996 Presidential Executive Order 12996 and the 1997 National Wildlife Refuge Improvement Act recognize that public use of a Wildlife Refuge will be a "priority" for compatible wildlife-dependant activities such as fishing, wildlife observation, and environmental education. These activities could still take place with transportation to the undisturbed barrier island habitat via environmentally compatible vehicles and watercraft. These uses could be run under contracts which would increase the economic benefits to the area.

- While the Pamlico Sound Bridge alternatives seem to be the most costly for construction they are the most likely to increase area revenues. Visitation will increase from those wishing to see and drive on the only bridge of this size in the area. I would imagine there is available data to show increased tourism due to the raised causeway of the Florida Keys and the Chesapeake Bay Bridge/Tunnel. There may even be a justification for a toll on the Pamlico Sound Bridge with a fee schedule for visitors and another for residents.

- Under the present motorized vehicle corridor through the National Wildlife Refuge, sand and saltwater frequently move over and onto the corridor year-round during storms. While storm conditions such as 60 MPH winds may be required to close the present two-mile bridge, much lesser storm wind, sand, and water conditions often close the twelve miles through the National Wildlife Refuge (more parallel bridge closures= decreased area economy; fewer Pamlico Sound bridge closures=more benefits to area economy). Under the Parallel Bridge alternatives this long section of corridor will always be subject to road closures and risks becoming a perpetual construction zone. This is unlikely to foster increased Outer Banks visitation. In contrast, the Pamlico Sound Bridge allows all visitors the chance to see the beauty of the area from the perspective of the water. Water views consistently increase economic recreation value, especially over road construction zones.

B-101

- The negative affects of the Parallel Bridge alternatives on the National Wildlife Refuge wetlands degrades the National Wildlife Refuge. I know of no location on earth that has a raised roadway located in the surf zone of an ocean, especially within an ocean area called "hurricane alley". Most likely these sections will look like the overhead subways in the Brooklyn section of New York City. I do not see this as an image the Outer Banks wishes to project. In addition this may lead to health and safety issues during the life of such a structure.

Each of the above comments suggests that the Pamlico Bridge alternatives are the only options that have a basis in the best available science and allow for the most options for future economic growth along the Outer Banks. While emotional considerations are strong they cannot be allowed to control a decision during these times of rising sea level and decreasing funds for moving sand. I hope these comments have been helpful in making your final decision on which alternative should go forward. If I can be of assistance in further explaining my comments or to show references for the information above please feel free to contact me.

Sincerely,

James A. Ebert

112 Robert Bruce Drive

Manteo, NC 27954

Your friends are close to you. Keep them that way.

BonnerBrdgCmmntsTipProjB2500.doc	**Name:** BonnerBrdgCmmntsTipProjB2500.doc **Type:** Microsoft Word Document (application/msword) **Encoding:** base64 **Download Status:** Not downloaded with message

HN:
Heather Maxwell

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

We, the undersigned organization, would like to inform you of our position on the replacement of the Bonner Bridge over Oregon Inlet.

Our membership is comprised of businesses and individuals that depend on Oregon Inlet for their livelihoods. Safety through the inlet is our first concern. We have followed the progress of the replacement of the aging Bonner Bridge and are very alarmed over the lack of attention by NC DOT to take this opportunity to ensure safe navigation through the waterway.

Although NC DOT is responsible for marking the navigable channel where it passes underneath Bonner Bridge, perhaps the number of times the navigable channel has moved in the past year alone has not been associated with the hazardous and unpredictable condition of Oregon Inlet. Today, conditions are so bad that the charter fleet, whose boats draw only 4 to 6 feet of water, are hitting bottom regularly. During the Pirates Cove Billfish Tournament in August, 32 boats ran aground during a four-day period. Just two weeks ago, commercial fishing boats that traveled through the channel one day found the same path shoaled up and impassible the next. The lives of recreational and commercial boaters and Coast Guard personnel are placed in jeopardy every time they traverse the waterway.

The longer 17 mile bridge alternative will have a devastating effect on navigation. As you may recall, the permit that allowed the construction of the groin on Pea Island clearly stated that if the groin were never needed for the protection of the highway on the south end of the Bonner Bridge, as with the 17 mile bridge alternative, it would have to be removed. We believe the groin has been instrumental in ensuring that the inlet and the navigation channel have not migrated south from under the navigational spans. Removal of the groin will hasten the southern migration of Bodie Island and will eliminate all predictability, what little there is, from the inlet. Additionally, removal of the groin will be an unnecessary and exorbitant expense.

We support the construction of the shorter bridge alternative, assuming the Oregon Inlet Fishing Center will not be adversely affected or done away with. We also support the construction of a groin on the northern side of the inlet to protect the new bridge. Without a hardened structure, Oregon Inlet will never truly be safe. The shorter bridge coupled with a groin will cost less, allow for continued access by citizens to the public lands of northern Hatteras Island and will ensure navigation into the future.

The mission of the NC DOT states that you are to "Provide a safe, modern and integrated multimodal system that expands opportunities and unites citizens in both urban and rural areas in support of Governor Easley's vision for One North Carolina". We hope that you interpret your mission as we do and take this opportunity to complete the new bridge and also protect Oregon Inlet and the North Carolinians who depend on it.

Sincerely,

Janet Ellis
My OBX Home Realty
357 Soundview Drive
Kill Devil Hills, NC 27948

COMMENT SHEET

NC 12 Replacement of Herbert C. Bonner Bridge over Oregon Inlet

Corridor Public Hearing

B-2500 8.1051205 Dare County

November 9 and 10, 2005

NAME: Charlene Esposito

ADDRESS: P.O. Box 1836 Avon NC 27915

COMMENTS AND\OR QUESTIONS:

These things are important to me:

(1) Seeing the sunset with no obstacles. This ride on 12 from my place of employment in Nags Head to my home in Avon is a joy every day. I actually look forward to the drive to & from home.

(2) If the road is elevated the wildlife will adapt.

(3) a 17 mile bridge will not be a tourist attraction. I grew up where there's a 25 mile - over the water - bridge (Lake Pontchartrain, New Orleans) NO ONE goes there to see that bridge. Same goes for the twin spans over Lake Pontchartrain - 5 miles.

(4) Everyone needs the same access to Pea Island they've enjoyed up to now to fish, surf, bird watch, swim. Everyone.

Comments may be mailed to:
C. B. Goode, Jr., P. E.
Office of Human Environment Unit Head
1583 Mail Service Center
Raleigh, NC 27699-1583 Phone: (919) 715-1515 Fax: (919) 715-1501
E-mail: cgoode@dot.state.nc.us

B-103

Subject: Comments for Bonner Bridge
Date: Mon, 16 Apr 2007 12:48:48 -0700 (PDT)
From: Kris Fair <pistarcle4u@yahoo.com>
To: cgoode@dot.state.nc.us

COMMENT SHEET<?xml:namespace prefix = o ns = "urn:schemas-microsoft-com:office:office" />
<?xml:namespace prefix = st1 ns = "urn:schemas-microsoft-com:office:smarttags" />Herbert C. Bonner Bridge Replacement

TIP Project No. B-2500 Dare County WBS No. 32635.1.3

Name: K.L. Fair
P.O. Box 1682
Manteo, NC 27954

Comments/Questions:
I encourage **SUPPORT OF THE LONG BRIDGE** because of the following reasons:

- the long bridge addresses all the "hot spots" at one time

- the long bridge may be more expensive now, but probably actually less expensive in the long run because of unknown/unpredictable price increases of future "phased bridges". It is likely that future phased bridges will be more expensive than projections state.

- There are serious safety concerns for residents of Hatteras Island and Ocracoke Island because hurricanes and the swell/waves in advance of the storm will very likely wash out "hot spots" and could trap residents before they get a chance to evacuate. The long bridge by-passes these dangerous areas and affords safe passage for a longer period of time before hurricanes arrive.

- If a breech of the "hot spots" occurs before the "phased approach" is completed, there would be severe and prolonged negative economic impacts to Hatteras Island and Ocracoke Island residents and businesses while the breech is being repaired. The long bridge would by-pass likely breech locations and insure quicker post-storm recovery.

- Pea Island National Wildlife Refuge would benefit from allowing natural overwash to occur which would slow island migration and create superb wildlife habitat for visitors to enjoy.

- Pea Island National Wildlife Refuge is mandated to provide access to the public. They can't determine what type of access will be provided until public meetings, etc. are held. It is possible that the access provided with the long bridge alternative would be better than the very limited access provided in some of the phased alternatives.

- It is very likely that visitors to Pea Island National Wildlife

Refuge will have a better quality and safer visit without the constant drone of vehicles whizzing by at high speeds traveling down the island on their way to other destinations. Only a fraction of the vehicles that currently travel through the Refuge on Hwy 12 are there to actually visit/use the Refuge. The long bridge would divert the non-user traffic from the Refuge.

- Building bridges in the "hot spots" will only temporarily solve the problem because the ocean will certainly threaten these structures in a relatively short time frame. It seems like an irresponsible use of tax-payer money to build bridges in these "hot spots".

I encourage all persons involved in the decision-making process to use some common sense and choose the best long-term solution even though it may be more expensive or less politically popular. Please support the long bridge.

B-104

COMMENT SHEET

NC 12 Replacement of Herbert C. Bonner Bridge over Oregon Inlet

Corridor Public Hearing

B-2500 8.1051205 Dare County

November 9 and 10, 2005

NAME: LESLIE FERGUSON

ADDRESS: POB 386 RODANTHE NC 27968

COMMENTS AND\OR QUESTIONS:

SEE ENCLOSED LETTER....

Comments may be mailed to:
C. B. Goode, Jr., P. E.
Office of Human Environment Unit Head
1583 Mail Service Center
Raleigh, NC 27699-1583 Phone: (919) 715-1515 Fax: (919) 715-1501
E-mail: cgoode@dot.state.nc.us

November 2005

To Whom It May Concern:

Hatteras Island is only going to experience continued *increasing* growth in the local population, plus increasing swells of summer visitors—which will thus result in increased volumes of traffic, and resultant traffic congestion.

I personally favor the 17 mile 'Pamlico Sound Bridge Corridor', and certainly believe if nothing else, a bridge needs to be built *YESTERDAY*. However, they all will be 'dinosaurs' before completion, if built with only 2 travel lanes!

Us 'locals' who travel Hwy 12 (and the bridge) to get to work, along with our emergency personnel (ambulance, fire, police), face daily dangers and aggravation—we cannot pass other vehicles safely in many areas on Hwy 12, let alone when it is swelled with summer tourist vehicles! RV's, dump trucks and 18-wheelers create awful blind spots and passing challenges, then summer tourists soaking in the views and traveling slower than 55 mph hinder us even more in getting to our work destinations in the time it should take.

Should us 'locals' be forced to leave for work much earlier because of increasing highway congestion and no 'passing lanes'? Also, many times we are in traffic jams due to MVA's and also ocean overwash—our employers do not compensate us for 'highway delays'!

We pay the taxes and 'live' with this bridge and road—we should have the bridge and road that *WE NEED*. **I see these latest building plans, which continue to only show 2 travel lanes being included, as a gross lack of vision and poor planning for our increasing traffic woes!** Plus, the bridge and any new highway will *NOT* get any cheaper to build!

The smart decision should be made, and funds allotted, to build the bridge and roadway for the FUTURE—***with 4 travel lanes***. **Also...please consider widening one of the side easements for double use as a BIKE PATH.** People (adults *and* kids) are getting injured and/or killed because they ridiculously insist upon biking this unsafe road for leisure and exercise while on their vacation, and don't have enough room to do so safely!

I thank you for your time, and beseech you to consider these requests.

Leslie Ferguson
Rodanthe
(Dare Co employee in Manteo; also self-employed traveling wedding minister)

PS – Perhaps the money for the page in the packet to 'rate' our issues by importance, along with the 'sticky notes', would have been better served to help defray the cost of our new bridge! In my opinion, it was a silly 'exercise'...especially as the colors of the sticky notes were sooooo similar, I couldn't quickly tell what the most important issue to my neighbors was!

DO THE SMART THING...BUILD NOW, BUT BUILD FOR THE FUTURE.

B-105

November 7, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

I, would like to inform you of my position on the replacement of the Bonner Bridge over Oregon Inlet.

Our membership is comprised of businesses and individuals that depend on Oregon Inlet for their livelihoods. Safety through the inlet is our first concern. We have followed the progress of the replacement of the aging Bonner Bridge and are very alarmed over the lack of attention by NC DOT to take this opportunity to ensure safe navigation through the waterway.

Although NC DOT is responsible for marking the navigable channel where it passes underneath Bonner Bridge, perhaps the number of times the navigable channel has moved in the past year alone has not been associated with the hazardous and unpredictable condition of Oregon Inlet. Today, conditions are so bad that the charter fleet, whose boats draw only 4 to 6 feet of water, are hitting bottom regularly. During the Pirates Cove Billfish Tournament in August, 32 boats ran aground during a four-day period. Just two weeks ago, commercial fishing boats that traveled through the channel one day found the same path shoaled up and impassible the next. The lives of recreational and commercial boaters and Coast Guard personnel are placed in jeopardy every time they traverse the waterway.

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The mission of the NC DOT states that you are to "Provide a safe, modern and integrated multimodal system that expands opportunities and unites citizens in both urban and rural areas in support of Governor Easley's vision for One North Carolina". We hope that you interpret your mission as we do and take this opportunity to complete the new bridge and also protect Oregon Inlet and the North Carolinians who depend on it.

Sincerely,

Robert Finchem
Nags Head, NC
Member / Outer Banks Association of Realtors

COMMENT SHEET

Herbert C. Bonner Bridge Replacement

Formal Public Hearings – March 28 and 29, 2007

TIP Project No. B-2500 Dare County WBS No. 32635.1.3

NAME: Sydney Fleming

ADDRESS: 1004 B Memorial Blvd, KDH, NC, 27948

COMMENTS AND/OR QUESTIONS:

I support the Parallel Bridge Corridor with Nourishment - Alternative. I believe the beaches along the Cape Hatteras National Seashore are invaluable to Dare County residents, as well as anybody else who is able to enjoy these pristine beaches. My friends, family, and I enjoy fishing, surfing, and kayaking in this area and we support the Parralle Bridge Corridor asternative because it provides access to the beach and sound. Please carefully consider my input and maintain Hwy 12 with its current access. Thank-you

Comments may be submitted by April 17, 2007 to:

Mr. Carl Goode, Jr., PE, Unit Head
NCDOT - Human Environment Unit
1583 Mail Service Center
Raleigh, NC 27699-1583
Phone: (919) 715-1515 FAX: (919) 715-1501
Email: cgoode@dot.state.nc.us

COMMENT SHEET

Herbert C. Bonner Bridge Replacement

Formal Public Hearings -- March 28 and 29, 2007

TIP Project No. B-2500 Dare County WBS No. 32635.1.3

NAME: J. J. Frost

ADDRESS: P.O. Box 789 Nags Head N.C. 27959

COMMENTS AND/OR QUESTIONS: Thank you for Public Hearing March 28, 2007

Besides relative pros and cons of Pamlico Sound + Parallel Bridge Corridors, There are questions applicable to All Bridge Design/Construction

1) Wright Memorial Bridge/Currituck to Kitty Hawk/ is short and is Two Bridges each 2 Lanes ∴ 4 LANES AVAILABLE

2) Virginia Dare Bridge/ Manns Harbor to Manteo/ is shorter than Bonner Pamlico Sound/ is ONE Bridge W/ Concrete Divider ∴ 4 LANES Available

3) Bonner Bridge/S. Nags Head to Hatteras Island/ NEEDS 4 LANES + SHOULDERS. You show Pamlico 2 Lanes + 2x8ft Shoulders/ you show Parallel 2 Lanes + 2x6ft Shoulders, These specs are seriously LACKING — eg. Safety, eg hurricane resilience, eg operable in case of accident. WHO THINKS the specs presented are adequate? Let us have identification particulars of design engineers and Insurance Information

Thank you

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B-107

Nov. 15, 2005

COMMENT SHEET

NC 12 Replacement of Herbert C. Bonner Bridge over Oregon Inlet

Corridor Public Hearing

B-2500 8.1051205 Dare County

November 9 and 10, 2005

NAME: Charlotte C. Fulcher

ADDRESS: PO Box 924 Buxton, NC 27920

COMMENTS AND\OR QUESTIONS: I have lived on Hatteras Island for 28 years and am married to a Hatteras Village native. We attended the Public Hearing in Rodanthe on Nov. 10, 2005 I feel the Long Pamlico Sound Bridge is the only way to go. If we get a new bridge, let's build it right. We can't just build one for todays needs, but we must look at the future. We need to avoid all the "hot spots", the sand blowing, water on the road. Let's do what is only right for our children and our grandchildren, build that Long Bridge. We have waited such a long time for a new bridge, that a couple more years longer won't matter.

Build the long Bridge!

Thankyou,
Charlotte C. Fulcher

Comments may be mailed to:
C. B. Goode, Jr., P. E.
Office of Human Environment Unit Head
1583 Mail Service Center
Raleigh, NC 27699-1583 Phone: (919) 715-1515 Fax: (919) 715-1501
E-mail: cgoode@dot.state.nc.us

Patricia B Fulk
109 Collins Court
Manteo, NC 27954

To: Mr. Carl Goode
N.C.D.O.T.

FAX: 919-715-1501

Dear Mr. Goode:

This communication is sent in support of the recommendation made by the Dare County Board of Commissioners for the parallel bridge at Oregon Inlet.

I am a resident of Manteo in Dare County and have been since 1997. The Oregon Inlet, as well as access to Pea Island and Hatteras Island is important to every citizen of the county.

Thank you for this opportunity to express support for the parallel bridge option.

Patricia B. Fulk
Patricia B Fulk

B-108

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

We, the undersigned organization, would like to inform you of our position on the replacement of the Bonner Bridge over Oregon Inlet.

Our membership is comprised of businesses and individuals that depend on Oregon Inlet for their livelihoods. Safety through the inlet is our first concern. We have followed the progress of the replacement of the aging Bonner Bridge and are very alarmed over the lack of attention by NC DOT to take this opportunity to ensure safe navigation through the waterway.

Although NC DOT is responsible for marking the navigable channel where it passes underneath Bonner Bridge, perhaps the number of times the navigable channel has moved in the past year alone has not been associated with the hazardous and unpredictable condition of Oregon Inlet. Today, conditions are so bad that the charter fleet, whose boats draw only 4 to 6 feet of water, are hitting bottom regularly. During the Pirates Cove Billfish Tournament in August, 32 boats ran aground during a four-day period. Just two weeks ago, commercial fishing boats that traveled through the channel one day found the same path shoaled up and impassible the next. The lives of recreational and commercial boaters and Coast Guard personnel are placed in jeopardy every time they traverse the waterway.

The longer 17 mile bridge alternative will have a devastating effect on navigation. As you may recall, the permit that allowed the construction of the groin on Pea Island clearly stated that if the groin were never needed for the protection of the highway on the south end of the Bonner Bridge, as with the 17 mile bridge alternative, it would have to be removed. We believe the groin has been instrumental in ensuring that the inlet and the navigation channel have not migrated south from under the navigational spans. Removal of the groin will hasten the southern migration of Bodie Island and will eliminate all predictability, what little there is, from the inlet. Additionally, removal of the groin will be an unnecessary and exorbitant expense.

We support the construction of the shorter bridge alternative, assuming the Oregon Inlet Fishing Center will not be adversely affected or done away with. We also support the construction of a groin on the northern side of the inlet to protect the new bridge. Without a hardened structure, Oregon Inlet will never truly be safe. The shorter bridge coupled with a groin will cost less, allow for continued access by citizens to the public lands of northern Hatteras Island and will ensure navigation into the future.

The mission of the NC DOT states that you are to "Provide a safe, modern and integrated multimodal system that expands opportunities and unites citizens in both urban and rural areas in support of Governor Easley's vision for One North Carolina". We hope that you interpret your mission as we do and take this opportunity to complete the new bridge and also protect Oregon Inlet and the North Carolinians who depend on it.

Sincerely,

Carol A. Funk

Attn:
Heather Maxwell

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

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Sincerely,
Zak Garcia
Zak Garcia

COMMENT SHEET

NC 12 Replacement of Herbert C. Bonner Bridge over Oregon Inlet

Corridor Public Hearing

B-2500 8.1051205 Dare County

November 9 and 10, 2005

NAME: Cathy Gaskill

ADDRESS: 26248 Wimble Shores Drive, Salvo

COMMENTS AND\OR QUESTIONS:

This is my third winter in Salvo. Even in that short amount of time I have noticed the continual time, effort and money needed to keep Hwy. 12 clear at the 'hot spots.' Trying to maintain the road in its current position is not a viable option. There would always be the dangerous possibilities of it having to be closed completely or being partially obstructed.

There are in this world a rapidly decreasing amount of places where wild things can thrive. The accounts of their decreasing numbers from just a hundred years ago are alarming. I would be utterly opposed to disturbing or encroaching on the Wildlife Refuge. The space between the bridge and Rodanthe is a small piece of quiet beauty which draws a lot of people here.

Comments may be mailed to:
C. B. Goode, Jr., P. E.
Office of Human Environment Unit Head
1583 Mail Service Center
Raleigh, NC 27699-1583 Phone: (919) 715-1515 Fax: (919) 715-1501
E-mail: cgoode@dot.state.nc.us

Further, I think that small stretch of beach between the current bridge & Rodanthe should always be off limits to motorized vehicles.

So, clearly I would favor the 17 mile sound version.

for the new bridge — it solves the problem of continued disruption of a vital road and preserves a unique environment for wildlife.

There could be a ramp off the bridge for fishing on the south side of Oregon Inlet ~~for~~ and if it were possible to fish from the new bridge as it is now, there would be plenty of access for fishermen.

B-111

Subject: Bonner Bridge replacement
Date: Mon, 14 Nov 2005 10:20:33 -0330 (NST)
From: hsgaskill@math.mun.ca
To: cgoode@dot.state.nc.us

Sir:

I own property at 26248 Wimble Shores Dr., Salvo.

I attended the meeting in Rodanthe on Thurs and listened carefully to the various arguments presented.

Although the preponderance of opinion at that meeting seemed to be captured by the local real estate community which was in favor of NC12 solution, I believe the Pamlico Sound Bridge Corridor (PSBC) is the better option.

My reasons are as follows:

1. Maintaining the integrity if the refuge is important. There are many who come to this island for the wildlife. I believe that in the long run that access to the wildlife on Pea Island will be best preserved if the PSBC is adopted. The alternative is likely to end up like the refuge at Cape Charles with no access to the prime areas at the southern end.

2. PSBC is clearly a permanent solution. Such bridges have been in existence for many years in Fla and at Cape Charles so the engineering requirements have long since been worked out. This would include how to deal with safety issues so as to minimize the chance of head-on collisions.

3. I was pursuaded by the argument that hurricane exit would be better on a PSBC. NC12 certainly closes on a regular basis and appears to suffer major damage in hurricanes, at least those in recent memory.

4. Finally, many of the attidues expressed viz a viz the Park Service appeared to contain an underlying current of "I'm entitled to do exactly what I want, when I want..." It is the existence of the National Park and the fact that there are restrictions on what folks can do and where they can build, etc., that make Hatteras Island what is is, and which generates the wealth of which we are all taking advantage. The PSBC is most consistent, in my view, with preserving the character of the National Seashore while premitting us to enjoy this wonderful heritage.

Thank you.

Sincerely,

Herbert S. Gaskill, Ph.D.
26248 Wimble Shores Dr.
Salvo, NC 27972

Subject: Bonner Bridge Replacement
Date: Sun, 11 Dec 2005 10:29:25 -0500
From: "Michael Gery" <michaelgery@charter.net>
To: <cgoode@dot.state.nc.us>

Please record my position in the discussion of how to replace the Bonner Bridge at Oregon Inlet.

I prefer the Pamlico Sound alternative, the 17.5-mile bridge. I am a resident of Manteo. I believe this alternative makes the most sense economically and environmentally.

Michael E.C. Gery

104 Seatone Lane

Manteo, NC 27954

B-112

COMMENT SHEET

Herbert C. Bonner Bridge Replacement

Formal Public Hearings – March 28 and 29, 2007

TIP Project No. B-2500 Dare County WBS No. 32635.1.3

NAME: Jack & Beatrice Goldman

ADDRESS: P.O. Box 482 Kodanthe, N.C. 27968-0482

COMMENTS AND/OR QUESTIONS:

We attended the Presentation in Kodanthe on March 29, 2007 and several things we were not quite aware of. For this we thank you.
Please we need a bridge now, we have fast something can be done to get it started. If the current bridge had to be closed down, ect. the lower end of Dare County would see so many hard ships in so many different ways it would simply devastate every person in one way or another. Good Luck to everyone in this getting us a new Bridge and real soon - real soon

Comments may be submitted by April 17, 2007 to:

Mr. Carl Goode, Jr., PE, Unit Head
NCDOT - Human Environment Unit
1583 Mail Service Center
Raleigh, NC 27699-1583
Phone: (919) 715-1515 FAX: (919) 715-1501
Email: cgoode@dot.state.nc.us

Outer Banks Scenic Byway Committee
Dare County

December 12, 2005

Carl B. Goode, Jr., P.E.
Office of Human Environment Unit
1583 Mail Service Center
Raleigh, N.C. 27699-1583

Re: NC 12 Replacement of Herbert C. Bonner Bridge
Project No. B-2500

Dear Mr. Goode:

The Outer Banks Scenic Byway Committee in Dare County is drafting plans for off-road, paved pathways on NCDOT right-of-way through the villages of Hatteras Island.

In section 1.5.4, the Draft Supplement Environmental Impact Statement notes "Two designated bicycle routes cross Oregon Inlet on the Bonner Bridge." One is a national route called the North-South Atlantic Coast Bikeway. The second is designated by the NCDOT as part of a loop route around Pamlico Sound.

The committee notes that bridges touching down in Rodanthe have sufficient width for bicycling. However, cyclists are simply dumped onto insufficient paved shoulders along N.C. 12.

The six-foot shoulder width of the already-designed parallel bridge replacement is a vast improvement over the existing two-foot shoulders on Bonner Bridge. However, the design criteria for new roadways under maintenance options call for only four-foot paved shoulders. This paved width does not provide adequate safety and comfort for cyclists or motorists.

We request that the Department of Transportation include as an incidental project the design and installation of off-road paved pathways through Hatteras Island's villages. If the parallel bridge and maintenance options are chosen as the preferred alternative, we also request that design criteria include wider paved shoulders through Pea Island National Wildlife Refuge. Additionally, we recommend that final design details include rumble strips or other textured treatment to mark shoulder areas on any bridge built under this project.

Sincerely,

Mary Helen Goodloe-Murphy
for the committee

Respond to: P.O. Box 147, Rodanthe, NC 27968
Telephone: 252-987-2656

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

We, the undersigned citizens of Dare County, would like to inform you of our position on the replacement of the Bonner Bridge over Oregon Inlet.

Our county is comprised of businesses and individuals that depend on Oregon Inlet for their livelihoods. Safety through the inlet is our first concern. We have followed the progress of the replacement of the aging Bonner Bridge and are very alarmed over the lack of attention by NC DOT to take this opportunity to ensure safe navigation through the waterway.

Although NC DOT is responsible for marking the navigable channel where it passes underneath Bonner Bridge, perhaps the number of times the navigable channel has moved in the past year alone has not been associated with the hazardous and unpredictable condition of Oregon Inlet. Today, conditions are so bad that the charter fleet, whose boats draw only 4 to 6 feet of water, are hitting bottom regularly. During the Pirates Cove Billfish Tournament in August, 32 boats ran aground during a four-day period. Just two weeks ago, commercial fishing boats that traveled through the channel one day found the same path shoaled up and impassible the next. The lives of recreational and commercial boaters and Coast Guard personnel are placed in jeopardy every time they traverse the waterway.

The longer 17 mile bridge alternative will have a devastating effect on navigation. As you may recall, the permit that allowed the construction of the groin on Pea Island clearly stated that if the groin were never needed for the protection of the highway on the south end of the Bonner Bridge, as with the 17 mile bridge alternative, it would have to be removed. We believe the groin has been instrumental in ensuring that the inlet and the navigation channel have not migrated south from under the navigational spans. Removal of the groin will hasten the southern migration of Bodie Island and will eliminate all predictability, what little there is, from the inlet. Additionally, removal of the groin will be an unnecessary and exorbitant expense.

We support the construction of the shorter bridge alternative, assuming the Oregon Inlet Fishing Center will not be adversely affected or done away with. We also support the construction of a groin on the northern side of the inlet to protect the new bridge. Without a hardened structure, Oregon Inlet will never truly be safe. The shorter bridge coupled with a groin will cost less, allow for continued access by citizens to the public lands of northern Hatteras Island and will ensure navigation into the future.

The mission of the NC DOT states that you are to "Provide a safe, modern and integrated multimodal system that expands opportunities and unites citizens in both urban and rural areas in support of Governor Easley's vision for One North Carolina". We hope that you interpret your mission as we do and take this opportunity to complete the new bridge and also protect Oregon Inlet and the North Carolinians who depend on it.

Sincerely,

Hal Goodman
Carla Goodman

Hal Goodman
Carla Goodman
P.O.Box 665
Manteo, NC 27954

Vivian & Burnham Gould
P.O. Box 54,
Frisco, NC 27936-0054

November 23, 2005

Mr. Carl Goode, PE
Head, Human Environmental Unit, NCDOT,
1583 Mail Service Center,
Raleigh, NC 27699-1583

Re: Replacement of Bonner Bridge

Dear Mr. Goode:

Please put us on record as favoring the Pamlico Sound Bridge Corridor for reasons of environmental and natural resource impacts, costs, and dependability of access to/from Hatteras Island.

Thank you.

Yours truly,

Vivian Gould

Burnham Gould

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

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Sincerely,

Bette R Gray

Bette R. Gray, Broker

25C 9231124

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

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Sincerely,

Gregory B Green
NC DL # 6120615

COMMENT SHEET

NC 12 Replacement of Herbert C. Bonner Bridge over Oregon Inlet

Corridor Public Hearing

B-2500 8.1051205 Dare County

November 9 and 10, 2005

NAME: Spencer Gregory

ADDRESS: POB 524 AVON, NC 27915

COMMENTS AND\OR QUESTIONS:

I would vote for the Pamlico Sound Bridge, whichever terminus. It's the only viable choice given the certain migration of Pea Island. I would like to see limited automobile access to Pea Island (most of the Refuge to be accessed by foot.) Over the next fifty or 50 years, can you imagine the financial boom to the local economy of a real, relatively wild, Wildlife Refuge, so close to the amenities of the rest of Hatteras Is. It's a long term moneymaker since the oceanfront on the East Coast is going to (or already has been) developed to death. thanks Spencer

Comments may be mailed to:
C. B. Goode, Jr., P. E.
Office of Human Environment Unit Head
1583 Mail Service Center
Raleigh, NC 27699-1583 Phone: (919) 715-1515 Fax: (919) 715-1501
E-mail: cgoode@dot.state.nc.us

B-117

Subject: Replacement of Oregon Inlet Bridge
Date: Fri, 13 Apr 2007 19:36:32 -0400
From: "Grimes, Jonathan Elijah" <jegrimes@liberty.edu>
To: <cgoode@dot.state.nc.us>

Sir,

I am a college student from Richmond, VA. My family has lived in the Richmond area for decades. Since before I was born, we have taken a family vacation every summer to the outer banks. It is a place that I love, and even though I've been able to travel all over the world, I would consider it to be one of my favorite places to go in the world just to relax and enjoy the beauty of nature. My cousins and I love surfing, body boarding, and anything at all you can do in the water. We rake countless overnight trips to the outer banks and drive down to Pea Island because it is our favorite spot to go on the east coast. I really would hate to see this area bypassed and inaccessible, as I consider it to be such a place of refuge for me to go and get away from everything and enjoy the beauty that so many of us have come to know and love on South 12 and Pea Island. I would petition to keep the existing road so that so many of us who love this area can continue to come and enjoy the amazing beauty and beaches of Pea Island. Thanks for your time.

Eli Grimes

Subject: Bonner Bridge
Date: Thu, 29 Mar 2007 08:19:08 -0500
From: "Dr. Raymond Grimm" <rgrimm@shentel.net>
To: <cgoode@dot.state.nc.us>

Carl. B Goode, Jr.
NCDOT

Dear Mr. Goode:

Thank you for your interest in the Bonner Bridge project. Assuming the bridge needs to be replaced, we support the short parallel version with beach nourishment at the s-turns in Rodanthe. We own a home at the end of East Point Drive that was third back from the ocean when we built in the early 80's. It is now ocean front. A bridge down thru the sound seems like a really dumb and expensive idea. Let's keep that view of the evening sunsets over the sound (without a bridge). We also own a home in Mirlo Beach.

Thanks again for your consideration.

Ray and Lani Grimm
65 Greystone Road
Front Royal, VA 22630

B-118

Kathleen Quidley Grizzard
833 North Liberty Spring Road
Suffolk, VA 23434

November 14, 2005

Mr. Carl Goode, PE
Head, Human Environment Unit
NCDOT
1583 Mail Service Center
Raleigh, NC 27699-1583

RE: Bonner Bridge Replacement Project
Supplemental Draft Environmental Impact Statement

Dear Mr. Goode:

I am writing in response to the Bonner Bridge Update newsletter I received as I am a property owner in Buxton, NC. Regrettably, I could not make arrangements to attend the hearings as I only received the October 2005 newsletter on November 8, 2005.

Being a native of Buxton, I have observed washovers and breakthroughs of areas above Buxton village and in Hatteras village. I believe that if efforts are not taken to protect those areas, especially in storm seasons, any protection being provided via Oregon Inlet and Rodanthe will only result in the rest of the island not being protected. Build up of shorelines to prevent that, with the institution of levies or jetties or other measures, is the only recourse. The building of new bridges from Oregon Inlet to Rodanthe would eventually pose a breakdown in the protection of Oregon Inlet, Rodanthe, Avon, Buxton and Hatteras communities. These areas would be left wide open for devastation if not protected with the same intent as the upper part of island beaches.

Therefore, from my observation as a resident, with my ancestors dating as far back as my great grandmother to my present age of 77-1/2 years of age, remembering all past storms (1933 and on), much of the island beaches' protection has fallen apart. The "CCC" camp organization's building of sand fences and planting of sea oats, before the Park Service took over, did protect the beaches and kept the beaches from breaking through and doing severe damage. I can foresee in the worst event of storms in the future, devastation of the lower end of the island. If that is not protected, then I can only see the affects reaching into the other communities of Wanchese, Nags Head and Manteo, all of which I dearly love, being exposed also to the worst storm devastation.

The native people and home owners on the Outer Banks deserve to have the protection of their homeland. It has not been our desire to have the island torn apart with 4 wheelers, dirt bikes, nor other forms of vacationer's equipment. Restoration of the Coast Guard's protection and beach lines preservation is a must.

It seems to me that preservation of wild life and wet lands are higher priority agendas that human life of native people already on the island since its inception. The Park Service's interest has only been on the animals lives and plant lives. What value is human life? They have continually shot down any preservation attempts. I don't like what has continuously happened to the island. It can be saved and preserved with the right measures and right attitudes of those in authority.

In view of the devastation of the Katrina storm, affecting levies and properties, if efforts can be made to repair those, then I believe Hatteras Island is as historically important for preservation. If you are not from there, you may not have any interest in the island, but I do.

My concern and love of all of the Outer Banks is overwhelming. I believe all islands can be saved if the right measures are taken now. Please save all of Hatteras Island not just a portion.

I pray that all of this will be taken into consideration to save our Outer Banks in North Carolina

Sincerely,

Kathleen Quidley Grizzard
Kathleen Quidley Grizzard

C: Senator Marc Basnight

COMMENT SHEET

NC 12 Replacement of Herbert C. Bonner Bridge over Oregon Inlet

Corridor Public Hearing

B-2500 8.1051205 Dare County

November 9 and 10, 2005

NAME: TED A. HAMILTON

ADDRESS: 6 JIB COURT HAMPTON VA 23664

COMMENTS AND\OR QUESTIONS:

I HAVE BEEN A VISITOR TO HATTERAS ISLAND FOR MANY YEARS AND HAVE OWNED PROPERTY IN SALVO SINCE 1971, SEE ATTACHED

B-120

Comments may be mailed to:
C. B. Goode, Jr., P. E.
Office of Human Environment Unit Head
1583 Mail Service Center
Raleigh, NC 27699-1583 Phone: (919) 715-1515 Fax: (919) 715-1501
E-mail: cgoode@dot.state.nc.us

Comments re Draft Documents for Oregon Inlet (OI) Bridge Replacement

At the 6/2003 meeting in Rodanthe many attending commented that any decision re the long bridge (Pamlico Sound Alternative) should be tied with knowledge as to how such a bridge would affect Pea Island (PI) access. That has not been done. Para 4.1.5.3 talks about a survey result from asking about no paved road access in PI. Results are stated as minimal impact. I submit that the survey question was not asked properly. Repeatedly USF&WS (Mike Bryant) has stated that access can be determined after the bridge decision. (Statements at 6/2003 Rodanthe meeting and Island Breeze 11/2005 article [partially attached]). He has further indicated access could be by public transportation and foot. Thus the survey question should have been about how people felt about PI access only by public transportation and foot.

Further para 4.5.3.1 indicates some type of access would be maintained by USF&WS but does not address what type of access. Also not addressed is a statement in a 3/7/2005 letter to me from NCDOT (attached) which says NC would maintain NC 12 until USF&WS implements an access program.

A commitment should be obtained from USF&WS on exactly what type of access would be permitted to PI and that should be factored into any decision re the long bridge.

Para 4.1.6.10 indicates there is no problem related to electric service as it would just come down along or parallel to a long bridge. Nowhere is it addressed that CHEC has indicated that such a scheme would require an approximate doubling of the present infrastructure capital investment which alone would translate into about a 28% increase in electricity rates (8/2004 CHEC article attached). This would be an economic impact and should be addressed re the long bridge.

There was discussion at the 11/9 meeting in Manteo regarding possible wind event closure of the long bridge, similar to that sometimes required for the Chesapeake Bay Bridge Tunnel (CBBT). I want to point out that such closures many times include vehicles with luggage rack carriers, not just large trucks. Such carriers are a popular means used by tourists visiting Hatteras Island. I would also point out that the bridge tunnel is NOT repeat NOT a designated hurricane evacuation route for Hampton Roads. Any decision re a long bridge should factor in the wind closure experience from the CBBT, particularly since it would be the prime evacuation route off the island.

The drawings of the long bridge show both terminus options at Rodanthe within the 2060 worst case erosion line. This makes no sense.

Para 3.7.7 does not list 4 birds the National Park Service (NPS) has on their list of concerned species for developing an Interim Species Protection Strategy. (NPS document attached). Three of the birds are claimed by NPS to be of concern to the state (common tern, least tern, black skimmer) and one (American oystercatcher) is of concern to NPS. Seems NPS may be wrong about the state as the 3 supposedly state birds are missing from the state document.

...n Bonner Bridge

...the alternatives for the ...ge, which include various ...ion, smaller bridges, and ...blic hearings on the Outer ..., Nov. 9, at the Dare County ...t 7 p.m. on Thursday, Nov. ...vo Community Center in ...rmal workshop from 3 to 6 ...hich DOT engineers will ...nformation. ...vironmental Impact Statement ...aries and at several county ...online at www.obtf.org.

either have to get a new permit or be removed.

Dare County and the state are concerned about the fate of the old Oregon Inlet Coast Guard Station that is behind the groin, which has allowed the land to build up in front of the historic structure.

"We're open to negotiating," Bryant said. "But not for it to just stay there and be ignored."

The biggest issue to opponents of the long bridge is the difficulty of getting access to the refuge if the stretch of Highway 12 was removed or not maintained. Bryant said that if the 17-mile alternative was chosen, the agency has six or more years to devise solutions, which could include walking paths or a form of public transportation.

Off-road vehicle use on the beach will not be an option, Bryant said.

"Obviously, nobody can put a dollar figure on it because nobody knows what it will be," he said about providing access. "I don't have an easy answer or an answer that will assure people with exactly the way it's going to look."

Bryant said he expects that if the 17-mile alternative is selected, whatever the refuge access may end up to be, some visitors will say it's "darned inconvenient" while others will say it's "higher adventure."

"It's going to be a wildlife refuge first," he said. "We will always attempt and make every reasonable effort to accommodate the public in the refuge as long as it doesn't interfere with or detract from the purpose of the refuge."

The selected alternative will be included in the final environmental impact statement that is scheduled to be completed by May 2007.

[Catherine Kozak is a reporter for The Virginian-Pilot in Nags Head, where this article first was published.]

Herbert C. Bonner Bridge Replacement Options

Pamlico Sound bridge alternative

Length: 17.5 miles

Construction cost: With curved Rodanthe terminus: $416,800,000; with intersection at Rodanthe terminus: $414,200,000.

Total cost to 2060, respectively: $424,890,000; $420,345,000.

Size: Two 12-foot travel lanes, and two 8-foot shoulders.

Navigational span: Minimum opening of 200 feet horizontally and 75 feet vertically.

Project would start in 2008 and be completed in 2012.

Parallel bridge with N.C. 12 maintenance alternative

Length: 2.7 miles

Bridge over Oregon Inlet construction cost: $191 million under three scenarios that would include:

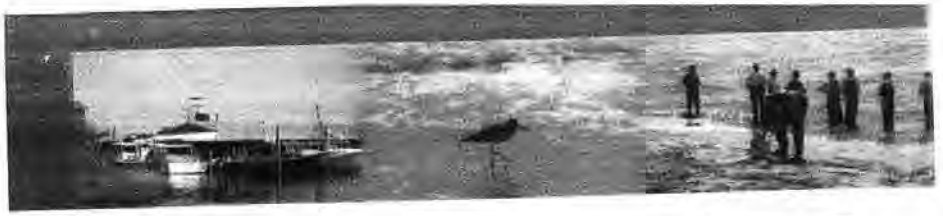
- Beach nourishment along Highway 12 from Oregon Inlet to Rodanthe for a $644,050,000 total cost to 2060.
- Relocation of Highway 12 to the west with beach nourishment on the northern end of Pea Island and a bridge in the Rodanthe area for a $311,525,000 total cost to 2060.
- Relocation of Highway 12 to the west with a bridge both in the northern half of Pea Island and in the Rodanthe area, for a $493,150,000 total cost to 2060.

Size: Two 12-foot travel lanes and 6-foot shoulders.

Navigational spans, at all probable channel locations: up to 5,000 feet with a vertical clearance of about 75 feet. Project would start in 2007 and be completed in 3.5 years.

Demolition costs for Bonner Bridge: $4 million.

*All in 2005 dollars



New Series of Articles for CHEC

Jim Kinghorn
General Manager

Each month in *Carolina Country* magazine, this section will be used to provide our members with important information on how your cooperative operates as contrasted to other types of businesses, as well as specific information on items that affect your electric service and costs. Below is the first of these articles from your General Manager.

Oregon Inlet Bridge

Different options for the replacement of the Bonner Bridge across Oregon Inlet have been considered by the NC Department of Transportation over the last several years. These options have included the proposed replacement of the existing 2.5 mile bridge in almost the same location and a new bridge that would stretch approximately 17 miles that would begin at the same northern point as the present bridge and terminate within the village of Rodanthe.

Cape Hatteras Electric Cooperative has three power cables supplying electricity to Hatteras and Ocracoke Islands attached to the Bonner Bridge operating at 115,000 volts. These cables were installed in 1995 as part of the project to upgrade a major portion of our transmission system. As options to replace the bridge were already being considered by NCDOT, the cable installation was designed to be temporary. In 2001, the Cooperative performed maintenance to correct deterioration of the conduit holding the cables. All three cables are required to supply electricity to the islands and there are no spare cables in place, as would be the case for a permanent installation.

When the NCDOT began considering the 17-mile option, CHEC began a study to determine power supply options to supply electricity to the islands. Among the options considered were the following proposals:

1. An overhead line adjacent to the bridge on its own piling foundations
2. An overhead line integrated into the bridge structure
3. A set of underground-type cable and spares attached to the underside of the bridge
4. A set of submarine cables and spares installed along the 17-mile route of the bridge

The long bridge option would have a major impact on our operations and your cost of electricity.

Option 2 was removed from consideration after discussions with NCDOT, in which we were advised this option would not be permitted.

The lowest apparent cost option was Option 1 at $25.5 million. The cost of this option was dependent on our ability to negotiate a contract with the bridge contractor to install the power line foundation pilings as the bridge pilings were installed. There was a high degree of uncertainty with this estimate because we would have to use the contractor that was the successful bidder on the bridge for our project. Option 3 was the highest estimate at $44.5 million. Option 4 was the second lowest cost option coming in at $27.6 million. The estimate for Option 4 included 3 spare cables.

Putting these costs into perspective, the cooperative's present total investment in our electric system is $32.6 million. CHEC's rate consultant calculated the impact on our electric rates using the estimated costs of Option 4. If it is necessary to actually construct this option, the consultant determined that our customer's retail rates will increase a total of 28 percent for this project cost alone.

On June 17, 2004, the NCDOT announced that the 17-mile bridge was being removed from consideration and focus would return to a shorter bridge across Oregon Inlet. Dare County officials have been campaigning vigorously to keep NC 12 open across the Pea Island Refuge so that public access can continue. The time has come for Cape Hatteras Electric Cooperative to make you and public officials aware that the long bridge option would also have a major impact on our operations and your cost of electricity. Maintaining reliable and reasonably priced electric service is enough of a challenge on Hatteras Island without the necessity of undertaking a project of this magnitude.

COMMON ELEMENTS IN ALL ALTERNATIVES:

Monitor and manage for the following protected species:

- Federally threatened piping plover (*Charadrius melodus*);
- Federally threatened seabeach amaranth (*Amaranthus pumilus*);
- State listed species of special concern:
  - common tern (*Sterna hirundo*),
  - least tern (*Sterna antillarum*),
  - gull-billed tern (*Sterna nilotica*),
  - black skimmer (*Rynchops niger*)
- Rare species of concern to the park
  - American oystercatcher (*Haematopus palliatus*)
- Federally listed sea turtles:
  - threatened loggerhead (*Caretta caretta*)
  - endangered green turtle (*Chelonia mydas*)
  - endangered leatherback turtle (*Dermochelys coriacea*)
  - endangered hawksbill turtle *(Eretmochelys imbricata)*
  - endangered Kemp's ridley turtle *(Lepidochelys kempii)*

Consider management guidance from:

- Piping Plover (*Charadrius melodus*) Atlantic Coast Population Revised Recovery Plan .U.S. Fish and Wildlife Service. 1996.
- Technical/Agency Review Draft, Revised Recover Plan for Piping Plovers, Charadrius melodus, Breeding on the Great Lakes and Northern Great Plains. U.S. Fish and Wildlife Service. 1994.
- Recovery Plan for the Great Lakes Piping Plover *(Charadrius melodus)*. U.S. Fish and Wildlife Service. 2003.
- Recovery Plan for Seabeach Amaranth *(Amaranthus pumilus)*. U.S. Fish and Wildlife Service. 1996.
- *North American Colonial Waterbird Conservation Management Plan*
- North Carolina Wildlife Resources Commission (NCWRC) in *Handbook for Sea Turtle Volunteers in North Carolina* (2002). An annual permit is issued by NCWRC under the authority of the U.S. Fish and Wildlife Service and USFWS Recovery Plans referenced.
- Recovery Plan for U.S. Population of Loggerhead Turtle *(Caretta caretta)*. U.S. Fish and Wildlife Service. 1991.
- Recovery Plan for U.S. Population of Atlantic Green Turtle *(Chelonia mydas)*. U.S. Fish and Wildlife Service. 1991.
- Recovery Plan for the Leatherback Turtles in the US. Caribbean, Atlantic, and Gulf of Mexico (*Dermochelys coriacea*). U.S. Fish and Wildlife Service. 1992.
- Recovery Plan for the Hawksbill turtles in the U.S. Caribbean, Atlantic Ocean, and Gulf of Mexico *(Eretmochelys impbricata)*. U.S. Fish and Wildlife Service. 1993.
- Recovery Plan for the Kemp's Ridley Sea Turtle (*Lepidochelys* Service. 1992.
- Synthesis of Management, Monitoring, and Protection Protocol Species and Species of Special Concern at Cape Hatteras Natio Geological Survey, Patuxent Wildlife Research Center, 2005.
- Management and Protection Protocols for the Threatened Pipin Cape Hatteras National Seashore, North Carolina. U.S. Geolog Research Center. 2005.
- Management, Monitoring, and Protection Protocols for Colonia Hatteras National Seashore, North Carolina. U.S. Geological S Center. 2005.
- Management, Monitoring, and Protection Protocols for Americ National Seashore, North Carolina. U.S. Geological Survey, Pa
- Management and Protection Protocols for Nesting Sea Turtles North Carolina. U.S. Geological Survey, Patuxent Wildlife Res
- Management, Monitoring, and Protection Protocols for Seabea Seashore, North Carolina. U.S. Geological Survey, Patuxent W
- Subject matter experts, federal and state legal authorities, scien

To the extent we could in the time available, we have footnoted the a which of the above references to look for more information on the above references are or will be posted as soon as possible on the I (http://parkplanning.nps.gov/CAHA)

GLOSSARY:

PIPL refers to piping plover
AMOY refers to American oystercatcher
CWB refers to colonial waterbirds
Closure refers to an area delineated by posts with string between the sometimes there was no string between posts)
Decision tree refers to a set of IF / THEN statements in a flow chart management action would be implemented)
Historic refers to the last 10 years' breeding seasons
Active refers to the last 3 years' breeding seasons

Subject: Oregon Inlet Bridge Replacement Comment
Date: Mon, 5 Dec 2005 06:46:41 -0500
From: "Ted Hamilton" <tedsalvo@earthlink.net>
To: cgoode@dot.state.nc.us

I forgot to include my address

6 Jib Court
Hampton VA 23664

Cheers Y'all

Ted A. Hamilton
(aka Salvo Jimmy)

----- Original Message -----
From: Ted Hamilton
To: cgoode@dot.state.nc.us
Sent: 12/4/2005 1:43:31 PM
Subject: Oregon Inlet Bridge Replacement Comment

Mr. Goode:

I want to add comments to my oral and written comments given at the Rodanthe 11/10/05 meeting regarding Pea Island access.

Any alternative chosen should provide access to Pea Island similar to what we have today. Limiting access to Pea Island at two or three points as two of the parallel corridor alternatives do (Road North/Bridge South & All Bridge) or possibly totally eliminating NC 12 from Rodanthe to Oregon Inlet along Pea Island, as the Sound Corridor does, is unacceptable.

The minimum acceptable access to Pea Island is at least along a trail that will accommodate 4 wheel drive vehicles in the area of the present NC 12. That trail should extend from Rodanthe to the parking area at the South end of the present bridge. Access to such a trail should be by private vehicle and not by some form of public transportation.

On 3 Nov 05 mid morning I counted 42 vehicles stopped on Pea Island between Rodanthe and the parking area at the South end of the present bridge. Many of these vehicles were parked along the shoulder of NC 12 in order to access various spots on the ocean and sound. Note that the date is a very off season date and not close to any holiday, yet there was considerable use of access. Eliminating this type of access to Pea Island by private vehicle is totally unacceptable.

Cheers Y'all

Ted A. Hamilton
(aka Salvo Jimmy)

Subject: FW: Update to Comments for the Record on Bonner Bridge Replacement
Date: Sat, 14 Apr 2007 09:34:35 -0400
From: "Ted Hamilton" <tedsalvo@earthlink.net>
To: "Carl (NCDOT) Goode" <cgoode@dot.state.nc.us>

Rejected as your mail box is full ?????

Ted A. Hamilton
6Jib Court
Hampton VA 23664

----- Original Message -----
From: Ted Hamilton
To: Carl (NCDOT) Goode
Sent: 4/14/2007 9:10:24 AM
Subject: Update to Comments for the Record on Bonner Bridge Replacement

Mr. Goode:

I should have added one more breech to be completely accurate.

Loggerhead Inlet (just North of Rodanthe) opened sometime prior to 1851, some believe as early as 1845 and closed sometime in the late 1870's.

Ted A. Hamilton

B-123

From: Mary and Arthur Hammond-Tooke [hammondtooke@beachlink.com]
Sent: Monday, November 14, 2005 4:24 PM
To: sblevins@dot.state.nc.us
Subject: Bonner Bridge Repairs

Scott

I much enjoyed meeting you, November 9th/10th, 2005.
I learned a great deal, and especially appreciated your openness, telling it like it is!

As you know, I am very concerned that the existing Bonner Bridge remains open until 2015, or whenever the new bridge is commissioned.
I believe that when Mr. Roper's 2006 investigation takes place into the Bonner Bridge's structural deficiencies, and what it will take to fix them using traditional materials, bridge closure may be considered.

Because of the adverse impact to the Outer Banks economy and tourist industry, I would like to have on the table the range of repairs possible with fiber-reinforced polymers.

I feel confident that wrapping concrete pillars and girders (and perhaps the gunnite base) with Kevlar sheeting and three-quarter inch resin will make a rigid "splint" well able to support the bridge. In addition, this low-cost and rapid treatment will protect the bridge from salt water and thermal changes.

Here are the links to sites on the subject, some of which I have already provided to Beth Smyre and Mr. Roper as print-outs:

http://www.csa.com/discoveryguides/bridge/overview.php
http://www.pubs.asce.org/WWWsrchkwx.cgi?Fiber+reinforced+plastics
http://cee.kuktem.edu.my/article.cfm?id=1404
http://www.ncsu.edu/news/press_releases/03_02/43.htm
http://gtresearchnews.gatech.edu/newsrelease/BRIDGE.html
http://www.civil.fau.edu/cficf.htm
http://campus.umr.edu/rb2c/publications/journal/2003/financial.pdf
http://www.engr.wisc.edu/cee/faculty/bank_lawrence/BakisBanketalJCC150thpaper.pdf
http://www.publicaffairs.ubc.ca/media/releases/2001/mr-01-59.html

Please send me Mr. Roper's email address so that I can send him the full list of above sites.

I will email you information on the two additional points raised:

1. Wind deflection devices for bridges, and
2. NPS "negotiation with the public" initiative, and its possible applicability to the Bonner Bridge/Hwy 12 replacement effort.

I am now retired for the 5th time, and am available as a resource if you feel I could be of help in any way!

Please email, or call me at the number below.

Regards

Arthur Hammond-Tooke

Arthur Hammond-Tooke

PO Box 592
Frisco, NC 27936
252-995-0298

B-124

From: Mary and Arthur Hammond-Tooke [hammondtooke@beachlink.com]
Sent: Monday, December 12, 2005 7:32 PM
To: Carl Goode
Subject: Supplementary Testimony on NC Replacement of the Herbert C. Bonner Bridge

RE: Supplementary Testimony on NC Replacement of the Herbert C. Bonner Bridge

Dear Mr. Goode.

1. **Immediate steps are needed to reinforce the existing Bonner Bridge to provide safe and secure access to Hatteras Island.**
   -- Outer Banks tourism (worth $350 million per year, and central to Hatteras Islands' economy, community, and tax base) depends on highway access.
   -- According to Norma Mills, Sen. Marc Basnight's chief of staff, Bonner Bridge, the sole road link to Hatteras Island, has a structural integrity of 4 on a scale of 0-100. (The Virginia-Pilot, December 11, 2005, Y1.)

2. Repairs to stabilize until 2012 the existing Bonner Bridge, using fiber reinforced plastics (FRP) are needed to reinforce concrete pillars, girders, and compression layer with Kevlar in a resin matrix to form a rigid supporting "splint" for the bridge.
-- Compared to traditional structural repair methods, this low-cost and rapid treatment will protect the bridge from salt water corrosion.
-- FRP consists of high strength fibers glass, carbon, and aramid, (trade name Kevlar) immersed in a structural matrix such as epoxy or other durable resin.
-- Brittle materials such as glass and carbon can acquire enormous strength and stiffness when produced in the form of a fiber.
-- The addition of these fibers to a compliant matrix results in a material that demonstrates a dramatic improvement in performance, producing structural reinforcement with much greater mechanical properties than its constituents.
-- FRP can be wrapped like wallpaper around bridge columns and beams providing additional reinforcement to increase durability, and corrosion resistance. (See: http://www.csa.com/discoveryguides/bridge/overview.php)

3. Since either bridge/route alternative will take 8-10 years to complete, adequate resources will need budgeting to keep open Highway 12 through Pea Island Refuges.
-- Highway 12 over Pea Island Refuges (the only transport route) is being lost as the shoreline migrates westward at an annual rate exceeding 10 feet yearly.
-- Any highway (raised or grade) over Pea Island may be continuously breached, closed by overwash, or destroyed in the surf zone within 20 years.
-- Faced with sea-level rises, coastal erosion, and climate change, the long bridge may be the only workable alternative over the life of the bridge.

4. The "short bridge" alternative does not guarantee continued access to Pea Island beaches, or Southern Groin retention, since permits relate to the existing bridge.
-- U.S. Game and Fish advised NC-DOT that both the Southern Groin and public road access through Pea Island Refuges will require re-permitting once the existing Bonner Bridge is decommissioned.
-- U.S. Game and Fish, the permitting agency, stands ready to commence the re-permitting process for either bridge alternative.
-- Once the permitting process is concluded, choice of bridge/route alternatives will become clear.

Sincerely,

Arthur Hammond-Tooke
December 12, 2005

Arthur Hammond-Tooke
PO Box 592
Frisco, NC 27936

OUTER BANKS COORDINATED BRIDGE/HIGHWAY ACTION PLAN

OBJECTIVE:

Maintain long-and short-term access to and on the islands with a safe, efficient bridge/highway system supporting the local economy, community services, and tax base, while minimizing adverse environmental impacts.

FACTS:

1. Without immediate structural repairs, the Bonner Bridge faces closure for safety reasons due to corrosion, spalling and scour.
2. On Pea Island especially, Highway 12, (the only transport route) is being lost as the shoreline migrates westward at an annual rate exceeding 10 feet per year.
3. Outer Banks tourism (worth $350 million per year, and central to the islands' economy, community, and tax base) depends on road access for the future.
4. Tourism (fishing, birding, wind sports, recreation) also depends on a complex trade-off between conservation and development over the long-term.
5. According to FHWA-NC-EIS-93-01-DS (2-88), a completed highway corridor beyond the worst-case 2060 projected shoreline can not be expected before 2012.

LONG-TERM GOALS:

1. Provide a replacement for Bonner Bridge and a serviceable highway to Rodanthe at least until 2060, despite beach erosion and shoreline migration.
2. Maintain road access to Pea Island Refuge, at least for 4-wheel drive traffic.
3. Maintain a long-term navigable route through Oregon Inlet, minimizing time delays and dredging costs

SHORT-TERM GOALS:

1. Stabilize until 2012 the existing Bonner Bridge (with immediate temporary repairs, perhaps using fiber reinforced polymers).
2. Commit adequate resources until 2012 to keep open Highway 12 through Pea Island.
3. Address the concerns of the boating and fishing community about maintaining Oregon Inlet's long-term navigability, and permit for the terminal groin.
4. Assure tourists and business owners that safe and efficient road access will be maintained (essential to keep business running, retain property values, maintain North Carolina tax revenue, and defray transportation investment, among other things).
5. Mount a coordinated Outer Banks "safe access" publicity campaign showcasing this Action Plan to encourage tourism and investment.
6. Secure explicit community, federal, state and local government support for permits and $450 million funding (temporary Bonner Bridge repair/Pea Island passage, and permanent Pamlico Sound Bridge Corridor situated west of the projected 2060 shoreline, the only realistic option given the constraints).

Arthur Hammond-Tooke
Frisco, NC 27936
November 9th, 2005

Subject: 17-mile bridge will eliminate all money, towns, life in Hatteras
Date: Fri, 13 Apr 2007 08:15:11 -0400
From: mhamrick@vt.edu
To: 'cgoode@dot.state.nc.us'

To Carl Goode, Jr. and anyone it may concern at NC-DOT:

The construction of a new 17-mile bridge via the Pamlico Sound Bridge Corridor will have many negative impacts on the attraction of the Outer Banks of North Carolina. Being a Virginia resident who loves Hatteras and Pea Island, the proposed 17-mile bridge would greatly discourage me from making the trip south if constructed. I know many friends and families who visit Hatteras often, and building a bridge that bypasses Pea Island would all but eliminate our visits. Honestly, the reason the Outer Banks is so beautiful and worth it, is those stretches of land in between towns. That's why many people go. However, you also have to consider the tourist and dollars you get from visitors who enjoy Pea Island. Building this bridge will suffocate the flow of money into these beach towns, especially Rodanthe.

Aside from losing tourist/visitor dollars, this stretch is loved by fisherman, business owners, surfers, park rangers, environmentalists, and everyone trying to escape Nags Head and northern beaches for their own stretch of sand. Not to mention the ghastly enormous cost of building the longer bridge, utilities will rise on Hatteras, as well as new problems with evacuation safety, noise, and car pollution into sacred wildlife reserves.

Alternative options like a ferry system would totally discourage people from visiting/living in Hatteras as well. Let's face it, we know the island will erode and move over the next 50 years, but what road in the United States isn't redone every 50 years? Highway 12 can exist with smaller bridges over the hot spots on the Pea Island stretch.

A new shorter bridge that parallels the existing Bonner Bridge needs to be built. This is the only option if you want to keep the life of Hatteras alive.

Very Concerned Citizen

B-126

COMMENT SHEET Due Dec. 12

NC 12 Replacement of Herbert C. Bonner Bridge over Oregon Inlet

Corridor Public Hearing

B-2500 8.1051205 Dare County

November 9 and 10, 2005

NAME: Dee Hardham

ADDRESS: P.O. Box 1268 / 49588 Hwy 12, Buxton, NC. 27920

COMMENTS AND\OR QUESTIONS:

Comments may be mailed to:
C. B. Goode, Jr., P. E.
Office of Human Environment Unit Head
1583 Mail Service Center
Raleigh, NC 27699-1583 Phone: (919) 715-1515 Fax: (919) 715-1501
E-mail: cgoode@dot.state.nc.us

The Negative Repercussions of the Long Bridge Concept for NC 12 are numerous and potentially economically disastrous to Dare County and to the State of N.C.

The estimated costs to transfer the electrical service lines from land poles to a long bridge are thought to result in a 28% increase in future customers' bills. Such a catastrophic increase in the cost of living would free many lower income residents to leave and the costs for rentals to skyrocket. With the present shortage of low income housing for Service Personel to the Tourism Industry, such an added burden to such support/service staff would impact all of the Tourism Industry. A potential result could be a real estate market "crash" as houses for sale flooded the market as a result of loss of rentals due to expense.

The economic burden to all N.C. Residents to "onte up" $400 - $500 million in one step for a long bridge could create problems to the entire budget of N.C. for years. There can be no "stages of construction" to spread out the impact.

Without a "foot print" (Board Right of Way) for N.C. DOT on the southern boundary of Oregon Inlet, present laws dictate that the rock groin there on Pea Is. must be removed.

The removal of this stabilizing groin which seems to have contained Oregon Inlet's southerly migration could cause the north edge of Pea Is./ south boundary of Oregon Inlet to experience rapid erosion and the return of Oregon Inlet migration to the South.

Oregon Inlet is a forceful body of water, often moving at incredible speeds to shift and move sand. If the southern boundary of the Inlet were allowed to erode and migrate South, it is conceivable that the deep channel could suddenly shift from its present (and assumed future) position. Costs to maintain the Oregon Inlet Channel could increase far beyond present day expenses with out that stabilizing groin on the Southern boundary. The Commercial and Sport fishing Industry depends on the Oregon Inlet Channel.

A long bridge of 17+ miles over open waters involves safety hazards from high velocity winds and water spray. The history of the Chesapeake Bay Bridges when 2 lanes disclosed frequent closures due to wind and vehicular collisions as a result of drivers' unfamiliarity with wind and water spray dangers in controlling a vehicle on a bridge. With the 75 foot high channel clearance spans and wind velocity problems, there is no greater guarantee such a long bridge would allow for hurricane evacuation than a short bridge with the same 75 foot high channel clearance. As an island, there will always be risks and problems with evacuation of population.

Finally, and of no less importance, is public access to the extent of Pea Island. If there is no public roadway for citizens' access, this Refuge could become inaccessible/closed to the average citizen.

The U.S.F & W.'s budget contains little or no funds to create and maintain "road way" access within the Pea Is. Refuge, therefore it is probable that Pea Is. would evolve to a Gated Refuge/Park with an Entrance Fee and restricted types of daytime use similar to Back Bay Wildlife Refuge and to Assateague Is. Wildlife Refuge. The loss of free and open access would exclude thousands of present-day users and result in a greater human-usage stress to Hatteras Is. south of Pea Is.

This is something that both island villages and the National Park Service are unprepared to handle. Even at present levels of visitation, the facilities for parking and human usage are inadequate to the point of being a danger from parking ~~not~~ vehicles alongside of N.C. 12.

I cannot believe that a Long Bridge by passing Pea Is. would be wise in the long-term needs to serve the public and protect the economy of Hatteras Is.

B-128

11/15/2005 11:17 2529957945 HARDHAM PAGE 05

COMMENT SHEET

NC 12 Replacement of Herbert C. Bonner Bridge over Oregon Inlet

Corridor Public Hearing

B-2500 8.1051205 Dare County

November 9 and 10, 2005

NAME: Larry Hardham

ADDRESS: P.O. Box 1268 / 49588 Hwy. 12, Buxton, NC 27920

COMMENTS AND\OR QUESTIONS:

Comments may be mailed to:
C. B. Goode, Jr., P. E.
Office of Human Environment Unit Head
1583 Mail Service Center
Raleigh, NC 27699-1583 Phone: (919) 715-1515 Fax: (919) 715-1501
E-mail: cgoode@dot.state.nc.us

I believe that the "All Bridges" concept for N.C. 12 on Pea Island is the best solution for the future.

Pea Island Refuge is an integral part of Dare County and of visitors' experiences of Hatteras Is. and the N.C. Outer Banks. The unique environment of that island is a necessary part of visitors experiences to understand sandbar islands. The "On-Island bridges" would offer views of marshes and of sand barrens and dunes for the public to better understand the balance of nature on a sandbar at the edge of the ocean.

The Hatteras Is. Elec. Co-op. could work with N.C. DOT to slowly, as needed, use the island bridges to carry electrical service lines at more reasonable cost increases to users than the estimated 28% increase in billing in order to move electrical service lines onto a 17+ mile long bridge in one step.

By using this land bridging plan for N.C. 12, the State can work in stages toward completion over Pea Is., thus lessening the economic impact on all N.C citizens.

The concept of land bridging could allow for over wash and dune movement as natural forces re-shape the island to its pre-man made "dune walls" configuration. It is conceivable that breaches with out the "dune wall" might even find a natural balance with less rapid erosion/sand movement. (Coastal Geologists are guessing that some of the recent erosion/sand movement is actually being caused by that man made dune wall.)

B-129

COMMENT SHEET

Herbert C. Bonner Bridge Replacement

Formal Public Hearings – March 28 and 29, 2007

TIP Project No. B-2500 Dare County WBS No. 32635.1.3

NAME: LARRY HARDHAM

ADDRESS: P.O. Box 1268 Buxton, NC 27920

COMMENTS AND/OR QUESTIONS:

If long bridge is built access to Pea Island via an ORV trail or road that would satisfy the State requirement to provide access to the old Coast Guard Station now owned by a state agency

I am strongly in favor of new short bridge with phased approach / Rodanthe Nourishment and a second choice of Parallel Bridge Corridor with Nourishment.

Both concepts need to leave a "fishing bridge at south end of bridge

Comments may be submitted by April 17, 2007 to:

Mr. Carl Goode, Jr., PE, Unit Head
NCDOT - Human Environment Unit
1583 Mail Service Center
Raleigh, NC 27699-1583
Phone: (919) 715-1515 FAX: (919) 715-1501
Email: cgoode@dot.state.nc.us

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November 10, 2005

Mr. Carl Goode, PE
Head, Human Environment Unit
NCDOT
1583 Mail Service Center
Raleigh, NC 27699-1583

Dear Mr. Goode:

I have lived on the Outer Banks for 31 years. I own property on Hatteras Island. I have four businesses on Hatteras Island. I think the parallel bridge to the current Oregon Inlet bridge is the most practical solution and the best use of public funds.

Sincerely,

John Harris

B-130

P.O. Box 1839, 3933N S. Croatan Hwy at Jockey's Ridge, Nags Head, NC 27959
PH. (252) 441-4124 • FX. (252) 441-7597 • E-Mail: info@kittyhawk.com • Website: http://www.kittyhawk.com

November 19, 2005

Carl B. Goode, Jr.
Human Environment Unit Head
1583 Mail Service Center
Raleigh, NC 27699

Dear Mr. Goode,

I am writing to you regarding the proposed replacement of Bonner Bridge as described in the Supplemental Draft Environmental Impact Statement (SDEIS). These are my personal comments based on the document and my familiarity with the area, the bridge and this project.

I strongly urge the State of North Carolina, Department of Transportation (NCDOT), to select the Pamlico Sound Bridge Corridor. This alternative will most immediately meet the purpose and need of the project. It will also provide the highest level of dependable transportation to and from Hatteras Island (and Ocracoke Island for many people). Although it has a higher construction cost, the obligation of the state to ensure a reliable transportation corridor for its citizens is very important. This alternative can do this with the least environmental impact over the longest period of time.

The Parallel Bridge Corridor should be quickly rejected and no further study should be made on it. It is absolutely foolhardy and a waste of time and money to continue to think that a paved two-lane road can be maintained over the next fifty-years on Pea Island. Consider the following:

- Three of the six "hot spots" on NC 12 are on Pea Island.
- Constructing and maintaining any bridge in the highly energetic Oregon Inlet is a mistake, no matter how well designed it is.
- Remember the impact of Hurricane Isabel (as well as every other storm and northeaster) to NC 12 on Pea Island.
- Pea Island is a likely location for a future inlet.
- Pea Island is a National Wildlife Refuge and should be maintained as such by the federal government and respected as such by state and local government.

In closing, I encourage the responsible planners of NCDOT and the responsible leaders of the State to ignore the many smoke screens and diversions of Dare county interests and politicians who, it appears, are looking after their own interests at the expense of the citizens of and visitors to Hatteras and Ocracoke islands. Issues such as public access, historic structures and terminal groins should not be allowed to prevent NCDOT from making a sound and responsible decision on the urgent replacement of Bonner Bridge. The Pamlico Sound Bridge Corridor is clearly the wisest long term solution and should be selected as the preferred alternative.

Sincerely,

Steve Harrison

Steve Harrison
101 Boyd Drive, Apt 1C
Flat Rock, NC 28731

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

We, the undersigned organization, would like to inform you of our position on the replacement of the Bonner Bridge over Oregon Inlet.

Our membership is comprised of businesses and individuals that depend on Oregon Inlet for their livelihoods. Safety through the inlet is our first concern. We have followed the progress of the replacement of the aging Bonner Bridge and are very alarmed over the lack of attention by NC DOT to take this opportunity to ensure safe navigation through the waterway.

Although NC DOT is responsible for marking the navigable channel where it passes underneath Bonner Bridge, perhaps the number of times the navigable channel has moved in the past year alone has not been associated with the hazardous and unpredictable condition of Oregon Inlet. Today, conditions are so bad that the charter fleet, whose boats draw only 4 to 6 feet of water, are hitting bottom regularly. During the Pirates Cove Billfish Tournament in August, 32 boats ran aground during a four-day period. Just two weeks ago, commercial fishing boats that traveled through the channel one day found the same path shoaled up and impassible the next. The lives of recreational and commercial boaters and Coast Guard personnel are placed in jeopardy every time they traverse the waterway.

The longer 17 mile bridge alternative will have a devastating effect on navigation. As you may recall, the permit that allowed the construction of the groin on Pea Island clearly stated that if the groin were never needed for the protection of the highway on the south end of the Bonner Bridge, as with the 17 mile bridge alternative, it would have to be removed. We believe the groin has been instrumental in ensuring that the inlet and the navigation channel have not migrated south from under the navigational spans. Removal of the groin will hasten the southern migration of Bodie Island and will eliminate all predictability, what little there is, from the inlet. Additionally, removal of the groin will be an unnecessary and exorbitant expense.

We support the construction of the shorter bridge alternative, assuming the Oregon Inlet Fishing Center will not be adversely affected or done away with. We also support the construction of a groin on the northern side of the inlet to protect the new bridge. Without a hardened structure, Oregon Inlet will never truly be safe. The shorter bridge coupled with a groin will cost less, allow for continued access by citizens to the public lands of northern Hatteras Island and will ensure navigation into the future.

The mission of the NC DOT states that you are to "Provide a safe, modern and integrated multimodal system that expands opportunities and unites citizens in both urban and rural areas in support of Governor Easley's vision for One North Carolina". We hope that you interpret your mission as we do and take this opportunity to complete the new bridge and also protect Oregon Inlet and the North Carolinians who depend on it.

Sincerely,

Mr. William R. Harwood,
Joann Harwood
39305 Pamlico Court P.O. Box 727
AVON, N.C. 27915

Karl Haug
3068 Bowling Green Drive
Walnut Creek, CA 94598

Tel. 925-945-7784
E-Mail: haug@astound.net

April 17, 2007

Carl Goode, PE
Department of Transportation
State of North Carolina
1583 Mail Service Center
Raleigh, NC 27699-1583

Re: Replacement of the Bonner Bridge, Project Number B-2500

Dear Sir:

As a 30-year homeowner in Salvo, NC, I am very concerned about the delays in getting a replacement bridge built over Oregon Inlet. I recall that already back in the late 1970s the Bonner Bridge needed emergency repairs because of weakness in piling support.

Unfortunately I was not able to attend the recent public hearings – so here is my input:

Move forward with the short bridge design, for which there seems to be adequate funding from the various sources, and forget the long bridge proposal, which exceeds drar.atically the available funding. Let's go with the solution we can afford.

Sincerely,

Karl Haug

COMMENT SHEET

Herbert C. Bonner Bridge Replacement

Formal Public Hearings -- March 28 and 29, 2007

TIP Project No. B-2500 Dare County WBS No. 32635.1.3

NAME: Lovie Heilig

ADDRESS: PO Box 1516 Rodanthe, NC 27968

COMMENTS AND/OR QUESTIONS:

My family has lived on Hatteras Island for centuries. As a resident and employee, as well as a taxpayer of Dare County, I do not understand why it has taken so long to address the condition of the Bonner Bridge. It is in my opinion that the quickest means of replacement should be considered, as the current bridge is unstable. A paralled bridge would provide the most rapid solution with the least impact on Rodanthe residents. The traffic entering northern Rodanthe greatly concerns me regarding the alternatives. Please do as the HATTERAS ISLAND residents request, and meet the needs of those individuals who live here rather than visit here.

Thank you,

Lovie Heilig

Comments may be submitted by April 17, 2007 to:

Mr. Carl Goode, Jr., PE, Unit Head
NCDOT - Human Environment Unit
1583 Mail Service Center
Raleigh, NC 27699-1583
Phone: (919) 715-1515 FAX: (919) 715-1501
Email: cgoode@dot.state.nc.us

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

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The longer 17 mile bridge alternative will have a devastating effect on navigation. As you may recall, the permit that allowed the construction of the groin on Pea Island clearly stated that if the groin were never needed for the protection of the highway on the south end of the Bonner Bridge, as with the 17 mile bridge alternative, it would have to be removed. We believe the groin has been instrumental in ensuring that the inlet and the navigation channel have not migrated south from under the navigational spans. Removal of the groin will hasten the southern migration of Bodie Island and will eliminate all predictability, what little there is, from the inlet. Additionally, removal of the groin will be an unnecessary and exorbitant expense.

We support the construction of the shorter bridge alternative, assuming the Oregon Inlet Fishing Center will not be adversely affected or done away with. We also support the construction of a groin on the northern side of the inlet to protect the new bridge. Without a hardened structure, Oregon Inlet will never truly be safe. The shorter bridge coupled with a groin will cost less, allow for continued access by citizens to the public lands of northern Hatteras Island and will ensure navigation into the future.

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Sincerely,

RE/MAX Ocean Realty

Bruce F. Herndon
Senior Broker Associate

November 7, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

We, the undersigned organization, would like to inform you of our position on the replacement of the Bonner Bridge over Oregon Inlet.

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The mission of the NC DOT states that you are to "Provide a safe, modern and integrated multimodal system that expands opportunities and unites citizens in both urban and rural areas in support of Governor Easley's vision for One North Carolina". We hope that you interpret your mission as we do and take this opportunity to complete the new bridge and also protect Oregon Inlet and the North Carolinians who depend on it. Thanks for your consideration in this matter.

Sincerely,

Stacey Hinkle
252-202-5588
Stacey@outerbanksconstruction.com

Subject: Re: Humble Apology Alternative Idea Bonner Bridge Replacement
Date: Thu, 29 Mar 2007 03:05:10 -0500
From: "Major Hooper" <WAYMAJOR@peoplepc.com>
To: "Major Hooper" <WAYMAJOR@peoplepc.com>, <cgoode@dot.state.nc.us>, <Marcb@ncleg.net>, "Lona Hallissy \(Rep. Spear\)" <Spearla@ncleg.net>
CC: <DCBOC@darenc.com>

Forgive me all... the alternative mentioned in my previous email would, of course, be equidistant to the "long bridge" option ...the shorter alternate idea I had in mind, that would be *"a great compromise solution"* (as I called it in the email reprinted below) would be from Point Peter (road in place) to the South foot of the Bonner Bridge.
Please excuse my error...a humility moment for sure...
Humbly,
Major

----- Original Message -----
From: Major Hooper
To: cgoode@dot.state.nc.us ; Marcb@ncleg.net ; Lona Hallissy (Rep. Spear)
Cc: DCBOC@darenc.com
Sent: Wednesday, March 28, 2007 2:47 PM
Subject: Alternative Idea Bonner Bridge Replacement

Hello NC Legislators, Dare Commissioners and NCDOT Rep. Mr. Goode,
I am not able to attend the public hearing tonight in Manteo but have some input and I thank you for making the opportunity available for additional comments in this manner.
The options being discussed, the long and short versions, have an alternative that would be a great compromise solution; a bridge from Sandy Point at Stumpy Point to Rodanthe following (approx.) the Emergency Ferry Route currently operating between these two points. It would cut the distance nearly in half in comparison to the "long bridge" replacement option, would provide a faster and more effective emergency escape route for Hatteras Isl., would offer the National Seashore some of the relief they seek through the northern end of Hatteras Island, provide important economic support to the "264 corridor" through Engelhard to Washington, New Bern and points west, and would better serve the traveling public from the Hwy 64 (Raleigh) direction (cutting distance and time to Hatteras). For points on the northern OBX it would not significantly impact their travel (10 Mi ?). There are construction docks already in place (NC DOT Ferry Docks at Stumpy Point and Rodanthe). There is a road in place through the woods to Long Shoal Point as well, though it is rudimentary.
This alternative could save millions in construction costs, increase public safety, positively impact the National Seashore (less impact on sensitive fisheries as well) and contribute a long needed economic boost to some of the most beautiful but economically neglected rural coastal areas in NC (on Hwy 264 from Stumpy Point to New Bern). I think this is a win-win alternative for all concerned parties worthy of serious consideration.
Thank you all for your public service, you continue in my thoughts and prayers...
Major I. Hooper
Dare County, NC

B-135

Subject: Alternative Idea Bonner Bridge Replacement
Date: Wed, 28 Mar 2007 14:47:00 -0500
From: "Major Hooper" <WAYMAJOR@peoplepc.com>
To: <cgoode@dot.state.nc.us>, <Marcb@ncleg.net>, "Lona Hallissy \(Rep. Spear\)" <Spearla@ncleg.net>
CC: <DCBOC@darenc.com>

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Thank you all for your public service, you continue in my thoughts and prayers...
Major I. Hooper
Dare County, NC

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

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Sincerely,

Eddie Hoffman

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

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Sincerely,

Michelle Huffman

Marketing Department
The Wharton School
University of Pennsylvania
700 Jon M. Huntsman Hall
3730 Walnut Street
Philadelphia, PA 19104-6340
215.898.6450 phone
215.898.2534 fax
jwhutch@wharton.upenn.edu
Wes Hutchinson
Stephen J. Heyman Professor
Professor of Marketing

Wharton

November 10, 2005

Outer Banks Task Force

Task Force Members:

I am writing regarding the Corridor Public Hearing that will be held tonight at the Rodanthe Waves Salvo Community Center. I am a property owner in the Mirlo Beach Development (P.O. Box 367, 23002 Cross of Honor Way, Rodanthe, NC 27968). I am living in Rodanthe this year because I am on sabbatical from University of Pennsylvania where I am a Professor of Marketing in the Wharton School. I mention my profession because the comment I would like to make is based on my knowledge of both the economics and the psychology of decision making, which is my area of expertise.

A handout, titled "NC 12 Replacement of Herbert C. Bonner Bridge Over Oregon Inlet," was distributed today to help the public understand the issues in preparation for the public hearing. The cost figures presented in that document are misleading because they are undiscounted and as such make the Nourishment alternative appear to be the most expensive option. Using appropriately discounted cost estimates is critical to making sound financial decisions because the dollars spent today are much move valuable than dollars spent 20, 40 and 60 years in the future. The Supplemental Draft Environmental Impact Statement reports discounted cost estimates using a 5% discount rate (which is rather conservative). In this analysis, the Nourishment alternative is the second least expensive at $344.8 million. The North/South Bridge is least expensive at $281.3 million. The Parallel Bridge with All Bridge is the most expensive at $460.2 million, and the Pamlico Bridge alternatives are $391 million and $395 million. The Statement explains why discounting costs is important and notes that "Alternatives with lower discounted costs can be viewed as providing a better return on the investment of state resources." I strongly encourage you to report discounted costs in all public communications, including hearings, interviews, and press releases.

I have not yet decided which alternative I favor, but I believe that using undiscounted costs misleads the public and is exceptionally misleading about the cost of the Nourishment alternative. There is no rational analysis that leads to the conclusion that the Nourishment alternative is more expensive than either of the Pamlico Bridge alternatives.

A second, less critical but still important point that is not addressed in the handout (and may or may not be in the SDEIS which I have not fully read) is the option value of

the alternatives. The Nourishment alternative clearly has the highest option value in the sense that it could be later converted to either of the other Parallel Bridge alternatives. For example, the SDEIS notes that the rate of erosion might be higher or lower than estimated. If it is too high then the new road and bridge at Rodanthe could be built. However, it could also be lower than estimated. A report Dolan, Dofflemeyer, Donoghue, and Smith (2004) suggests that the sand by-passing that results from the dredging of Oregon Inlet may be accelerating erosion on Pea Island. If this problem is solved in future years then the erosion rate may slow.

Best regards,

Subject: Bonner Bridge Replacement
Date: Tue, 17 Apr 2007 23:01:01 -0400
From: Wes Hutchinson <jwhutch@wharton.upenn.edu>
To: cgoode@dot.state.nc.us
CC: Marcb@ncleg.net, Tims@ncleg.net, warrenj@darenc.com, allemb@darenc.com

Mr Goode:

I am writing a brief comment on the plans for replacing the Bonner Bridge. I am a homeowner in the Mirlo Beach development at the extreme north end of Rodanthe bordering the Pea Island Wildlife Refuge, so I among those who will be most directly affected by the bridge replacement. I am also a professor of marketing at the Wharton School at the University of Pennsylvania, which I mention because one aspect of aspect of my comments pertains to the economic impact of the bridge replacement plans. I have attended the two most recent public hearings in Rodanthe and have read (or at least skimmed) the various drafts of the SDEIS.

First, of the presented options, I support the short bridge plus beach nourishment at the various hot spots. This is, of course, partly self-interested because it most protects the property that I own. But it also seems the least risky and most financially prudent option.

Second, I am sensitive to the environmental (and other) concerns associated with beach nourishment. One alternative to beach nourishment that I have not seen discussed in any document is artificial reefs. Although this is not my area of expertise, my causal search for information in this area revealed that it is an active area of academic research and government involvement. The State of Florida has a very active artificial reef program. Also, New Zealand and Australia have undertaken several large scale projects. The intriguing thing that emerged from my reading is that artificial reefs can (1) slow or reverse beach erosion, (2) enhance habitat for wildlife (especially fish), (3) enhance the recreational value of the beach area by improving fishing, surfing, wind-surfing, and snorkeling among other activities, and (4) the enhancements of (3) have almost always been judged to result in a NET POSITIVE economic impact even after considering the cost of reef construction. At least one type of artificial reef is constructed using very large "sand bags" and is therefore reversible and suitable as an experimental project. All of these facts suggested to me that artificial reefs might be a "win-win" solution from the perspectives of the environmental goals of the NPS and the economic and public safety goals of the State of North Carolina. Enhancing fishing and surfing on Hatteras Island (which are both good, but have ample room for improvement) could have a major impact on off-season rental volumes and associated revenue for the area. I would encourage you consider this option as you go forward with replacing the bridge. (Just FYI, a New Zealand firm that is apparently a world leader in artificial reef analysis and design is ASR Limited, http://www.asrltd.co.nz/, with whom I have no association of even previous contact; they are just a good information source.)

Thank you for considering my comments.

--Wes H.

--
Wes Hutchinson
Stephen J. Heyman Professor
Marketing Dept., 746 Jon M. Huntsman Hall
The Wharton School, University of Pennsylvania
Philadelphia, PA 19104-6340
office: (215) 898-6450
fax: (215) 898-2534

B-139

Bonner Bridge Replacement

Matt and Jodie Kamins
23012 Cross of Honor Way
Rodanthe, NC 27968

December 5, 2005

Carl Goode
Human Environment Unit, NCDOT
1583 Mail Service Center
Raleigh, N.C. 27699-1583

Dear Mr. Goode:

We are writing to you concerning the plans for replacing the Herbert C. Bonner Bridge - and thank you in advance for your time and consideration of our thoughts.

Our family has been coming to Salvo-Waves-Rodanthe on Hatteras Island (known in our family as "the Beach") since 1980. We are from Silver Spring, Maryland (Washington, DC metro area), where Ocean City (MD), Delaware and even Jersey beaches are much closer. But those beaches are nothing like Hatteras Island on the Outer Banks of North Carolina – and we have come back here summer after summer, as do all of our college friends (and now their families), with whom we first discovered OBX decades ago.

For many, many years we rented beautiful and comfortable oceanfront cottages. When the weather was not quite beachy or we wanted to just read a book or watch a movie, it was just fine to be in a great house with a terrific view. The homes we stayed in actually became a part of our vacation, along with the beach and the birds and the fishing and the weather and the lighthouses.

Then, in 1998, for the first time ever, our family stayed in a house on the sound instead of oceanfront, in the Mirlo Beach community. It just blew us away.

The beauty and quiet activity of the Sound, the sweeping views from the decks (you can see Bodie Lighthouse on a clear day), the proximity to Pea Island and its diverse wildlife, and the ocean just short walk away. . . for the first time we actually began to seriously consider buying property and building a house at "the beach."

And that's just what we did. In 1999, we took a huge step in the chapter of "this is our one life" and purchased a lot and built a house in the Mirlo Beach community in Rodanthe. Into the plans we put all of our family's love for the area and dreams for a beach home that would be ours – a part of our family forever . . . and built it right there on the Pamlico Sound in Mirlo Beach.

Our boys are now adults (aged 29 and 25) and they have continued to join us for a family vacation at "the beach" each summer . . . and of course now that we actually have a home of our own down there, we can come be there more than our 2 weeks in August . . . during other seasons, and we've been amazed at the different colors in the fall, been entertained watching the wind sports athletes in the spring, and have even loved the solitude of the area in the winter.

By now, I am sure you get the gist of this. Some of the alternatives considered for replacing the Bonner Bridge will change the place we love and the home we have built forever. Yes, this is a personal issue for us. Alternatives that include construction of a bridge beginning at a new intersection in Rodanthe and continuing to a point approximately 2 miles north of the Refuge's southern border (i.e., the Road North/Bridge South and All Bridge versions of the Parallel Bridge Corridor) will forever change the area.

The panoramic and unobstructed views of Pamlico Sound would be substantially disrupted by the bridge (as described in the SDEIS - section 4.3.1.2), and associated lights of motor vehicles.

Also, use of the sound by boaters, kayakers, and windsurfers would be substantially disrupted. Clearly this bridge will cause significant economic loss to both the value of our property and rental income we depend on.

Yet we understand that personal issues won't sway public policy. We point out that there is ample reason to believe that the **Parallel Bridge Corridor with Nourishment** best serves the public good. The public good, in our minds, includes the good of the people and properties of the area . . . for the sake of those who live/own there as well as those who visit there and those who benefit from the revenues generated by the very conditions that are currently under threat . . . because last time we looked, tourism dollars generated by this part of the state are a significant revenue stream for the local governments and the State. So the entire state has a stake in this.

The Parallel Bridge Corridor with Nourishment is the alternative that does the most to protect the assets of Mirlo Beach, obviously. The views of Pamlico Sound and sound access would be preserved at their current levels. Nourishment would help protect oceanfront properties.

But even in the broader view, this alternative represents the least change from the current status of NC 12 and, therefore, runs the least risk of negatively affecting tourism (because of aesthetics, access to Pea Island, and/or fear of traveling on long bridges). Importantly, it is the second lowest in cost when appropriately discounted over the life of the bridge. Our family strongly supports the **Parallel Bridge Corridor with Nourishment** alternative. In fact, it appears to be the only alternative that has no impact on people and their properties.

Whatever is decided, we are sure you agree that a decision needs to be made and action needs to begin now to remedy a dangerous situation that could have tragic results and certain economic ramifications. Regardless of which bridge replacement alternative is adopted, the section of NC 12 running through Mirlo Beach needs to be properly maintained so that home owners and renters have clear and safe access to the properties.

Also, should a Pamlico Sound Corridor bridge be built, the concerns of Mirlo Beach homeowners must be fairly considered when an alternative means of public access to the Pea Island Wildlife Refuge is developed (as has been suggested will be necessary).

Again, we know there are many sides to this problem, and appreciate your time and consideration of our perspective. Your support in facilitating this process to a fair and speedy conclusion will be appreciated.

Sincerely,

Matthew & Kamins / Jodie Kamins

Matthew and Jodie Kamins
Rodanthe, NC

cc: Senator Marc Basnight
Representative Bill Culpepper

COMMENT SHEET

Herbert C. Bonner Bridge Replacement

Formal Public Hearings -- March 28 and 29, 2007

TIP Project No. B-2500 Dare County WBS No. 32635.1.3

NAME:
K. N. KAPPATOS

ADDRESS:
11516 BRIDGETENDER DR. RICHMOND, VA 23233

COMMENTS AND/OR QUESTIONS:

I LIVE IN RICHMOND, VA BUT OWN A HOUSE IN RODANTHE (23229 SURFSIDE DR), THAT WE VISIT VERY OFTEN. THE BRIDGE AND ROAD PRESENT 3 IMPORTANT FACTOR TO US. 1) WE MUST HAVE ACCESS TO THE HATTERAS ISLAND. THEREFORE THERE MUST BE A BRIDGE 2) OUR PROPERTY MUST STILL EXIST, SO THAT WE CAN TRAVEL AND VISIT IT. THEREFORE, THERE MUST BE RODANTHE BEACH NOURISHMENT. AND 3) THERE MUST BE ENOUGH MONEY TO GET THE JOB DONE. THEREFORE WE SUPPORT "PARALLEL BRIDGE CORRIDOR WITH PHASED APPROACH/RODANTHE NOURISHMENT" AND DO THE JOB AS FUNDS BECOME AVAILABLE, DOING THE BRIDGE FIRST AND THE OTHER PARTS AS IT IS NEEDED, BASED ON ENVIRONMENTAL CONDITIONS.

Comments may be submitted by April 17, 2007 to:

K. N. Kappatos
March 29, 2007

Mr. Carl Goode, Jr., PE, Unit Head
NCDOT - Human Environment Unit
1583 Mail Service Center
Raleigh, NC 27699-1583
Phone: (919) 715-1515 FAX: (919) 715-1501
Email: cgoode@dot.state.nc.us

B-141

Public Comment on Bonner Bridge Replacement
March 29, 2007

Natalie Perry Kavanagh
PO Box 598
Frisco, NC 27936
252-995-3035

My grandfather, Vernon Lee Perry, was an engineer for North Carolina's Department of Transportation in the 1950's and 1960's. His district was here, northeastern North Carolina, and he was involved in modernizing the road system for our area. One of NCDOT's most impressive accomplishments of that time was meeting the challange of building bridges to improve access to the Outer Banks. It truly changed the way of life on our islands. I could never talk to my grandfather about this time because he passed away before I was born. But, my grandmother Georgia remembers the day that the Oregon Inlet bridge was opened. She talks about how excited everyone was to have such an amazing bridge linking us to the rest of the world. Now, it is time for a new bridge. Again, it is a challange, but one that has to be met.

I became concerned about the new bridge within the past year. I had been following the ups and downs of the bridge decision over several years and kept thinking that it would work itself out at any time. Any time, they would decide what to do. Any time, we would see construction begin. What motivated me to become actively involved was hearing this story from a friend. She often takes senior citizens who can no longer drive on trips off the island. One day, she was driving several ladies up to Nags Head for a chance to do some shopping. As they approached the Bonner Bridge, several of the ladies began rolling the windows [redacted] down. Knowing, they generally do not like the windows down and all that wind rushing through the van, she asked, "What are you doing?" They calmly replied, "We want to be able to swim out the windows if the bridge falls down while we are on it."

Folks, I think "any time" is here. We need the decision to be made NOW. We need the construction to begin NOW.

There has been much controversy on where to build the bridge and whose needs are the most important. I personally prefer to be on a bridge the shortest amount of time possible. I have spent time in both Louisiana and Florida and I don't care for being on those long bridges. When accidents would occur, you would be stuck for hours. It was harder to get help for people, it was a longer wait for the accident to be cleared up. In Tampa Bay the Skyway bridge was beautiful, but the wind would blow a little bit and it would close. You would have to change the whole plan for that morning's commute. And it never blew there like it does here.

The long bridge option would cost the taxpayers a huge amount of money to build, if North Carolina could even swing it. I would hate to think of what programs were being sacrificed in other areas of the state because of our bridge cost, when there was a more economical solution available.

The long bridge would cost the residents and homeowners of this island an almost 30% increase in electric bills. That would make my electric bill almost $200.00 or more a month for a long time. My husband insists on keeping the heat down to save on electric. I am going to freeze if they build that long bridge!

I look forward to the drive through Pea Island Refuge every time I go off the island. The natural beauty of the refuge makes the trip enjoyable. I like seeing the waterfowl in the winter and the shorebirds in the summer. I like being able to pull off on the side of the road for a minute if I want to stop and look at something. Perhaps it is a casual experience of the refuge, but I don't usually have time to drive up there and hike around all day. The drive through lets me experience it on my time limitations.

Access to Pea Island is of great importance to the economics of our area. Visitors from both the Nags Head end and the Hatteras Island end of the Outer Banks use the beaches and birdwatching trails of the refuge. It is the best place to go to get the truly isolated experience of the barrier island for those visitors who don't like crowds. To lose the ability to get to the refuge and its miles of beaches would hurt the tourist experience of traveling in our area.

As a businessperson on Hatteras Island I know we need our bridge replaced as soon as possible. We cannot plan ahead for our business to grow without knowing if we will have a way for people to get here. We already see the visitors and homeowners worried about the future if the bridge is shut down before a new one can be completed. Our community is completely dependent on a new bridge being constructed and Highway 12 being maintained.

Make a decision and begin building NOW. Your decision will let us be safe in our travels on and off our island. It will provide for our economic future, our existence as a viable community. Your decision will enable us to ride over the bridge with our windows rolled up. And I want to be there on the new bridge's opening day so I can feel excited about what an amazing bridge we have linking us to the rest of the world.

ERA Coastal Properties

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November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

We, the undersigned organization, would like to inform you of our position on the replacement of the Bonner Bridge over Oregon Inlet.

Our membership is comprised of businesses and individuals that depend on Oregon Inlet for their livelihoods. Safety through the inlet is our first concern. We have followed the progress of the replacement of the aging Bonner Bridge and are very alarmed over the lack of attention by NC DOT to take this opportunity to ensure safe navigation through the waterway.

Although NC DOT is responsible for marking the navigable channel where it passes underneath Bonner Bridge, perhaps the number of times the navigable channel has moved in the past year alone has not been associated with the hazardous and unpredictable condition of Oregon Inlet. Today, conditions are so bad that the charter fleet, whose boats draw only 4 to 6 feet of water, are hitting bottom regularly. During the Pirates Cove Billfish Tournament in August, 32 boats ran aground during a four-day period. Just two weeks ago, commercial fishing boats that traveled through the channel one day found the same path shoaled up and impassible the next. The lives of recreational and commercial boaters and Coast Guard personnel are placed in jeopardy every time they traverse the waterway.

The longer 17 mile bridge alternative will have a devastating effect on navigation. As you may recall, the permit that allowed the construction of the groin on Pea Island clearly stated that if the groin were never needed for the protection of the highway on the south end of the Bonner Bridge, as with the 17 mile bridge alternative, it would have to be removed. We believe the groin has been instrumental in ensuring that the inlet and the navigation channel have not migrated south from under the navigational spans. Removal of the groin will hasten the southern migration of Bodie Island and will eliminate all predictability, what little there is, from the inlet. Additionally, removal of the groin will be an unnecessary and exorbitant expense.

6225 N. Croatan Hwy. • Suite D • Kitty Hawk, NC 27949 • Office: (252) 261-0606 • Fax: (252) 261-0605 • Toll Free: (888) 261-8677 • Website: www.era.com

We support the construction of the shorter bridge alternative, assuming the Oregon Inlet Fishing Center will not be adversely affected or done away with. We also support the construction of a groin on the northern side of the inlet to protect the new bridge. Without a hardened structure, Oregon Inlet will never truly be safe. The shorter bridge coupled with a groin will cost less, allow for continued access by citizens to the public lands of northern Hatteras Island and will ensure navigation into the future.

The mission of the NC DOT states that you are to "Provide a safe, modern and integrated multimodal system that expands opportunities and unites citizens in both urban and rural areas in support of Governor Easley's vision for One North Carolina". We hope that you interpret your mission as we do and take this opportunity to complete the new bridge and also protect Oregon Inlet and the North Carolinians who depend on it.

Sincerely,

EF Kegel Jr

EF KEGEL JR

Robert Keiper
P.O. Box 384
Frisco, NC 27936

Carl B. Goode, Jr.
P.E. Human Environment Unit Head
1583 Mail Service Center
Raleigh, NC 27699-1583

RE: Bonner Bridge, Dare County, Highway 12

Dear Sir,

I appreciate the options we have with the Bonner Bridge. The reality is the short bridge is the quickest and affordable option. It would be great to have the time, but we don't have the time. We need to make a decision now before a catastrophic problem happens. With the income that Hatteras Island makes for Dare County and NC I feel this matter is something that needs to be acted on swiftly. If something happens before action is taken the effect will be not only on the county and the state, but on the nation as well. I'm sure that you support a swift resolve to this matter. I hope to hear a positive resolution before lives and the pride of the Outer Banks are ruined.

Sincerely,

Robert Keiper

Robert Keiper
Frisco, NC

Subject: pea island
Date: Thu, 12 Apr 2007 02:56:40 -0400
From: "richy kicklighter" <kicklighter@verizon.net>
To: <cgoode@dot.state.nc.us>

please keep the old bridge and charge a toll of some sort(pea island) thankyou Richy Kicklighter
http://richykicklighter.com

Subject: herbert c bonner bridge
Date: Thu, 5 Apr 2007 15:03:38 -0400
From: KITCHEN <kitchen04@gmail.com>
To: cgoode@dot.state.nc.us

as a concerned citizen of dare county, and also and avid surfer and kayak guide. i feel it is my duty to voice my own opinions
on what you are planning to do w/ the bridge, and the ideas for new bridges.
first off i realize that the bridge must be replaced simplely b/c it is unsafe., something i myself try to keep out of my mind when i drive over
it in order to go surfing, or guide kayak tours in the refuge.
which brings me to my point: i think that the plan to build a corridor bridge through the Pamilico Sound is absolutely an absurd waste of my hard earned over taxed money. my primary concern is not the fact that i'd be out of a job guiding kayak tours in the Pea Island Refuge, or that i'd lose some places to surf, it is the fact that the people of Rodanthe who have lived and worked there for alot longer than i've been alive or you've been cooking up this scheme, will lose everything, not just their home, but their businesses, their land. thats asking too much in my opinion, where would they go? do you honestly think they would be able to buy nicer and newer homes in Nags Head, or Manteo? realistically i doubt it!
my second concern is the effect this new bridge would have on the environment? wouldn't it further contaminate the sound to have millions of cars driving right over it all summer long. cars that could possibly be leaking oil or antifreeze? into the which will end up effecting the whole ecosystem, then i myself would really lose my job, b/c what person wants to come to the most beautiful place on the east coast to go on an eco-kayak tour and see nothing but dead plants and animals, that won't pay the bills. there must and has to be a better way to work this out, w/out isolating the Pea Island refuge. Which in itself is a tourist attraction of sorts, for those who enjoy the more natural an pristine side of the Outer Banks, away from the mansions and the mini-golf course.
i'm sorry this is so long and i apologize for sounding so jaded, you will do what ever you see fit, regardless of who is affected or not as long as you profit. i may be young but i'm not ignorant i've been around long enough to see how things work, even if indeed you are concerned about the veiws of the people of Dare County, i'm relatively sure your hands are probably tied in the issue as well.

please, please, please don't build that corridor bridge through the sound! be a hero, not a villian, take a stand.
peoples lively-hoods hang in the balance. at least think about.

yours sincerely as a concerned citizen of Dare County
lindsey kitchen

B-145

Subject: Save Pea Island
Date: Tue, 17 Apr 2007 23:40:32 -0400
From: The Silver Surfer <vahsurfer@cox.net>
To: cgoode@dot.state.nc.us
CC: TJ <tjinpvb@yahoo.com>

I am just reading the article on Surfline. We bring our family to Rodanthe/Buxton approximately 2-3 weeks each month May through October to camp and spend time ast the beach. Please do not build the 12-mile monster and kill what is cherished as one of the few last bastians of beauty and nature. We buy groceries, go to the bars and restaurants and come to the OBX for the ease of access. Your state will loose more then you have calculated if you build the bridge beast.

PLEASE consider the children who enjoy the experience of NC's OBX beauty and fix the bridge, not build a bypass.....

Richard Klewans
Virginia Beach, VA

Subject: Herbert C. Bonner Bridge
Date: Fri, 9 Dec 2005 14:08:04 -0500 (GMT-05:00)
From: Kay <salvonana@earthlink.net>
To: cgoode@dot.state.nc.us

Mr. Goode,

I am sending this e-mail in regards to replacement of the Herbert C. Bonner Bridge. I live on Hatteras Island and would very much like to see this project get started ASAP. Yesterday would have been a good day to start. What are we suppose to do, wait until the bridge totally falls apart and them you would start making decisions on which bridge to build.

Stop all the back and forth that has been going on for years, make a decision now, not next year or the year after and GET STARTED.

There has been more "mess" going on this year on Hatteras Island than I can remember before.

Maybe everybody is just waiting for NPS to stop beach driving and then you will say we don't need a bridge because no body is coming down.

What is going to happen to those of us that live here year round. How are we going to get off the island with out having to spend the day traveling?

Let's get busy and build a bridge.

The decision should be which bridge can we build the fastest and go from there.

Thank you for your attention.

Kay T. Knowles
P. O. Box 498
Rodanthe, NC 27968

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

We, the undersigned organization. would like to inform you of our position on the replacement of the Bonner Bridge over Oregon Inlet.

Our membership is comprised of businesses and individuals that depend on Oregon Inlet for their livelihoods. Safety through the inlet is our first concern. We have followed the progress of the replacement of the aging Bonner Bridge and are very alarmed over the lack of attention by NC DOT to take this opportunity to ensure safe navigation through the waterway.

Although NC DOT is responsible for marking the navigable channel where it passes underneath Bonner Bridge, perhaps the number of times the navigable channel has moved in the past year alone has not been associated with the hazardous and unpredictable condition of Oregon Inlet. Today, conditions are so bad that the charter fleet, whose boats draw only 4 to 6 feet of water, are hitting bottom regularly. During the Pirates Cove Billfish Tournament in August, 32 boats ran aground during a four-day period. Just two weeks ago, commercial fishing boats that traveled through the channel one day found the same path shoaled up and impassible the next. The lives of recreational and commercial boaters and Coast Guard personnel are placed in jeopardy every time they traverse the waterway.

The longer 17 mile bridge alternative will have a devastating effect on navigation. As you may recall, the permit that allowed the construction of the groin on Pea Island clearly stated that if the groin were never needed for the protection of the highway on the south end of the Bonner Bridge, as with the 17 mile bridge alternative, it would have to be removed. We believe the groin has been instrumental in ensuring that the inlet and the navigation channel have not migrated south from under the navigational spans. Removal of the groin will hasten the southern migration of Bodie Island and will eliminate all predictability, what little there is, from the inlet. Additionally, removal of the groin will be an unnecessary and exorbitant expense.

We support the construction of the shorter bridge alternative, assuming the Oregon Inlet Fishing Center will not be adversely affected or done away with. We also support the construction of a groin on the northern side of the inlet to protect the new bridge. Without a hardened structure, Oregon Inlet will never truly be safe. The shorter bridge coupled with a groin will cost less, allow for continued access by citizens to the public lands of northern Hatteras Island and will ensure navigation into the future.

The mission of the NC DOT states that you are to "Provide a safe, modern and integrated multimodal system that expands opportunities and unites citizens in both urban and rural areas in support of Governor Easley's vision for One North Carolina". We hope that you interpret your mission as we do and take this opportunity to complete the new bridge and also protect Oregon Inlet and the North Carolinians who depend on it.

Sincerely,

Bill Koeberick

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

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Sincerely,

Charles LaBelle

Janice L. Lane
5205 Winsor Place
Kitty Hawk, NC 27949
(252) 261-6995
naturegirl@aginet.com

November 9, 2005

Carl B. Goode, Jr., P.E.
Human Environment Unit Head
1583 Mail Service Center
Raleigh, NC 27699-1583

Re: Bonner Bridge Replacement Project 8.1051205

I would like to comment on the above referenced project.

I support use of the Pamlico Sound Bridge Corridor, putting the bridge out into the sound, making landfall at Rodanthe and bypassing the Pea Island National Wildlife Refuge. Since Highway 12 obviously has a number of "hot spots" on Pea Island refuge, keeping this open is not only expensive for the state, but potentially harmful for the refuge. In looking at the work of Dr. Stanley Riggs, a parallel bridge makes no sense because the road between the bridge and Rodanthe will have to be moved, probably more than once.

The other thing that strikes me is that the manager of Pea Island refuge is under congressional mandate to protect this land, and moving the highway to parts of the refuge that are sensitive to wildlife will never survive the permitting process by the federal government. I don't see the parallel bridge as a viable alternative in any way.

Thank you for the opportunity to express my views. Please don't let this become a political issue, make the decision that will have the best interests for the long term.

Sincerely,

Janice L. Lane

Janice L. Lane

Janice L. Lane
5205 Winsor Place
Kitty Hawk, NC 27949
(252) 261-6995

April 11, 2007

Mr. Carl Goode, PE
Head, Human Environment Unit
NCDOT
1583 Mail Service Center
Raleigh, NC 27699-1583

Re: Comment on Bonner Bridge Project

I would like to voice my support for the 17 mile bridge linking Bodie Island with Rodanthe and I would like to also voice my reasons why.

To begin with, any of the other alternatives will require a permit from the U.S. Fish and Wildlife Service. Although Secretary Kempthorne has agreed to issue that permit, be assured that as soon as he does, there will be environmental groups that will be taking it to court. This will result in more delays in building the bridge, and the environmental community will be demonized because of it.

About five years ago, in my recollection, all agencies involved were literally at the table to sign approval of the 17 mile bridge when the Dare County Board of Commissioners, who have no jurisdiction, protested and NCDOT was ordered to withdraw their signature on this document. So in essence, the Dare County Board is the hold up, not the Fish and Wildlife Service. My first thought when someone raises an issue where there has been none is, who stands to gain financially from this - always follow the money. Could it be that there are self interests at work here? If the short bridge is built, then there is money for the mid-county Currituck Bridge, which will speed development of property in the Corolla area. Do any of these commissioners or former commissioners have interests in that area? Are the environmental impacts any less there than they are for a 17 mile bridge (one of Sen. Basnight's talking points)?

Any of the other alternatives call for compromise of the beautiful Pea Island National Wildlife Refuge. As a supporter of the refuge system, I do not want to see this happen. Also, as shown during the Thanksgiving storm of 2006, having a new bridge in place where the old one is now would have done nothing to give safe passage to and from Hatteras Island, they were cut off because of flooding along the Pea Island portion of Highway 12. The road system through Pea Island Refuge will not stand up to the imposing ocean for long and there will need to be money spent continually on Highway 12 through the refuge to keep it passable, and also compromising the refuge itself.

Please give careful consideration to this and I ask that you consider the good of the long term effects, rather than bowing to political pressure to get it done fast and cheap. If not, this issue will surface again in 25 years, when the next bridge is in need of replacement for the same reasons it is now. Thank you for the opportunity to comment.

Janice L. Lane

Janice L. Lane

Mirlo Beach Homeowners Association
PO Box 123
Rodanthe, NC 27968

December 5, 2005

Carl Goode
Human Environment Unit, NDCOT
1583 Mail. Service Center
Raleigh, N.C. 276991583

Dear Mr. Goode:

I am writing to you on behalf of the Mirlo Beach Homeowners Association, Inc., of which I am President. The purpose of this letter is to formally convey to you our opinions and concerns about the plans for replacing the Herbert C. Bonner Bridge. It represents the unanimous opinion of the owners of our subdivision.

Mirlo Beach Subdivision is a covenanted community located at the north end of Rodanthe, NC, immediately adjacent to the Pea Island Wildlife Refuge. It is comprised of 75 properties, of which 56 have houses. The assessed value of the subdivision is $40 million. Ninety-five percent of the homes are rented for some or all of the year and generate approximately $2 million annually. Each year the number of full time residents has also been increasing. Thus, we are a significant stakeholder affected by the new bridge and a significant contributor to the economic development of Hatteras Island.

The homeowners met on December 3, 2005, and unanimously endorsed the following opinions about the alternative plans for a replacement bridge that are described in the Supplemental Draft of the Environmental Impact Statement and Draft Section 4(f) Evaluation for the NC 12 Replacement of Herbert C. Bonner Bridge (SDEIS).

1. Alternatives that include construction of a bridge beginning at a new intersection in Rodanthe and continuing to a point approximately 2 miles north of the Refuge's southern border (i.e., the Road North/Bridge South and All Bridge versions of the Parallel Bridge Corridor) are unfairly damaging to the assets of Mirlo Beach homeowners. As described in the SDEIS (section 4.3.1.2), the panoramic and unobstructed views of Pamlico Sound would be substantially disrupted by the bridge and associated lights of motors vehicles. Also, use of the sound by boaters, kayakers, and windsurfers would be substantially disrupted. These disruptions most affect sound-front properties, but all homes built in Mirlo Beach have significant views of Pamlico Sound and community access to the sound for water activities. This bridge is very likely to cause significant economic loss to both the value of the properties and rental income. **For these reasons, we strongly oppose construction of a short bridge at Rodanthe.**

2. The Parallel Bridge Corridor with Nourishment is the alternative that does the most to protect the assets of Mirlo Beach. The views of Pamlico Sound and sound access would be preserved at their current levels. Nourishment would help protect oceanfront properties. More generally, this alternative represents the least change from the current status of NC 12 and, therefore, runs the least risk of negatively affecting tourism (because of aesthetics, access to Pea Island, and/or fear of traveling on long bridges). Also, it is the second lowest in cost when appropriately discounted over the life of the bridge. For these reasons, we strongly support the Parallel Bridge Corridor with Nourishment alternative. In fact it appears to be the only alternative that has no impact on people and their properties.

3. It is extremely important that a decision be made in the very near future, so that work on the replacement bridge can begin as soon as possible. Should the Bonner Bridge fail, the economic loss and the detrimental effect on our quality of life will be large. In a worst case scenario, the bridge might fail in way that would cause human casualties or fatalities. This planning process began in 1991. Now is the time for action.

4. Regardless of which bridge replacement alternative is adopted, the section of NC 12 running through Mirlo Beach needs to be properly maintained so that home owners and renters have clear and safe access to the properties. Also, should a Pamlico Sound Corridor bridge be built, the concerns of Mirlo Beach homeowners must be fairly considered when an alternative means of public access to the Pea Island Wildlife Refuge is developed (as has been suggested will be necessary).

Sincerely,

Gary Langner

Gary Langner, President
Mirlo Beach Homeowners Association

cc Senator Marc Basnight
Representative Bill Culpepper
Commissioner Virginia Tillett
Commissioner Warren Judge
Commissioner Mac Midgett

December 7, 2005
376 Sir Chandler Drive
Kill Devil Hills, NC 27948

Mr. Carl Goode, PE
Head, Human Environment Unit
North Carolina Department of Transportation
1583 Mail Service Center
Raleigh, NC 27699-1583

Re: Oregon Inlet Bridge Replacement

Dear Goode,

I have been a resident of the Outer Banks of North Carolina for over twenty-five years and I would like to express my comments regarding the planned replacement of the Bonner Bridge at Oregon Inlet.

Please consider that our area is highly dependent on the tourist industry of which recreational fishing plays an important part. Fishing also receives wide participation by our local residents.

With these facts in mind, I would like to make the following three comments:

1. I would like to ask that any bridge replacement plan include a catwalk for fishing.

2. I would like to see several hundred feet of the existing bridge at the south end left in place for recreational fishing.

3. Finally, I would like the demolished parts of the existing bridge placed near the artificial reefs off Oregon Inlet.

Thank you for considering my comments.

Sincerely,

John Light

John Light

James C. Luizer &
Virginia L. Luizer
P.O. Box 1092
Buxton, NC 27920

April 17, 2007

Mr. Carl Goode, PE
Head, Human Environment Unit
NCDOT
1583 Mail Service Center
Raleigh, NC 27699-1583

RE: Replacement of the Herbert C. Bonner Bridge Over the Oregon Inlet—TIP Project No. B-2500

Dear Mr. Goode:

I recommend that NCDOT implement the Oregon Inlet Bridge with Road North/Bridge South alternative.

As I will endeavor to show, this alternative is not only the most cost effective, but also the most viable solution to maintaining the infrastructure of Hatteras Island.

COST EFFECTIVENESS

Please find below a comparison of the alternatives presented for the Bonner Bridge replacement. Upon review of this comparison, it should be obvious that the Oregon Inlet Bridge with Road North/Bridge South will provide adequate protection from storm related Island breaches at the lowest possible cost.

OPTION	ESTIMATED COST (millions)[1]	INCREASED PROTECTION FROM STORM RELATED ISLAND BREACHES	
		NORTH END	RODANTHE
Road North/Bridge South	$ 612.1 - $ 740.2	Yes	Yes
Nourishment	$ 678.8 – $ 970.4	No	No
All Bridge	$1,119.9 - $1,435.3	Yes	Yes
Phased Approach Rodanthe Bridge	$1,125.7 - $1,439.0	Yes	Yes
Phased Approach Rodanthe Nourishment	$1,219.4 - $1,582.4	Yes	No
Pamlico Sound Bridge	$1,354.3 - $2,371.2	Yes	Yes

Estimated cost includes all highway costs (including operation and maintenance), utilities, terminal groin removal, Oregon Inlet US Coast Guard Station Relocation (excluding preparation costs), visitors center relocation, tram service to Pea Island on the low end of the Pamlico Sound Bridge, and tram plus ferry service to Pea Island on the high end of the Pamlico Sound Bridge.

[1] Supplement to the Bonner Bridge Replacement SDEIS, February 14, 2007, pp. 2-16, 2-17, 2-22, and 2-23.

VIABILITY

Pamlico Sound Bridge Options are Not Viable

The Pamlico Sound Bridge options are not financially viable. This conclusion is based upon the fact that NCDOT has stated that funding either of the two Pamlico Sound Bridge options would severely limit the ability of NCDOT to undertake other needed projects throughout the state for a period of at least six years.

The Pamlico Sound Bridge options are not economically viable. This conclusion is based upon the fact that USFWS has stated that if either of the Pamlico Sound Bridge options are selected, the USFWS will revise the current Conservation Plan in favor of the alternatives 4 or 5. Alternatives 4 and 5 call for abandoning all or part of highway 12 and allowing ocean overwash to dominate Pea Island.[2] The economic implications of alternatives 4 and 5 are addressed below.

Residents of Hatteras Island can expect their utility rates to increase by more than 26% per annum.[3] Additionally, visitation to Pea Island will decline due to limited access.[4] As I demonstrated in my comment on the ORV Management Plan and my comment on the Interim Protected Species Plan (copies attached), the economy of Hatteras Island is already feeling the effects of a downward trend in visitation (2006 decreased 27% from 2002 levels). Given the current state of the economy of Hatteras Island, the implementation of USFWS alternative 4 or 5 could be devastating.

Because the Pamlico Sound Bridge options include the removal of the terminal groin, and will likely result in changes to the dredging activities that the USFWS will permit,[5] these options could serve to destabilize the Oregon Inlet and adversely impact upon the fishing fleets that operate out of Oregon Inlet. The fishing industry that operates out of Oregon Inlet contributes significant revenues to Dare County.[6] Finally, if implementation of the Pamlico Sound Bridge options preempt funding of other road/bridge projects throughout the state, the economies of other counties will suffer.

The Pamlico Sound Bridge options do not provide a viable Storm Evacuation Route. Current Dare County policy is to close the Bonner Bridge only if there is high water or damage to the bridge. Motorists are cautioned when winds reach 40 mph. With a 17.5 mile bridge, allowing traffic when winds exceed 40 mph does not constitute an acceptable risk. That said, unless there is significant advance warning of a northeaster or hurricane, the number of visitors and residents who do not evacuate for major storms will increase. Increases in the number of people that remain on Island during major storms not only increases the risk of bodily harm to those trapped on Island, but also complicates the task of providing emergency services in the aftermath of severe weather. To underscore this concern, it should be noted in-season, Island population is estimated at 50,000.[7]

[2] Comprehensive Conservation Plan, Pea Island National Wildlife Refuge, September 2006, Executive Summary, p.2.
[3] Cape Hatteras Electric Cooperative Comments on SDEIS NCDOT Project B-2500, p5.
[4] Comprehensive Conservation Plan, Pea Island National Wildlife Refuge, September 2006, Executive Summary, p.2.
[5] Comprehensive Conservation Plan, Pea Island National Wildlife Refuge, September 2006, pp. 159.
[6] Replacethebridgenow.com, Herbert C. Bonner Bridge Fact Sheet.
[7] ibid.

Oregon Inlet Bridge Options are Viable

The primary issues related to the Oregon Inlet Bridge options are an "Unresolved" biological conclusion regarding the impacts on two threatened species (Piping Plover and Green Sea Turtle)[8] and refuge compatibility. As I will demonstrate below, the Oregon Inlet Bridge will not have any substantial impact on threatened species and should not be blocked based upon refuge compatibility issues.

Impacts on Threatened Species

With respect to the Atlantic Coast Breeding Population of the Piping Plover, Pea Island is on the northern most edge of the range for this species. In fact, during the past 9 years, only 12 nests were attempted with a total of 5 chicks fledged.[9] All of these nests occurred on the sandy area behind the terminal groin that protects the current bridge.[10] This area was created by NCDOT as part of a sand mining project for the purpose of protecting the Oregon Inlet Bridge. Apparently, the groin that protects the Oregon Inlet Bridge actually contributes to the breeding success of this species.

With respect to the Great Lakes Wintering Population of the Piping Plover, the USFWS does not provide any data with respect to the numbers of this species that rest or forage on Pea Island. Because the construction activity for the Oregon Inlet Bridge would affect less than one acre of potential nesting or foraging habitat,[11] the impact on this species would be minimal.

With respect to the Green Sea Turtle, USFWS does not provide any specific data with respect to the numbers of this species that nest on Pea Island. USFWS does provide data on Loggerhead Sea Turtles--average 10 nests per annum. By comparison USFWS states that Green Sea Turtles are less common than Loggerhead Sea Turtles and use Pea Island Refuge beaches for nesting on occasion.[12] Based upon this description of Green Sea Turtle nesting patterns, it is not likely that this species will visit the area during the construction phase. That said, in the event that a Green Sea Turtle does nest in the area, the methods outlined by NCDOT for the purpose of limiting the impact on nesting turtles will provide adequate protection for the Green Sea Turtle.[13]

Refuge Compatibility

With respect to the Oregon Inlet Bridge, Dick Kempthorne, Secretary of the Department of the Interior has affirmed refuge compatibility as follows:

> We believe that the replacement of the Bridge itself could be accomplished in a way which is compatible with the Refuge Act, and other laws, if it is constructed within the same alignment or with minor changes to the current alignment.[14]

In summary, the Oregon Inlet Bridge is viable both from the standpoint of protecting threatened species and from the standpoint of refuge compatibility.

[8] Supplement to the Bonner Bridge Replacement SDEIS, February 14, 2007, pp. xx.
[9] Comprehensive Conservation Plan, Pea Island National Wildlife Refuge, September 2006, pp. 31.
[10] Comprehensive Conservation Plan, Pea Island National Wildlife Refuge, September 2006, pp. 50.
[11] Supplement to the Bonner Bridge Replacement SDEIS, February 14, 2007, pp. xvii.
[12] Comprehensive Conservation Plan, Pea Island National Wildlife Refuge, September 2006, pp. 50.
[13] [13] Supplement to the Bonner Bridge Replacement SDEIS, February 14, 2007, pp. xxvii, xxviii.
[14] Letter from Dick Kempthorne to The Honorable Richard Burr, July 05, 2006.

Road North/Bridge South is Viable

With respect to the realignment of Highway 12, Dick Kempthorne suggested that the Bonner Bridge replacement be separated from the "more difficult and less urgent issues" related to the realignment of Highway 12.[15] While separating the bridge replacement from the realignment of Highway 12 will facilitate the replacement of the Bonner Bridge, the Bonner Bridge is of no use without a road that connects the bridge to the villages south of Pea Island. In this regard, two segments of Highway 12 experience frequent overwash. They are, the segment at the south end of Pea Island in Rohdanthe and the segment in the northern section of Pea Island. With respect, to the realignment of Highway 12, according to the USFWS,

> Requests for large-scale, long-term, repetitive beach building and dune building permits or for major new right-of-way permits are not likely to be compatible.[16]

Refuge compatibility as it relates to the realignment of Highway 12 is discussed below.

Bridge South

The proposed bridge in Rodanthe will not require any new right-of-way permits. In fact, once completed the bridge will actually reduce the amount of dune building required to keep this segment of Highway 12 open. Because the construction of this bridge does not raise issues with respect to compatibility, this bridge should be constructed ASAP.

Road North

Moving Highway 12 west of the forecast worst-case 2060 shoreline will reduce the uncertain nature of travel on this section of Highway 12. Realignment of this section of Highway 12 will greatly reduce the amount of dune building required to keep this section of Highway 12 open. This realignment of Highway 12 is not only compatible with the refuge, but it will actually contribute to the USFWS objective of allowing natural processes to dominate the shoreline area in the hopes of providing more habitat for the threatened Piping Plover, the threatened Green Sea Turtle, and other shorebirds.

Realignment of this section of Highway 12 will require new right-of-way permits and will require the filling of wetlands. The majority of the wetlands affected include the edge of what is referred to by USFWS as managed wetlands. These managed wetlands include 3 manmade impoundments (390-acre North Pond, 192-acre New Field Pond, and 208-acre South Pond). Management techniques for these wetlands are summarized in the following manner.

> The refuge staff manages these areas by draining water in the spring to create mudflats for shorebirds and allow annual seed-bearing plants, maintaining it at a low elevation through the late summer shorebird migration, and allowing them to fill or pumping water to fill them for waterfowl migration in the fall. The staff fills the impoundments by opening the water control structures when the tide is appropriate to fill or drain them whenever possible. The impoundments are burned, mowed, and/or disked as needed to suppress succession to perennial herbaceous and woody plants.[17]

[15] Letter from Dick Kempthorne to The Honorable Richard Burr, July 05, 2006.
[16] Comprehensive Conservation Plan, Pea Island National Wildlife Refuge, September 2006, pp. 1.
[17] Comprehensive Conservation Plan, Pea Island National Wildlife Refuge, September 2006, pp. 28 & 29.

Since the majority of wetlands impacted are artificially created and managed, USFWS could easily adjust these wetlands so as to mitigate the impact of the realignment of Highway 12. The point is, quite simply, that realignment of Highway 12 will not destroy any natural wetlands. Realignment of Highway 12 only requires the relocation of wetlands created, maintained, and managed by USFWS. That said, the concern expressed by USFWS that the realignment of Highway 12 will result in the destruction wetlands is, in my opinion, disingenuous. Furthermore, I question the extension and applicability of federal statues to artificially created and managed wetlands.

SUMMARY

Planning for the replacement of the Bonner Bridge began in 1993. Initially, USFWS objected to the bridge replacement based upon its assessment that the bridge replacement proposals were not compatible with section 7 of the ESA.[18] It should be noted that this assessment was not based upon observed occurrences of threatened species. Instead, it was based upon the presumption that, prior to 1996, Piping Plovers may have nested on overwash areas and beaches on the refuge.[19]

In 1997, Congress passed the National Wildlife Refuge System Improvement Act. Citing this new legislation, USFWS asserted that the replacement bridge proposals were not compatible with the refuge. As noted above, Dick Kempthorne, Secretary of the Department of the Interior, has asserted that the bridge replacement does not constitute a refuge compatibility issue.

Despite the fact that both the ESA and the refuge compatibility objections have not been substantiated, the replacement of the Bonner Bridge has been delayed for 13 years. During this 13 year period:

1. NCDOT has committed hundreds of millions of dollars in futile attempts to stabilize the areas damaged by the Halloween Storm of 1991,[20] and
2. the Bonner Bridge has deteriorated to the point of presenting a threat to public safety.[21]

At present the Bonner Bridge has a safety rating of 4 out of 100.[22] It is estimated that NCDOT will be required to spend an additional 40 million dollars to return the Bonner Bridge to a structurally sound condition. This expenditure is expected to maintain the Bonner Bridge for a period of 10 years.[23]

As of this date, USFWS has not altered its position that the only replacement bridge option considered compatible with the refuge is the Pamlico Sound Bridge. Forcing NCDOT to proceed with the Pamlico Sound Bridge options will have a devastating impact:

1. on NCDOT's ability to complete other needed highway projects throughout the state for a period of at least 6 years,
2. on the fishing industries of Oregon Inlet, Manteo, and Wanchese, and
3. on the economies of the villages of Hatteras Island.

[18] Replacethebridgenow.com, Herbert C. Bonner Bridge Fact Sheet.
[19] Comprehensive Conservation Plan, Pea Island National Wildlife Refuge, September 2006, pp. 50.
[20] The conclusion with respect to the amount of funds expended for stabilization is drawn from the high estimated cost of nourishment specified in the Supplement to the Bonner Bridge Replacement SDEIS, February 14, 2007, table 2-2 (approximately 12 million per year times 13 years or $156 million). Additionally, during this 13 year period, a major sandbag project was completed in order to repair damage caused by the 1991 Halloween Storm. While I do not have the cost of this project, it is reasonable to assume the cost was substantial.
[21] This fact has been recognized by Dick Kempthorne in his Letter to The Honorable Richard Burr, July 05, 2006.
[22] Replacethebridgenow.com, Herbert C. Bonner Bridge Fact Sheet.
[23] NCDOT press release, Bonner Bridge In-Depth Structural Condition Assessment, dated January 11, 2007.

So what are the benefits to be derived from the Pamlico Sound Bridge options? According to USFWS, the Pamlico Sound Bridge options will:

1. eliminate the need to provide for a right-of-way through the refuge,
2. allow for the removal of impediments to natural processes on the shoreline, and
3. allow for implementation of policies which consider the needs of fish and wildlife first.

It is unconscionable for an agency of the Federal Government to designate a wildlife refuge in the middle of established communities and then seek to enforce policies that endanger the life and well being of the residents of those communities. Current USFWS proposals, which consider the needs of fish and wildlife first, pose real threats not only to the livelihood of the residents of this island, but also to their very existence. In my opinion, USFWS proposals are not only extreme, but they violate my constitutional right to life. Surely, there must be some way to prevail upon agencies of the Federal Government to not only protect endangered species, but also to safeguard the well being of the citizens that cohabit this ribbon of sand.

In the event that USFWS service cannot be convinced to issue a favorable biological conclusion for the threatened species and to issue a determination of compatibility for Oregon Inlet Bridge with Road North/Bridge South, I suggest that you either

1. request Congress to authorize the Oregon Inlet Bridge with Road North/Bridge South,[24] or
2. request that Congress enact legislation removing Pea Island from the wildlife refuge system.

Sincerely,

James C. Luizer &
Virginia L. Luizer

cc: Warren Judge, Chairman, Dare County Board of Commissioners
Dick Kempthorne, Secretary, Department of the Interior
The Honorable Michael F. Easley, Governor of North Carolina
The Honorable Mark Basnight, Senator
The Honorable Richard Burr, United States Senate
George W. Bush, President

[24] Congress has authorized such projects in the past. For example, as per page 18 of the Comprehensive Conservation Plan, Pea Island National Wildlife Refuge, September 2006, "In 1950, Congress authorized the Corps of Engineers to dredge a 400-foot-wide by 14-foot-deep channel through the Inlet, but the actual dredging did not begin until 1962. This dredging has been ongoing sporadically since that time."

When conducting your analysis of socioeconomic impacts, I recommend

1. that you ignore the assertion that 10% of park users who frequent the beaches use ORVs,[1]
2. that you ignore the Vogelsong Visitor Use Study,
3. that you ignore any and all conclusions based upon the Vogelsong Visitor Use Study, and
4. that you ignore the Economic Impact Study presented in the Interim Protected Species Management Strategy/Environmental Assessment.

As I will demonstrate below, my recommendations are based upon the facts:

1. that the estimate of the percentage of park users who frequent the beaches using ORVs is based upon an algebraically meaningless calculation,
2. that Vogelsong's study is not statistically credible,
3. that the Vogelsong Study is no longer valid, and
4. that the Economic Impact Study painted a "rosey scenario" of the regional economy.

DISCUSSION

Percentage Of Park Users Who Frequent The Beaches Using Orvs

With respect to the assertion that 10% of park users who frequent the beaches use ORVs, the 10% figure is based upon Vogelsong's estimate of the number of ORVs that can be found on the park's beaches per annum – 91,907.

The above-noted figure, 91,907, was calculated as follows:

91,907 = (251.8)(365)

where 91,907 is Vogelsong's estimate of the number of ORVs on the park's beaches, per annum,

251.8 is Vogelsong's estimate of the average number of ORVs found on the park's beach "***at one time***", and

365 is the number of days in a year.

91,907 is an algebraically meaningless quantity. This follows from the fact that 91,907 was calculated by multiplying an "at one time" quantity (215.8) by a number of "days" quantity (365). It's like multiplying apples by oranges.[2]

To demonstrate the impact of using this algebraically meaningless figure, consider the following statement from Interim Protected Species Management Strategy/Environmental Assessment.

[1] Interim Protected Species Management Strategy/Environmental Assessment, January 2006
[2] For an expanded proof of this algebraic error, see EA Comment Submitted by James C. Luizer, March 1, 2006.

> Thus, a one-month closure at one spit could affect approximately (2%) of the annual ORV use, or **4,332** visitors, whereas a full-summer closure would impact approximately (6%) of ORVs or **12,997** visitors.[3]

Vogelsong provides a second measure of the percentage park users who frequent the beaches using ORVs.

> 68% of all visitors surveyed reported spending some time driving on the park's beaches[4]

Assuming the 68% is a more accurate reflection of the percentage of park users who frequent the beaches using ORVs, the above-referenced statement would read as follows:

> Thus, a one-month closure at one spit could affect approximately **32,242** visitors during any one summer month. A full summer closure would affect **96,725** visitors during the 3 summer months. This assumes that all ORV users are driving to the spits, which may not be the case.[5]

Clearly, the use of an algebraically meaningless number has a substantial impact on the conclusions as they relate to the impact on visitor use and experience and economic impacts related to proposed restrictions on ORV use.

Vogelsong's Study Is Not Statistically Credible

Vogelsong's sample is a non-probability sample. With respect to the implications of using a non-probability sample consider the following:

> The point is, there do not exist, within the realm of modern statistics, any established theories or methodologies for drawing such inferences on the basis of data collected by way of a non-probability sample. As explained above, Vogelsong's statistics (plural) are non-statistical in nature and cannot be extended beyond his data set.[6]

Quite simply, it is not possible to draw any conclusions based upon the Vogelsong Visitor Use Study.

Vogelsong Study Is No Longer Valid

The standard for determining validity of a study is 5 years. The Vogelsong Study was completed in May 2002 thus as of May 2007, this study is no longer valid.

[3] Interim Protected Species Management Strategy/Environmental Assessment, January 2006, p. 245.
[4] Interim Protected Species Management Strategy/Environmental Assessment, January 2006, p. 156.
[5] Errata/Comment Submitted by Virginia L. Luizer, March 1, 2006, p. 8.
[6] EA Comment Submitted by James C. Luizer, March 1, 2006, p.26.

Economic Impact Study Painted A "Rosey Scenario" Of The Regional Economy

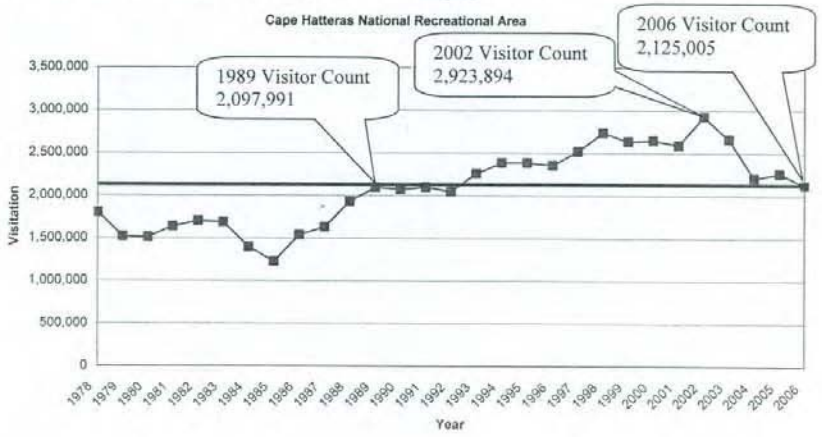
The Economic Impact Study describes regional economy in the following fashion.

> As described in the affected environment section, the regional economy has experienced robust population and economic growth over the past decade.[7]

As I pointed out in my comment regarding the Economic Impact Study, the regional economy has, in fact, experienced a downward trend in growth. This assertion was based upon the following facts:

1. The Region of Influence (ROI) has been improperly defined.
2. Lodging Revenues, as reported in the EA, were never adjusted for inflation. Additionally, the EA never looked at the data pertaining to the rate of growth of lodging revenues.
3. Lodging Revenues as a percentage of assessed real estate valuations have declined consistently over the last few years.

Furthermore, I pointed out that the EA projections were "out to lunch", and, as such, grossly understated the potential impacts of proposed beach closures.[8] Recent data appears to substantiate my conclusions. For example, as per the chart presented below, visitation during 2002 was 2,923,894. Visitation for 2006 was 2,125,005. The 2006 figure represents a 27.3% from the 2002 level, and represents levels not seen since 1989. Finally, insofar as this decline in visitation has persisted for 4 years, the decline can reasonably be interpreted as an emerging trend.



[7] Interim Protected Species Management Strategy/Environmental Assessment, January 2006, p. 256.
[8] For a detailed discussion see Errata/Comment Submitted by Virginia L. Luizer, March 1, 2006.

INTRODUCTION

The EA concludes:

> As described in the affected environment section, the regional economy has experienced robust population and economic growth over the past decade. This regional growth has taken place concurrent with NPS restrictions on vehicle access to beaches within the National Seashore.[1]

As I will endeavor to show, the regional economy has, in fact, experienced a downward trend in growth. This assertion is based upon the following facts:

1. The Region of Influence (ROI) has been improperly defined.
2. Lodging Revenues, as reported in the EA, were never adjusted for inflation. Additionally, the EA never looked at the data pertaining to the rate of growth of lodging revenues.
3. Lodging Revenues as a percentage of assessed real estate valuations have declined consistently over the last few years.

Furthermore, as I will demonstrate in the final section of this comment, the EA projections are "out to lunch", and, as such, grossly understate the potential impacts of proposed beach closures.

[1] EA, P. 256.

SOCIOECONOMIC RESOURCES

A MEANINGFUL DEFINITION OF THE ROI

The following summarizes the socioeconomic characteristics to be considered when defining the ROI.

> The social and economic environment of a region is characterized by its demographic composition, the structure and size of its economy, and the types and levels of public services available to it citizens.[2]

With respect to the above-noted characteristics, please note that Ocracoke and Hatteras Islands differ significantly from the rest of Hyde and Dare Counties. For example, the islands

1. have a much smaller percentage of permanent residents,
2. have virtually no manufacturing or wholesale trade,
3. have a much higher percentage of vacant housing units,
4. have a higher median home value, and
5. do NOT have any hospitals, emergency rooms, etc.

The following summarizes the geographic area to be included in the ROI.

> The geographic area of the ROI is defined based on the locations where the proposed restrictions on recreational activities (as part of the interim protected species management strategy) would be implemented and the distribution of the businesses that would most likely be affected by those restrictions.[3]

With respect to the above,

1. the location of the proposed restrictions is limited to Hatteras and Ocracoke Islands,
2. the recreational activities most affected are primarily limited to Hatteras and Ocracoke Islands, and
3. the businesses most affected are primarily located on Hatteras and Ocracoke Islands.

In a manner consistent with the above EA statements, the ROI should be redefined to include only the villages of Hatteras Island and Ocracoke Island.

The ROI, as presently defined to include all of Dare and Hyde counties, serves only to mask a clear understanding of the economic health of the villages of Hatteras and Ocracoke Islands. The downward trend in growth of these villages is difficult to dis-entangle from the county data presented in the EA. As such, the EA understates the impact of past and proposed ORV restriction on the local economies of these villages.[4]

[2] EA, page 161.
[3] EA, page. 254.
[4] For the purposes of this comment the words "regional" should properly be construed as limited to the villages of Hatteras and Ocracoke Islands.

SOCIOECONOMIC RESOURCES

DARE COUNTY LODGING REVENUES—NOMINAL vs. REAL

Tables 1 presents lodging revenue receipts for the period 1999 to 2005. In Table 1 these receipts are presented in nominal (unadjusted for inflation) terms. Table 1 is equivalent to Table 26, page 255 of the EA.

Table 1--Lodging Revenues (as stated in the EA report) and Growth Rates

	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005
Rodanthe	3,247,584	4,814,880	6,183,916	7,565,596	6,668,976	8,607,027
Waves	2,904,543	3,726,589	4,569,642	6,329,689	6,850,073	7,433,662
Salvo	4,665,228	5,495,523	5,914,057	6,937,974	7,805,532	9,378,040
Avon	14,939,306	16,416,714	19,957,231	24,022,677	22,514,951	22,957,485
Buxton	7,935,586	8,617,032	8,873,742	8,821,147	7,840,235	7,693,996
Frisco	4,090,110	4,861,892	4,882,311	4,731,012	6,076,748	7,089,976
Hatteras	7,000,301	7,919,974	9,344,717	10,622,051	9,613,019	9,961,496
Southern Villages Revenue	44,782,658	51,852,604	59,725,616	69,030,146	67,369,534	73,121,682
Growth		15.8%	15.2%	15.6%	-2.4%	8.5%
Kill Devil Hills	30,307,366	33,915,962	38,967,503	38,665,937	40,218,864	38,838,344
Kitty hawk	8,552,332	9,874,347	9,717,543	8,780,181	9,702,782	12,810,635
Manteo	4,187,271	4,618,858	5,046,029	5,523,860	5,883,858	5,511,297
Nags Head	47,715,434	55,851,275	60,755,479	63,314,884	66,669,464	68,071,541
Southern Shores	7,752,850	12,654,828	13,788,435	14,899,780	12,621,394	13,972,237
Duck	28,923,176	37,498,068	42,014,819	44,477,341	49,304,706	50,173,017
Other	618,323	250,367	588,844	350,776	1,071,508	491,896
Northern Villages Revenue	128,056,752	154,663,705	170,878,652	176,012,759	185,472,576	189,868,967
Growth		20.8%	10.5%	3.0%	5.4%	2.4%
Dare County Revenue	172,839,410	206,516,309	230,604,268	245,042,905	252,842,110	262,990,649
Growth		19.5%	11.7%	6.3%	3.2%	4.0%

Pointing to Table 1, the EA concludes that

> Lodging revenues for Dare County have increased steadily over the 6 year period.[5]

In Table 2 these receipts are presented in real (adjusted for inflation) terms. The Consumer Price Index, CPI, (as per the Bureau of Labor Statistics) was used to restate these figures in constant 1999-2000 dollar terms.

[5] EA, p.255.

Table 2-Lodging Revenues (Inflation-Adjusted) and Growth Rates						
	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005
Rodanthe	3,247,584	4,663,401	5,926,110	7,100,211	6,060,788	7,629,056
Waves	2,904,543	3,609,348	4,379,134	5,940,329	6,225,369	6,589,015
Salvo	4,665,228	5,322,630	5,667,501	6,511,196	7,093,694	8,312,463
Avon	14,939,306	15,900,233	19,125,217	22,544,962	20,461,663	20,348,948
Buxton	7,935,586	8,345,934	8,503,797	8,278,529	7,125,232	6,819,768
Frisco	4,090,110	4,708,934	4,678,768	4,439,992	5,522,569	6,284,380
Hatteras	7,000,301	7,670,806	8,955,137	9,968,653	8,736,344	8,829,624
Southern Villages Revenue	44,782,658	50,221,286	57,235,665	64,783,871	61,225,660	64,813,254
Growth		12.1%	14.0%	13.2%	-5.5%	5.9%
Kill Devil Hills	30,307,366	32,848,943	37,342,955	36,287,466	36,551,039	34,425,350
Kitty hawk	8,552,332	9,563,693	9,312,420	8,240,083	8,817,921	11,355,031
Manteo	4,187,271	4,473,546	4,835,661	5,184,069	5,347,270	4,885,078
Nags Head	47,715,434	54,094,156	58,222,594	59,420,174	60,589,434	60,336,934
Southern Shores	7,752,850	12,256,699	13,213,598	13,983,245	11,470,365	12,384,646
Duck	28,923,176	36,318,354	40,263,228	41,741,391	44,808,283	44,472,124
Other	618,323	242,490	564,295	329,199	973,790	436,004
Northern Villages Revenue	128,056,752	149,797,881	163,754,750	165,185,627	168,558,103	168,295,167
Growth		17.0%	9.3%	0.9%	2.0%	-0.2%
Dare County Revenue	172,839,410	200,019,167	220,990,416	229,969,498	229,783,763	233,108,421
Growth		15.7%	10.5%	4.1%	-0.1%	1.4%

Properly viewed in real terms, Table 2 shows that lodging revenues have been relatively flat over the last few years.

Year-to-year growth rates of lodging revenues are reported in both Tables 1 and 2. These growth rates provide a clearer indication of any trends that may be present. That said, both tables clearly show a downward trend. In fact during the fiscal year 2003-2004, the growth rate was negative.

RETURN ON ASSETS

Data pertaining to:

1. annual rental revenues, and
2. year-to-year growth rates of annual rental revenues

were used above for the purpose of gauging the health of the regional economy. Perhaps the best way to view these annual revenue figures is as a return on assets. Such information is presented in Table 3 below. In this table the return on assets is defined as the ratio of total annual rental revenue to total assessed real estate valuations. Total assessed real estate valuations are separately provided in Table 4.

Table 3--Sales to Asset Ratio Southern Villages			
	2002-2003	2003-2004	2004-2005
Rodanthe/Waves/Salvo	4.5%	4.2%	4.4%
Avon	8.7%	7.5%	7.1%
Buxton	7.8%	6.2%	5.9%
Frisco/Hatteras	1.2%	1.2%	1.2%
Hatteras Island	3.3%	2.9%	3.0%

Table 4--Assessed Real Estate Values			
	2002-2003	2003-2004	2004-2005
Rodanthe/Waves/Salvo	432,414,800	461,522,299	510,219,470
Avon	259,931,220	272,717,850	287,920,500
Buxton	106,086,710	115,439,689	115,258,230
Frisco/Hatteras	1,172,076,950	1,238,257,926	1,249,365,905
Hatteras Island	1,970,509,680	2,087,937,764	2,162,764,105

Source: Finance Director, Dare County

As can readily be seen, the return on assets has been flat to declining. This does not bode well for present or prospective investors on Hatteras Island. Unfortunately, data were not available for fiscal years prior to 2002-2003. Were such data available, however, I am confident that it would show a precipitous drop in the return on assets from the fiscal years prior to 2002-2003. This assertion is based upon the following facts.

Visitation at the Cape Hatteras National Seashore peaked at of 2.9 million visitors in 2002, decreasing to 2.66 million in 2003 and 2.2 million in 2004. Preliminary NPS data suggests that 2005 visitations will be in line with the 2004 figures. The 2004 figure represents a 25% decline from the peak levels recorded in 2002.

The return on asset information reported above suggests that the infrastructure of Hatteras Island was optimistically built to accommodate the peak level of visitation recorded in 2002. That said, the decline in the return on assets is readily explained by the unwelcome drop in annual visitations. In fact, the number of visitors in 2004 has not been this low since 1992.

EA PROJECTIONS OF THE IMPACT OF BEACH CLOSURES On VISITOR USE ARE INCORRECT

The following EA statement is provided for the purpose of showing that EA projections of the impact of beach closures on Visitor Use are not correct.

> Any full-beach resource closures that restrict ORV access would most likely occur during the summer months, when 45% to 50% of the park's annual visitation occurs (Vogelsong 2003; NPS Public Use Statistics Office 2005). Of the estimated **91,900** ORVs in the park annually, approximately **46,000** ORVs visit park beaches during the summer months, assuming that ORV use follows overall park visitation patterns. At least 50%, or **23,000** of those ORVs, would frequent the ramps that provide access to the spits (Vogelsong 2003). Assuming that these **23,000** ORVs are distributed equally among the four ramps and that use is equally distributed between June, July, and August, approximately **5,750** ORVs would occur throughout the summer, and **1,917** ORVs would occur monthly at each ramp. Thus, a one-month closure at one spit could affect approximately (2%) of the annual ORV use, or **4,332** visitors, whereas a full-summer closure would impact approximately (6%) of ORVs or **12,997** visitors. This assumes that all ORV users at these ramps are driving to the spits, which may not be the case.
>
> The inability to participate in recreational activities, such as fishing, beach driving, or any other ORV dependent activity at a spit…..However, given approximately 2.2million visitor each year, this temporary loss of opportunity would affect less than (0.5%) of park visitors annually.[6]

First, all of the underlined quantities in the above, EA statement are incorrect. This follows from the fact that all of these figures share on thing in common—that is, in one way or another, all of these figures are calculated with reference to the quantity, 91,907 (rounded to 91,900). As explained below, 91,907 is an algebraically meaningless quantity.

The above-noted figure, 91,907, (rounded to 91,900) was calculated as follows:

91,907 = (251.8)(365)

where 91,907 is Vogelsong's estimate of the number of ORVs on the park's beaches, per annum,

251.8 is Vogelsong's estimate of the average number of ORVs found on the park's beach at on time, and

365 is the number of days in a year.

91,907 is an algebraically meaningless quantity. The follows from the fact that 91,907 was calculated by multiplying an "at one time" quantity (215.8) by a number of "days" quantity (365). It's like multiplying apple by oranges. Should you have the patience to disentangle the marvelous web of algebra and arithmetic reported in the above EA statement, you will find that 91,907, an algebraically meaningless quantity, enters into the calculation of each and every one of the above-noted underlined figures.

[6] EA p. 245.

Second, all of the percentages that have been enclosed in parentheses are algebraically meaningless quantities.

Consider for example, the 2% figure which purports to be a measure of annual ORV use.

Upon careful review you will find that this percentage was calculated as follows:

$$2\% = \frac{1{,}917}{91{,}907}$$

where 1,917 is a measure of the number of ORVs per month, and

91,907 is Vogelsong's estimate of the number of ORVs per year.

The division of a "per month" figure by a "per year" figure cannot possibly produce an algebraically meaningful quantity (percentage).

For the simple purpose of driving this point home, the following is presented for your perusal.

$$\frac{\frac{1{,}917 ORVS}{Month}}{\frac{91{,}907 ORVs}{Year}} = \left(\frac{1{,}917 ORVs}{Month}\right)\left(\frac{Year}{91{,}907 ORVs}\right)$$

While it may appear that the above discussion has literally "pulled the rug out" from any credible attempt by the EA to assess the impact of ORV restrictions on the local economy, such is not the case. This follows from the fact that it is possible to estimate annual ORV usage of the park's beaches from Vogelsong's survey results. This fact was conveniently overlooked by the "algebraically challenged" authors of the EA.

Page 156 of the EA, pages 14-15 of the Vogelsong study, clearly states that 68% of all visitors surveyed reported spending some time driving on the park's beaches. Using this 68% figure, the number of ORVs counted on the park's beaches per annum is estimated at 684,779.

This figure, 684,779, is calculated as follows:

$$684{,}779 = \frac{2{,}275{,}886(.68)}{2.26}$$

where 2,275,886 is Vogelsong's estimate of the total number of park visitors, per annum,

.68 is Vogelsong' estimate of the percentage of all visitors who drive on the beaches, and

2.26 is Vogelsong's estimate of the number of visitors per vehicle.

SOCIOECONOMIC RESOURCES

Upon substitution of 684,779 for the algebraically meaningless, 91,907, and upon repetition of the same calculations undertaken by the authors of the EA, the initially-noted EA statement is reproduced below—albeit, in corrected form. For reasons previously explained, all references to the percentage figures initially contained have been omitted from this corrected version of the EA statement.

> Any full-beach resource closures that restrict ORV access would most likely occur during the summer months, when 45% to 50% of the park's annual visitation occurs (Vogelsong 2003; NPS Public Use Statistics Office 2005). Of the estimated **684,779**ORVs in the park annually, approximately **342,390** ORVs visit park beaches during the summer months, assuming that ORV use follows overall park visitation patterns. At least 50%, or **171,195** of those ORVs, would frequent the ramps that provide access to the spits (Vogelsong 2003). Assuming that these **171,195** ORVs are distributed equally among the four ramps and that use is equally distributed between June, July, and August, approximately **42,799** ORVs would occur throughout the summer, and **14,266**ORVs would occur monthly at each ramp. Thus, a one-month closure at one spit could affect approximately **32,242** visitors during any one summer month. A full summer closure would affect **96,725** visitors during the 3 summer months. This assumes that all ORV users are driving to the spits, which may not be the case.[7]

The EA, statement, as corrected, paints a much different picture than did the original (uncorrected) version. Repeatedly and consistently, the authors of the EA point to the algebraically ridiculous, tiny percentages—namely, 2%, 6%, and .5% to support their conclusion that the impact of beach closures is minimal. Even a cursory comparison of the corrected/uncorrected versions of the EA statement clearly reveals that the impact of beach closures is far from minimal.

The following assumptions are repeated from the above-noted EA statement:

1. assuming that ORV use follows overall park visitation patterns,
2. assuming that these 171,195 ORVs are distributed equally among the four ramps and that use is equally distributed between June, July, and August, and
3. assumes that all ORV users are driving to the spits, which may not be the case.

None of these assumptions, can be supported by either NPS Visitation reports or data found in the Vogelsong study.

[7] EA p.245

SOCIOECONOMIC RESOURCES

CONCLUSION

On the basis of the above discussion, it is reasonable to conclude:

1. that the EA has painted a "rosey scenario" of the regional economy,
2. that the regional economy is far from "robust", and
3. that the regional economy—thought strong, is showing signs of fragility.

As used above, the word "fragility" is meant to imply that the local economy may not be able to sustain the impact of a variety of adverse, exogenous factors—such as:

1. another devastating hurricane,
2. a 25% increase in property taxes resulting from both an increase in tax rates and assessed market valuations,
3. a 25% increase in electric utility rates (Per annum) which may well result from the proposed replacement of the Bonner Bridge,
4. a spike in gasoline prices, and
5. the impact of last year's unprecedented beach closures as well as a decline in visitations resulting from future decisions of the NPS which curtail ORV beach access.

Anyone, or any combination of the above, could have serious implications not only with respect to the villages of Hatteras and Ocracoke Islands, but also with respect to the wider economies of which these villages are a part.

Finally, the impact of the economic health of the villages of Hatteras and Ocracoke Islands vis-s-vis Dare County, are noted below.

Consider the following data as it applies to the contribution of the southern villages to county-wide growth. Despite the facts

1. that EA repeatedly reminds us that the southern villages do not account for the majority of Dare County's lodging revenues, and
2. that EA repeatedly states that impacts on the local communities will not affect the region as a whole,

it is quite clear that the southern villages are major contributors to county-wide growth. Quite simply impacts on the local communities are quite likely to affect the region as whole, and very likely in a substantial way.

Southern Villages' Contribution to County-Wide Growth—Inflation Adjusted					
	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005
Dare County Revenue Changes (Real Dollars)	27,179,757	20,971,249	8,979,082	(185,736)	3,324,658
Southern Villages Revenue Changes (Real Dollars)	5,438,628	7,014,379	7,548,206	(3,558,212)	3,587,595
Southern Village Contribution to Revenue Growth	20%	33%	84%	-1916%	108%

December 1, 2005

Comments on the Bonner Bridge

Thank you for the recent presentation in Rodanthe about the Bonner Bridge replacement. I support the 17-mile bridge. It is the only option that adequately addresses barrier island movements, storms overwash and present sea level rise. In my view, I feel it also provides the most realistic option for evacuating Hatteras and Ocracoke Islands during a storm event. In the long run it should prove to be the most economical. I am pleased that NCDOT is considering this farsighted option and hope that shortsighted politics don't crush it.

Continued access to Pea Island Wildlife refuge is an important consideration but should be considered a totally separate issue. It is my opinion that anything other than the long bridge option will eventually impact access to all of Hatteras Island in addition to Pea Island Wildlife Refuge.

Sincerely,

Jim Lyons
Box 698
Buxton, NC 27920

December 1, 2005

Comments on the Bonner Bridge

Thank you for the recent presentation in Rodanthe about the Bonner Bridge replacement. I support the 17-mile bridge. It is the only option that adequately addresses barrier island movements, storms overwash and present sea level rise. In my view, I feel it also provides the most realistic option for evacuating Hatteras and Ocracoke Islands during a storm event. In the long run it should prove to be the most economical. I am pleased that NCDOT is considering this farsighted option and hope that shortsighted politics don't crush it.

Sincerely,

Marcia Lyons
Box 698
Buxton, NC 27920

Norburn, Robert E.

From: Marcia Lyons [marcialyons@mindspring.com]
Sent: Sunday, April 22, 2007 9:28 PM
To: cgoode@dot.state.nc.us
Subject: Bridge comment

Mr. Goode,

To protect public safety and the local economy, build the LONG bridge or bring back the ferry. All other alternatives have too many weak spots. Thank you for considering my comment.

Sincerely,
Marcia Lyons
Box 698
Buxton NC 27920

B-161

Subject: Bonner Bridge
Date: Mon, 16 Apr 2007 15:47:00 -0400
From: "Jeff Madre" <jmadre@hotmail.com>
To: cgoode@dot.state.nc.us

Build the short bridge, please!

Jeff Madre
Elizabeth City, NC

Norburn, Robert E.

From: Page, John
Sent: Tuesday, December 20, 2005 8:02 AM
To: Norburn, Robert E.
Subject: FW: Oregon Inlet Bridge

-----Original Message-----
From: Tim Mathews [mailto:tmathews.depuy@cox.net]
Sent: Monday, December 19, 2005 1:29 PM
To: bsmyre@dot.state.nc.us
Subject: Oregon Inlet Bridge

Ms. Smyre,

This letter is to ask that a catwalk to fish from be included in the design of the new bridge at Oregon Inlet.

Thank You,

Tim Mathews

B-162

Subject: Comment On NC12 Replacement of Herbert C.Bonner Bridge Over Oregon Inlet
Date: Sun, 11 Dec 2005 23:11:55 -0500
From: <imwarmat@peoplepc.com>
To: <cgoode@dot.state.nc.us>

Please register the following comment regarding the replacement options for the Bonner bridge.

For a plethora of valid reasons I support, in strongest terms, the selection of the short bridge option, and the continuing maintenance of the existing NC Rte. 12 right of way and roadway. For the same reasons I most strongly oppose the long (17-mile) bridge option.

Thank you for your attention.

Wayne R. Mathis, P.E.
P.O.Box 251, Buxton, NC 27920

Dare County Marine Industry Association
P.O. Box 232
Wanchese, NC 27981

November 8, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

We, the undersigned organization, would like to inform you of our position on the replacement of the Bonner Bridge over Oregon Inlet.

Our membership is comprised of businesses and individuals that depend on Oregon Inlet for their livelihoods. Safety through the inlet is our first concern. We have followed the progress of the replacement of the aging Bonner Bridge and are very alarmed over the lack of attention by NC DOT to take this opportunity to ensure safe navigation through the waterway.

Although NC DOT is responsible for marking the navigable channel where it passes underneath Bonner Bridge, perhaps the number of times the navigable channel has moved in the past year alone has not been associated with the hazardous and unpredictable condition of Oregon Inlet. Today, conditions are so bad that the charter fleet, whose boats draw only 4 to 6 feet of water, are hitting bottom regularly. During the Pirates Cove Billfish Tournament in August, 32 boats ran aground during a four-day period. Just two weeks ago, commercial fishing boats that traveled through the channel one day found the same path shoaled up and impassible the next. The lives of recreational and commercial boaters and Coast Guard personnel are placed in jeopardy every time they traverse the waterway.

The longer 17 mile bridge alternative will have a devastating effect on navigation. As you may recall, the permit that allowed the construction of the groin on Pea Island clearly stated that if the groin were never needed for the protection of the highway on the south end of the Bonner Bridge, as with the 17 mile bridge alternative, it would have to be removed. We believe the groin has been instrumental in ensuring that the inlet and the navigation channel have not migrated south from under the navigational spans. Removal of the groin will hasten the southern migration of Bodie Island and will eliminate all predictability, what little there is, from the inlet. Additionally, removal of the groin will be an unnecessary and exorbitant expense.

We support the construction of the shorter bridge alternative, assuming the Oregon Inlet Fishing Center will not be adversely affected or done away with. We also support the construction of a groin on the northern side of the inlet to protect the new bridge. Without a hardened structure, Oregon Inlet will never truly be safe. The shorter bridge coupled with a groin will cost less, allow for continued access by citizens to the public lands of northern Hatteras Island and will ensure navigation into the future.

The mission of the NC DOT states that you are to "Provide a safe, modern and integrated multimodal system that expands opportunities and unites citizens in both urban and rural areas in support of Governor Easley's vision for One North Carolina". We hope that you interpret your mission as we do and take this opportunity to complete the new bridge and also protect Oregon Inlet and the North Carolinians who depend on it.

Sincerely,

Heather Maxwell
Director
Dare County Marine Industry Association

John Conforti,REM
NC DOT
1548 Mail Service Center
Raleigh,NC 27699-1548

Sir, I would endorse the Pamlico Sound bridge with the curved terminus option.

I have been a resident of Frisco since '93 and seen the problems with maintaining NC12 north of Rodanthe. None of the parallel bridge options will solve that problem.

The down side to the "long bridge" is the potential loss of recreational areas. Hopefully something can be worked out with Fish and Wildlife to allow access to Pea Island. They would be relieved of NC12 traffic and should be willing to provide some way to the refuge in trade.

I feel that a major concern will be managing traffic flow in peak season. With the weight of traffic and some drivers habits, provisions will have to made for passing lanes, break down/ emergency pull-offs and full U-turns along that great length of road. We've seen the tie ups on NC12 as it is now.

The "long bridge" should speed up the approval process by avoiding potential conflicts with Fish and Wildlife or other environmental concerns.

I would hope that the stone jetty on the south end of Oregon Inlet could be left in place.

Which ever plan is adopted matters less than the timing. Please! Let's get on with it.

Respectfully, Robert C May

PO Box 486, Buxton, NC 27920-0486

cc: John Page, AICP,CEP

B-164

INTRODUCTION

Written Statement for the Record of the March 28th, 2007 Public Hearing Regarding the Replacement Bridge Over the Oregon Inlet, Dare County, North Carolina.[1]

Author

Jack McCombs, a citizen of Kill Devil Hills, Dare County, NC; who (a) as Chairman of the Bicycle and Pedestrian Committee of the Outer Banks Transportation Task Force (OBTTF) represents that committee and task force; (b) as a cyclist[2] who rides thousands of miles on the roads and paths of the Outer Banks, represents the many thousands of local and out-of-area cyclists of this and future generations who will ride the new bridge over the Oregon Inlet.

Summary Statement

The members of the OBTTF, its subordinate Bicycle and Pedestrian Committee, and cyclists represented by McCombs have not taken a position relative to which bridge option should be built to replace the current Bonner Bridge. The members of these groups have only one major concern about the replacement regardless of the option chosen. To wit, that it safely accommodates cyclists.

Related to this position that the new bridge accommodate cyclists are two other major initiatives that taken as whole creates the potential that the Outer Banks will become a mecca for cyclists and as a result bring very significant economic benefits to the Outer Banks and the entire region of northeastern North Carolina.

DETAILS

1. Thousands of cyclists will ride on the replacement bridge over the Oregon Inlet during its lifetime because:
   - Cycling has had and will continue to experience explosive growth in the US,
   - There is no practical alternative route for cyclists transiting the Outer Banks enroute to/from the mainland using Ocracoke Island as a waypoint,
   - The attractiveness of the Outer Banks for cyclists will guarantee they will be riding along the entire length of the Outer Banks, safely or not,
   - The bridge over the Oregon Inlet is a major component of the Wright Brothers Bikeway, established several years ago by the Boards of Commissioners of Dare, Currituck, and Hyde Counties; this bikeway runs from Corolla in Currituck County, through Dare County, to Ocracoke in Hyde County,
   - The Outer Banks is a segment of the nationally-recognized Atlantic Coast Bicycle Route, which runs between Maine to Florida. If the replacement bridge is not provided with bicycle-safe provisions, the unsafe conditions that exist on the current bridge over the Oregon Inlet will continue; a situation that shocks riders who are riding this scenic and very popular bicycle route. As importantly it reflects unfavorably on the leadership of the Outer Banks and North Carolina.

2. Bicycle-friendly bridges –for new or major overhauls of existing bridges-- are currently required by the North Carolina Department of Transportation on all highway projects for which cyclists are likely to be

[1] Considerable information reflected in this statement was provided by Mr. William (Bill) Brobst who will attend and speak at the public hearing on the same issue scheduled for March 29th, 2007 in Rodanthe, NC.

[2] Note the word "cycle" means bicycle and "cyclists" refers to people who ride bicycles.

Jack McCombs, 28 March 2007
jackkdh@charter.net
252-216-7760

present. These standards are reinforced by federal standards[3], which state in part, "**Bridges.--**In any case where a highway bridge deck being replaced or rehabilitated with Federal financial participation is located on a highway on which bicycles are permitted to operate at each end of such bridge, and the Secretary determines that the safe accommodation of bicycles can be provided at reasonable cost as part of such replacement or rehabilitation, then such bridge shall be so replaced or rehabilitated as to provide such safe accommodations."

To be bicycle-friendly, the replacement bridge over the Oregon Inlet:

- Must have wide shoulders on both sides of the bridge roadway,
- Must have high bicycle-safe bridge railings,
- Must have warning signs to alert motor vehicle drivers of the presence of bicyclists,
- Should have bike route markings, and
- Should have rest areas or turnouts every few miles.

RELATED INITIATIVES/PROGRAMS

Two related initiatives/programs, when considered with the impact of a bike friendly bridge over the Oregon Inlet, will create conditions which will attract cyclists in very large numbers to the three counties of the northern Outer Banks. Concurrently, the number of local cyclists will continue to increase due to the price of auto fuels and improved facilities for cycling. The first is the ongoing OBTTF program while the second is the proposed mid-Currituck County Bridge.

An Examination of the Current Situation

In 2003 the NCDOT Division of Bicycle and Pedestrian Transportation commissioned a study to examine the value of public investment in bicycle facilities.[4] Among the conclusions of the study was:

- "680,000 visitors bicycle in the area annually, representing 17% of all tourists to the area,
- "A conservative estimate of the annual economic impact of bicyclists in the area is $60 million,
- "The annual return from bicyclists is nearly nine times the one-time expenditure of $6.7 million in public funds to construct bicycle facilities in the region."

This economic impact has occurred despite less than ideal cycling conditions in the Outer Banks, without safe cycling conditions on the current bridge over the Oregon Inlet, and without an easy and quick route into the Currituck County Outer Banks via a new bridge from northern locations.

It is well accepted in the bicycling industry that about one out of every three Americans will ride a bicycle at least once each year. With a year-round population of about 30,000, there are probably 8,000 to 10,000 local residents riding a bicycle on the Outer Banks at some time each year.

The Outer Banks Transportation Task Force

"The success of the Outer Banks as a popular tourist destination has led to, among other things, a number of transportation problems. Particularly in tourist season, serious traffic congestion occurs in many areas. In addition, many employers are having problems getting employees to their work locations. In response to these problems, the Dare County Board of Commissioners formally created the Outer Banks Transportation Task Force (OBTTF) on June 21, 2004"[5].

[3] §217: 23 U.S.C. - Bicycle Transportation and Pedestrian Walkways

[4] "Pathways o Prosperity, The Economic Impact of Investments in Bicycle Facilities; A Case Study of the North Carolina Northern Outer Banks"

[5] See http://www.obtransportation.org for full details

An important part of the OBTTF's work is focused on bicycle and pedestrian issues with a primary objective to create an Outer Banks wide, interconnected bicycle and pedestrian network that will safely accommodate cyclists and pedestrians through the three counties of the Northern Outer Banks and all of their municipal and residential areas.

To attain this OBTTF has accepted the following mission:

"To encourage an increase in the use of bicycling and walking as a form of transportation."

To accomplish this mission, the Task Force stated:

"The Outer Banks must create a bicycle- and pedestrian-friendly area, with an interconnected, safe, maintainable, and affordable bicycle-pedestrian transportation network suitable for residents and visitors."

The effort to define the bicycle- and pedestrian-friendly network is well underway. Within a relatively short period the OBTTF will be able to recommend to county and municipal governments those construction initiatives and improvements that will create this area-wide network.

Mid-Currituck County Sound Bridge

It now appears the Mid-Currituck County Sound Bridge will become a reality with construction scheduled to begin in 2010 with the bridge ready for traffic in 2014. At that time traffic from the north who are enroute to the Currituck County Outer Banks will have a fast and direct route to that destination.

Conclusions

With the assumptions that (a) the replacement bridge over the Oregon Inlet will be bicycle friendly, (b) the Mid-Currituck Sound Bridge will be built and also be bicycle friendly, and (c) the recommendations of the OBTTF to build a area-wide bicycle and pedestrian network are accepted and acted upon, the Northern Outer Banks will absolutely become a desired destination for cyclists in their thousands.

This will be happen because:

- Our weather permits cycling throughout the entire year,
- Cyclists in regions and states west and north of the Outer Banks are unable to cycle during the winter months,
- The road network connecting the Outer Banks to western and northern regions and states offers fast, direct transit,
- Publicity and marketing initiatives will make it widely known the Outer Banks presents safe cycling for all types of cyclists whether they be recreational riders or fast road bikers,
- The Outer Banks will be able offer and host organized bicycle galas to include organized rides for all types of cyclists that will attract thousands of participants and most attractively these events will be held during the non-summer months and provide a great boon to the economy. Each participant at these galas becomes like a seed that once planted by his/her great experience will return again and again to the Outer Banks (conservatively, the $60 million generated for the economy reflected in the 2003 NCDOT sponsored study will be increased many times over and done so during those parts of the years when the local economy nearly hibernates).

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

We, the undersigned organization, would like to inform you of our position on the replacement of the Bonner Bridge over Oregon Inlet.

Our membership is comprised of businesses and individuals that depend on Oregon Inlet for their livelihoods. Safety through the inlet is our first concern. We have followed the progress of the replacement of the aging Bonner Bridge and are very alarmed over the lack of attention by NC DOT to take this opportunity to ensure safe navigation through the waterway.

Although NC DOT is responsible for marking the navigable channel where it passes underneath Bonner Bridge, perhaps the number of times the navigable channel has moved in the past year alone has not been associated with the hazardous and unpredictable condition of Oregon Inlet. Today, conditions are so bad that the charter fleet, whose boats draw only 4 to 6 feet of water, are hitting bottom regularly. During the Pirates Cove Billfish Tournament in August, 32 boats ran aground during a four-day period. Just two weeks ago, commercial fishing boats that traveled through the channel one day found the same path shoaled up and impassible the next. The lives of recreational and commercial boaters and Coast Guard personnel are placed in jeopardy every time they traverse the waterway.

The longer 17 mile bridge alternative will have a devastating effect on navigation. As you may recall, the permit that allowed the construction of the groin on Pea Island clearly stated that if the groin were never needed for the protection of the highway on the south end of the Bonner Bridge, as with the 17 mile bridge alternative, it would have to be removed. We believe the groin has been instrumental in ensuring that the inlet and the navigation channel have not migrated south from under the navigational spans. Removal of the groin will hasten the southern migration of Bodie Island and will eliminate all predictability, what little there is, from the inlet. Additionally, removal of the groin will be an unnecessary and exorbitant expense.

We support the construction of the shorter bridge alternative, assuming the Oregon Inlet Fishing Center will not be adversely affected or done away with. We also support the construction of a groin on the northern side of the inlet to protect the new bridge. Without a hardened structure, Oregon Inlet will never truly be safe. The shorter bridge coupled with a groin will cost less, allow for continued access by citizens to the public lands of northern Hatteras Island and will ensure navigation into the future.

The mission of the NC DOT states that you are to "Provide a safe, modern and integrated multimodal system that expands opportunities and unites citizens in both urban and rural areas in support of Governor Easley's vision for One North Carolina". We hope that you interpret your mission as we do and take this opportunity to complete the new bridge and also protect Oregon Inlet and the North Carolinians who depend on it.

Sincerely,

Deanna B. McDaniel
Associate Broker, Midgett Realty
P.O. Box 69
Avon, NC 27915
cell: 252-475-4332
office: 252-986-6363
deannam@midgettrealty.com

Hunter Mc Kenney
PO Box 348
Red Oak NC 27868-0348

Nov. 7, 2005
PO Box 348
Red Oak, NC
27868

Mr. Carl Goode, PE
NC DOT
1583 Mail Service Center
Raleigh, NC 27699-1583

Dr. Sir

I will not be able to attend the public hearing on Nov. 9, 2005, but I do have some thoughts on the replacement bridge.

I have been going to the Outer Banks for most of my 68 years and have owned property in Nags Head, Salvo, and Hatteras. I still own property in Nags Head and in Hatteras, so I still have an interest there.

For the past 40 or 50 years, replacing the Bonner Bridge has been the topic of conversation.

To me it is a logical conclusion to go with the option of a 17.5 mile crossing across the sound. We have already found that a bridge across the Atlantic Ocean does not work! So, why do it again? People in Florida have known and practiced this island crossings for many years. Do it once and do it right.

People who watch the birds, etc, will get to their favorite place

for this activity. Building the 17.5 mile crossing will assure Pea Island's existance.

Divers I have talked with have convinced me that the time for 'talks' is over.

Build the 17.5 mile crossing now and forget the bridge across the Atlantic.

Yours truly

HK McKenney

Subject: Oregon Inlet Bridge Replacement
Date: Tue, 17 Apr 2007 10:33:26 -0400
From: "Jenna McLaughlin" <jenna.mclaughlin@verizon.net>
To: <cgoode@dot.state.nc.us>

Carl,
I am a property owner on Ocean Drive in Rodanthe. I am very interested in seeing a decision made about the bridge replacement so that work can get underway. Given financial, time, and dune preservation issues, I am in favor of the Parallel bridge Corridor with Nourishment. If there is a more formal way I should voice my opinion, perhaps you could point me in the right direction. Do you know what the decision timeframe is for this project?

Thank you,
Jenna McLaughlin
24197 Ocean Drive
Rodanthe

Subject: Bonner Bridge
Date: Wed, 21 Mar 2007 17:08:15 -0700
From: "Barbara McMahon" <BarbaraMcMahon@johnlscott.com>
To: <cgoodc@dot.state.nc.us>
CC: "Glenn Godden" <glenng@scanet.com>

I have been looking at investing in Hatteras Island for some time. I was there just two weeks ago looking at property. We have our Viaduct problem here in the Seattle area. I think it is foolish to postpone making a decision relative to this bridge, just as it is foolish to waste time with Viaduct solutions. Nature is going to take care of the problems for us. It is my hope that everyone can come together with a viable solution and implement ASAP.

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

We, the undersigned organization, would like to inform you of our position on the replacement of the Bonner Bridge over Oregon Inlet.

Our membership is comprised of businesses and individuals that depend on Oregon Inlet for their livelihoods. Safety through the inlet is our first concern. We have followed the progress of the replacement of the aging Bonner Bridge and are very alarmed over the lack of attention by NC DOT to take this opportunity to ensure safe navigation through the waterway.

Although NC DOT is responsible for marking the navigable channel where it passes underneath Bonner Bridge, perhaps the number of times the navigable channel has moved in the past year alone has not been associated with the hazardous and unpredictable condition of Oregon Inlet. Today, conditions are so bad that the charter fleet, whose boats draw only 4 to 6 feet of water, are hitting bottom regularly. During the Pirates Cove Billfish Tournament in August, 32 boats ran aground during a four-day period. Just two weeks ago, commercial fishing boats that traveled through the channel one day found the same path shoaled up and impassible the next. The lives of recreational and commercial boaters and Coast Guard personnel are placed in jeopardy every time they traverse the waterway.

The longer 17 mile bridge alternative will have a devastating effect on navigation. As you may recall, the permit that allowed the construction of the groin on Pea Island clearly stated that if the groin were never needed for the protection of the highway on the south end of the Bonner Bridge, as with the 17 mile bridge alternative, it would have to be removed. We believe the groin has been instrumental in ensuring that the inlet and the navigation channel have not migrated south from under the navigational spans. Removal of the groin will hasten the southern migration of Bodie Island and will eliminate all predictability, what little there is, from the inlet. Additionally, removal of the groin will be an unnecessary and exorbitant expense.

We support the construction of the shorter bridge alternative, assuming the Oregon Inlet Fishing Center will not be adversely affected or done away with. We also support the construction of a groin on the northern side of the inlet to protect the new bridge. Without a hardened structure, Oregon Inlet will never truly be safe. The shorter bridge coupled with a groin will cost less, allow for continued access by citizens to the public lands of northern Hatteras Island and will ensure navigation into the future.

The mission of the NC DOT states that you are to "Provide a safe, modern and integrated multimodal system that expands opportunities and unites citizens in both urban and rural areas in support of Governor Easley's vision for One North Carolina". We hope that you interpret your mission as we do and take this opportunity to complete the new bridge and also protect Oregon Inlet and the North Carolinians who depend on it.

Sincerely,

David L. Mc Namee
N.C. Broker Lic. # 33551
125 Nautical Ln.
Currituck, N.C. 27929

Subject: Bonner Bridge replacement -- comments on Draft EIS
Date: Tue, 15 Nov 2005 01:22:42 -0500
From: "William Meredith" <wsrmeredith@msn.com>
To: <cgoode@dot.state.nc.us>
CC: <jkeene@franklineq.com>, <contactus@ncbba.org>, <jtharris@dot.state.nc.us>, <pagej@pbworld.com>, <congjones@mail.house.gov>, <marcb@ncleg.net>, <billc@ncleg.net>, <dcboc@darenc.net>, <chamber@outer-banks.com>, <lminges@nccommerce.com>

To: Carl Goode
North Carolina Dept. of Transportation
November 14, 2005

Comments on the Draft EIS for the Bonner Bridge replacement project:

If the Bonner Bridge replacement alternatives are now down to 2 options, I agree with the North Carolina Governor, with the North Carolina General Assembly, and with Dare County officials that the shorter 2.7-mile option is the preferred choice, especially since building the replacement span parallel to the existing Bonner Bridge and having a southern terminus near or at the current bridge's location should all help to ensure continuation of the great shorebound recreational access via vehicle that currently exists at the north end of Pea Island and on the southside of Oregon Inlet. At present, the recreational access here very nicely accommodates footbound, walkover access from parking lot areas that are accessible by vehicle along or just off paved Rt. 12, to allow for low impact surf-fishing, bridge-fishing (via catwalk), bird watching, beachcombing, hiking, swimming, nature study, etc., all which is initially accessible by vehicle and then by foot, occurring here 24 hours per day, 7 days per week, 365 days per year. This is all very nice and important to maintain!

A glaring deficiency with longer 17-mile option is that it creates what could easily someday become on the part of a federal agency an eventual elimination or drastic curtailment of this current superb shorebound, vehicular access to recreational opportunities and activities at the north end of Pea Island and on southside of Oregon Inlet. I'm particularly concerned here that in the planning process for this longer 17-mile option, the U.S. Fish and Wildlife Service (USFWS) has somewhat surprisingly to date not had to provide any *specific* plans or details about how public recreational access will still be allowed or accommodated within the Refuge in order to permit continued shorebound vehicular travel and landbound recreational uses, going from the longer route's proposed southern terminus near Rodanthe to the north end of Pea Island and the southside of Oregon Inlet. Furthermore, if such a *detailed* recreational access plan was to ever be unveiled by the USFWS, then anything short of this federal agency continuing to allow for and helping to accommodate or provide well-maintained, paved access for vehicular traffic northbound all the way from the new southern terminus near Rodanthe to parking areas northward along Rt. 12, and of course to parking areas on the southside of Oregon Inlet, *which would all still have to be fully open to the public on a 24/7/365-basis*, would be unacceptable.

Alternatively, I'm fairly confident that a shorter 2.7-mile replacement span that has a southside terminus very near or at the exact same location as Bonner Bridge's current southside terminus will then still allow for perpetuation of superb shorebound recreational access, which the State of North Carolina and Dare County can then ensure continues; and that NCDOT will continue to do whatever it takes to keep Rt. 12 open and functioning, much as your fine agency now very commendably does, with only minimal temporary disruptions for removal of washed-over or windblown sand accumulations, along with undertaking any necessary maintenance of protective dunes or beaches. I also believe that given the public's strong will and desire to maintain Rt. 12 pretty much in its current location and condition, along with all the great shorebound recreational opportunities associated with doing such, that Congress, the State of North Carolina, and Dare County could always then "persuade" the USFWS to be as cooperative as this agency needs to become, in order to help maintain and accommodate Rt. 12's passage in quite acceptable and

environmentally-compatible manner through Refuge lands (or really through the peoples' lands); and furthermore, I wouldn't let any "saber-rattling" (even if done subtly) by some Service personnel try to intimidate people into thinking that this wouldn't be so.

I also understand that according to NCDOT this maintenance work on Rt. 12's washover areas through Pea Island NWR currently costs an average of about $500,000 per year to perform. Furthermore, I understand that the estimated total construction cost for the longer 17-mile option is about $300 million dollars, supposedly about twice the cost of the shorter 2.7-mile option. The cost difference (or savings) here between the two options of about $150 million dollars (in selecting the shorter option) would then seem to allow for about 300 years of washover maintenance by NCDOT along the Refuge stretch of Rt. 12! (in reality it would probably be something shorter than this time projection, but nonetheless for about $150 million it would still be for quite a long stretch of time, and probably much longer than the projected life span of any new replacement bridge).

My reservations here about how the USFWS might suddenly or gradually find themselves "compelled" as an agency to eliminate or drastically curtail shorebound access to the north end of Pea Island and the southside of Oregon Inlet in event the longer 17-mile option might be selected were also presented by me in an article that appeared not too long ago in the North Carolina Beach Buggy Association's (NCBBA) Newsletter, which for the record I have attached a copy herein, to also become part of my official comments (please see the attachment herein). In summation, I believe that the shorter 2.7-mile option can be constructed in a manner that with more modern building technologies will provide a new replacement bridge with quite a long projected life span that would still connect to Rt. 12's current alignment near or at the bridge's current southern terminus, and that both the new bridge and Rt. 12 can continue to be maintained for a very long time in a manner that will meet the needs and concerns of many parties and can be environmentally-compatible with all Refuge management goals and objectives. And please understand that I say all of this from a diversity of perspectives -- 1) as a "tourist" or visitor who makes 3-4 annual trips from Delaware to the Outer Banks each year, and who spends about $4000/year in the Kill Devil Hills-Nags Head-Manteo area or on Hatteras Island for lodging, food, bait & tackle, gifts, entertainment, etc., and where my continuing to have great and convenient shorebound, vehicular access to the north end of Pea Island and southside of Oregon Inlet will carry much weight in my considering if I will continue to visit or vacation in these areas in the future; and 2) as an avid surf-fisherman and surf-caster who belongs to the NCBBA and who finds the north end of Pea Island and southside of Oregon Inlet one of his favorite spots along the eastern seaboard; and 3) also as an "environmentalist" too, who is a member of both the North Carolina Coastal Federation (NCCF) and the Coastal Wildlife Refuge Society (CWRS), in my being an enthusiastic birder and nature observer who is quite concerned with the conservation and best uses of our remaining natural areas and public open spaces.

Thank you for considering my input.

Sincerely,

William H. Meredith
139 Homestead Drive
Camden, DE. 19934

home phone: 302-698-1701

Bonner Bridge Replacement
Fate for public access to Oregon Inlet's southside?

William H. Meredith
Camden, Delaware
NCBBA Member No. 3317

At present, some fantastic shoreline access exists on the southside of Oregon Inlet and the north end of Pea Island for recreational angling (for surf, bridge, jetty and wade fishing), as well as for hiking, bird-watching, beachcombing, nature study, etc. By traveling paved Rt. 12 from north or south in personal vehicles to some convenient parking areas on the Inlet's southside, which are parking lots accessible year-around on a "24/7" basis, low-impact footbound travel can then be readily taken to several nearby, high-quality recreational locales. However, depending upon wherever the Bonner Bridge's replacement might make its new southside landfall, continuation of the public's present superb access to the southside Inlet area could be much in doubt. Additionally, no matter where the new southside landfall might actually occur, future public access policies and regulations of the U.S. Fish and Wildlife Service (USFWS) and National Park Service (NPS), as well as a willingness to commit to paved road maintenance to this area on the part of the North Carolina Department of Transportation (NCDOT), will also have major bearing on the public's continued great access to the southside of Oregon Inlet and north end of Pea Island.

Not making consideration for public access to Oregon Inlet's southside an important component of the NCDOT's planning process for the Bonner Bridge's replacement, to justifiably be an integral part of any draft, interim, or supplemental Environmental Impact Statement (EIS), and of course to then become part of the final EIS too, seems to constitute a major deficiency in the State's planning process. Indeed, our having advance knowledge of the views and intentions of the USFWS and NPS concerning the details for how this public access will or will not be allowed and accommodated, and our also having advance knowledge of how the NCDOT will or will not commit to helping maintain such public access, might then have significant bearing within the public arena (and within the EIS process too) for what bridge replacement option is finally selected.

Of the two bridge replacement options that the NCDOT has now seemingly focused upon, Alternative #1 (making southside landfall about 2-1/2 miles south of the existing bridge) would seemingly more readily allow for continued accommodation and maintenance of the type of public access that presently exists, as opposed to Alternative #4 that would involve making a southside landfall about 12 miles south of the existing bridge. Of course, there are several other important considerations and concerns here if forced to choose only between Alternatives #1 and #4, but the continuation of good public access to the southside of Oregon Inlet should also be somewhere prominent on the planners' agenda. Another possible option of making a southside landfall for the new bridge that would be *very close* to the existing bridge's landfall would seemingly greatly reduce or even entirely eliminate concerns for maintaining the great public access that presently exists, but this alternative for some reason seems to have fallen out of favor with NCDOT.

I recently have electronically sent three communications to NCDOT about my concerns, and in doing so have also copied several other interested parties about this matter. While NCDOT's replies have been very professional and prompt, they unfortunately have also done little to allay my concerns that what seems to be a major deficiency in the State's planning process for replacing the Bonner Bridge will still go unaddressed and unmet. I am quite apprehensive that by allowing the USFWS and NPS to seemingly remain "mum" about how (or even if) the public's current great recreational access to the Inlet's southside will be allowed and accommodated by these two federal agencies (and for them to remain mute here until sometime after the final bridge replacement's alignment is selected), and to also not hear from NCDOT about whatever the State's commitment might be to help maintain this great roadway access, then shoreline anglers and other recreational users of this fabulous area will someday in the not-too-distant future have to suddenly awake and face an almost total loss of the terrific access that many of us have known and thoroughly enjoyed.

There are many important issues involved with replacing the Bonner Bridge, ranging from geological and hydrographic factors affecting the long-term viability of any replacement bridge and its causeway; to expeditiously trying to enhance public safety relative to routine highway travel or hurricane-related evacuations; to trying to avoid or minimize adverse environmental impacts to water quality, wetlands habitats, or wildlife populations; to dealing with the immediate and long-term dollar costs of various bridge replacement options. But also quite important is the issue of somehow allowing for or even improving the great shoreline recreational access that the current Bonner Bridge's southside landfall now affords to the public, which in the State having initiated the bridge's replacement process might now have also been jeopardized. It would be a real shame for NCDOT's planning process to continue to overlook this important consideration in helping to guide the public's selection of the Bonner Bridge's replacement. If you share similar concerns, I suggest that you let them be known to both NCDOT and your elected officials.

Subject: bonner bridge
Date: Tue, 17 Apr 2007 12:03:55 -0400
From: richard meseroll <mez@easternsurf.com>
To: cgoode@dot.state.nc.us
CC: Laurin Walker <laurin@easternsurf.com>, Matt Walker <matt.walker@primedia.com>

Dr. Mr. Goode,
It has been brought to my attention that you will soon be making a major decision on the fate of the Bonner bridge and access to Pea Island in The Cape Hatteras National Seashore.
As a long time, frequent visitor since 1970, and a U.S taxpayer who is more than happy to help fund such a wonderous place, i am writing this to strongly recommend that you please do NOT build a new version of the Herbert Bonner bridge that will by-pass and effectively cut-off access to the Pea Island preserve, a place i've visited dozens of times over the past 35 + plus years and plan to vacation to surf and fish forever.
Sincerely,
Richard P. Mesroll, Jr.
Co-owner Eastern Surf Magazine

B-172

Mr. Goode,
As a homeowner on Hatteras Island, I feel compelled to voice my opinion on the bridge issue. My vote is for the "short, parallel" bridge because of affordability, timeliness and safety.

Sincerely,
Cindy Michelotti
103 Hanson Ct
Chapel Hill NC 27516

Subject: Herbert C. Bonner Bridge Replacement Comment
Date: Fri, 30 Mar 2007 11:48:42 -0500
From: "Liz Midgett" <lizm@midgettrealty.com>
Organization: Midgett Realty
To: <cgoode@dot.state.nc.us>

Mr. Carl Goode, Jr. PE, Unit Head
TIP Project No. B-2500
Dare County
WBS NO. 32635.1.3

Dear Mr. Goode,
My name is Liz Midgett, and I am a resident at 56910 Queen Street, Hatteras, NC, 27943. I would like the short bridge now! My first choice is the Oregon Inlet Bridge with Nourishment, and my second choice is the phased approach with Rodanthe Nourishment.

Thanks,
Liz Midgett
Sales Administrator
Midgett Realty - Rodanthe
O 252-986-6379
F 252-987-2554
lizm@midgettrealty.com

B-173

November 10, 2005
To: North Carolina Department of Transportation
Attn.: Secretary Lyndo Tippett
From: Timothy W. Midgett, Hatteras, NC

TRANSPORTATION + TOURISM = REVENUE

The Bridge to Somewhere

North Carolina's Outer Banks region has become one of the state's primary tourism destinations hosting millions of visitors each year from all over the world. In recent years, the region has been among the top four regions of the state in tourism- generated revenues. Only the Charlotte- Mecklenburg, Raleigh-Durham, and Greensboro-Triad regions boast accommodations numbers greater than those generated on the Outer Banks.

In 2004, the area was credited with earning $618 million in tourism related revenues from $15.8 billion worth of tax assessed land values in Dare County. Of North Carolina's 100 counties, Dare County has perennially ranked among the few counties recognized as "donor" counties, meaning they send more tax dollars to Raleigh than they qualify for in state funding mechanisms. Just think, this means that about 90+ of the counties, statewide, fully depend upon the area contributions. Obviously, we are talking about **somewhere** when we speak these numbers and what they represent to the state of North Carolina.

Hatteras Island contributes significantly to the afore-mentioned revenues and is recognized as a vital part of the allure of the Outer Banks. Historically, the island's seven villages and its few thousand year 'round residents are looked upon to provide approximately 25% of the overall dollars, countywide. Furthermore, it is a known fact that the overwhelming majority of visitors to the area make, at least, a day trip down the banks thru Hatteras Island and across the ferries to Ocracoke Island. Those ferries provide a tremendous service and are certainly a huge attraction in themselves. The state-run ferry system is the envy of many a state and is a very costly endeavor for the NCDOT. However, it is a system that evokes tremendous pride within the state.

One might wonder what would happen if the Bonner Bridge across Oregon Inlet were to be incapacitated for some reason. Well, for those of us who were here and remember the bridge being out of service after being struck by a barge in 1990… it is not a pleasant memory! Not only did the island's revenues take a nose-dive, but the entire economic engine that is the Outer Banks economy was impacted enormously. Our fine friends from OH, NY, NJ, PA,VA and throughout the nation must not have known which of the area's bridges were down. They stayed away in droves. Why would anyone waste their valuable vacation time visiting an area which is partially inaccessible? They didn't! Trust me, it was not a pretty picture. **Do we have to go thru that again before anyone takes notice?**

I respectfully submit to you that **it is time to get on with the show**. No more studies, no more debate about a seventeen mile monument to excesses in spending, no further tail-dragging and internal bickering. Build the bridge in the general area where it now exists and extend the southern terminus further south beyond the first "hot-spot". Then, work towards satisfying the Federal agencies by agreeing to commit to subsequent phases intended to provide for an elevated roadway or over-land bridge across lands of the Pea Island refuge area encompassing the additional "hotspots" north of Rodanthe.

The citizens of Hatteras Island, the Dare Co. Outer Banks and all of North Carolina have a stake in this bridge. Please do what is right and get on with construction of the short bridge alternative, immediately.

COMMENT SHEET

Herbert C. Bonner Bridge Replacement

Formal Public Hearings – March 28 and 29, 2007

TIP Project No. B-2500 Dare County WBS No. 32635.1.3

NAME: Trish Midgett

ADDRESS: P.O. Box 250 Hatteras NC 27943

COMMENTS AND/OR QUESTIONS:

I am in favor of the Oregon Inlet Bridge with beach nourishment or with paved approach / Rodanthe nourishment

Comments may be submitted by April 17, 2007 to:

Mr. Carl Goode, Jr., PE, Unit Head
NCDOT - Human Environment Unit
1583 Mail Service Center
Raleigh, NC 27699-1583
Phone: (919) 715-1515 FAX: (919) 715-1501
Email: cgoode@dot.state.nc.us

P. O. Box 232
Buxton, N. C. 27920
November 29, 2005

Carl Goode
Human Environment Unit
NDCOT
1583 Mail Service Center
Raleigh, N. C. 27699-1583

Dear Sir:

I have lived in Buxton, N. C. for thirty-five years, and have watched the steady subsidence peel the sand off Outer Banks beaches. The granite jetties at Oregon Inlet always looked like a channel propelling sand out so far that most of it was lost and had very little chance of depositing except in the area around the old Coast Guard Station.

Given the geological history of Hatteras Island, it would seem fairly obvious that the only solution to the bridge problem has to be the long Pamlico Sound Corridor Alternative. Anything less looks short-sighted and clearly driven by quick-fix commercial interests with no stake in either preventing environmental damage or saving the State from added expenses in the long run. A short bridge appears to be a waste of money given the short life expectation of such a structure.

Of course, the fact that North Carolina tends to stay too broke to be proactive must be a consideration. The same can be said for the federal government.

Very truly yours,

Barbara A. Midgette

B-175

Subject: **Bonner bridge/Pea Island access**
Date: Tue, 17 Apr 2007 17:05:44 -0400
From: pmilatdbz@aol.com
To: cgoode@dot.state.nc.us
CC: jfox@arlingtonva.us

Mr. Goode -

As an annual visitor & vacationer to the Outer Banks since the early 80's, I sincerely hope that a compromise situation will be found allowing access to Route 12 N of Rodanthe as well as the entire existing stretch. I am an avid fisherman and also enjoy bodyboarding during the summer & fall months. I currently rent a house in Waves NC for 2 weeks in September.

I acquired your email address thru the Surfline website.

Thank you for your time & efforts regarding this matter.

Sincerely,
Peter A. Miller
Alexandria, VA

Subject: Replacement of Oregon Inlet Bridge
Date: Thu, 12 Apr 2007 10:07:13 -0400
From: "Moore, Ben" <WBMOORE@mactec.com>
To: <cgoode@dot.state.nc.us>

Mr. Goode,

As a frequent visitor to the Outer Banks, it appears to me that there is no 'best case' scenario for the replacement of the

Bonner Bridge. I'm fully aware of the continual costly maintenance for the stretch of highway 12 through Pea Island; but I'm not

convinced that the Pamlico Sound Bridge Corridor is the answer with it's projected costs and potential environmental impacts to the

Sound. While I think this is a decision that does warrant the opinions of groups like the Audubon Society and basically,

any of us throughout the state who enjoy the uniqueness of the Outer Banks (and Pea Island in particular);

it seems to me that a lot of the final decision should be based on the opinions of the people who use the area the most,

the year-round residents of the Banks.

So, it's my opinion that the better plan would be for continual maintenance of highway 12 and the replacement of the Bonner Bridge with

the Parallel Bridge Corridor. My opinion is based solely on how I use the Outer Banks and my weighing of both options and their future impacts.

Thanks for your time.

W.Ben Moore

Project Scientist/CAD Operator

MACTEC Engineering and Environmental Services, Inc.

Wilmington, NC

(910) 452-1185

wbmoore@mactec.com

B-176

Subject: Oregon Inlet Bridge
Date: Wed, 4 Apr 2007 22:42:58 -0400
From: "Janice" <mooremusicxx@hotmail.com>
To: <cgoode@dot.state.nc.us>

This may sound too easy to say, but my family believes we should.....LET NATURE TAKE IT'S COURSE! There is no sense in fighting her.....Mother Nature will always find a way to do what needs to be done. Unfortunately, the people that live or own in Hatteras will need to make some arrangements & do some serious planning for the future on their own.
Janice Moore

Subject: URGENT: Bridge Proposal
Date: Fri, 13 Apr 2007 01:26:17 -0400
From: amoring@vt.edu
To: cgoode@dot.state.nc.us

Dear Carl Goode, Jr.,

The Pea Island Wildlife Refuge can easily be considered one of the most pristine and beautiful costal areas of the entire east coast of the US. Your bridge proposal would essentially deny thousands of Outer Banks enthusiasts of enjoying the land and ocean that has established a deep rooted connection with their hearts.

There are serious envrionmental impacts that need to be taken into consideration, and it would be a serious shame to see such a delicate and unique ecosystem effected in any negative way.

Please, explore and legitimatley consider the plausible alternatives that could address the issue.

It would break my heart along with so many others to see such a gorgeous location taken away.

Thank You for your time,

Alex Moring

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

We, the undersigned organization, would like to inform you of our position on the replacement of the Bonner Bridge over Oregon Inlet.

Our membership is comprised of businesses and individuals that depend on Oregon Inlet for their livelihoods. Safety through the inlet is our first concern. We have followed the progress of the replacement of the aging Bonner Bridge and are very alarmed over the lack of attention by NC DOT to take this opportunity to ensure safe navigation through the waterway.

Although NC DOT is responsible for marking the navigable channel where it passes underneath Bonner Bridge, perhaps the number of times the navigable channel has moved in the past year alone has not been associated with the hazardous and unpredictable condition of Oregon Inlet. Today, conditions are so bad that the charter fleet, whose boats draw only 4 to 6 feet of water, are hitting bottom regularly. During the Pirates Cove Billfish Tournament in August, 32 boats ran aground during a four-day period. Just two weeks ago, commercial fishing boats that traveled through the channel one day found the same path shoaled up and impassible the next. The lives of recreational and commercial boaters and Coast Guard personnel are placed in jeopardy every time they traverse the waterway.

The longer 17 mile bridge alternative will have a devastating effect on navigation. As you may recall, the permit that allowed the construction of the groin on Pea Island clearly stated that if the groin were never needed for the protection of the highway on the south end of the Bonner Bridge, as with the 17 mile bridge alternative, it would have to be removed. We believe the groin has been instrumental in ensuring that the inlet and the navigation channel have not migrated south from under the navigational spans. Removal of the groin will hasten the southern migration of Bodie Island and will eliminate all predictability, what little there is, from the inlet. Additionally, removal of the groin will be an unnecessary and exorbitant expense.

We support the construction of the shorter bridge alternative, assuming the Oregon Inlet Fishing Center will not be adversely affected or done away with. We also support the construction of a groin on the northern side of the inlet to protect the new bridge. Without a hardened structure, Oregon Inlet will never truly be safe. The shorter bridge coupled with a groin will cost less, allow for continued access by citizens to the public lands of northern Hatteras Island and will ensure navigation into the future.

The mission of the NC DOT states that you are to "Provide a safe, modern and integrated multimodal system that expands opportunities and unites citizens in both urban and rural areas in support of Governor Easley's vision for One North Carolina". We hope that you interpret your mission as we do and take this opportunity to complete the new bridge and also protect Oregon Inlet and the North Carolinians who depend on it.

Sincerely,

Marilyn L Morris

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

We, the undersigned organization, would like to inform you of our position on the replacement of the Bonner Bridge over Oregon Inlet.

Our economy is comprised of businesses and individuals that depend on Oregon Inlet for their livelihoods. Safety through the inlet is of paramount concern. We have followed the progress of the replacement of the aging Bonner Bridge and are very alarmed over the lack of attention by officials to take this opportunity to ensure safe navigation through the waterway.

Although NC DOT is not responsible for marking the navigable channel where it passes underneath Bonner Bridge, perhaps the number of times the navigable channel has moved in the past year alone has been associated with the hazardous and unpredictable conditions of Oregon Inlet. Today, conditions are so bad that the charter fleet, whose boats draw only 4 to 6 feet of water, are hitting bottom regularly. During the Pirates Cove Billfish Tournament in August, 32 boats ran aground during a four-day period. Just two weeks ago, commercial fishing boats that traveled through the channel one day found the same path shoaled up and impassible the next. The lives of recreational and commercial boaters and Coast Guard personnel are placed in jeopardy every time they traverse the waterway.

I have had the pleasure of growing up a native of Dare County and a proud descendant of many generations of men who have protected the seafarers through serving in the US Coast Guard and those who have fished the waterways through Oregon Inlet via commercial fishing and charter fishing while providing for our family. My family heritage is deeply entwined with Oregon Inlet. To allow a tragedy, such as the inlet closing, to take place for lack of interest in our economy with regard to the fishing industry appalls me. Lengthy and costly studies have been done and there must be a solution that protects all interested parties rather than being so one-sided.

The longer 17 mile bridge alternative will have a devastating effect on navigation. As you may recall, the permit that allowed the construction of the groin on Pea Island clearly

stated that if the groin were never needed for the protection of the highway on the south end of the Bonner Bridge, as with the 17 mile bridge alternative, it would have to be removed. We believe the groin has been instrumental in ensuring that the inlet and the navigation channel have not migrated south from under the navigational spans. Removal of the groin will hasten the southern migration of Bodie Island and will eliminate all predictability, what little there is, from the inlet. Additionally, removal of the groin will be an unnecessary and exorbitant expense.

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Sincerely,

Bonnie Brown Mueller
PO Box 475
Avon, NC 27915
252.202.2116

Subject: Pea Island
Date: Sat, 14 Apr 2007 13:54:19 -0400
From: Carol <carolmuller@comcast.net>
To: <cgoode@dot.state.nc.us>

Dar Mr. Goode,

I am opposed to the construction of an expensive 17-mile bridge to Hatteras Island that would bypass Pea Island and eliminate access to its wonders. As a long-time visitor to the Outer Banks, my family and I have many times stopped to enjoy the views of the ocean on Pea Island. My nephews go there to surf or body board. We have watched birds there as well as fished from the facilities just south of the Bonner Bridge. The construction of this bridge would stop us from enjoying this part of the Banks.

Please don't choose the long bridge. The better choice is the more cost-efficient shorter bridge which can be constructed sooner than later, with additional small Rt. 12 bridges over the hot spots (where the ocean breaks through the dunes).

Thank you.

Sincerely,

Carol Muller
Newark, Delaware

Subject: Proposed Bonner Bridge Replacement
Date: Sat, 14 Apr 2007 09:04:28 -0400
From: Tom Muller <flintlock.50@comcast.net>
To: <cgoode@dot.state.nc.us>

Dear Mr. Goode:

As a frequent visitor to the North Carolina barrier islands, I am opposed to the proposed 17 mile bridge through Pamlico Sound that would bypass Pea Island. My attraction to Hatteras National Seashore is not the amusements and man-made entertainment in the towns, but the mile and miles of solitude and pure nature of places like Pea Island. I come to get away from it all, not spend time at restaurants and bars. The proposed 17 mile bridge bypassing Pea Island will remove dramatically reduce the attraction of these unique islands. In an era of rapid loss of pristine natural spaces we should be encouraging and providing more access to unspoiled areas, not doing things that place them out of reach to the public. Only by learning to appreciate the beauty of unspoiled nature can our children and grandchildren learn that there is more to life than iPods and Nintendo.

I urge you support replacement of the existing Bonner bridge with a new bridge that still connects Bodie Island with Pea Island.

Sincerely,

Tom Muller
Newark, DE

B-180

Subject: public comment re. Bonner bridge replacement
Date: Mon, 16 Apr 2007 12:44:58 -0400
From: theccdarshop@aol.com
To: cgoode@dot.state.nc.us

I am a resident of Frisco, N.C. and have lived on Hatteras Island since 1972. I have witnessed many storms and observed the primary means of maintaining Rt. 12 as a passable traffic route i.e.sand dredging,bulldozing,sand bagging,etc.In my opinion, these methods have proven to be increasingly expensive,environmentally harmful,endless,and in the long run,futile.Furthermore, the historical "hot spots" that frequently submerge from the sound and/or ocean create life-risking situations during even the mildest of storms.During "mandatory" evacuation periods, the scenario has been nightmarish.I personally know a family who nearly lost their lives attempting to reach the Bonner bridge during one of these times. They were simply obeying what they were told, not realizing the notorious! conditions awaiting them at the Pea Is. area.Given the weather history along with the forecast of inevitable rising ocean levels and increasing storm intensity, I can only surmise that a parallel replacement bridge would become an invitation to disaster environmentally, financially and on a human scale.

Regarding the historical wash over areas, it seems that pre-planned short bridge/cause! ways would have and could provide passage over mini-inlets that form a s was the case of hurricane Isabelle.This might not only create a "relief-valve" for the adjacent shoreline, but would sponsor the means for a much needed ocean refreshment of our increasingly stagnating Pamlico sound.

In summary, I am convinced that the "long bridge" plan is the only sensible and long-term solution for all who live and visit Hatteras Island.Sadly, it could already be under construction and should be delayed no longer. We owe it to more than just our generation. Thank you for your time and consideration. &nb! sp;

Respectfully, ! ; ;
Mark S. Nash
P.O. Box 357 &nb! sp;
Frisco, N.C. 27936

LeRoy R. Oettinger
3308 Richwood Lane
Brookeville, Maryland 20833
LeRoy@firemarshal.com
(301) 785-0986

APR - 9 2007
RECEIVED

Mr. Carl Goode, PE
Head, Human Environment Unit
NCDOT
1583 Mail Service Center
Raleigh, NC 27699-1583

April 6, 2007

Dear Mr. Goode,

As I am a property owner on Hatteras Island, I have been reading of the ongoing indecision concerning the replacement of the Bonner Bridge. I am certain that I don't need to explain why its replacement is vital as well as urgent. What I would urge is that someone make a decision and get the project moving.

I live in the Washington D.C. Area where a "Cross County Connector" transportation project has been debated, cussed and discussed for twenty years. Just last fall the first shovel full of dirt was turned to begin, what will no doubt be at least a ten year construction project. I know the frustrations of indecision, NIMBYism, and strong but opposing opinions, not to mention environmental concerns. This project, however important to traffic flow in our region, pales in comparison to the critical need for a replacement bridge to Hatteras Island.

Surely the NCDOT has listened to enough opinions on how best to plan and construct this bridge from every activist in the state. It is way past time to make a decision and begin the project. I have no opinion on which plan is best, only that someone more knowledgeable than I needs to decide.

I urge you to make a decision if you are the decision maker and if not, to forward this letter to the proper person.

Sincerely,
LR Oettinger
LeRoy Oettinger

From the desk of...

Chuck Ohmstead
4/16/07

APR 17 2007
RECEIVED

TO: MR. CARL GOODE, PE/NCDOT
RE: BONNER BRIDGE REPLACEMENT

I WOULD PREFER THE PARALLEL BRIDGE CONCEPT ACROSS THE OREGON INLET.

PLEASE KEEP ME INFORMED OF YOUR DECISION/PLANS, ALONG WITH THE RESULTS OF THE PUBLIC'S COMMENTS/OPINIONS, SURVEYS AND ETC.

SINCERELY,
Chuck Ohmstead
P.O. BOX 847
FOREST CITY, NC 28043-0847
NOTE: ADDRESS CHANGE - THANK-YOU.

Chuck Ohmstead
P.O. Box 847
Forest City, NC 28043

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

We, the undersigned organization, would like to inform you of our position on the replacement of the Bonner Bridge over Oregon Inlet.

Our membership is comprised of businesses and individuals that depend on Oregon Inlet for their livelihoods. Safety through the inlet is our first concern. We have followed the progress of the replacement of the aging Bonner Bridge and are very alarmed over the lack of attention by NC DOT to take this opportunity to ensure safe navigation through the waterway.

Although NC DOT is responsible for marking the navigable channel where it passes underneath Bonner Bridge, perhaps the number of times the navigable channel has moved in the past year alone has not been associated with the hazardous and unpredictable condition of Oregon Inlet. Today, conditions are so bad that the charter fleet, whose boats draw only 4 to 6 feet of water, are hitting bottom regularly. During the Pirates Cove Billfish Tournament in August, 32 boats ran aground during a four-day period. Just two weeks ago, commercial fishing boats that traveled through the channel one day found the same path shoaled up and impassible the next. The lives of recreational and commercial boaters and Coast Guard personnel are placed in jeopardy every time they traverse the waterway.

The longer 17 mile bridge alternative will have a devastating effect on navigation. As you may recall, the permit that allowed the construction of the groin on Pea Island clearly stated that if the groin were never needed for the protection of the highway on the south end of the Bonner Bridge, as with the 17 mile bridge alternative, it would have to be removed. We believe the groin has been instrumental in ensuring that the inlet and the navigation channel have not migrated south from under the navigational spans. Removal of the groin will hasten the southern migration of Bodie Island and will eliminate all predictability, what little there is, from the inlet. Additionally, removal of the groin will be an unnecessary and exorbitant expense.

We support the construction of the shorter bridge alternative, assuming the Oregon Inlet Fishing Center will not be adversely affected or done away with. We also support the construction of a groin on the northern side of the inlet to protect the new bridge. Without a hardened structure, Oregon Inlet will never truly be safe. The shorter bridge coupled with a groin will cost less, allow for continued access by citizens to the public lands of northern Hatteras Island and will ensure navigation into the future.

The mission of the NC DOT states that you are to "Provide a safe, modern and integrated multimodal system that expands opportunities and unites citizens in both urban and rural areas in support of Governor Easley's vision for One North Carolina". We hope that you interpret your mission as we do and take this opportunity to complete the new bridge and also protect Oregon Inlet and the North Carolinians who depend on it.

Sincerely,

Tina Oneal Associate Broker, Sun Realty, Avon, N.C. 27915

11-7-05

Subject: Bonner Bridge comments
Date: Sun, 11 Dec 2005 17:38:32 -0500
From: "Steve P." <steve@pitsurf.com>
To: cgoode@dot.state.nc.us
CC: Ben Sproul <ben@pitsurf.com>

Dear Carl,

The last time the 17 mile bridge proposal was on the table, myself and three other Kill Devil Hills residents formed the "Save Pea Island Coalition" to address concerns regarding access to Pea Island should the 17 mile bridge be built. We received overwhelming support in the form of thousands of signatures through our website. It was obvious then and now that a wide cross section of the community that includes surfers, fishermen/women, birdwatchers, local business people, and visitors from across the United States do not want the 17 mile bridge option.

While the genesis of our coalition began over concern over access, we quickly discovered several other major problems with the 17 mile bridge that were unaddressed by DOT:

1. Cost - the 17 mi bridge will cost an astronomical amount of money, and in light of the other pressing transportation needs of the Outer Banks, the cost is simply not justified.

2. The environment - no comprehensive study has been done to access both the benefits and detriments to all affected ecosystems. This includes potential damage to Crab Slough, one of the last remaining open water oyster beds left in North Carolina.

3. Cost to the Cape Hatteras electric utility to move power lines. - This cost will surely be passed on to the residents of Hatteras Island in the form of higher rates. As far as I know nobody has quantitatively expressed this to the residents South of the bridge.

4. Safety - what happens in high wind? How about if a large vehicle is involved in an accident in the middle of the summer, or in a hurricane evacuation? With the shorter bridge you would be able to move vehicles to the side of the road.

5. Access - there is no definitive plan for residents and visitors to be able to enjoy one of the last undeveloped stretches of beach on the East Coast. It is one of the reasons tourist flock to the Outer Banks, and it is one of the reasons why residents such as myself live here. If access is limited, it will be a severe blow to the appeal of the Outer Banks.

Carl, I am in amazement that DOT has the nerve to try to make the 17 mile bridge happen again. The last time it was on the table the public voice against it was loud and clear, and this in spite of nearly no opportunity for public comment. The same issues remain unsolved, and time is ticking while the Bonner bridge slowly but surely deteriorates. The public officials of Dare County are united in their opposition of the 17 mile bridge. Please listen to the people who live here. Choose the shorter option - it is what makes sense.

--
Steve
The Pit Surf Shop Bar & Grill
steve@pitsurf.com

B-183

Subject: Bridge Project
Date: Sun, 1 Apr 2007 22:49:32 -0400
From: rpacho@vt.edu
To: cgoode@dot.state.nc.us

I am writing to support the parallel bridge and the beach nourishment project for Oregon Inlet and NC 12.

Norburn, Robert E.

From: Page, John
Sent: Monday, December 19, 2005 7:59 AM
To: Norburn, Robert E.
Subject: FW: catwalk over the Oregon Inlet

-----Original Message-----
From: Patdude1992@aol.com [mailto:Patdude1992@aol.com]
Sent: Sunday, December 18, 2005 8:21 PM
To: bsmyre@dot.state.nc.us
Subject: catwalk over the Oregon Inlet

Hi,
I just wrote you to tell you about how much we need a catwalk. I am a young fisherman of 14, and i remember when my da took me fishing on a catwalk over the O.I.. I was young, but it was the most memorable thing i can remember. The catwalks the bridge in most areas can provide many different species of fish. Catching and relesing them could provide some inform on some of our endangered species of fish and even help us save them. I would also be able to bring my children to the OI my father did soo many years ago.

~a local fisherman~

T6F

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

On behalf of the undersigned organizations, we appreciate the opportunity to share with you our comments concerning the replacement of the Bonner Bridge over Oregon Inlet.

Our alliance is comprised of businesses and individuals that depend on Oregon Inlet for their livelihoods. Safety through the inlet is our primary concern. We have followed the progress associated with the replacement of the aging Bonner Bridge and are very alarmed over the lack of attention given by the North Carolina Department of Transportation (NC DOT) to this crucial opportunity to ensure safe navigation through the waterway.

There is legitimate concern that the hazardous and unpredictable conditions of the Oregon Inlet have caused the navigable channel underneath the Bonner Bridge to move so many times during the past year that the markings by NC DOT have not kept up with these changes. Today, conditions are so bad that the charter fleet, whose boats draw only 4 to 6 feet of water, are hitting bottom regularly. During the Pirates Cove Billfish Tournament in August, 32 boats ran aground during a four-day period. Just two weeks ago, commercial fishing boats that traveled through the channel one day found the same path shoaled up and impassible the next. The lives of recreational and commercial boaters and Coast Guard personnel are placed in jeopardy every time they traverse the waterway.

The longer 17 mile bridge alternative will have a devastating effect on navigation. As clearly stated in the permit that allowed construction of the groin on Pea Island, if the groin was not needed for the protection of the highway on the south end of the Bonner Bridge (as with the 17 mile bridge alternative) it would have to be removed. We believe the groin has been instrumental in ensuring that the inlet and the navigation channel have not migrated south from under the navigational spans. Removal of the groin will hasten the southern migration of Bodie Island and will eliminate all predictability, what little there is, from the inlet. Additionally, removal of the groin will be an unnecessary and exorbitant expense.

We support the shorter bridge alternative, assuming the Oregon Inlet Fishing Center will not be adversely affected or done away with. We also support the construction of a groin

on the northern side of the inlet to protect the new bridge. Without a hardened structure, Oregon Inlet will never truly be safe. The shorter bridge coupled with a groin will cost less, allow for continued access by citizens to the public lands of northern Hatteras Island and will ensure navigation into the future.

The mission of the NC DOT states that you are to "[p]rovide a safe, modern and integrated multimodal system that expands opportunities and unites citizens in both urban and rural areas in support of Governor Easley's vision for One North Carolina". We hope that you interpret your mission as we do and take this opportunity to complete the new bridge and also protect Oregon Inlet and the North Carolinians who depend on it.

Sincerely,

Ellen Peel, President
The Billfish Foundation
Phone: 954-938-0150 ext 108
www.billfish.org

Penny Longobardo & Company PA

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

I would like to inform you of my position on the replacement of the Bonner Bridge over Oregon Inlet. I have followed the progress of the replacement of the aging Bonner Bridge and am very alarmed over the lack of attention by NC DOT and I want to take this opportunity to ensure safe navigation through the waterway.

Although NC DOT is responsible for marking the navigable channel where it passes underneath Bonner Bridge, perhaps the number of times the navigable channel has moved in the past year alone has not been associated with the hazardous and unpredictable condition of Oregon Inlet. Today, conditions are so bad that the charter fleet, whose boats draw only 4 to 6 feet of water, are hitting bottom regularly. During the Pirates Cove Billfish Tournament in August, 32 boats ran aground during a four-day period. Just two weeks ago, commercial fishing boats that traveled through the channel on one day found the same path shoaled up and impassible the next. The lives of recreational and commercial boaters and Coast Guard personnel are placed in jeopardy every time they traverse the waterway.

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Member Firm FCG Financial Consulting Group, LLC

1130 Situs Court, Suite 260 • Raleigh, NC 27606-3372
919-851-1116 • fax 919-851-8186 • e-mail plc@plc-cpas.com
www.plc-cpas.com

CPAs Consultants

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Sincerely,

Luther H. Penny, Jr.

Subject: Bonner Bridge
Date: Sat, 7 Apr 2007 22:59:52 -0400
From: "Charley Pereira" <sushihouse@charter.net>
To: <cgoode@dot.state.nc.us>

Dear Mr. Goode,

I live in Buxton, NC on Hatteras Island. I am an aeronautical engineer with over 20 years of experience investigating airplane accidents for the NTSB and 9-11 Commission, as well as Hatteras Island home design and construction, commercial and charter fishing, etc. I grew up in south Florida and spent many years traversing the Florida Keys bridges from Miami to Key West.

Based on my education, experience, and 16 years traveling to and living on Hatteras Island, I think the best long-term solution to the Bonner Bridge is to build a short bridge similar to but just west of the existing bridge, and then continue the road as a slightly elevated (designed for 100-year flood height) structure some distance just west of the existing Pea Island road from the end of the new bridge to the north end of Rodanthe, where it would turn east, slope down to grade, and then rejoin the existing road just north of the northern-most house, "Serendipity".

This option would allow overwash from Northeasters and hurricanes to pass under the slightly elevated road, with no more need for constant maintenance of the low-lying, poorly-conceived existing road that traverses Pea Island. This option would also be tolerant of further erosion of Pea Island and Rodanthe, as the final turn to the east could be altered to the west if Rodanthe eroded enough to warrant it. Keeping the existing Pea Island road does not offer this option, and I think that makes it an obsolete route. My proposed option, which is similar to the "long bridge" concept in some regards, would cost more initially but is the better engineering solution. Any solution that keeps the existing Pea Island road is a waste of money.

The real problem we currently have is not the Bonner Bridge, but the low-lying Pea Island road. I have never been stranded on Hatteras due to a problem with the bridge, but I am stranded on Hatteras numerous time each year due to overwash on the existing Pea Island road. FEMA, our insurance companies, and Dare County don't allow us to build houses below Base Flood Elevation (BFE) for very good reason, and it's foolish to have our primary and only road to and from the island not only below BFE, but only yards from the highest erosion rate beach on the island. The bridge may need to be replaced, but doing so won't fix the real threat to accessing Hatteras Island - the existing inadequate Pea Island road.

Sincerely,

Charley Pereira
PO Box 1375
Buxton, NC 27920
252-216-OBX1

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

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We support the construction of the shorter bridge alternative, assuming the Oregon Inlet Fishing Center will not be adversely affected or done away with. We also support the construction of a groin on the northern side of the inlet to protect the new bridge. Without a hardened structure, Oregon Inlet will never truly be safe. The shorter bridge coupled with a groin will cost less, allow for continued access by citizens to the public lands of northern Hatteras Island and will ensure navigation into the future.

The mission of the NC DOT states that you are to "Provide a safe, modern and integrated multimodal system that expands opportunities and unites citizens in both urban and rural areas in support of Governor Easley's vision for One North Carolina". We hope that you interpret your mission as we do and take this opportunity to complete the new bridge and also protect Oregon Inlet and the North Carolinians who depend on it.

Sincerely,

David Perrot
357 Mother Vineyard Road
Manteo, NC 27954
252-261-7500
david.perrot@resortrealty.com

First of all, I would like to thank the State and County officials as well as the volunteers for their support and efforts on this project.

My husband and I moved to Buxton thirty three years ago. The current Bonner Bridge was eleven years old. That bridge was the beginning of tourism here on Hatteras Island as we know it. It allowed easier access for people to visit, purchase property, build businesses and retire here.

This has created the need for daily deliveries of supplies and reliable access to medical facilities, for residents and visitors alike. It also created the need for more homes, more businesses and therefore more mortgages and commercial loans that need to be paid.

Evacuation is a major concern. If a ferry system has had to be implemented, because a new bridge has not been completed in time, visitors will be stranded here, residents will not leave and the impact on our resources will be overwhelming.

Through delay after delay, the current bridge has gone past its intended time. And if it doesn't last until a new one can be constructed, economic disaster surely will occur. Those of us who have been through the process of a disaster loan, do not want to go there again.

It is past time for a decision to be made and construction on a replacement bridge to start.

Susie Perry
P O Box 25
Frisco NC 27936

252-995-5084
susieelliottperry@earthlink.net
March 29, 2006

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

We, the undersigned organization, would like to inform you of our position on the replacement of the Bonner Bridge over Oregon Inlet.

Our membership is comprised of businesses and individuals that depend on Oregon Inlet for their livelihoods. Safety through the inlet is our first concern. We have followed the progress of the replacement of the aging Bonner Bridge and are very alarmed over the lack of attention by NC DOT to take this opportunity to ensure safe navigation through the waterway.

Although NC DOT is responsible for marking the navigable channel where it passes underneath Bonner Bridge, perhaps the number of times the navigable channel has moved in the past year alone has not been associated with the hazardous and unpredictable condition of Oregon Inlet. Today, conditions are so bad that the charter fleet, whose boats draw only 4 to 6 feet of water, are hitting bottom regularly. During the Pirates Cove Billfish Tournament in August, 32 boats ran aground during a four-day period. Just two weeks ago, commercial fishing boats that traveled through the channel one day found the same path shoaled up and impassible the next. The lives of recreational and commercial boaters and Coast Guard personnel are placed in jeopardy every time they traverse the waterway.

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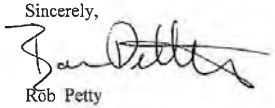

Rob Petty

Norburn, Robert E.

From: Adam Preiser [afpkdhnc@yahoo.com]
Sent: Saturday, December 17, 2005 5:23 PM
To: bsmyre@dot.state.nc.us
Subject: Catwalk

I am sending this email in regards to the new bridge being built in place of the Bonner Bridge. I am a local and fish off of the catwalk often and I would like to have one on the new bridge so future generations could have the fishing experiences that I did.

Sincerely,
&nbs! p; Adam Preiser

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

We, the undersigned organization, would like to inform you of our position on the replacement of the Bonner Bridge over Oregon Inlet.

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Sincerely,

Susan Britchett

11/7/05

Sharon Lee Pro
PO Box 1205
1164 Burnside Road
Manteo, NC 27954

NCDOT
Carl Goode
1583 Mail Service Center
Raleigh, NC 27699

I want to express my support of the proposed 17.5 mile bridge from Oregon Inlet to Rodanthe, NC. I have studied the SDEIS and believe this to be the most cost-effective alternative for the long term.

The 17.5 mile bridge would be one of the most beautiful in this country. I expect it would attract national news and plenty of visitors.

The north end of Hatteras Island should be kept accessible for surfers, sunbathers, and anglers. Perhaps the existing road could be left in place, but not maintained. Let nature take its course.

Thank you.

Sharon Pro

1114 Scott King Road
Durham, NC 27713-9744

Mr. Carl Goode, P.E.
Head, Human Environment Unit
NCDOT
1583 Mail Service Center
Raleigh, NC 27699-1583

Re: Bonner Bridge

Mr. Goode:

GO for the Pamlico Sound Bridge with curved entrance to Rodanthe. This alternative could actually be the "cure" for this long-standing problem of access to the lower part of the banks. All the other alternatives are merely "Band-Aids".

In fact, the Pea Island Refuge is for birds, not tourists and the birds always fly in! Refuge personnel can move around by boat.

As for the Seashore —hike!

Elizabeth Pullman

Subject: Oregon Inlet bridge
Date: Mon, 9 Apr 2007 21:17:33 -0400 (EDT)
From: Suzanne Quinlan <hightides@peoplepc.com>
To: cgoode@dot.state.nc.us

I am writing to support the parallel bridge and beach nourishment project for the Oregon Inlet and NC 12. My home would be negatively affected by the other options. Please remember that PEOPLE and their lives should be your major concern. I have attended the meetings. Thank you for this opportunity.
Suzanne S. Quinlan, 23164 Highway 12, Rodanthe, NC (PO Box 73)

Subject: Bonner bridge comment
Date: Mon, 16 Apr 2007 15:50:05 -0400
From: "Jefferson Ray" <jeffersonray@gmail.com>
To: cgoode@dot.state.nc.us

I am a resident of Currituck county and I use Pea Island for recreation for myself and my children, ages 6 and 4. I support the "short bridge" and I adamantly oppose building the long bridge....which would be a slap in the face to those of us who believe in balancing the needs of the environment with recreational human use.

The long bridge idea would serve the interests of the wealthy few who could still visit Pea Island if it was not maintained by the DOT. It is a classic example of special interests trying to supercede and disrespect the concerns of the regular people who live, work and play on or near the Outer Banks.

Again....REBUILD THE EXISTING BRIDGE.....DO NOT BUILD THE LONG BRIDGE!!!!!!!!!!!!!!!!

Sincerely,

Jefferson Ray
1103 Waterlily Road
Coinjock, NC 27923

November 7, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

I, the undersigned member of the Outer Banks Association of REALTORS, would like to inform you of our position on the replacement of the Bonner Bridge over Oregon Inlet.

Our membership is comprised of businesses and individuals that depend on Oregon Inlet for their livelihoods. Safety through the inlet is our first concern. We have followed the progress of the replacement of the aging Bonner Bridge and are very alarmed over the lack of attention by NC DOT to take this opportunity to ensure safe navigation through the waterway.

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Sincerely,

Donna Rich
PO Box 660
Rodanthe, NC 27968

COMMENT SHEET

NC 12 Replacement of Herbert C. Bonner Bridge over Oregon Inlet

Corridor Public Hearing

B-2500 8.1051205 Dare County

November 9 and 10, 2005

NAME: Patricia Rice

ADDRESS: Po Box 1061 Buxton 27920

COMMENTS AND\OR QUESTIONS:

Giving careful thought and reading the multitude of statistics provided over the past few years I must support the long bridge option to replace the Bonner Bridge. Folks who built in Buxton knew this would happen long before they planned their homes. A replacement bridge would leave our children and grandchildren facing this problem when the beach shifts west, as we know it will. Eventually there will be a long bridge, even if we don't build it now. Consider making the new bridge 4-lane. Traffic is such a problem here and when the Road is blocked it is impossible to go anywhere. Regardless of the options, highway 12 to pea island must be maintained - We can't afford to lose 13 miles of recreational beaches. Also, the Commercial fishing industry can't afford to lose the Oregon Inlet. Can we do it all? I hope so because my neighbors and friends depend on the State and the DOT to keep their customers coming. We do want to protect the environment and the endangered species of birds. We also are accustomed to living in a beautiful, natural, area with easy access to the "real" world. I realize, living in Buxton that this could change at any given time with or without a new bridge. But, you owe it to the American citizens who visit our island (millions of them) each year, to have safe and easy access to their national seashore.

Comments may be mailed to:
C. B. Goode, Jr., P. E.
Office of Human Environment Unit Head
1583 Mail Service Center
Raleigh, NC 27699-1583 Phone: (919) 715-1515 Fax: (919) 715-1501
E-mail: cgoode@dot.state.nc.us

11-16-05

Dear Mr. Goode, Subj: Bonner Bridge Replacement

AS Property owners in Hatteras Village We are of the opinion that the bridge should be re-routed out into the sound.

However it would be distressing to see the long span be constructed with 2 narrow lanes and no shoulders for safety margins. Should some one cross over the center line which would mean certain death. IF it cannot be constructed with 4 lanes then we suggest the following to save lives. Construct the bridge with a wide safety center lane to divide the two way traffic with raised concrete or asphalt tracks to alert a sleepy or distracted driver they are going over the center line into on comming traffic. LETS Not have years of tradegy as did V-Dot with the 2 Lane Fatalities that occured on the Bay Bridge Tunnel at 13.

We would also like to suggest that the old center span of the bridge be removed. However keep a certain portion of the approach spans for foot traffic/pier recreational use. It would provide a great fish structure and also serve as a cost saving measure by eliminating some of the demolition costs. Also it would minimize the environmental impact on the marine life by not disturbing the sea bed. This was done in VA. @ the RT 50 Chesapeake river bridge and is very successful.

Sincerly

Joel & Valerie Rigoglioso

703-929-4626

Ryan comment e-mail

From: "Steve Ryan" <beachbum@beachlink.com>
To: <cgoode@dot.state.nc.us>
Sent: Monday, December 12, 2005 12:08 AM
Subject: Replacing Bonner Bridge

Dear Mr. Goode,

We would like to comment on the suggested alternatives for the Bonner Bridge at Oregon Inlet, N.C.

We believe the preferred alternative should be the Pamlico Sound Bridge. After studying the pros and cons of each alternative, we believe the Pamlico Sound Bridge will be cheaper and provide the best service to residents and visitors to Hatteras Island. Any alternative that relies on N.C. Highway 12 through Pea Island will be affected by the forces of Nature. Any efforts to keep N.C. Highway 12 open will be undermined by the continued erosion and overwash that dictates life on Hatteras. Considering the predicted rates of erosion, and the unpredictable locations of where erosion might occur, there seems to be no logical reason to believe N.C. Highway 12 will survive without massive infusions of money to keep it open for residents, and the visitors we also have to accommodate. Driving through Pea Island now is hazardous enough. It is time to protect the long term interests of the Hatteras residents and get the Pamlico Sound Bridge moving forward.

In addition to the futility of fighting erosion on Hatteras Island, the constant change at Oregon Inlet needs to be considered when building a new bridge. All the land based alternatives rely on the inlet remaining constant, and everyone knows the only constant involving the inlet is constant change.

The best long term solution, and the cheapest in the long run, is to construct the Pamlico Sound Bridge.

Thank you for the opportunity to comment. We also extend our thanks and appreciation for the public meeting held in Rodanthe. It was a pleasant change having a public meeting in Rodanthe instead of having to travel to Buxton, Manteo, or other locations.

Sincerely,
Stephen Ryan, Judith Ryan, Brett Ryan
27485 Highway 12, Salvo, N.C. 27972

Subject: Replace Bonner Bridge
Date: Tue, 17 Apr 2007 12:32:08 -0400
From: psansotta1@aol.com
To: cgoode@dot.state.nc.us

Hello Mr. Goode,

Thank you for taking the time to collect feedback regarding the viable options for replacing the Bonner Bridge. I am sure you have collected quite a bit of feedback so I am not sure if I am duplicating effort. I wanted to make this e-mail as short as possible, so following are my main concerns, and why I would hope the Bonner bridge is replaced with the long bridge alternative.

I think there are inherit safety issues with the constant over washing in the Pea Island area. Cost of maintenance aside, the fact is that often times vehicles must drive through standing water. This is a risk that will most likely result in a cost that cannot be replaced or measured in dollars. In regard to the financial costs of the bridge, I do understand both sides of the discussion. However, these particular barrier islands are in transition -- especially in the area at the northern part of Pea Island, and to have the bridge in its current location will require a constant and costly maintenance schedule. I just seems that the cost for the constant maintenance of Hwy 12 will ultimately surpass the cost of the long bridge.

Thank you.

Sincerely,
Patty Sansotta

Heinz H.E. Scheidemandel, MD
6516 Walters Woods Drive
Falls Church, VA 22044

November 17, 2005

Carl Goode, PE
Head, Human Environment Unit
1583 Mail Service Center
Raleigh, NC 27699-1583

Dear Mr. Goode:

I have been vacationing on Hatteras Island since 1961 and a property owner on Hatteras Island since 1972. I have read all the information about the Bonner Bridge and have first-hand knowledge about the problems. All the proposed solutions are unrealistic and, on the long run, doomed to failure. The proposed expenses are excessive and unacceptable. The only reasonable solution is resumption of the ferry service. This is inexpensive and flexible and does not interfere with the environment of the Outer Banks. That it can work is shown by the efficient ferry service between Hatteras and Ocracoke islands. Many property owners on Hatteras share my opinion, yet they are ignored by special interests. By not offering this alternative, you are doing a disservice to the public, particularly the environmentalists and the taxpayers.

Sincerely,

H. Scheidemandel

Heinz Scheidemandel

Copies to: John Conforti, Raleigh, NC
John Page, Morrisville, NC

12/11/05

Mr. C. B. Goode, Jr., P.E.
Office of Human Environment Unit Head
1583 Mail Service Center
Raleigh, NC 27699-1583

Dear Mr. Goode,

Thank you for providing information and accepting remarks during the two days of November 9 & 10, 2005 at Manteo & Rodanthe. The afternoon sessions were most helpful and, I believe allowed for better and more meaningful comments from the public. As you know from my remarks at the Manteo Session, I very much support the shorter parallel replacement bridge, known as the "Road North/Bridge South", for the following reasons:

Human Safety – As the Wright Brothers discovered, the wind blows most of the time in this area, sometimes with extreme velocity, and the shorter the exposure of travel on the bridge, the better. Also, in the case of traffic accidents on the bridge, the exposure would be greatly reduced.

Economics- Approx. one third of Dare County's economy is generated by the people and infrastructure on Hatteras Island. It is vital to Dare County that safe & complete access to Hatteras Island be continued. The construction costs are much more feasible, and the disposition of the replacement bridge at the end of it's 50 year projected life would be much less expensive.

Navigation at Oregon Inlet- The terminal groin on the South side of Oregon Inlet was constructed to protect the bridge approach to Hatteras Island and has performed admirably. However, I remember that the one of the permits issued for the construction of the groin, stated that the groin must be removed should it ever cease to be needed for the protection of the bridge approach to Hatteras Island. Should the long bridge be built and new or modified permits be issued, you can be assured that there would be some intense and expensive legal actions placed against DOT and the permit issuing agencies. It certainly would make sense if the rubble from the old bridge at Oregon Inlet were to be used for a protective groin on the take-off of the bridge from Bodie Island on the North side of Oregon Inlet. This would help protect the bridge from a blowout on the North side as happened during the Ashe Wednesday Storm, or in the event of a stronger one.

Access to Pea Island- It is quite apparent that the Fish and Wildlife Service has little to no intentions of maintaining the road through the Wildlife Refuge, should the longer bridge be constructed. Surfers, fisherman, birders, and the many others who travel highway #12 down Hatteras Island would greatly miss the wonderful views of mother nature that are a major part of the enjoyment of their visit and or trip. Providing a safe road through the Wildlife Refuge should also enhance the longevity of the Refuge.

Protection- I feel certain that some beach nourishment will have to be performed from time to time to protect the highway. As suggested at the time of my public comments at the Manteo Session, I encourage NCDOT to do some test sites with Floating Breakwaters that claim to be able to successfully operate in extreme ocean conditions. If they should prove to meet the claims, it would be a wonderful day for bridges and beaches along the North Carolina Coast. There portability and claims for decreasing the wave energy, if proven, would let mother nature do the work of depositing the sand in the areas where such devices would be deployed, i.e. where most needed.

Construction Timing- It should go without saying, that the shorter route would be built quicker and on a faster track. We all know that the old bridge has seen it's best days, and DOT'S ability to keep the bridge travel-worthy until a new one is constructed, certainly is in question.

Thank you once again for the opportunities you have afforded the public concerning the replacement bridge at Oregon Inlet, and LET'S GET THE JOB DONE ASAP, PLEASE!!!!!

Sincerely,

Harry B. Schiffman
POB 489
Manteo, NC 27954
PH: 252-473-2405

Subject: New Bridge Proposal
Date: Tue, 17 Apr 2007 21:31:23 -0400
From: "geoff schroeder" <geoffgeemail@gmail.com>
To: cgoode@dot.state.nc.us

Pea Island is a haven of untouched wildlife and uncrowded surf spots. I beleive it would be a good idea to maintain the current bridge and not bypass the upper part of the island. Otherwise people will have to figure out other ways to getting up to famous fishing and surfing spots. I imagine these ways would be more detrimental to the area. Please dont let this new bridge be built.

Sincerely,
Geoff Schroeder

Subject: bridge
Date: Wed, 28 Mar 2007 09:34:22 -0400
From: "Wendy Schwartz" <schwartzwe@dare.k12.nc.us>
To: <cgoode@dot.state.nc.us>

even though my head understands the financial issues, my heart still wants the long bridge, the Pamlico Sound option. I believe it would be beneficial to the area wildlife & still give people plenty of beach & sound area.
Thank you, Wendy Schwartz, Wanchese

B-199

DANIEL L. SEALE, M.D. • RITA R. SEALE
696 Rocky Hollow Road, Charlottesville, VA 22901-8566

November 16, 2005

To: Mr. Carl Goode

From: Daniel L. and Rita R. Seale

Subject: Just build the bridge!

We are substantial property owners/taxpayers on Hatteras Island. We have been coming to the area for about forty years. Bureaucratic wrangling over the replacement of the Bonner Bridge has been ongoing for many of these years. Meanwhile, the bridge has continued to deteriorate, lasting long past its projected life expectancy.

Having followed this with considerable interest through the years, it seems to us that "all possible planning" has been done many times over. Just build the bridge, any bridge!

If these delays continue, the possibility of a bridge collapse looms large. This could result in loss of human life. It would certainly have a major negative impact on the economic and personal lives of all those who live on and visit Hatteras Island. Prevent this disaster: Build the bridge!

While we have sympathy for enviornmental concerns, we feel that human enviornmental rights should outweigh the possible enviornmental impacts on vegetation and wildlife. The humans are the residents of and visitors to Hatteras Island. Also, citizens of the United States have a right to a secure access to their National Seashore.

Stop the bickering! Build the bridge!

Daniel L. Seale Rita R. Seale

DANIEL L. SEALE, M.D. • RITA R. SEALE
696 Rocky Hollow Road, Charlottesville, VA 22901-8566

November 16, 2005
March 19, 2007

To: Mr. Carl Goode

From: Daniel L. and Rita R. Seale

Subject: Just build the bridge!

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Daniel L Seale

Rita R. Seale

B-200

HENRY Z SHELTON, JR.

Permanent Address
5828 Edson Lane
N Bethesda, MD 20852

Hatteras Island Address
40313 Dolphin Lane
Avon, NC 27915

November 18, 2005

Mr. Carl B. Goode, Jr., P.E.
Manager of Human Environment
NCDOT
1583 Mail Service Center
Raleigh, NC 27699-1583

Re: NC 12 Replacement of Herbert C. Bonner Bridge over Oregon Inlet
Project No. 8.1051205
TIP No. B2500

Dear Mr. Goode:

I attended the November 9, 2005 public hearing in Rodanthe, NC and this letter follows your invitation to submit written comments for the record. Congratulations on conducting an informative and well-mannered session. This is a highly charged subject, and the information sharing and testimonies where handled in a professional manner.

Without any information, I thought the long-bridge alternative was the best option due to many factors including economics, safety and not competing with Mother Nature. The public meeting served its purpose of sharing information and causing me to think about this project, such that I now favor the short-bridge alternative for the following reasons:

1. The short-bridge alternative probably has the lowest cost to construct and maintain. The cost analysis and presentation should follow standard project accounting techniques which utilize a present value approach. In a project such as this with alternatives having different spending profiles over many years, the best way to have comprabable analysis is to present value the cash flows--this is how major investment decisions are made. I expect over a range of discount factors the short-bridge alternative is more financially attractive and the long-bridge alterative less so. Your handouts are well prepared, but in the economics presentation they are misleading. A cynic might suggest NCDOT is trying to shape public opinion toward the long-bridge alternative.

   In addition to the project economics is Hatteras Island economics. This substantial economy which is a net contributor to Dare County and the State requires the quickest solution to a currently troublesome bridge and the short-bridge alternative can be completed first.

2. The short-bridge alternative probably has the lowest total cost. It is not clear from the summary information if costs incurred by parties other than the State are included. Costs incurred by Cape Hatteras Electric Cooperative to relocate electric service lines would be less expensive under the short-bridge alternative. Also, costs incurred by displaced residents and businesses are an added burden in the long-bridge alternative. Your cost presentation should include two amounts, the funding sought from Federal and States sources and the major costs incurred by other parties.

3. The short-bridge alternative has the lowest opportunity for gephyrophobia. This is the fear of crossing bridges and is more common than one would expect. In a quick internet search, I noticed a reference to the Chesapeake Bay Bridge where in 2004 authorities had to assist 3,374 drivers across the bridge—image 9 times every day—can this by true? Yes, the Bay Bridge is different than the long-bridge alternative—it is only about 4 miles long and 200 feet high at peak. But consider the long-bridge alternative—it will take 20-30 minutes before one is on land again. The NCDOT traffic engineers need to carefully evaluate this concern and its impact on traffic flow both in regular times and emergency evacuation times.

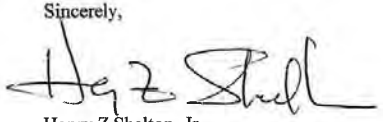
4. The short-bridge alternative has the least opportunity for frozen road conditions. We have all seen signs on bridges and overpasses that say something like, bridge may freeze before road. In the event of a snow or ice storm, a long bridge will have the potential for more freezing spots and thus more traffic accidents and disruption.

5. The short-bridge alternative offers the best opportunity for back up access to Hatteras Island. An item mentioned repeatedly at the pubic meeting was the folly in predicting what Mother Nature will do. The short-bridge alternative offers some flexibility—with a maintained road to and from Oregon Inlet, there is the possibility for a short crossing.

6. The short bridge alternative provides for the greatest dispersion of visitors to Hatteras Island. One of the Hatteras Island attractions is the uncrowded beaches. In peak visitor times, cars are parked in the provided parking lots and all along the road shoulders for the approximately 13 miles between Oregon Inlet and Rodanthe, to fish, surf, beach walk, bird watch, etc. In the long-bridge alternative, it will take these visitors more time to reach the beach and concentrate them in the Rodanthe, Waves and Salvo area. I am not sure the local infrastructure can handle this concentrated influx.

Thank you for this opportunity to provide these comments. I look forward to hearing about NCDOT's progress in reaching a bridge alternative decision and getting the work started. In these litigious times, I understand the need to have a very deliberative process so it cannot be successfully challenged. This needs to be balanced with not having the process overwhelm the subject and the decisions that need to be made promptly.

Sincerely,



Henry Z Shelton, Jr.

November 12, 2005

Mr. Carl Goode, PE
Head, Human Environment Unit
NC DOT
1583 Mail Service Center
Raleigh, NC 27699-1583

Dear Mr. Goode:

This is my written comment on the Bonner Bridge replacement debate. Overall, I believe the Pamilico Sound Bridge alternative is better because there are less future unknowns. It does not require a compatibility determination with the Refuge and once it's completed it will be done.

The Parallel Bridge scenario calls for future beach nourishment and possibly other bridging which is full of uncertainty. How do we know funding will be available? It will involve endless interaction with the NPS and the Wildlife Refuge which further complicates the issue.

The Pamlico Sound Bridge could have catwalks on it just as the current bridge does. Imput from the local fishermen would give you the best choices for location of catwalks. The main problem with this alternative is use in the Refuge. Highway 12 should be left where it is and let it evolve into a sand road, but maintain that main thoroughfare for off-road vehicles. Sensitive areas could be closed and specific access areas could be in place (like now). I would like to see an area between a couple of access points for pedestrian traffic only. But the idea of a shuttle in the Refuge goes against the tradtional use of the area. This is a major bone of contention. It needs to be managed so all uses are available to the public. Piling the family and all the "stuff" into the vehicle and going to the beach is what many of our visitors live the rest of the year for. I don't see how you can take that away.

Thank you for the opportunity to make these remarks.

Most sincerely,

Ricki Shepherd

Ms. Ricki Shepherd
Hatteras Village Year-Round Resident
1982-Current

P.O. Box 594
Hatteras, NC 27943

B-202

Subject: Bonner Bridge Replacement
Date: Fri, 30 Mar 2007 15:07:16 -0400
From: "Bernadine Shettle" <shettle@gmail.com>
To: cgoode@dot.state.nc.us

Dear Mr. Goode,

My husband and I attended a meeting hosted by the DOT last night. It was held in Rodanthe, NC and was extremely well attended. We listened to all the speakers and were pleasantly surprised by their informed presentations. What I came away with was confirmation of my own views regarding the Bonner Bridge replacement. It really is a no brainer. First, we all know it needs replacement. Secondly, taking all views into consideration the most effective method is to adopt the parallel bridge corridor with phased approach. The present span is 45 years old, if the long bay side bridge was built, then, in the projected 2060 shoreline, the bridge would be 50 years old, nearing replacement. The parallel approach with phase in and beach renourishment in Rodanthe was the most popular. Second, the parallel approach with the bridge spanning Pea Island ending above Rodanthe with beach nourishment. If the second plan is adopted then I would suggest the planning of offramps so that Pea Island could be accessed. One cannot predict what the shore line will be in 50 much less in 10 years. I don't possess a crystal ball and scientific research is at best an educated guess. That being said, the timing is critical for Hatteras residents and their businesses. Tourism and vacation home owners provide the state of NC with something like 20 to 30 percent of collected taxes. The residents are well aware that they are being shortchanged. We own a home oceanfront that suffers from ocean overwash. I worry constantly that we will lose our vacation home.

In summary, the parallel bridge with phase in and nourishment including Rodanthe is the best approach both in time and economics. It is the best approach and as a benefit the cheapest overall. There should be guarantees of revisitation to the plan with enough flexibility to meet current needs.

Please keep me updated on progress and decisions.

Sincerely,

Bernadine Shettle

Subject: short bridge
Date: Mon, 16 Apr 2007 20:06:34 -0400
From: "Brooke Shive" <brookeshive@gmail.com>
To: cgoode@dot.state.nc.us

To whom it may concern,

I am an active resident of Currituck County who enjoys access to Pea Island on a regular basis. I support the "short bridge" and I adamantly oppose building the long bridge....which would be a slap in the face to those of us who believe in balancing the needs of the environment with recreational human use. Pea Island has so much to offer and it would be a travesty for that to be stripped from those of us who take advantage of it. Without the short bridge, this magnificent island would only be accessable to those who can offord to fly or sail to the island. I don't know about you but as a state employee I do not make enough income to support such luxeries. Please remember those of us who still enjoy the simple pleasures in life and rebuild the short bridge.

Sincerely,

Brooke Shive
1103 Waterlily Rd.
Coinjock, NC 27923

B-203

April 11, 2007

Mr. Carl Goode, PE
Head, Human Environment Unit
NCDOT
1583 Mail Service Center
Raleigh, NC 27699-1583

Mr. Goode:

As a property owner in Salvo NC, I am in favor of the parallel bridge for the replacement of the present Bonner Bridge.

The existing bridge is in dire need of replacement NOW and not later. The parallel bridge is the only way to go at this time. It would be the quickest, least expensive project over the seventeen-mile sound alternate.

The seventeen-mile bridge would also affect electric rates for all Hatteras Island residents.

With the parallel bridge, the bridge could be built now and the alternates to Rodanthe can be worked out later.

The most logical solution is the "parallel bridge corridor with road North / bridge South". It is time that the land belongs to the tax paying people instead of the birds and turtles. A good portion of Hatteras Island is closed to the public for the use of wild life and more beaches are being closed daily. The " road North / bridge South" would still allow access to Pea Island. If the seventeen-mile bridge is built, highway north of Rodanthe will not be maintained and Pea Island will become inaccessible to the public (even the bird watchers).

It is time the government officials in charge of this project start listening to the residents and property owners of Hatteras Island, who are the people most affected if the bridge goes out, instead of outside special interest groups and the wild life officials.

In reference to the elevated roadway through Rodanthe, which most residents oppose, the Rodanthe bridge can be day-lighted approximately one half mile south of the proposed location. There is an open area near the 40 / 41 mile marker. This area could provide access to the south end of the bridge with out displacing existing residences and eliminating the requirement for an elevated highway, through Rodanthe, by a gradual slope to ground level, the same as the north end.

No matter which alternate is agreed upon, the Bonner Bridge needs to be replaced NOW. The discussion on this bridge has gone on long enough and now it is time for action. Further delay will only increase the cost of the replacement, push back the completion date and could possible cost someone his or her life, if this bridge collapses while being crossed.

Thank you for your consideration.

Richard Shoaf
608 DeBaldo Dr.
West Mifflin, Pa. 15122

Mr. Carl Goode, PE
Head, Human Environment Unit
NCDOT
1583 Mail Service Center
Raleigh, NC 27699-1583

Nov. 15, 2005

Re: Bonner Bridge Replacement

Dear Mr. Goode:

Unless you bring the bring the proposed Pamlico Sound Bridge to the southern end of Salvo, thereby bypassing the tri-city area of Rodanthe, Waves and Salvo, you might just as well "beef up" Route 12 as it stands now. The additional five miles of causeway would be of great benefit to those heading further south thereby relieving and strengthening the family style villages it bypasses. I venture to say that a toll road would be accepted if funding is required for the additional mileage proposed.

Sincerely

W. E. Shook
57 Wild Cat Cove
Waynesboro, Va. 22980

B-204

November 7, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

I would like to inform you of my position on the replacement of the Bonner Bridge over Oregon Inlet.

The Board of Realtors, of which I am a member, is comprised of businesses and individuals that depend on Oregon Inlet for their livelihoods. Safety through the inlet is our first concern. We have followed the progress of the replacement of the aging Bonner Bridge and are very alarmed over the lack of attention by NC DOT to take this opportunity to ensure safe navigation through the waterway.

Although NC DOT is responsible for marking the navigable channel where it passes underneath Bonner Bridge, perhaps the number of times the navigable channel has moved in the past year alone has not been associated with the hazardous and unpredictable condition of Oregon Inlet. Today, conditions are so bad that the charter fleet, whose boats draw only 4 to 6 feet of water, are hitting bottom regularly. During the Pirates Cove Billfish Tournament in August, 32 boats ran aground during a four-day period. Just two weeks ago, commercial fishing boats that traveled through the channel one day found the same path shoaled up and impassible the next. The lives of recreational and commercial boaters and Coast Guard personnel are placed in jeopardy every time they traverse the waterway.

The longer 17 mile bridge alternative will have a devastating effect on navigation!! As you may recall, the permit that allowed the construction of the groin on Pea Island clearly stated that if the groin were never needed for the protection of the highway on the south end of the Bonner Bridge, as with the 17 mile bridge alternative, it would have to be removed. We believe the groin has been instrumental in ensuring that the inlet and the navigation channel have not migrated south from under the navigational spans. Removal of the groin will hasten the southern migration of Bodie Island and will eliminate all predictability, what little there is, from the inlet. Additionally, removal of the groin will be an unnecessary and exorbitant expense.

We support the construction of the shorter bridge alternative, assuming the Oregon Inlet Fishing Center will not be adversely affected or done away with. We also support the construction of a groin on the northern side of the inlet to protect the new bridge. Without a hardened structure, Oregon Inlet will never truly be safe. The shorter bridge coupled with a groin will cost less, allow for continued access by citizens to the public lands of northern Hatteras Island and will ensure navigation into the future.

The mission of the NC DOT states that you are to "Provide a safe, modern and integrated multimodal system that expands opportunities and unites citizens in both urban and rural areas in support of Governor Easley's vision for One North Carolina". We hope that you interpret your mission as we do and take this opportunity to complete the new bridge and also protect Oregon Inlet and the North Carolinians who depend on it.

Sincerely,

Linda M. Shrader

Linda M. Shrader
1006 W Sportsman Drive
Kill Devil Hills, NC 27948

B-205

Mr. Carl Goode
Head, Human Environment Unit
NCDOT
1583 Mail Service Center
Raleigh, NC 27699-1583

RE: Bonner Bridge Replacement Project

April 15, 2007

Dear Mr. Goode,

Please accept these written comments on the Bonner Bridge Replacement Project. I am compelled to write to you as an environmentalist, avid birdwatcher, and tourist (in that order). My family is part of three generations that has spent over 50 years visiting the Outer Banks. Our deep love of the Outer Banks, and specifically, the Pea Island National Wildlife Refuge, can be described on two different levels. First, we understand the crucial role this fragile coastal barrier island plays as the Mid-Atlantic flyway for bird migration as well as its integral role in the habitat of endangered and threatened species. Secondly, on a more personal level, our friends and family have supported two educational kiosks at the Pea Island National Wildlife Refuge Visitor's Center in memory of my late husband and mother. My 80 year old mother actually passed away while vacationing with me on the Outer Banks eight years ago. To say the Outer Banks holds a special place in my heart would be an understatement.

I have read and evaluated the extensive information provided in the Bonner Bridge Update dated February 2007. This letter comes in strong support of the Pamlico Sound Bridge Corridor. It is the obvious choice due to its limited environmental impact. This option would enhance the Refuge by removing the road and eliminating the habitat degradation associated with it. Opponents of this proposal have raised concerns about the cost of the project. I strongly question the high costs of the project as provided by the NCDOT. It's almost as if the DOT has purposefully bloated those costs to inappropriately sway our decision makers.

The Parallel Bridge Corridor option would negatively impact threatened species, wetlands and natural plants. This simply is not an acceptable option. As you know, the Pea Island National Wildlife Refuge was created by an act of Congress and Executive Order almost 60 years ago. The Refuge Act requires that any new use or modification of an existing use must be found to be compatible with, and not interfere with, or detract from, the fulfillment of the mission of the entire

National Wildlife Refuge System. As I am sure you know (but is obviously worth repeating), the Refuge's mission is to provide habitat for migrating birds, endangered and threatened species and to provide opportunities for public enjoyment. The Parallel Bridge Corridor option is in direct violation of that edict. Who do you think you are violating the Refuge Act?

Also, I have read Secretary of the Interior Kempthorne's letter to U.S. Senator Burr dated July 5, 2006. In it, he states that "NCDOT could quickly conclude their planning and begin construction of a bridge to replace the existing bridge." That suggestion is extremely short-sighted! It's as though our esteemed decision makers are trying to sneak that in as an "emergency" fix and then they will later say that they are "in for a penny, in for a pound" and recommend the Parallel Bridge Corridor option as the long-term fix. You need to have the guts to make the right decision NOW.

The National Environmental Policy Act (NEPA) is a declaration of this nation's collective interest to promote efforts which will prevent or eliminate damage to the environment. This Act, when used as it was written, is an effective way to facilitate pertinent discussions and their subsequent decisions about environmental issues. I strongly urge you to re-read it, and embed its ideals into this project.

In conclusion, I have stated that I have very personal reasons to advocate for the Pamlico Sound Bridge. But more importantly, it is the right decision on a much broader level. We must make sound decisions as stewards for our fragile coastal systems. I urge you to join me in supporting the Pamlico Sound Bridge Corridor.

Sincerely,

Susan Sigmon

Susan Sigmon
3178 Trillium Ave. NW
Canton, Ohio 44708
330.477.4966
Siggy9_99@yahoo.com

Cc: The Outer Banks Sentinel
The Coastland Times
The Virginia Pilot

COMMENT SHEET

NC 12 Replacement of Herbert C. Bonner Bridge over Oregon Inlet

Corridor Public Hearing

B-2500 8.1051205 Dare County

November 9 and 10, 2005

NAME: Morgan Skiperdene

ADDRESS: P.O. Box 296 Rodanthe, NC 27968

COMMENTS AND\OR QUESTIONS:

I'm in favor of the 17-mile bridge. I'm only a student, but my mom is a business owner, and my aging grandma also lives with me. The objective is to keep the island open to access at all times. It is imperative that my grandma or anyone else can get to the hospital at all costs. It is also imperative that tourists have access to the island to fuel the local businesses. The 17-mile bridge is the most logical decision to reduce environmental impact, insure access, and lessen deterioration and erosion to the bridge.

Comments may be mailed to:
C. B. Goode, Jr., P. E.
Office of Human Environment Unit Head
1583 Mail Service Center
Raleigh, NC 27699-1583 Phone: (919) 715-1515 Fax: (919) 715-1501
E-mail: cgoode@dot.state.nc.us

Subject: Save Pea Island
Date: Thu, 12 Apr 2007 10:17:17 -0400
From: "Jordan Slutsky" <jordanslutsky@gmail.com>
To: cgoode@dot.state.nc.us

Greetings,

I am opposed to the "long bridge" and hope that the current access to Pea Island can be repaired and maintained.

The Outer Banks are one of the last wild coastal areas on the East Coast and provide countless recreation and wilderness opportunities for those who enjoy such pursuits. Making Pea Island inaccessible to people would be a great loss.

Thank you for your time.

--
Sincerely,
Jordan Slutsky

B-207

Subject:
Date: Mon, 2 Apr 2007 04:16:21 GMT
From: "crsmallwood@juno.com" <crsmallwood@juno.com>
To: cgoode@dot.state.nc.us

To Whom it May Concern:

I am writing to support the "Parallel Bridge and Beach Nourishment," plan. My Mother lives in Rodanthe, and as a family we have been coming to the Outer Banks for the last 38 years. I believe this options provides the best for all concerned. Thank you for your time.

Chris Smallwood

8560 Burlington Ct.

Manassas, Va. 20110

703 732 8192 cell

Subject: **BEACH PROJECT**
Date: Tue, 10 Apr 2007 21:19:19 -0400
From: "Gene Smallwood" <esmallwood06@comcast.net>
To: <cgoode@dot.state.nc.us>

To Whom It May Concern:

I am writing to support the parallel bridge and the beach nourishment project for Oregon Inlet and NC 12. My mother and sister live in Rodanthe. I and all my brothers and sisters have been coming there every summer since 1968. Please preserve the integrity and ambiance of the island and the small villages that dot the outer banks by building a parallel bridge and bolstering the existing dunes.

Sincerely,

Gene Smallwood

Rockville, MD

B-208

November 10, 2005

Mr. John Page, AICP, CEP
Parsons Brinckerhoff Quade &
Douglas, Inc.
909 Aviation Parkway
Suite 1500
Morrisville, NC

Re: Comments on SEIS for the Bonner Bridge Replacement Project

Dear Mr. Page:

I am a resident of North Carolina and work in Dare County. I am writing you to provide my comments on the Bonner Bridge Replacement Project and the various alternatives as part of the SDEIS process being undertaken by the North Carolina Department of Transportation.

Based on the explanation of the factors important to the selection of a preferred Bonner Bridge Replacement Corridor and the comparison of the alternatives, **there is but one preferred alternative that clearly provides the least environmentally damaging practicable alternative. That alternative is the Pamlico Sound Bridge Corridor** (With Intersection Rodanthe Terminus).

The clear reasons this alternative is the least environmentally damaging practicable alternative are that it represents a median cost of the various alternatives; it does not require a refuge compatibility determination unlike the other alternatives; it impacts the smallest acreage of wetland filled; no endangered species will be adversely affected unlike the other alternatives; an alternative form of future access can be easily provided, and most importantly it will not harm the Cape Hatteras National Seashore or the Pea island National Wildlife Refuge which are National Resources set aside by Congress for the citizens of the United States of which the NCDOT has an obligation to select the alternative (i.e. **Pamlico Sound Bridge Corridor** With Intersection Rodanthe Terminus) which minimizes the harm to these National Resources for all North Carolinians and all Americans.

As clearly stated in your explanation of factors important to the selection of the preferred Bonner Bridge Replacement Corridor and comparison of alternatives, the **Pamlico Sound Bridge Corridor is the only alternative that meets all five factors you stated.**

NCDOT's well prepared SEIS and associated alternatives have clearly met the requirements of the National Environmental Protection Act in providing an alternative (i.e. Pamlico Sound Bridge Corridor With Intersection Rodanthe Terminus) **that represents the least environmentally damaging practicable alternative.**

I commend you on your SEIS preparation and careful development of the alternatives. The NCDOT's choice of the least environmentally damaging practicable alternative (i.e. Pamlico Sound Bridge Corridor) will best serve the citizens of North Carolina and the citizens of the United States as well as the Natural Resources entrusted to us for all Americans and for future generations.

Thank you for the opportunity to provide my comments and I look forward the completion of the Pamlico Sound Bridge Corridor Project to replace the Bonner Bridge.

If you have any questions or need further clarification of my comments, please feel free to contact me by mail or by telephone at (252) 796-0119.

Sincerely,

John Stanton
1335 Jerry Post Office Road
Columbia, NC 27925

B-209

Subject: Oregon Inlet Bridge
Date: Tue, 17 Apr 2007 11:37:55 -0700 (PDT)
From: Merritt Stone <merrittstone1@yahoo.com>
To: cgoode@dot.state.nc.us

Dear Mr. Goode,

I'm a frequent and long time visitor to the Outer Banks. My favorite place to go is the Pea Island Wildlife Refuge. I urge you to consider alternatives for replacing the Oregon Inlet Bridge that will allow continued access to the beautiful and unique beaches of Pea Island.

Sincerely,

Merritt D. Stone
1404 Bellevue Ave.
Richmond, VA 23227

MAR 23 2007

Leon Swell
505 Baldwin Road
Richmond, Va 23229

Subject: opposition to Bonner bridge

Dear Mr. Goode,

I would like to make several comments about the proposed Bonner bridge. We have had a house on Hatteras Island since 1969. We built a simple house and we knew that there was high risk on the Island from storms etc. Our first house was destroyed by a waterspout. Now there has been excessive building of very expensive houses and businesses. In the earlier years fish, oysters and clams were plentiful and now they are greatly diminished. This foolish rampant growth is a formula for disaster. Its is a given that the big one (hurricane, flood, etc), which is more likely to occur soon because of ocean warming, will wipe everything out. It probably will occur in the near future. So common sense dictates that a new bridge should not be built and the island should ultimately revert to its natural state.

Sincerely,

Leon Swell

Leon Swell Ph.D.

From: Christopher Swenson [christopherswenson@earthlink.net]
Sent: Monday, December 12, 2005 8:54 PM
To: cgoode@dot.state.nc.us
Subject: Comments - Bonner Bridge SDEIS
Dear Mr. Goode:

am presently an oceanfront homeowner in the Mirlo Beach subdivision of Rodanthe, NC. Upon review of the SDEIS documents ublished this fall, I am greatly concerned that with the exception of the Parallel Bridge with Nourishment option, all alternatives /ould have a detrimental effect on economic viability and future existence of the Mirlo Beach subdivision. My concerns are as ollows:

Pamlico Sound Bridge Alternative:

1. Not economically viable – no funding in place for the immediate costs of this project.
2. Pea Island Public Access – the SDEIS does not address any costs for maintaining access to Pea Island.
3. Safety – Emergency pull off lanes are not considered.
4. Wind – With the number of trucks and campers that travel to Hatteras Island, there is no consideration for the impact of high winds (which do happen there often) on the ability to keep this road open, especially during a hurricane evacuation
5. Tourism Impact – there is no consideration as to the potential economic impact of tourists not wanting to travel over a 17 mile bridge, especially if there is increased traffic due to reduced speeds, accidents, etc.
6. Appreciation for natural resources – The current drive on NC12 through Pea Island provides an appreciation of the many natural resources this refuge provides and all arriving tourists to Hatteras Island must drive through it to enter and leave the island.
7. Funding for Utilities – While all current utilities (electrical, cable, telephone) are carried through Pea Island, without maintenance of the access in Pea Island, this infrastructure would need to be relocated to the bridge, resulting in substantial costs that the providers may not be capable of funding forcing additional costs to be born by the state.
8. Negative Impact on soundside views for properties in Mirlo Beach.
9. Negative Impact on recreation on Pamlico sound.
10. Negative impact to submerged vegetation and resources in Pamlico Sound
11. Unknown impact of parking and access to Pea Island Facilities – While Mirlo Beach is the first subdivision on Hatteras Island, we currently have issues with parking by surfers and others accessing Pea Island. While the majority of the parking is on Pea Island property, the elimination of access to Pea Island would force a dead end road situation at the Mirlo Beach subdivision creating a traffic and enforcement nightmare. This would also increase the crime in the area as there would be less visibility and enforcement.

Parallel Bridge with Short Bridge Alternative:

The issue with this alternative is with the short bridges, not the parallel bridge concept.

1. The short bridges would have a severe impact to the environment in Pea Island and in reality, would never be supported by NFWS.
2. The impact of the southern bridge to the Mirlo beach subdivision is extreme, eliminating all soundside views and any recreational capabilities.
3. The aesthetics of any of these short bridges is questionable and they will still be impacted by high winds and blowing sand.
4. As with the Pamlico Sound Bridge, utility funding and access to Pea Island facilities will still be an issue.
5. As with the Pamlico Sound Bridge, issues of parking and access to Pea Island would have the same impact on the Mirlo Beach Subdivision.

Parallel Bridge with Nourishment Alternative:

This is the only alternative that is economically viable and has the least impact of all of the alternatives:

1. No matter what alternative is chosen, maintaining the access road through Pea Island is going to continue due to the pressures of various governmental and environmental groups. NCDOT should be realistic and assume that maintenance, dune reconstruction, and nourishment are going to happen in the future and these costs, if considered, will increase the cost of all of the other alternatives.
2. Time is of the essence and this alternative has the shortest time frame to completion.
3. This alternative would most likely be the only one that will hold up in court since there is precedent for the maintenance of NC12. All other alternatives would most likely get bogged down in legal proceedings and cause further delay in construction.
4. This alternative has no impact on any properties in Rodanthe.

The best and only viable alternative is that which has the least impact on the most people. The Parallel Bridge with

Nourishment alternative is the only alternative that can be justified economically in present value terms, is the fastest construction alternative, and preserves everything that the tourists come to Hatteras Island for. The other alternatives are not only a high risk due to economic costs, but also will have an unknown impact in the tourist economy of Hatteras Island.

Thank you for your consideration.

Christopher Swenson
18 Sheppards Landing
Woodstock, CT 06281

Local Property:
22035 Sea Gull St
Rodanthe, NC 27968

COMMENT SHEET

Herbert C. Bonner Bridge Replacement

Formal Public Hearings – March 28 and 29, 2007

TIP Project No. B-2500 Dare County WBS No. 32635.1.3

NAME: Angela Tawes

ADDRESS: PO Box 71 Buxton NC 27920

COMMENTS AND/OR QUESTIONS:

Please consider fully the urgency of this project. The Parallel Bridge is well supported on Hatteras Island. Our fear is that further inaction will compromise the livelihoods of Hatteras Island Residents. The parallel bridge is our choice - but a new bridge is our need. The stability of the Bonner Bridge has become such an issue that before the meeting tonight, when the power went out, my first thought was - I wonder if something happened to the bridge? Please help us secure our way of life.

Comments may be submitted by April 17, 2007 to:

Mr. Carl Goode, Jr., PE, Unit Head
NCDOT - Human Environment Unit
1583 Mail Service Center
Raleigh, NC 27699-1583
Phone: (919) 715-1515 FAX: (919) 715-1501
Email: cgoode@dot.state.nc.us

Subject: Bonner bridge idea
Date: Tue, 6 Dec 2005 13:34:04 -0500
From: "Chris Toolan" <christoolan@villagerealtyobx.com>
To: <cgoode@dot.state.nc.us>

This was given to me to pass along. Someone suggested if the long bridge were developed, to add a small monorail tram to the side for site seeing, income (offset cost), economic development (grants? eminent domain?) and transportation issues from Nags Head to Rodanthe. Doubt it will ever get passed this email, but I promised I would send the idea forward from Mr. Rockefeller.

Sincerely,

Chris Toolan

B-212

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

We, the undersigned organization, would like to inform you of our position on the replacement of the Bonner Bridge over Oregon Inlet.

Our membership is comprised of businesses and individuals that depend on Oregon Inlet for their livelihoods. Safety through the inlet is our first concern. We have followed the progress of the replacement of the aging Bonner Bridge and are very alarmed over the lack of attention by NC DOT to take this opportunity to ensure safe navigation through the waterway.

Although NC DOT is responsible for marking the navigable channel where it passes underneath Bonner Bridge, perhaps the number of times the navigable channel has moved in the past year alone has not been associated with the hazardous and unpredictable condition of Oregon Inlet. Today, conditions are so bad that the charter fleet, whose boats draw only 4 to 6 feet of water, are hitting bottom regularly. During the Pirates Cove Billfish Tournament in August, 32 boats ran aground during a four-day period. Just two weeks ago, commercial fishing boats that traveled through the channel one day found the same path shoaled up and impassible the next. The lives of recreational and commercial boaters and Coast Guard personnel are placed in jeopardy every time they traverse the waterway.

The longer 17 mile bridge alternative will have a devastating effect on navigation. As you may recall, the permit that allowed the construction of the groin on Pea Island clearly stated that if the groin were never needed for the protection of the highway on the south end of the Bonner Bridge, as with the 17 mile bridge alternative, it would have to be removed. We believe the groin has been instrumental in ensuring that the inlet and the navigation channel have not migrated south from under the navigational spans. Removal of the groin will hasten the southern migration of Bodie Island and will eliminate all predictability, what little there is, from the inlet. Additionally, removal of the groin will be an unnecessary and exorbitant expense.

We support the construction of the shorter bridge alternative, assuming the Oregon Inlet Fishing Center will not be adversely affected or done away with. We also support the construction of a groin on the northern side of the inlet to protect the new bridge. Without a hardened structure, Oregon Inlet will never truly be safe. The shorter bridge coupled with a groin will cost less, allow for continued access by citizens to the public lands of northern Hatteras Island and will ensure navigation into the future.

The mission of the NC DOT states that you are to "Provide a safe, modern and integrated multimodal system that expands opportunities and unites citizens in both urban and rural areas in support of Governor Easley's vision for One North Carolina". We hope that you interpret your mission as we do and take this opportunity to complete the new bridge and also protect Oregon Inlet and the North Carolinians who depend on it.

Sincerely,

Patricia J Worrell

Norburn, Robert E.

From: Page, John
Sent: Tuesday, December 20, 2005 8:01 AM
To: Norburn, Robert E.
Subject: FW: Bonner Bridge

-----Original Message-----
From: J Vimont [mailto:vimont_j@yahoo.com]
Sent: Monday, December 19, 2005 2:43 PM
To: bsmyre@dot.state.nc.us
Subject: Bonner Bridge

Hello Beth, I was told you are the person to contact regarding the inclusion of a catwalk in the plans for the Bonner replacement bridge. I hope you reconsider, I may never fish from the new bridge but LOTS of folks fish from the old one. I would estimate that over 200 are on the bridge every day in November during the big striped bass runs. Recreational fisherman spend a lot of money in that area every year. I hope you reconsider.

Have a great day,
Jonathan Vimont
Raleigh NC

Subject: bonner bridge
Date: Tue, 17 Apr 2007 06:30:14 -0500
From: "Walker, Matt" <matt.walker@primedia.com>
To: <cgoode@dot.state.nc.us>

Dear Mr. Goode:

My name is Matt Walker. I'm a resident of Kill Devil Hills and I'm writing to ask the government to simply replace the current Bonner Bridge in its short form. And, if that is impossible, that any other solution maintain access to the entire 13-mile-stretch of Pea Island.

As a former Southern California resident, I can attest to the value of natural space. And the more the Outer Banks becomes claustrophobic with rental homes and summer traffic -- and more and more, spring and fall traffic --Pea Island becomes a peaceful oasis; a reminder of why we all moved here to begin with and much of the draw for those very same tourists and beachlovers who don't.

As a nature lover, I appreciate that certain groups believe the less human contact the better. On the other hand, I also question how creating a 17-mile construction zone through unharmed wetlands and oyster beds is somehow more eco-friendly then sticking to a worn path that's been in place for 40-plus years. For those who say maintenance and clearing of Hwy 12 is too expensive, I argue that free space is invaluable. And budgeted correctly, it's no different than snowplows in Michigan. And that's not even considering the damage to revenues that may occur if people elect to stop coming and find a different beach destination altogether.

The Outer Banks is recognized world wide as a place where humans can commune with nature in all it's glory. Pea Island, is that concept in its purest source, a a place where where humans reinforce their love of the planet on a daily basis. Fisherman. Birdlovers. Surfers. Children. It's not just a pesky sandbar to be bypassed. It is a truly natural refuge — for all of us.

Thank you for your time and consideration

Matt Walker
Laurin Walker
McRae Walker

PO Box 7100
Kill Devil Hills, NC 27948

B-214

Dr. and Mrs. A. Jeffrey Weisberg
22012 Sixteenth of August Street
Rodanthe, N.C. 27968

December 5, 2005

Carl Goode
Human Environment Unit, NDCOT
1583 Mail. Service Center
Raleigh, N.C. 276991583

Dear Mr. Goode:

I am writing to you as a homeowner in Mirlo Beach. The purpose of this letter is to formally convey to you our opinions and concerns about the plans for replacing the Herbert C. Bonner Bridge.

Mirlo Beach Subdivision is a covenanted community located at the north end of Rodanthe, NC, immediately adjacent to the Pea Island Wildlife Refuge. It is comprised of 75 properties, of which 56 have houses. The assessed value of the subdivision is $40 million. Ninety-five percent of the homes are rented for some or all of the year and generate approximately $2 million annually. Each year the number of full time residents has also been increasing. Thus, we are a significant stakeholder affected by the new bridge and a significant contributor to the economic development of Hatteras Island.

We unequivicollay endorse the following opinions about the alternative plans for a replacement bridge that are described in the Supplemental Draft of the Environmental Impact Statement and Draft Section 4(f) Evaluation for the NC 12 Replacement of Herbert C. Bonner Bridge (SDEIS).

1. Alternatives that include construction of a bridge beginning at a new intersection in Rodanthe and continuing to a point approximately 2 miles north of the Refuge's southern border (i.e., the Road North/Bridge South and All Bridge versions of the Parallel Bridge Corridor) are unfairly damaging to the assets of Mirlo Beach homeowners. As described in the SDEIS (section 4.3.1.2), the panoramic and unobstructed views of Pamlico Sound would be substantially disrupted by the bridge and associated lights of motors vehicles. Also, use of the sound by boaters, kayakers, and windsurfers would be substantially disrupted. These disruptions most affect sound-front properties, but all homes built in Mirlo Beach have significant views of Pamlico Sound and community access to the sound for water activities. This bridge is very likely to cause significant economic loss to both the value of the properties and rental income. **For these reasons, we strongly oppose construction of a short bridge at Rodanthe.**

2. The Parallel Bridge Corridor with Nourishment is the alternative that does the most to protect the assets of Mirlo Beach. The views of Pamlico Sound and sound access would be preserved at their current levels. Nourishment would help protect oceanfront properties. More generally, this alternative represents the least change from the current status of NC 12 and, therefore, runs the least risk of negatively affecting tourism (because of aesthetics, access to Pea Island, and/or fear of traveling on long bridges). Also, it is the second lowest in cost when appropriately discounted over the life of the bridge. For these reasons, we strongly support the Parallel Bridge Corridor with Nourishment alternative. In fact it appears to be the only alternative that has no impact on people and their properties.

3. It is extremely important that a decision be made in the very near future, so that work on the replacement bridge can begin as soon as possible. Should the Bonner Bridge fail, the economic loss and the detrimental effect on our quality of life will be large. In a worst case scenario, the bridge might fail in way that would cause human casualties or fatalities. This planning process began in 1991. Now is the time for action.

4. Regardless of which bridge replacement alternative is adopted, the section of NC 12 running through Mirlo Beach needs to be properly maintained so that home owners and renters have clear and safe access to the properties. Also, should a Pamlico Sound Corridor bridge be built, the concerns of Mirlo Beach homeowners must be fairly considered when an alternative means of public access to the Pea Island Wildlife Refuge is developed (as has been suggested will be necessary).

Sincerely,

Shelley · Jeff Weisberg

Dr. and Mrs. A Jeffrey Weisberg
22012 Sixteenth of August Street
Rodanthe, NC 27968

cc Senator Marc Basnight
Representative Bill Culpepper
Commissioner Virginia Tillett
Commissioner Warren Judge
Commissioner Mac Midgett

B-215

Subject: Another bridge replacement idea
Date: Sat, 24 Mar 2007 08:44:02 -0400 (EDT)
From: "Fred Westervelt" <fwestervelt@pol.net>
To: <cgoode@dot.state.nc.us>

Mr. Goode:

As there is still much squabbling about the Bonner replacement, I hope it's not too late to inject another tho't into the mix.

We assume that the current bridge design and location are adequate- not the best or most elegant, but adequate. We further assume that the wear and tear necessitating replacement are in the center section, that which endures the stress of major water flow.

Picturing a mini-Golden Gate, or some such, why not consider modifying the bridge into a two-tower suspension bridge supporting that center section? NC 12 alterations could come latr, as presently proposed.

Good luck,
Fred Westervelt
Ocracoke

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

We, the undersigned organization, would like to inform you of our position on the replacement of the Bonner Bridge over Oregon Inlet.

Our membership is comprised of businesses and individuals that depend on Oregon Inlet for their livelihoods. Safety through the inlet is our first concern. We have followed the progress of the replacement of the aging Bonner Bridge and are very alarmed over the lack of attention by NC DOT to take this opportunity to ensure safe navigation through the waterway.

Although NC DOT is responsible for marking the navigable channel where it passes underneath Bonner Bridge, perhaps the number of times the navigable channel has moved in the past year alone has not been associated with the hazardous and unpredictable condition of Oregon Inlet. Today, conditions are so bad that the charter fleet, whose boats draw only 4 to 6 feet of water, are hitting bottom regularly. During the Pirates Cove Billfish Tournament in August, 32 boats ran aground during a four-day period. Just two weeks ago, commercial fishing boats that traveled through the channel one day found the same path shoaled up and impassible the next. The lives of recreational and commercial boaters and Coast Guard personnel are placed in jeopardy every time they traverse the waterway.

The longer 17 mile bridge alternative will have a devastating effect on navigation. As you may recall, the permit that allowed the construction of the groin on Pea Island clearly stated that if the groin were never needed for the protection of the highway on the south end of the Bonner Bridge, as with the 17 mile bridge alternative, it would have to be removed. We believe the groin has been instrumental in ensuring that the inlet and the navigation channel have not migrated south from under the navigational spans. Removal of the groin will hasten the southern migration of Bodie Island and will eliminate all predictability, what little there is, from the inlet. Additionally, removal of the groin will be an unnecessary and exorbitant expense.

We support the construction of the shorter bridge alternative, assuming the Oregon Inlet Fishing Center will not be adversely affected or done away with. We also support the construction of a groin on the northern side of the inlet to protect the new bridge. Without a hardened structure, Oregon Inlet will never truly be safe. The shorter bridge coupled with a groin will cost less, allow for continued access by citizens to the public lands of northern Hatteras Island and will ensure navigation into the future.

The mission of the NC DOT states that you are to "Provide a safe, modern and integrated multimodal system that expands opportunities and unites citizens in both urban and rural areas in support of Governor Easley's vision for One North Carolina". We hope that you interpret your mission as we do and take this opportunity to complete the new bridge and also protect Oregon Inlet and the North Carolinians who depend on it.

Sincerely,

Sharon White

Post-it® Fax Note 7671	Date 11-7-05	# of pages ▶ 2
To Heather Maxwell	From 252 261-8193	
Co./Dept.	Co. Donna Whitley	
Phone #	Phone #	
Fax # 252-473-1172	Fax # 252-261-8193	

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

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Sincerely,

Donna Young Whitley, ABR, ePro, RRS
Broker, Realtor
Carolina Designs Realty
1158 Duck Rd
Duck, NC 27949

Charles L Whitley, ABR, RRS
Broker, Realtor

Dennis E. Williams
50235 Indian Ridge
P. O. Box 1028
Buxton, N. C. 27920

November 22, 2005

Mr. Carl Goode, PE
Head, Human Environment Unit
NCDOT
1583 Mail Service Center
Raleigh, NC 27699-1583

Re: Bonner Bridge Replacement Corridor

Dear Mr. Goode:

I am for the Pamlico Sound Bridge Corridor.

As a life-long resident of Hatteras Island, I have seen many changes dealing with transportation over the past 60 plus years here on the island, most of which have improved the quality of life for the natives. Highway 12 north of Rodanthe all the way to the bridge has reached a point that is impossible to maintain. The erosion in the various hot spots has created a hazardous if not dangerous situation. At times, the wind blown sand and over wash make it impossible to get off the island. Beach erosion, ocean and sound over wash will continue to be a problem in the foreseeable future throughout this corridor. The only long range plan to resolve this critical transportation issue is the construction of the 17.5 mile bridge.

The opinions expressed by various Dare County Commissioners and Tourist Board Members that the longer bridge will somehow adversely affect the economy here on the Banks is, to my way of thinking, flawed. I believe it will substantially enhance tourism. We all know that Hatteras Island is in harms way for most storms that come up the east coast and that emergency management actions are severely restricted in making evacuation decisions. The longer bridge will provide a safer evacuation route and will provide the critical time to make emergency management decisions that are more reliable. I have seen mandatory evacuation declared for Ocracoke and Hatteras, and low and behold the hurricane goes out to sea and has very little impact on us. Not to say that it wasn't the right call at that time, but maybe if a more reliable evacuation route were in place, such as the long bridge, the decision could have been made just hours later that would have reversed the loss of revenue. A 24 hour hurricane evacuation alert is too late under current road conditions and would not be with the long bridge in place.

Allow me to digress just a little and look at what will become debatable issues if the long bridge is built.

a. Approximately 12 miles of road and beach that is currently next to impossible to keep in a state of repair. Even if highway 12 is moved westward, the problems still exist.

b. A very limited number of visitors from the northern beaches and Manteo use the Pea Island area. Fishermen, surfers and swimmers occasionally are seen just north of Rodanthe and fishermen use the cat walks (fishing walks) at the bridge. This is seasonal use.

c. Bird watchers use the refuge area mostly in the fall of the year. This is seasonal use.

d. Most natives that I speak with regarding the bridge are for the construction of the long bridge. But, none of us want to see anyone lose land to anchor the bridge in Rodanthe. Certainly there are other alternative that can be reached without compromising our desires for the construction of the long bridge.

Let's not be misguided by a handful of people who make a living in the tourist industry and by the way know very little about living on the banks. Mr. Stan White who is a Dare County Commissioner and serves on the NC Transportation Board has been quoted as saying that "The Governor, Mike Easley and DOT Secretary, Lyndo Tippett, have lined up behind the short bridge and that DOT is broke" (meaning that it don't work? Or it has no funds). I would hate to think that any of this is correct. Please take into consideration that none of the above individuals will be inconvenienced by a short bridge. We now have the opportunity of a lifetime to do the right thing, please let's do it because science and history will bear out that it is the correct decision.

Thanks for listening.

DENNIS E. WILLIAMS

P.S. As I sit at my typewriter and look out on Pamlico Sound with white caps rolling in and pushing the tide further up in the yard, I know that today would be a limited travel if not a total washout day north of Rodanthe.

Mary B. Williams
P. O. Box 1028
Buxton, NC 27920

November 11, 2005

Mr. Carl Goode, PE
Head, Human Environment Unit
NCDOT
1583 Mail Service Center
Raleigh, NC 27699-1583

Re: Bonner Bridge Replacement

Dear Mr. Goode:

The major concern that I have with replacing the existing Bonner Bridge with another short bridge in the same area, is that it leaves the residents of Hatteras and Ocracoke Island to deal with horrible road conditions north of Rodanthe to Oregon Inlet.

Having lived here before we had roads, and before we had a bridge, I can truthfully say that yes, we are better off now than we were then. However, I have had to cancel medical and dental appointments due to road conditions north of Rodanthe on numerous occasions. I'm thankful that none of my appointments were serious.

Many folks have not been as fortunate. A good friend was unable to reach Duke for his scheduled chemo treatment due to over wash on Hwy 12 north of Rodanthe. His wife, unable to determine road conditions before leaving Buxton, had to turn back in Rodanthe and cancel his appointment. Would that treatment have made a difference?

Others have missed radiation treatments, surgery, scheduled flights and vacations. What happens when a person has a stroke or heart attack and weather conditions won't allow med flights? How many times have we heard that the first hour can make the difference in life or death? These folks can't afford to wait for low tide or winds to decrease, or machinery to clear the roads.

We are not dealing only with over wash in this area. High winds and sand cut the paint off our automobiles and pit windshields. The pavement is so bad in this area that many times, it's impossible to determine which lane you're driving in. The drop-off at the edge of the road can be fifteen inches or more in places, enough to easily flip a car. The constant wear and tear on the paved road has wiped out all markings to guide drivers at night.

A short bridge has been touted to be less expensive, but won't it actually cost more in the long run to keep Hwy 12 north of Rodanthe open after the bridge has been replaced? And what will have been gained? The residents will still be fighting the same battles they are now: waiting for low tide, for machinery to scrap sand off the highway, for water to drain or God forbid, pavement replaced.

My hope and plea is to replace Bonner Bridge with the 17 mile bridge and bypass the problem areas completely. Allow nature to reclaim Pea Island. In doing so, the wildlife and residents will flourish, and the island will replenish itself and perhaps one day, a short bridge will once again be possible.

Sincerely,

Mary B. Williams

COMMENT SHEET

NC 12 Replacement of Herbert C. Bonner Bridge over Oregon Inlet

Corridor Public Hearing

B-2500 8.1051205 Dare County

November 9 and 10, 2005

NAME: Anne R. Wilson

ADDRESS: Frisco NC

COMMENTS AND\OR QUESTIONS:

There is no doubt that the most viable route is that connecting Bodie Island with Rodanthe via Pamlico Sound - (Pamlico Sound Bridge corridor)

Also there is no doubt TIME IS GETTING SHORT

MAKE DECISIONS & GET ON WITH IT

Comments may be mailed to:
C. B. Goode, Jr., P. E.
Office of Human Environment Unit Head
1583 Mail Service Center
Raleigh, NC 27699-1583 Phone: (919) 715-1515 Fax: (919) 715-1501
E-mail: cgoode@dot.state.nc.us

COMMENT SHEET

NC 12 Replacement of Herbert C. Bonner Bridge over Oregon Inlet

Corridor Public Hearing

B-2500 8.1051205 Dare County

November 9 and 10, 2005

NAME: G. F. WILSON

ADDRESS: P.O. BOX 606 BUXTON N.C. 27920 (HOUSE 50814 FRISCO)

COMMENTS AND\OR QUESTIONS:

TO MY MIND THE ONLY WAY TO GO IS THE 17 MILE PAMLICO SOUND BRIDGE CORRIDOR & V THE INTERSECTION TERMINAL.

I HAVE BEEN A RESIDENT & VISITOR SINCE 1960 & FOR ONCE CAN'T PEOPLE GET OFF THEIR BUMS & DO SOMETHING.

P.S. FERRIES ONLY USED TO BE GREAT.

Comments may be mailed to:
C. B. Goode, Jr., P. E.
Office of Human Environment Unit Head
1583 Mail Service Center
Raleigh, NC 27699-1583 Phone: (919) 715-1515 Fax: (919) 715-1501
E-mail: cgoode@dot.state.nc.us

Mr. Carl Goode, PE
Head, Human Environment Unit
NCDOT
1583 Mail Service Center
Raleigh, NC 27699-1583

Harry Edward Wilson
8520 Riley Hill Rd
Zebulon, NC 27597

Dear Mr. Good,

I am writing to express my support for the 17.5 mile Pamlico Sound Bridge to replace the Oregon Inlet Bridge.

The other alternatives cost less up front, but in the long run will cost just as much on upkeep. In addition, the other alternatives are too costly to the environment.

I would hope that what is best for the Pea Island refuge and the fragile coast will determine the decision and not what some powerful politicians want.

Sincerely,

Harry and Hallie Wilson

Harry Wilson
Hallie Wilson

B-221

Subject: Bonner Bridge
Date: Tue, 17 Apr 2007 10:06:50 -0400
From: Jimmy Wilson <jimbo@easternsurf.com>
To: cgoode@dot.state.nc.us

Dear Mr. Goode;

On this last day of public comment, I would just like to express how important it is for Bonner Bridge's replacement to maintain access to Pea Island Wildlife Refuge.

Since I was a boy, my whole family has traveled to the Outer Banks to enjoy the natural setting, particularly Pea Island. It's one of the main reasons we traveled the 14 hours from Florida. And I'd always hoped I'd be able to share that experience with my own family as it is one of the few unspoiled beaches on the whole East Coast.

I ask that you respect the need for people to maintain access to these rare stretches of coastline where humans can truly interact with nature's glory.

Thank you very much,

Jimmy Wilson
St. Augustine, Florida

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

Dear Secretary Tippett:

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Our membership is comprised of businesses and individuals that depend on Oregon Inlet for their livelihoods. Safety through the inlet is our first concern. We have followed the progress of the replacement of the aging Bonner Bridge and are very alarmed over the lack of attention by NC DOT to take this opportunity to ensure safe navigation through the waterway.

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Sincerely,

OUTER BANKS VISITORS BUREAU
One Visitors Center Circle, Manteo, NC 27954
[P] 252·473·2138 [F] 252·473·5106
[Toll-Free] 877·OBX·4FUN www.outerbanks.org

To: Mr.Carl Goode, PE

From: Robert Woodard, Chairman, Dare County Tourism Board

CC: Carolyn McCormick, Managing Director, Outer Banks Visitors Bureau

Date: November 30, 2005

Re: Dare County Tourism Board Resolution Regarding Bonner Bridge at Oregon Inlet

Please find enclosed Dare County Tourism Board of Directors Resolution Number 2005-6, "Resolution by the Dare County Tourism Board of Directors urging the North Carolina Department of Transportation and the U.S. Fish and Wildlife Service, U.S. Department of Interior, to replace the aging Bonner Bridge over Oregon Inlet with a parallel bridge immediately."

Please do not hesitate to contact me, or Carolyn McCormick, Managing Director of the Outer Banks Visitors Bureau, toll free at 877-629-4386, or (252) 473-2138 or via email, mccormick@outerbanks.org

The Outer Banks OF NORTH CAROLINA — WHERE DREAMS STILL TAKE FLIGHT —
OUTER BANKS VISITORS BUREAU
One Visitors Center Circle, Manteo, NC 27954
[P] 252·473·2138 [F] 252·473·5106
[Toll-Free] 877·OBX·4FUN www.outerbanks.org

Resolution by the Dare County Tourism Board of Directors urging the North Carolina Department of Transportation and the U.S. Fish and Wildlife Division, U.S. Department of the Interior, to replace the aging Bonner Bridge over Oregon Inlet with a parallel bridge immediately.

WHEREAS, the Herbert C. Bonner Bridge spanning Oregon Inlet is a critical transportation link to and from Hatteras Island, and is important to maintain for the public safety, business and commerce, tourism and quality of life of residents and visitors to Dare County, and

WHEREAS, the Herbert C. Bonner Bridge has reached the end of its reasonable service life and the North Carolina Department of Transportation proposes to replace the Herbert C. Bonner Bridge and has presented two alternatives, and

WHEREAS, over five million people visit Dare County's Outer Banks annually generating in excess of 620 million dollars in direct tourism expenditures, and

WHEREAS, the primary reason for travel to the Outer Banks are the natural, cultural and historic resources; Dare County is home to two national wildlife refuges, the nation's first national seashore, and two national parks, and

WHEREAS, the Cape Hatteras National Seashore is home to one of America's greatest public beaches, the Cape Hatteras Lighthouse, Chicamacomico Lifesaving Station and is a popular migratory pathway for over 400 species of birds at Pea Island National Wildlife Refuge, and

WHEREAS, twenty-six percent of Dare County's tourism related revenues are generated by Hatteras Island Visitors, and a majority of Northern Beach visitors include a day trip to Hatteras Island and Ocracoke Island during their trip to the Outer Banks, and

WHEREAS, the Tourism Board unanimously agfees that the preferred replacement bridge is the parallel bridge corridor and replacement of the Herbert C. Bonner Bridge must begin immediately.

NOW THEREFORE BE IT RESOLVED the Dare County Tourism Board of Directors urges the North Carolina Department of Transportation, the U.S. Fish and Wildlife Service, and all other involved parties to build a bridge parallel to the existing Bonner Bridge and maintain the navigational channel through Oregon Inlet and provide no less than equal access to the entire northern end of Hatteras Island known as Pea Island.

ADOPTED THIS 17th DAY OF November, 2005, by unanimous vote of the Dare County Tourism Board of Directors.

DARE COUNTY TOURISM BOARD

Robert L."Bob" Woodard, Chairman

ATTEST: Barbara Connery, Secretary

November 7, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

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Sincerely,

M. G. Wynn

Michael G. Wynn

November 7, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

RE: Oregon Inlet Bridge

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Sincerely,

Sharon B. Wynn

November 2, 2005

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Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

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Sincerely,

METE YILMAZ

10245 S. OLD OREGON INLET RD.
NAGS HEAD, N.C.

November 2, 2005

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Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

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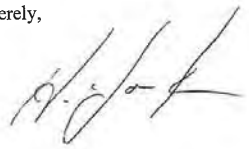

November 2, 2005

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NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

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Sincerely,

Joanne Zaytoun-Penny

Subject: bonner bridge replacement
Date: Tue, 17 Apr 2007 18:51:10 -0400
From: "tzirkle" <tnzirkle@comcast.net>
To: <cgoode@dot.state.nc.us>

The treatment of the people of the residents and visitors of the outer banks by the government of North Carolin just plain UNBLEIVABLE. The bridge is completely unsafe. The mismanagemt of the Pea Island Refuge by the USFW is so bad it should should be abandoned by them. The amount of money being spent on these birds is plain STUPID. There are alot more pressing needs in this country, than a few birds. Their performance on this issue is one of the poorest things i have ever heard of.

Another issue is the state of North Carolina interfering with the cleaning up of Cape Point camp ground. In the four years the population of the U.S. had increased but the visitors to the outer banks has declined by 27%. Wl are you people going to wake up to what problems, your stupidity is causing.
I am not a new person to this area. I have been going to the OBX for forty years.

Thomas N. Zirkle
115 Gloucester Dr.
Winchester, va 22603

B-229

Charlotte K. Zovistoski
2 Roe Street
Florida, New York 10921
(845) 651-7954

March 30, 2007

Carl B. Goode, Jr., P.E.
Human Environment Unit Head
1583 Mail Service Center
Raleigh, North Carolina 27699-1583

Dear Mr. Goode,

The Bonner Bridge has outlived its' lifespan, placing all who use it in imminent danger and those who rely on it in danger of losing their livelihoods.

Though I am not a resident of North Carolina, I use the bridge at least twice a year (April and August) when visiting Hatteras Island. Long time friends on the island use the bridge daily. It is inconceivable to me that the state of North Carolina would continue to debate the issue of the replacement of the bridge. Clearly, it needs to be replaced NOW. It's been over ten years that this debate has been going on. The bridge continues to deteriorate. What are you waiting for?

The short span seems to me the logical choice. Most of the construction money is immediately available for use. It would take less time to build, a definite consideration due to the delays caused by the ongoing debate. The short span would minimize long term expenditures for residents of the island (no increase in electric bills) and surely less maintenance. The access road from the island is in place.

I am aware that there is a group of environmentalists who are concerned about the impact of the short span, on Pea Island. They might need to be reminded that the road has been in place for 60 years...The wildlife knows it's there. Further human beings are part of the environment and their needs must also be considered.

The current alternatives, should the bridge become unusable, are not adequate to transport even the local year-round residents on a daily basis. There would be monumental financial loss and possibly loss of life if the ferry's become the only transport to and from the island.

It is time to take action. A decision must be made, NOW. The Bonner Bridge replacement must begin, NOW, before tragic circumstances occur.

PLEASE stop the delays. Make a decision on which span to build and build it!

Thank you for your time and consideration.

Sincerely,

Charlotte K Zovistoski

Charlotte K. Zovistoski

November 2, 2005

Mr. Lyndo Tippett
Secretary
NC Department of Transportation
1501 Mail Service Center
Raleigh, NC 27699-1501

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Sincerely,

Comment Sheet

Herbert C. Bonner Bridge Replacement

Formal Public Hearings – March 28 and 29, 2007

TIP Project No. B-2500 Dare County WBS No. 32635.1.3

NAME:
Manteo High School – Honors Civics Classes - 3rd Period

ADDRESS:
616 Wingina Drive, Manteo, NC 27954

COMMENTS AND/OR QUESTIONS:
Support of Pamlico Sound Bridge Corridor (long bridge)

With Curved Rodanthe Terminus	With Intersection Rodanthe Terminus
Jesse DeSanto	Harrison Lilley
	Morgan Hannell
	Jessica Loucher
	Sarah Fugate
	Jordan Gutshall
	Israel Diaz
	Karen Pacheco
	Woody Rule
	Hayleigh Maher
	Molly Bailey
	MaryKate Cheesman

Comments may be submitted by April 17, 2007 to:

Mr. Carl Goode, JR., PE, Unit Head
NCDOT – Human Environment Unit
1583 Mail Service Center
Raleigh, NC 27699-1583
Phone: (919) 715-1515 FAX: (919) 715-1501
Email: cgoode@dot.state.nc.us

Comment Sheet

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NAME:
Manteo High School – Honors Civics Classes – 3rd Period

ADDRESS:
616 Wingina Drive, Manteo, NC 27954

COMMENTS AND/OR QUESTIONS:
Support of Parallel Bridge Corridor (short bridge)

With Nourishment With Road North/Bridge South

James A. McCleese Jr.

With All Bridge With Phased Approach/Rodanthe Bridge

With Phased Approach/Rodanthe Nourish

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Comment Sheet

Herbert C. Bonner Bridge Replacement

Formal Public Hearings – March 28 and 29, 2007

TIP Project No. B-2500 Dare County WBS No. 32635.1.3

NAME:
Manteo High School – Honors Civics Classes – 4th Period

ADDRESS:
616 Wingina Drive, Manteo, NC 27954

COMMENTS AND/OR QUESTIONS:
Support of Parallel Bridge Corridor (short bridge)

With Nourishment With Road North/Bridge South

With All Bridge With Phased Approach/Rodanthe Bridge

Ally Zillis

With Phased Approach/Rodanthe Nourish

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APR.17.2007 3:20PM 252 473 2263 NO.907 P.1/4

Comment Sheet

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With Curved Rodanthe Terminus	With Intersection Rodanthe Terminus
	Kate Dinwiddie
	Lauren Endee
	[illegible] Delray Bowser
	Arielle Petrey
	Meredith Gwaltney / Chris Scarborough
	Nikki Seward Justin Stevens
	Matt McGuinnis
	Brittnee Harris
	Ana Calvio
	Mitzy Minton
	Arielle Pickrel
	Sinae Grimball

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Email: cgoode@dot.state.nc.us

Beth – Thought maybe you could use the students' reactions to Bonner Bridge proposals. We reflected during Writer's Workshop.
Dawn!! :)

[redacted]

Letters from 5th Grade Class
Cape Hatteras Elementary School
Buxton NC

Wolfi

Wolfi Blackwood
Buxton NC

I th k that the should build the Sheit bridge so that people [illegible] still [illegible] to [illegible] fishing or surfing. If they build the [illegible] bridge they will mess up the [illegible], the invorment is very more important then makeing the second largest bridge in the contry. What if some one was drivigg on the long bridge and fell into the water how will they be able to get to them in time.

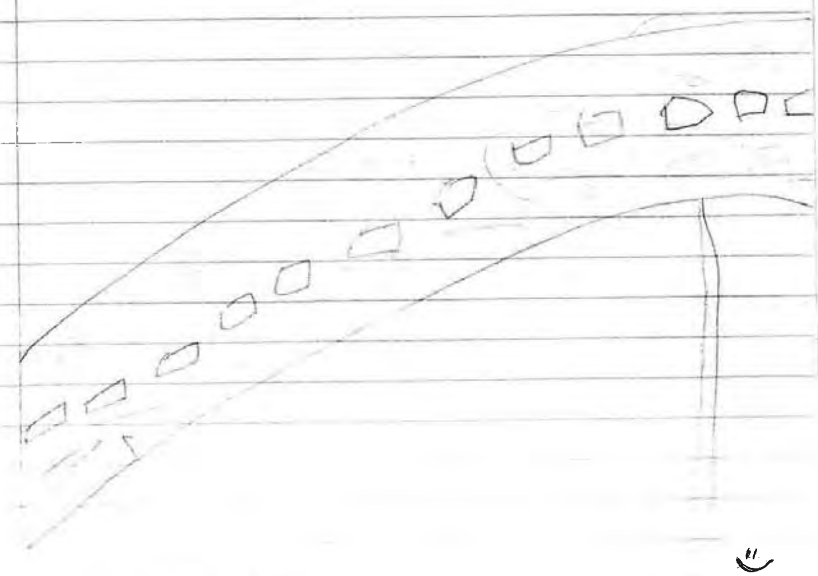
Jake Brown
Frisco NC

About The Bridge

Jake

3/27/07

What I think about the bridge is realy weird becaus: I think they should just build, The peaces that are mest up on the bridge right now and build from that. Or they can just rebuild the bridge to be more safer. That what I think about the bridge.



Anson NC   Hannah B.

Hannah Bunting

Rebuild the short bridge Because ...

I think they should rebuild the short bridge. Because people don't want to drive on a long bridge to get somewhere. What about emergency? for example, what if a pregnant lady lady is driving on the bridge to her doctor, and then all of a sudden, her water broke. Then what would happen? She would be stuck on the bridge with no help. I mean, she can't just walk out of the car and tell somebody "Can you help me, my water just broke." Then the ambulance would probably not be there in time, it might be too late.

Or what about the animals? What if they were crossing the long bridge. Then there would deffintly be a good chance for their death. Also, what about pollution. He the world not act [illegible] of it. [illegible] all [illegible] the air. That's why I think the people should rebuild the short bridge. [illegible] it would take [illegible] [illegible]

Wadesboro NC

Lauren Coltrain

I think they should just build a bridge and fast! I think this because peoples life are at stake! The bridge could fall any minute! And the people of are community are on it. We need to think fast! I rather have a bridge built a bridge as soon as possible than a person to lose there life because of a bridge collapsing! We need to do somthing and fast.

Andrew Gray
Buxton, NC

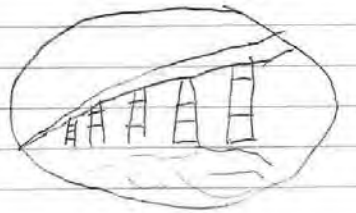
Andrew G

I think we shoud have the small bridge because if you have the long bridge your taking out Pea Island and that means we won't be able to see any wilderness of Pea Island. Also for the people that work on Pea Island dosen't get a lot of money because of this bridge process.

Todd Midgett
Hatteras NC

Todd

I think they should build the short bridge. If they build the long bridge the will be killing a lot of animls. And the will stop taking care of the road and then people will not beable to see all of the wild life at pee island. And if there is a bad storm and cars get stuck on the long bride people will not be able to get of the bridge fast enogh. Build the Short bridge.



Zack Ripper
Hatteras Island

Zack R.

I don't care which bridge we chose, just as long as the old bridge gets replaced.

I think the short bridge has more bennefits, but either one.

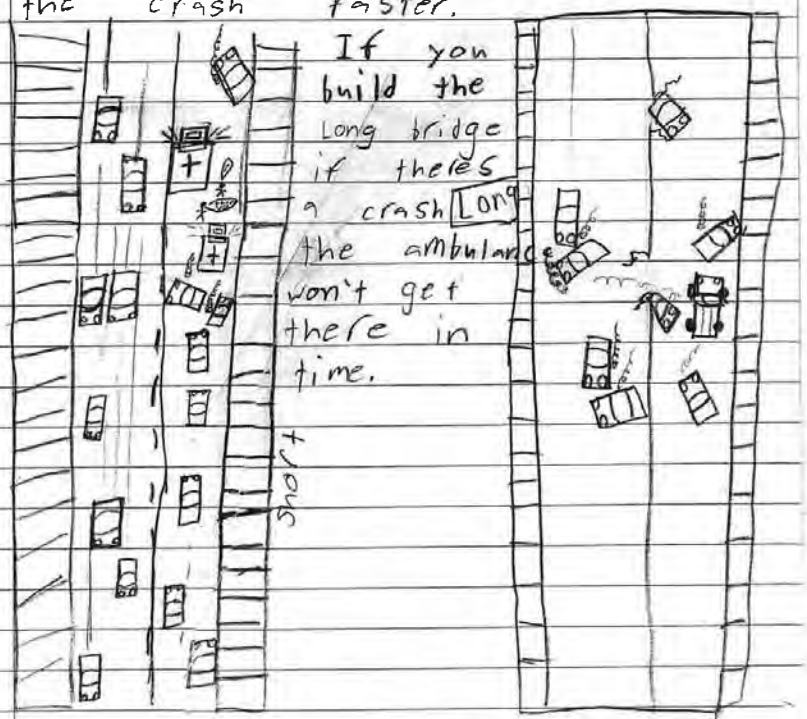
I also think the short bridge will save us money $, because the Parks won't be missed. The long bridge by-passes them. Just as long as we have a safe passageway to and from.

Truly,
Zack Rippin

Sam Scholtan
Buxton, NC

Sam

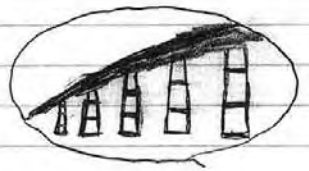
I think that they should rebuild the Bonner Bridge because it would take Less time to build and it takes Less time to cross. Another benifit of rebuilding the bridge is that if a crash is on the small bridge the ambulance can get to the crash faster.



Buxton NC

Andrew Tawes

I think they should make the short bridge because if we built the long one it might take a lot of time to build. Before the long bridge is done the bridge might have already colapsed. Yes, the short bridge will cost more because of the road but it will be much better for the enviment and the community. I hope you guys make a good choices.



B-238

Chloe Waterfield
Buxton NC

Chloe
3:24

I writing to tell you that we need a bridge and fast not next year but this year Somone is going to get seroush hurt, and they are going to blame you, We need the short bridge because it wouldnt cost as much or take as long. We dont need the long bridge because it will make everybodys electricity bill go way up! Also if you choose to build the long bridge you will be shutting down almost all Pea Island's wildlife! And that is what most attraction is for Pea Island. So if you dont mind, and you dont want to put anyones life endanger just to ride across a bridge I suggest you build the Short bridge. Thank you for time.

Love, Chloe Waterfield

Emily Wiley
Hatteras
cleland

I don't care what they do just as long as they have a bridge there so people can go across & back as long as they please! But I would rather have them build the short bridge so that the long bridge doesn't kill the environment! That is all. Because they need to hurry before somebody dies because Thank the bridge breaks

You

By: Emily
Wiley

Lindsay Young
Hatteras cleland

Lindsay

Really I think that they should build the short brige. That way, people can still access pea island and enjoy all of the wildlife. People who do photography as a living can take some really interesting photos there, and it is a nice place to go to just plain rest.

[redacted]

Also, I think that they should buid it as soon as possible, because my father has to drive over it twice a day, just to go to work. We worry about him all the time.

Audubon NORTH CAROLINA

123 Kingston Drive, Suite 206A
Chapel Hill, NC 27514-1651
Tel: 919-929-3899
Fax: 919-929-4599
www.ncaudubon.org
www.audubon.org

PDEA BRANCH
B-2500

April 13, 2007

Gregory J. Thorpe, Ph.D.
Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, NC 27699-1548

Re: Bonner Bridge Supplement to the 2005 SDEIS and Draft Section 4(f) Evaluation Comments

Dear Dr. Thorpe:

Audubon North Carolina submits comments on the "Supplement to the 2005 Supplemental Draft Environmental Impact Statement and Draft Section 4(f) Evaluation" (2007)("Supplement"). These comments incorporate the previous detailed comments that Audubon submitted on December 12, 2005 (Attachment A). Audubon's previous comments remain relevant and are resubmitted for consideration in drafting the final Environmental Impact Statement. The comments in this letter only address new issues raised by the 2007 Supplement.

Unfortunately, the 2007 Supplement suffers from many of the same significant deficiencies as the previous supplement. Audubon continues to support the Pamlico Sound Bridge Corridor, as it is the only alternative that will provide reliable transportation while protecting the considerable environmental values of Pea Island National Wildlife Refuge. In contrast, the Phased Approach/Rodanthe Bridge and Phased Approach/Rodanthe Nourishment alternatives are almost as expensive, entail considerable adverse environmental impacts, introduce additional new recreational impacts, and fail to provide reliable transportation through the refuge.

1. The Phased Approaches Will Not Provide Reliable Transportation

The Supplement states that the Phased Approach/Rodanthe Bridge alternative would bridge all five potential breach locations and the Phased Approach/Rodanthe Nourishment Alternative would bridge all locations except for part of the southernmost potential breach location, which just happens to be the one "most likely to suffer a breach before 2060" (Supplement at 2-12). However, construction of the four phases is "based on their need from the perspective of the condition of Bonner Bridge, potential breach locations (see Figure 2-1), and the location of future forecast beach erosion" (Supplement at 2-12 – 2-13). The predictions underlying the four phase approach could be very different from what actually occurs in the future. If a large storm or a series of smaller storms were to strike the Outer Banks before the four phases were completed, the paved road transportation link in the non-bridged area could be severed. The Phased Approaches are an expensive, massive gamble that could end up being a bridge to nowhere.

In addition, we remain concerned about the transportation reliability of a bridge that is in the high energy environment of the Atlantic Ocean. In contrast to the Pamlico Sound Bridge Corridor, which will be in the lower energy environment of the Pamlico Sound, the Phased Approaches eventually will be in the Atlantic Ocean. While the Supplement includes a discussion of design features relating to piling height and width (Supplement at 2-10), NCDOT also notes that "[i]n light of Hurricane Katrina in 2005, an AASHTO/FHWA Joint Wave Task Force is developing interim guidance for quantifying wave forces on bridges, structural design approaches for wave forces, and deployment of countermeasures for existing bridges" (Supplement at 2-12). Audubon Staff have observed a bridge on I-10 that was destroyed by a recent hurricane, and that bridge was located in a bay off of the Gulf of Mexico, not out in the Atlantic Ocean. We are unaware of any bridge that is located in such a dynamic and high energy environment for such a long distance. We request that NCDOT include in the FEIS a discussion of similar bridges located in ocean locations with comparable wave energy; the reliability of such bridges; and the construction and maintenance costs associated with such bridges. Furthermore, do the projected costs associated with the Phased Approaches anticipate the higher design standards of the Wave Task Force?

2. The Phased Approaches Are Incompatible With Recreational Values

The Phased Approach bridges would have a 40-foot roadway width and have a minimum 25-foot vertical clearance between the bottoms of the superstructure (spans) and mean high water (Supplement at 2-10). The bridges would be built "within the NCDOT's existing 100-foot easement within the Refuge" (Supplement at 2-3). While initially on land, the bridges "associated with the Phased Approach ultimately would move to the shoreline and then offshore in the Atlantic Ocean as the shoreline erodes underneath the bridges" Supplement at 4-18.

NCDOT acknowledges that the Phased Approach Alternatives would "reduce beach access" and "eliminate" the ability to surf in an area once the pilings are in the ocean (Supplement 4-18). In addition, the Supplement states that hiking and other beach activities "could take place" when the bridge is over the beach, though not in the "undisturbed natural setting in which they now occur" (Supplement at 4-18).

While the Supplement does mention certain recreational impacts, Audubon is very concerned that the document downplays the significant adverse impacts of having a bridge on the beach or just offshore. A bridge in the intertidal or near shore area would not only make surfing hazardous, but also make similar activities such swimming or ocean kayaking extremely hazardous and would eliminate windsurfing or kite boarding in those areas where the bridge is in the water or the intertidal area. In addition, birdwatching, a favored activity of thousands of our members and visitors to Pea Island, would be curtailed in beach areas where the bridge is in the ocean, as it would no longer be possible to have an unobstructed view of the ocean area to search for pelagic or other species. A massive bridge in the ocean would not be a minor inconvenience; rather, it would be a significant, long-term degradation of the recreational values of the refuge.

3. The Supplement Does Not Acknowledge the Positive Impacts from Dynamic Beaches

The Supplement remains unclear regarding NCDOT's position as to what extent natural forces will be allowed to operate on the coastline. In certain areas, there is a suggestion that such forces will be

allowed to operate. For instance, NCDOT notes that the "existing dunes along the oceanside would not be re-built (i.e., they would be allowed to erode naturally). Not-rebuilding the dunes would support Refuge and Seashore Policies to let natural processes take their course" (Supplement at 2-26). Yet, presumably, in the sections of the Phased Approach that are still based on a road that is on the ground, NCDOT will maintain the artificial dune until the bridge section phase in that area is constructed? To do otherwise would expose the road to an increased risk of being covered with sand or severed.

The Supplement also is unclear as to what action will be taken if an inlet opens up on the refuge. Certain sections of the document suggest that an inlet will be allowed to remain open. For example, NCDOT notes that the "word 'breach' is used rather than the word 'inlet' because if a breach were to occur, it would likely close eventually (though not necessarily immediately) and likely would not become a long-term phenomenon like Oregon Inlet" (Supplement at 3-4). Yet, there continues to be the discussion of closing an inlet (Supplement at 4-6, noting that it "would take 3-6 months to close a breach").

The Supplement's failure to fully address the positive geological and biological impacts of ocean overwash and inlet formation, migration, and closure is a serious deficiency. Audubon previously addressed this issue in detail in our comment letter on the SDEIS (Attachment A). In the Supplement, NCDOT just repeats brief statements at several locations about Refuge and Seashore Policies, without providing any real detail about those policies or the extensive scientific and policy review that went into formulating those processes. As a result, the Supplement not only fails to disclose the positive environmental impacts of the Refuge and Seashore policies, but also fails to disclose how road maintenance activities that are inconsistent with those policies will result in adverse environmental impacts, as required by the National Environmental Policy Act.

In drafting the FEIS, NCDOT should clearly indicate when an inlet or "breach" will be allowed to remain open and when it will be closed. And, as required by NEPA, the full direct, indirect, and cumulative environmental impacts of closing an inlet should be disclosed. Likewise, the FEIS should clarify exactly when and how artificial dunes will be maintained. As required by NEPA, NCDOT should disclose the full direct, indirect, and cumulative environmental impacts of maintaining an artificial dune system.

4. The Supplement Does Not Adequately Disclose Impacts on Beach Nesting Birds

The Supplement's discussion of the direct and indirect impacts of the alternatives on "Oregon Inlet Birds" (4-35 – 4-36) and on the Piping Plover (4-37) is inadequate. Audubon previously addressed these concerns in detail in our prior comment letter, and it is disturbing that these important issues still have not been addressed properly.

The Supplement states that construction activities for the Pamlico Sound Bridge Corridor "would affect less than 1 acre (0.4 hectare) of potential nesting or foraging habitat…." (4-37). The Supplement fails to acknowledge the extensive benefits from the hundreds of acres of nesting, feeding, and resting habitats that would be created naturally if the road were removed from the refuge and natural overwash patterns were restored. These newly created areas would be prime habitat for not only the Piping Plover, but other beach nesting birds.

The Supplement states that "[s]ince construction of the two Phased Approaches would take place within the existing NCDOT easement, disturbance to potential nesting or foraging habitat in the project area would be minimal. However, shoreline erosion could create Piping Plover habitat under the bridges as the shoreline erodes" (4-37). This statement fails to address the direct and indirect adverse impacts of having a road and associated road maintenance activities throughout the Refuge on the Piping Plover. Once the bridge is a sufficient distance offshore, it will not be an issue, *but until that time*, the considerable adverse impacts outlined in our previous letter will remain. Moreover, we are aware of no existing location where there is Piping Plover "habitat under the bridges…." (4-37). We request NCDOT provide examples of Piping Plovers nesting or otherwise using habitat under similar bridges, or withdraw the statement. And, in the event there is such close proximity of use, the FEIS should address whether a bridge being located near habitat could result in vehicles striking birds, which would be "take" as defined by the Endangered Species Act.

The Supplement also notes that "[b]each nourishment along the shoreline within the Parallel Bridge Corridor with Nourishment Alternative and the Phased Approach/Rodanthe Nourishment Alternative, could potentially encourage future nesting species" (4-37). For that statement to be accurate, the profile and substrate of the created beach would have to be compatible with nesting habitat; in addition, disturbance and predation would have to be managed properly. The Supplement does not provide adequate information to support the claim. Indeed, the document fails to address a more likely result: that the "nourished" beach will not be suitable for nesting, due to the steep profile, lack of feeding habitat, and planting of dune grasses.

Audubon requests that the discussion about "Oregon Inlet Birds" (4-35) be revised to address these same issues.

5. The Supplement Does Not Address Impacts From Extending the Revetment

The Supplement's Breach Analysis notes that at the potential inlet location at "Site 5," which is to the south of the existing terminal groin, "erosion on the estuarine (sound) side of the terminal groin has been observed…. The maximum shoreline erosion to date is 275 feet (83.8 meters) and substantial shoreline change extends approximately 1,000 feet (304.8 meters) south of the rock revetment" (Supplement at 3-6). While the Supplement does include a discussion of a "breach" forming at this location and how it may affect the Phased Approach Alternatives (4-20- 4-21), Audubon is concerned that the Supplement fails to address a foreseeable, and perhaps even more likely, response: after continuing erosion brings the western shoreline closer to the road (or bridge, depending on which phase has been reached), NCDOT declares an "emergency," avoids following normal environmental review requirements, and extends the west end of the revetment 1,000 feet or more to the south to stabilize the shoreline. This response is foreseeable, given the actions that occurred in the past, specifically, the closure of Isabel Inlet and the response to the accelerated erosion that prompted the construction of the existing terminal groin in the Refuge. Unless the NCDOT will guarantee as an irrevocable permit condition that the revetment will not be extended, the FEIS should include a discussion of the environmental impacts and economic costs of extending the terminal groin.

6. The Supplement Does Not Analyze Alternatives that Are Under Consideration

NCDOT notes that although "the NC 12 Maintenance alternatives are described and addressed in the SDEIS and this Supplement as five separate alternatives, their components could be mixed and matched geographically along the length of NC 12 to create other variations" (Supplement at vi). Thus, "[d]ifferent combinations of the components of the alternatives also are possible" Supplement at 2-4.

Audubon strongly objects to this "mix and match" approach, as it raises serious concerns regarding compliance with the mandates of the National Environmental Policy Act. Depending on which alternative is chosen, there are a range of direct and indirect environmental impacts. Failing to disclose an alternative that may be implemented deprives the public of information regarding the impacts of that alternative and prevents the public from having an opportunity to submit comments.

7. Audubon Continues to Have Concerns About the Cost Analysis

NCDOT notes that the "full life of the proposed bridge [is] estimated to be as much as 100 years" (Supplement at xxvii). Yet, the Supplement only estimates costs "through 2060" (Supplement at 2-15). This abbreviated analysis period seriously skews the cost/benefit analysis for any options which involve beach replenishment in a way that biases the analysis against the Pamlico Sound Bridge Corridor. In addition, with the higher wave energy and thus, presumably greater maintenance costs of maintaining a bridge in the ocean, the shorter analysis period also may affect the accuracy of the cost figures for both Phased Approach Alternatives.

Audubon also is amazed that with the passing of just two years, construction costs for the Pamlico Sound Bridge have gone from $55-60 per square foot to $130 - $220 per square foot, depending on which construction technique is used. Such a dramatic inconsistency raises concerns regarding the objectivity of the analysis. Additional supporting documentation regarding the cost analysis should be included in the FEIS, including a comparison to the latest cost information regarding the Mid-Currituck Bridge proposal.

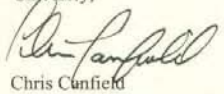
8. NCDOT Must Complying With Environmental Statutes Despite Kempthorne's Letter

The Supplement notes that newly appointed Secretary of the Interior Dirk Kempthorne wrote Senator Richard Burr a letter stating that "the best way to proceed would be to separate the replacement of the Bonner Bridge, a project whose delay could constitute a clear and present safety issue for all concerned, from the more difficult and less urgent issues of the realignment of the road." Appendix A-2. With no supporting analysis, the letter also opines that the bridge would be "compatible" with the refuge "if it is constructed within the same alignment or with minor changes to the current alignment."

The Secretary's letter is filled with numerous legal and factual inaccuracies (e.g., the bridge being an "imminent threat to public safety") that suggest the NCDOT should exercise extreme caution when considering its authority. Likewise, the suggestion that the bridge can be segmented from the remainder of the roadway through the refuge not only undermines fundamental tenants of the National Environmental Policy Act analysis, but also displays a distressing lack of knowledge regarding existing, serious transportation challenges through the remainder of the refuge. The Secretary's letter represents arbitrary and capricious agency action, as it reverses – without any reasoned analysis – many years of consistently expressed concerns by the USFWS regarding the adverse environmental impacts associated with the short bridge alternatives and the incompatibility of these alternatives with laws governing Pea

Island National Wildlife Refuge. Whatever political calculus may have been behind the Secretary's letter, NCDOT has an independent duty to consider and disclose the full direct and indirect impacts of the proposal in the FEIS.

Sincerely,



Chris Canfield
Executive Director and Vice President

Attch: Audubon's "Bonner Bridge SDEIS Comments," Dec 12, 2005

Copy: Pete Benjamin, FWS
Mike Bryant, FWS
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A Touchstone Energy® Cooperative

December 7, 2005

Mr. Carl Goode, PE
Head, Human Environmental Unit
NCDOT
1583 Mail Service Center
Raleigh, NC 27699-1583

Re: Comments on Bonner Bridge Replacement Project SDEIS

Dear Mr. Goode:
Attached are Comments on behalf of Cape Hatteras Electric Membership Corporation (d/b/a Cape Hatteras Electric Cooperative, or CHEC).
This document outlines the impacts of the corridor options on the operations and financial well being of the Cooperative.
Please carefully consider the impacts on the Cooperative and the resulting impact on the citizens and property owners on Hatteras and Ocracoke Islands. FOR THE PAMLICO SOUND CORRIDOR, THESE IMPACTS WILL BE SIGNIFICANT.
Included in the attached document are several possible options for mitigating the severity of these impacts. We respectfully request that the NCDOT incorporate the concerns of the Cooperative in the planning, design and funding process for the replacement bridge.

Sincerely,

CAPE HATTERAS ELECTRIC MEMBERSHIP CORPORATION

Jim Kinghorn
General Manager / Executive Vice President

Enclosures

B-243

CAPE HATTERAS ELECTRIC COOPERATIVE

COMMENTS
on
Supplemental Draft Environmental Impact Statement
For
NC 12 Replacement of Herbert C. Bonner Bridge

NCDOT TIP Project Number B-2500

Submitted by
James B. Kinghorn, PE
Executive Vice President & General Manager

December 7, 2005

CAPE HATTERAS ELECTRIC COOPERATIVE

COMMENTS

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I. Introduction and Summary Statement

Cape Hatteras Electric Membership Corporation, d/b/a Cape Hatteras Electric Cooperative ("CHEC", or "Cooperative"), applauds and encourages action on the replacement of the aging Bonner Bridge over Oregon Inlet. The safety, economy and preservation of Hatteras and Ocracoke Islands depend on a reliable highway corridor to Hatteras Island and reliable low cost electric power.

The integral role that CHEC plays in the economic well being and the dependence the Cooperative has on the transportation infrastructure go well beyond the transportation functions of the bridges and highways.

The Pamlico Sound Corridor and the subsequent loss of the existing transportation facilities will impose operating and financial burdens on the Cooperative that exceed the Cooperative's ability to respond effectively without the cooperation and financial involvement of parties beyond its present customers.

The cooperative does not seek to influence the choice of corridors, provided assistance is found to mitigate the extreme financial burden the long bridge will impose.

II. Background and the Cooperative Role in the Area

Cape Hatteras Electric Cooperative is an independent, customer-owned electric utility that operates on a non-profit basis providing electric service to customers on Hatteras Island and delivers electric power in bulk to Tideland EMC for service to Ocracoke Island. The Cooperative is chartered under NC General Statute 117. CHEC is eligible for partial loan funding of its electric system projects from the US government. These funds are loans, not grants, which must be repaid in full with interest. For a number of years, the interest rates on US loans have been at near-market interest rates. Projects the Cooperative undertakes to construct with federal funds must undergo an approval process administered by the Rural Utilities Service of the US Department of Agriculture, requiring, at times, years for approval. Loans are subject to annual funding appropriations limitations by Congress.

The last loan the Cooperative received was in 1995 which funded (among other lesser projects) an upgrade of the Cooperative's electric transmission system to its present configuration. All projects the Cooperative constructs are paid for by the cooperative consumer-owners through electric rates.

III. Electric System Configuration and Operating Challenges

During the 1995 transmission system upgrade a set of three cables operating at 115,000 volts was installed on the present Bonner Bridge. As plans were in place to replace the bridge within five

years, no spare cables were installed and the cables were designed to provide service for the five year period. Since the time these cables were installed, maintenance has been required to correct problems which have arisen as a result of the extended time which has transpired without the expected replacement.

The remainder of the 115 KV transmission system approximately follows the present NC Highway route through the Pea Island Refuge and continues to Buxton. The line through the Refuge is overhead on single-pole structures. Approximately 3.0 miles of the overhead line was relocated following Hurricane Isabel. The relocated sections were previously located on the eastern side of NC Highway 12. Dunes damages by the hurricane were relocated in such a way that the power line was left on the unprotected ocean side of the dunes or dunes were placed beneath the power line, resulting in inadequate clearance between the dune tops and the conductors.

Due to the environmental conditions experienced in the Cooperative's service area, Cooperative facilities require intensive maintenance well above that required elsewhere. Where available, special materials are used to reduce corrosion and salt contamination electrical flash over. These design and maintenance factors increase costs for the Cooperative. The radial (single source) nature of the CHEC electric system creates challenging maintenance and reliability problems, in addition to increased expense.

The present location of the facilities on the Bonner Bridge and along NC Highway 12 makes the transmission facilities within the bridge relocation project area readily accessible for inspection and maintenance. Cooperative employees regularly travel the area and watch for potential problems, in addition to regular formal patrols and inspections.

NCDOT maintenance of dunes provides protection for the overhead transmission line through the Refuge area. NCDOT maintenance of NC Highway 12 provides near-full time accessibility for line maintenance and repairs.

IV. Corridor Impacts and Electric System Modification Alternatives

A. Parallel Bridge Corridor Options

For the Parallel Bridge Corridor, CHEC recognizes that replacement of the present bridge cable will be required. The cost to CHEC to install cables on the new bridge for the parallel bridge option would be approximately $2.4 million*. While this cost greatly exceeds typical CHEC electric system projects, the cooperative has long expected the requirement. Minimal changes would be necessary to the remainder of CHEC facilities within the Bridge Replacement area for this option. The Cooperative's overhead power line would remain accessible via the remaining sections of NC 12 through the Pea Island Wildlife Refuge. Dune and road maintenance would continue to provide protection for the overhead portion of the power line. Continued maintenance of the Oregon Inlet protective groin would provide protection for the underground to overhead riser structure at the south end of the bridge.

B. Pamlico Sound Corridor Option

For the Pamlico Sound Corridor Option, significant modification to the present transmission power line configuration would be necessary. As NCDOT abandons the present NC 12 route through the Pea Island Refuge, the critical nature of the present route would end, as would the maintenance and restoration priority of the present roadway. Should the present roadway be removed, damaged by storms or covered by drifting sand, CHEC would lose ready access to the present power line route. Washouts of the Pea Island portion of NC 12 would likely not be repaired in any timely fashion, if at all. This condition could leave the Cooperative with no location to replace its overhead facilities, resulting in extended loss of power for Hatteras and Ocracoke Island residents and visitors.

Removal of the present Oregon Inlet protective groin would create additional problems for CHEC maintaining electric service to the islands along the present route, as the riser structure at the south end of the present bridge location would be in an unstable location if the present bridge cable were replaced with an affordable relatively short submarine cable installation under Oregon Inlet.

C. Electric System Modification Alternatives

Reduced maintenance or abandonment of the present corridor dictates that CHEC investigate more stable and viable options for its transmission line routing to replace the present route.

In response to the proposed 17 mile bridge option, CHEC undertook a study of several power line relocation options during 2004. The study yielded the following options and costs:

1. Overhead transmission line located along the side of the bridge and supported by the bridge structure: (Not estimated. NCDOT personnel indicated they would not allow consideration of this as an option).
2. Overhead transmission line supported on independent foundations adjacent to the (Pamlico Sound Corridor) bridge. $25,510,000
3. Submarine cables alongside the bridge. $27,582,000
4. Cables in conduit hung under the bridge deck $44,482,000

The apparent lowest cost option (option 2. above) also involves the greatest uncertainty of cost, as this study assumed that the successful bridge construction contractor would be engaged to install the pilings and footings for the overhead line concurrent with bridge pier installation. Should the contractor be unwilling to perform this service or offer non-competitive prices due to its status as the selected bridge contractor, costs could exceed the study estimates. Additional uncertainty is always involved in subsurface conditions related to piling installation.

D. Discussion of Modification Options

Of the options studied by CHEC, an overhead transmission line adjacent to the bridge structure (option 2. above) would provide the least operational difficulties overall to CHEC, as it affords ready access for inspection and repairs utilizing conventional electric utility equipment. The power line would be located close enough to the bridge for an electric utility bucket truck boom to reach the line from the bridge, but far enough to provide safe working clearance for bridge maintenance personnel. This option has the drawback of the supporting structures being subject to damage by waterway vessel traffic. This option has the highest negative aesthetic impact.

Option 3 above (submarine cable) is potentially compromised by navigational channel dredging operations, anchor dragging, propeller damage and shifting bottom contours of the sound. Cable failures would be extremely difficult and expensive to locate and repair. Environmental disturbance of the sound bottom along the entire route would be required to place the cables beneath the sand. This option also limits options and increases costs for upgrades in power line capacity that will be necessary in the future as electrical load grows on Hatteras and Ocracoke Islands. This option would provide the most aesthetically pleasing results.

Option 4 (cables in conduit attached to the bridge) is not only the least desirable option for use in conjunction with the 17 mile bridge due to cost, but also because it necessitates large accessible chambers beneath the bridge deck for thermal expansion loops, cable pulling, grounding and splicing. Like Option 3, this option makes power line upgrades difficult and expensive. Maintenance of the conduit system will require special

equipment to access conduits suspended beneath the bridge deck. This option has the advantage of minimal environmental concerns compared to other options.

Both cable options (Options 3 and 4) introduce undesirably high levels of electrical capacitance into the Cooperative's electric system that must be corrected for efficient operation.

V. Financial Impacts to the Cooperative

In addition to studying the costs of options available to CHEC, the Cooperative also in 2004 conducted a study of the impact of the options on electric rates. The impact of absorbing a project of the cost of any of the options associated with the Pamlico Sound Corridor discussed above is enormous. The total plant investment of the cooperative in facilities as of October 2005 is $34.6 million. Even the lowest cost option available nearly doubles the present plant investment of the Cooperative.

The impact of increasing plant investment by a $25,600,000 project would require an increase in retail electric rates of over 26 percent.

Cape Hatteras Electric Cooperative already has the highest utility plant investment per meter served and retail rates among the highest of electric cooperatives in North Carolina.

VI. Financial Mitigation Alternatives

In order to provide relief for the Cooperative should the Pamlico Sound Corridor bridge replacement option be selected by the NCDOT, CHEC requests that NCDOT take the following actions:

- **A.** Incorporate the proposed electric system modifications, environmental impacts and costs within the final draft of the Supplemental EIS so that concurrent approval of the necessary environmental actions will take place at minimal cost to the Cooperative.
- **B.** Include the CHEC portion of the overall cost of the necessary electric system modifications in the bridge replacement funding process for the Pamlico Sound Bridge Corridor option.
- **C.** In the case of the overhead adjacent line (option 2.), include the necessary pilings, pier caps and anchor bolt embedment for the overhead power line in the bid documents and contract for the bridge.

VII. Conclusions

Cape Hatteras Electric Cooperative agrees that the replacement for the Herbert C. Bonner Bridge over Oregon Inlet is necessary. The choice of stated bridge replacement options varies greatly in the impact that will occur on the mission of Cape Hatteras Electric Cooperative in providing reliable, reasonably priced electric service. The cost and impact of the various Corridor options on the Cooperative should be considered and provided for by NCDOT in the planning, option selection, design and funding process for the bridge replacement.

* Monetary amounts cited in this document are based on year 2004 dollars.

Cape Hatteras
Electric Cooperative
A Touchstone Energy® Cooperative

NEWS

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For Immediate Release
May 8, 2007

Contact: Jim Kinghorn
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Cape Hatteras Electric Cooperative Releases Latest Bridge Cable Costs

Cape Hatteras Electric Cooperative officials released the latest estimates during the Cooperative Annual Meeting at Buxton of the costs of replacing power cables when the present Bonner Bridge over Oregon Inlet is replaced. Cooperative EVP / General Manager Jim Kinghorn told members in attendance at the meeting that the bridge replacement option that is finally chosen by the NC Department of Transportation could have a major impact on electric rates on Hatteras Island.

The Cooperative as an organization has not taken an official position on which bridge option should be chosen, but management emphasized that it is important that customers understand the impact that the choice will have on operating costs of the Cooperative.

In the case of the "parallel" (or short) bridge, replacing the existing electric facilities with a set of cables located on the new bridge, similar to what is on the present bridge, is estimated to cost CHEC as much as $12 million. This expenditure is projected to result in a possible rate impact to CHEC consumers of 12 percent, or about a 1.3 cent per KWH increase from 11.2 cents in 2011 to 12.5 cents per KWH in 2014, when the replacement bridge is expected to be completed.

If the "Pamlico Sound" (or 18-mile long) Bridge option is selected by NCDOT, the cost for CHEC to replace the existing cables is estimated to be as much as $53.6 million. The long bridge option is now estimated to result in a rate increase of approximately 42 percent, or about a 4.7 cent per KWH increase from 11.2 cents per KWH in 2011 to 15.9 cents in 2014.

The actual cost replacement of the bridge itself will likely be shared at least by all the taxpayers in the state. Only the electric customers on Hatteras Island will pay the full cost of the power cable replacement. While loan funds may be available to CHEC to pay the cost of the replacement cables, the loan will have to be repaid with interest.

If the long bridge option becomes a reality, Cape Hatteras Electric Cooperative will seek grant funds to pay for the added expense, but expects a low probability that such funds will be available. There is presently no known source of grant funds available for this purpose.
The rate increases cited are calculated only based on the impact of the bridge cable replacement and not any increases in wholesale power costs or other changes in the Cooperative's cost of doing business. The total value of all electric facilities presently owned by the Cooperative is $37.3 million.

COASTAL WILDLIFE REFUGE SOCIETY

P.O. Box 1808 Manteo, North Carolina 27954

November 9, 2005

Gregory Thorpe, Ph.D.
NCDOT Project Development and Environmental Analysis Branch
1548 Mail Service Center
Raleigh, NC 27699-1548

Dear Dr. Thorpe:

The Coastal Wildlife Refuge Society is a non-profit organization of approximately 800 individuals that raises money for refuge projects and also serves as a group of dedicated supporters who volunteer and perform work projects on the two Wildlife Refuges in Dare County. Pea Island NWR Visitor Center is completely staffed by volunteers.

Our board of directors supports the alternative to build a 17 mile, $419 million, bridge bypassing Oregon Inlet and the Pea Island National Wildlife Refuge as the preferred alternative. We believe that a short, less costly bridge proposed by some local interests is a very short-sighted solution which will ultimately prove to be exorbitantly more costly and life threatening.

The existing Highway 12 roadbed continues to experience substantial overwash from even minor northeasterly storms resulting in frequent closings. The high rate of ocean front erosion along Highway 12 will ultimately require the relocation of the entire right of way significantly westward which will place the highway directly through marshland and will, even to a casual observer, need to be placed on a bridge or raised causeway structure. Such relocation, if it could ever be permitted, will be extremely expensive and destroy important sensitive habitat, resulting in significant adverse impact on the wildlife in the refuge, especially to migrating waterfowl.

Always a concern on the Outer Banks, the hurricane season finds a large number of tourists on Hatteras and Ocracoke Islands. These tourists, along with permanent residents and seasonal workers, can only be evacuated over Highway 12. It is highly probable that the strong northeast storms ahead of the actual hurricane making landfall creates a distinct probability that Highway 12 will be washed out before evacuation can take place. Many people will be stranded south of the only evacuation route. Therefore, we see the "long bridge" as the best safety measure for human life and it will ultimately prove to be the less expensive, while at the same time preserving valuable habitat for wildlife.

We urge you consider these concerns in the final decision on the location of the proposed replacement Oregon Inlet Bridge.

Yours truly,

Thomas L. White, Jr., President

environmental defense
finding the ways that work

December 8, 2005

Carl B. Goode, Jr. PE
Human Environment Unit Head
1583 Mail Service Center
Raleigh, NC 27699-1583

RE: Supplemental Draft Environmental Impact Statement (SDEIS) and Draft Section 4(f) Evaluation of the NC 12 Replacement of the Herbert C. Bonner Bridge

Dear Mr. Goode,

Please accept these comments on behalf of Environmental Defense regarding the aforementioned SDEIS for the replacement of the Herbert C. Bonner Bridge (the Bonner Bridge). Environmental Defense is a national 501(c)(3) organization, dedicated to protecting the environmental rights of all people, including the right to clean air, clean water, healthy food and flourishing ecosystems. We work to create practical, science-based solutions to environmental problems that are cost-effective and fair.

Much of the current controversy regarding replacement of the Bonner Bridge is due to the existence of the Pea Island National Wildlife Refuge (PINWR). The primary purpose of PINWR is as a refuge and breeding grounds for migratory birds and other wildlife, and above all, it must be allowed to function as such. Any option for replacement of the Bonner Bridge must comply with the 1997 Refuge Improvement Act, which requires that use of refuge lands must be compatible with the goals and objectives of the Refuge Management Plan and its enabling legislation. This further limits the options available to replace the bridge, which are already limited under the National Environmental Policy Act (NEPA), as well as Section 4(f) of the Department of Transportation Act of 1966. We hereby incorporate by reference the written comments submitted by the Southern Environmental Law Center (SELC) regarding the legal adequacy of the alternatives reviewed in the SDEIS. Environmental Defense has additional concerns regarding the SDEIS review of the bridge replacement options as outlined below.

Goals

The SDEIS states (p. 1-5, 1-6) that the purposes of the proposed project are to:

- Provide a new means of access from Bodie Island to Hatteras Island for its residents, businesses, services, and tourists prior to the end of the Bonner Bridge's service life;
- Provide a replacement crossing that takes into account natural channel migration expected through year 2050 and provides the flexibility to let the channel move;
- Provide a replacement crossing that will not be endangered by shoreline movement through year 2050.

The NC Department of Transportation is also a partner in the Outer Banks Task Force (OBTF), whose goals are to:

- Preserve the natural barrier island system;
- Minimize impacts to Hatteras and Ocracoke islands;
- Maintain access to and on the islands so that the transportation system is safe, efficient and has minimal impact on the environment.

Only the Pamlico Sound option meets all of the goals stated above, while all of the Parallel Bridge options would require significant alteration of the barrier island system through either beach nourishment or filling of soundside habitats. None of the Parallel Bridge options would guarantee a replacement crossing that will not be endangered by shoreline movement. Furthermore, in the event of an emergency evacuation (e.g., hurricane evacuation) of Hatteras Island, the Pamlico Sound bridge clearly provides the safest, most reliable transportation option. The design characteristics would allow ample room for two lanes of traffic to move off the island, as well as allow for emergency vehicle access (p. 2-82, 83). The Parallel Bridge with Nourishment alternative would not provide this level of reliability and safety.

The SDEIS also acknowledges the highly variable maximum erosion rates at the different "hot spots" (p. 1-5), and the fact that both a storm-induced breach as well as increased erosion rates in general pose a significant risk to the Parallel Bridge alternatives (p. 2-74). These are quite realistic and likely risks that would increase both costs and environmental impacts. Moreover, the SDEIS states that the coastal modeling that was performed did not include cross-shore and long-shore changes in transport that could occur should a breach be allowed to remain open. This creates the question of how this would impact the Parallel Bridge "Road North/Bridge South" and "All Bridge" alternatives with regard to design characteristics that could withstand such change?

Finally, the draft Section 4(f) evaluation states that "it could be concluded that either alternative [Pamlico Sound bridge or Parallel Bridge] minimizes harm, or it could be concluded that while different in the type of harm, they are equal in the degree of harm." We firmly believe that in no way can it be concluded that any of the Parallel Bridge options are "equal" to the Pamlico Sound bridge options in the degree of harm posed, or that they "minimize" the harm posed. Rather the Parallel Bridge options all pose significantly greater harm in one aspect or another, whether that is harm to natural resources or risks to safe and reliable transit.

Economics

Table 2-9, which details the construction and maintenance costs of each of the Parallel Bridge and Pamlico Sound Bridge options to the year 2060 is faulty in that it should be projected for an additional 50 years. The SDEIS states that either of the bridge options and their components would conceivably have a lifespan of 100 years (p. 3-39, 3-43). Given the controversy surrounding the costs of the Pamlico Sound Bridge as compared to the Dare County preferred option of a Parallel Bridge with Nourishment, the potential costs of nourishment should be projected on a timeframe that is comparable to the life expectancy of the bridge components. The public has a right to know the maximum costs that would be incurred.

In addition, Dare County officials have indicated their concern that anything except a Parallel Bridge option could substantially impact the local economy due to changes in access to PINWR. However, the SDEIS indicates that the Pamlico Sound option would not have a significant economic effect, as evidenced by the statement that lost visitor expenditures would be approximately 10% of current expenditures (p. 4-11), while losses to Dare County in tax receipts would constitute only 2.5% of the total. It should also be noted that the potential economic losses due to a storm-induced breach of NC12 with the Parallel Bridge with Nourishment alternative range from $5.7million to $146.7million. These figures alone provide support for the Pamlico Sound bridge alternatives from a strictly economic sense. Therefore, the safe and reliable transit provided by the Pamlico Sound alternatives would certainly offset the loss of 2.5% of the Dare County tax receipts.

Impacts to Fisheries

As noted in the SDEIS, the NC Division of Marine Fisheries (DMF) and Marine Fisheries Commission (MFC), as well as the South Atlantic Fishery Management Council (SAFMC) and Mid-Atlantic Fishery Management Council (MAFMC) manage fishery resources within the project area. Both the NC Marine Fisheries Commission and the SAFMC have habitat protection policies regarding the use of beach fill and impacts to fish and fish habitats (attached). Section 4.7.6 acknowledges the potential adverse indirect impacts to fisheries of the Parallel Bridge with Nourishment alternative, mostly due to turbidity and impacts to benthic food resources. It also briefly states (p. 4-67) the risks associated with frequent dredging (every four years or less) and beach fill to benthic invertebrates. Given the tremendous importance of recreational and commercial fisheries to the project area, and the feasible alternative of the Pamlico Sound bridge alternative, the risks to state and federal fishery resources by the Parallel Bridge alternatives are not warranted.

Furthermore, the MFC also has a policy regarding the protection of Submerged Aquatic Vegetation (attached), which is a key nursery and foraging habitat for many recreationally and commercially important finfish and shellfish species. It should be noted that SAV is also one of the six major fish habitats identified in the state's Coastal Habitat Protection Plan (CHPP), the goal of which is to ensure long-term enhancement of coastal fisheries associated with each habitat. The development of the CHPP was a mandate of the 1997 NC Fisheries Reform Act, and is the first comprehensive ecosystem-based management plan on the Atlantic seaboard. A unique feature of the CHPP is that the Coastal Resources, Marine Fisheries and Environmental Management Commissions are to adopt and implement the plan. Adoption occurred in December 2004 and implementation plans are currently underway. A comprehensive set of management recommendations for the protection and enhancement of the six habitats identified is included in the CHPP and can be found at http://www.ncdmf.net/habitat/index.html. Only the Pamlico Sound bridge alternatives meet the goals and recommendations of the CHPP.

Cumulative and Long-term Impacts

Section 4.12 (Indirect and Cumulative Impacts) is sorely lacking in that it makes no mention of the cumulative and long-term effects to natural resources posed by the Parallel Bridge with Nourishment alternative. To our knowledge, no long-term or cumulative impacts studies exist to document the effects of repeated beach nourishment, both from a sand placement perspective and a dredging perspective. The potential long-term impacts of nourishment activities are only briefly mentioned in Section 4.7.6. The proposed project has a minimum expected lifetime of 50 years, yet no monitoring program is proposed, should the Parallel Bridge with Nourishment alternative be chosen. Given the significant potential impacts of this alternative to fish, benthic invertebrates and shorebirds, a draft monitoring plan (pre- and post-construction) should be included in the SDEIS. Although recovery may be evident within 1-3 years of sand dredging or emplacement, many benthic invertebrate populations have seasonal and interannual variability that will not be captured by a three year study. Proponents of beach fill often cite an Army Corps of Engineers seven year study of New Jersey's Sandy Hook to Barnegat Inlet nourishment project as evidence of no long-term impacts. In the context of a 50-year project, seven years is by no means "long-term". An example of a potential pre-project monitoring plan that is currently underway is that for the Dare County Beaches – Bodie Island (North) project.

Stormwater

A concern of all interested in the Bonner Bridge replacement project is the potential impact of stormwater runoff, particularly from the Pamlico Sound bridge alternatives. Very little mention of stormwater impacts is made in the SDEIS, other than that NC DOT would examine possible best management practices to control stormwater (p. 2-82). Opponents of the Pamlico Sound bridge claim that the stormwater runoff from a 17-mile long bridge would be a significant source of pollution. However, most stormwater runoff in urban areas collects pollution from sources such as herbicides, pesticides and fertilizers which are placed on land adjacent to roads. Environmental Defense requests that a comparative stormwater analysis be performed to answer the following questions: What contaminants are currently in the stormwater runoff along the portion of NC12 in the study area? What impact does the number of vehicles parked along NC12 during peak tourist season have on stormwater (e.g., dripping oil, coolant, other fluids)? What does the current level of maintenance and repair of NC12 contribute to the contaminants in stormwater? What types of stormwater collection systems have been used in other long bridge construction projects?

Public Access

Environmental Defense firmly supports continued public access to PINWR. Visitor surveys indicate that 60% of current visitors would continue to visit the refuge, even if access is no longer by means of a paved road. The U.S. Fish and Wildlife Service (FWS) has committed to providing continued public access to PINWR, and Environmental Defense requests that the FWS establish a working group to determine the most feasible means of maintaining such access. It should be noted that North Carolina has other remote coastal recreational areas (Cape

Lookout National Seashore, Hammocks Beach State Park, etc.) that are accessed by means other than a paved road, and which have high levels of visitation during the tourist season.

In sum, it must be stated that there exists no perfect solution to the issue of safe, reliable transit over Oregon Inlet and the future of NC12 on Hatteras Island. None of the alternatives presented meets all needs with regard to safety, reliability, economic feasibility, public access and avoidance of environmental impacts. However, when all factors are balanced, and the requirements of both NEPA and Section 4(f) of the Department of Transportation Act are considered, the Pamlico Sound Bridge alternatives present the best solution to all of these issues, save access, which the USFWS has committed to address. For these reasons, Environmental Defense supports the Pamlico Sound bridge replacement corridor and requests that a working group be .

We very much appreciate the opportunity to comment and respectfully thank you for your consideration of our viewpoints.

Sincerely,

Michelle A. Duval

Michelle A. Duval, Ph.D.
Scientist

attachments

cc: Amy Pickle and Derb Carter, Southern Environmental Law Center
William Biddlecome, USACOE, Wilmington District
Preston Pate, Division of Marine Fisheries
Bob Mahood, South Atlantic Fishery Management Council

NORTH CAROLINA MARINE FISHERIES COMMISSION

POLICIES FOR THE PROTECTION AND RESTORATION
OF MARINE AND ESTUARINE RESOURCES
FROM BEACH DREDGING AND FILLING
AND LARGE-SCALE COASTAL ENGINEERING

NORTH CAROLINA MARINE FISHERIES COMMISSION HABITAT AND WATER QUALITY STANDING ADVISORY COMMITTEE: NOVEMBER 6, 2000
NORTH CAROLINA MARINE FISHERIES COMMISSION:
NOVEMBER 16, 2000

Policy Context

This document establishes the policies of the North Carolina Marine Fisheries Commission (Commission) regarding protection and restoration of the state's marine and estuarine resources associated with beach dredge and fill activities, and related large-scale coastal engineering projects. The policies are designed to be consistent with the overall habitat protection policies of the Commission, adopted April 13, 1999, as amended February 17-18, 2000, as follows:

It shall be the policy of the North Carolina Marine Fisheries Commission that the overall goal of its marine and estuarine resource protection and restoration programs is the long-term enhancement of the extent, functioning and understanding of those resources.

Toward that end, in implementing the Commission's permit commenting authority pursuant to N.C.G.S. §143B-289.52(a)(9), the Chairs of the Habitat and Water Quality Standing Advisory Committee, in consultation with the Commission Chair, shall, to the fullest extent possible, ensure that state or federal permits for human activities that potentially threaten North Carolina marine and estuarine resources:

(1) are conditioned on (a) the permittee's avoidance of adverse impacts to marine and estuarine resources to the maximum extent practicable; (b) the permittee's minimization of adverse impacts to those resources where avoidance is impracticable; and (c) the permittee's provision of compensatory mitigation for all reasonably foreseeable impacts to marine and estuarine resources in the form of both informational mitigation (the gathering of base-line resource data and/or prospective resource monitoring) and resource mitigation (in kind, local replacement,

restoration or enhancement of impacted fish stocks or habitats); and

(2) result, at a minimum, in no net loss to coastal fisheries stocks, nor functional loss to marine and estuarine habitats and ecosystems.

The findings presented below assess the marine and estuarine resources of North Carolina which are potentially threatened by activities related to the large-scale movement of sand in the coastal ocean and adjacent habitats, and the processes whereby those resources are placed at risk. The policies established in this document are designed to avoid, minimize and offset damage caused by these activities, in accordance with the laws of the state and the general habitat policies of this Commission.

Marine and Estuarine Resources At Risk from Beach Dredge and Fill Activities

The Commission finds:

1. In general, the array of large-scale and long-term beach alteration projects currently being considered for North Carolina together constitute a real and significant threat to the marine and estuarine resources of the United States and North Carolina.

2. The cumulative effects of these projects have not been adequately assessed, including impacts on public trust marine and estuarine resources, use of public trust beaches, public access, state and federally protected species, state critical habitats and federal essential fish habitats.

3. *Individual beach dredge-and-fill projects and related large-scale coastal engineering activities rarely provide adequate assessment or consideration of potential damage to fishery resources under state and federal management. Historically, emphasis has been placed on the logistics of sand procurement and movement, and economics, with environmental considerations dominated by compliance with limitations imparted by the Endangered Species Act for sea turtles, piping plovers and other listed organisms.*

4. Opportunities to avoid and minimize impacts of beach dredge-and-fill activities on fishery resources, and offsets for unavoidable impacts have rarely been proposed or implemented.

5. *Large-scale beach dredge and fill activities have the potential to cause impacts in four types of habitats:*

    a. waters and benthic habitats near the dredging sites;
    b. waters between dredging and filling sites;
    c. waters and benthic habitats near the fill sites; and
    d. waters and benthic habitats potentially affected as sediments move subsequent to deposition in fill areas.

6. *Certain nearshore habitats are particularly important to the long-term viability of North Carolina's commercial and recreational fisheries and potentially threatened by large-scale, long-term or frequent disturbance of sediments:*

    a. inlets;
    b. the swash and surf zones and beach-associated bars; and
    c. underwater soft-sediment topographic features, both onshore and offshore
    d. underwater hard-substrate topographic features.

7. *Large sections of North Carolina waters potentially affected by these projects, both individually and collectively, have been identified as Essential Fish Habitats (EFH) by the South Atlantic Fishery Management Council (SAFMC) and the Mid-Atlantic Fishery Management Council (MAFMC). Affected species under federal management include:*

    a. summer flounder (various nearshore waters, including the surf zone and inlets; certain offshore waters);
    b. bluefish (various nearshore waters, including the surf zone and inlets);
    c. red drum (ocean high-salinity surf zones and unconsolidated bottoms to a depth of 50 meters);
    d. several snapper and grouper species (live hard bottom from shore to 600 feet, and – for estuarine-dependent species [e.g., gag grouper and gray snapper] – unconsolidated bottoms and live hard bottoms to the 100 foot contour);
    e. spiny dogfish (various coastal waters from the surf zone to 200 miles);
    f. black sea bass (various nearshore waters, including unconsolidated bottom and live hard bottom to 100 feet, and hard bottoms to 600 feet);
    g. penaeid shrimps (offshore habitats used for spawning and growth to maturity, and waters connecting to inshore nursery areas, including the surf zone and inlets);
    h. coastal migratory pelagics (sandy shoals of capes and bars, barrier island and ocean-side waters from the surf zone to the shelf break inshore of the Gulf Stream; all coastal inlets);
    i. corals of various types (hard substrates and muddy, silty bottoms from the subtidal to the shelf break);
    j. calico scallops (unconsolidated bottoms northeast and southwest of Cape Lookout in 62-102 feet);
    k. sargassum (wherever it occurs out to 200 miles);
    l. many large and small coastal sharks, managed by the Secretary of the Department of Commerce (inlets and nearshore waters, including pupping and nursery grounds).

8. *Beach dredge and fill projects also potentially threaten important fish habitats for anadromous species under federal, interstate and state management (in particular, inlets and offshore overwintering grounds), as well as essential overwintering grounds and other critical habitats for weakfish and other species managed by the Atlantic States Marine Fisheries Commission and the State of North Carolina. The SAFMC identified for anadromous and catadromous species those habitats that have been EFH if there had been a council plan (inlets and nearshore waters).*

9. *Many of the habitats potentially affected by these projects have been identified as Habitat Areas of Particular Concern by the SAFMC. The specific fishery management plan is provided in parentheses:*

    a. all nearshore hard bottom areas (SAFMC, snapper-grouper);
    b. all coastal inlets (SAFMC, penaeid shrimps, red drum, and snapper-grouper);
    c. near-shore spawning sites (SAFMC, penaeid shrimps, and red drum)
    d. well-known seafloor features, including the Point, Ten Fathom Ledge and Big Rock (SAFMC, snapper-grouper, coastal migratory pelagics, and corals);
    e. pelagic and benthic sargassum (SAFMC, snapper-grouper);
    f. sandy shoals of Cape Lookout, Cape Fear, and Cape Hatteras (SAFMC, coastal migratory pelagics) and;
    g. Bogue Sound and New River Estuary (SAFMC, coastal migratory pelagics).

10. *Habitats likely to be affected by beach dredge and fill projects include many being recognized in North Carolina Fishery Management Plans as important for state-managed species. Many of these habitats are in the process of being recognized as Critical Habitat Areas by the Commission, in either FMPs or in Coastal Habitat Protection Plans. Examples include:*

    a. inlets (Blue Crab FMP, Red Drum FMP, River Herring FMP);
    b. oceanic nearshore waters (Blue Crab FMP, Red Drum FMP); and
    c. many others as FMPs and CHPPs are adopted over the coming years.

11. *Recent work by scientists in east Florida has documented exceptionally important habitat values for nearshore, hard-bottom habitats often buried by beach dredging projects, including use by over 500 species of fishes and invertebrates, and juveniles of many reef*

fishes. Equivalent scientific work is just beginning off North Carolina, but life histories suggest that similar habitat use patterns will be found.

Threats to Marine and Estuarine Resources from Beach Dredge and Fill Activities

The Commission finds that beach dredge-and-fill activities and related large-scale coastal engineering projects (including inlet alteration projects) threaten the marine and estuarine resources of North Carolina through the following mechanisms:

1. Direct mortality and displacement of organisms at and near sediment dredging sites;
2. Alteration of seafloor topography and associated current and waves patterns and magnitudes at dredging areas;
3. Alteration of seafloor sediment size-frequency distributions at dredging sites, with secondary effects on benthos at those sites;
4. Elevated turbidity and deposition of fine sediments down-current from dredging sites;
5. Direct mortality and displacement of organisms at initial sediment fill sites;
6. Elevated turbidity in and near initial fill sites, especially in the surf zone, and deposition of fine sediment down-current from initial fill sites;
7. Alteration of near-shore topography and current and waves patterns and magnitudes associated with fill;
8. Movement of deposited sediment away from initial fill sites, especially onto hard bottoms;
9. Alteration of large-scale sediment budgets, sediment movement patterns and feeding and other ecological relationships, including the potential for cascading disturbance effects;
10. Alteration of large-scale movement patterns of water, with secondary effects on water quality and biota;
11. Alteration of movement patterns and successful inlet passage for larvae, post-larvae, juveniles and adults of marine and estuarine organisms;
12. Alteration of long-term shoreline migration patterns (inducing further ecological cascades with consequences that are difficult to predict); and
13. Exacerbation of transport and/or biological uptake of toxicants and other pollutants released at either dredge or fill sites.

Commission Policies for Beach Dredge and Fill Projects and Related Large Coastal Engineering Projects

The Commission establishes the following general policies related to large-scale beach dredge-and-fill and related projects, to clarify and augment the general policies already adopted on April 13, 1999:

1. ***Projects should fulfill the Commission's general habitat policy by avoiding, minimizing and offsetting damage to the marine and estuarine resources of North Carolina;***

2. ***Projects should provide detailed analyses of possible impacts to each type of Essential Fish Habitat (EFH), with careful and detailed analyses of possible impacts to Habitat Areas of Particular Concern (HAPC) and Critical Habitat Areas (CHA), including short and long term, and population and ecosystem scale effects;***

3. ***Projects should provide a full range of alternatives, along with assessments of the relative impacts of each on each type of EFH, HAPC and CHA;***

4. ***Projects should avoid impacts on EFH, HAPCs and CHAs that are shown to be avoidable through the alternatives analysis, and minimize impacts that are not;***

5. ***Projects should include assessments of potential unavoidable damage to marine resources, using conservative assumptions;***

6. ***Projects should be conditioned on the avoidance of avoidable impacts, and should include compensatory mitigation for all reasonably predictable impacts to the marine and estuarine resources of North Carolina, taking into account uncertainty about these effects. Mitigation should be local, up-front and in-kind wherever possible;***

7. ***Projects should include baseline and project-related monitoring adequate to document pre-project conditions and impacts of the projects on the marine and estuarine resources of North Carolina;***

8. ***All assessments should be based upon the best available science, and be appropriately conservative so as to be prudent and precautionary; and***

9. ***All assessments should take into account the cumulative impacts associated with other beach dredge-and-fill projects in North Carolina and adjacent states, and other large-scale coastal engineering projects that are ecologically related.***

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NCDENR
North Carolina Department of Environment and Natural Resources
Michael F. Easley, Governor
William G. Ross Jr., Secretary
Division of Marine Fisheries
Preston P. Pate Jr., Director

Policy Statement for Protection of SAV Habitat

North Carolina Marine Fisheries Commission
(Adopted May 12, 2004)

Submerged aquatic vegetation (SAV) serves as the basis for premium habitat for many coastal fish and invertebrates. The SAV habitat is so important that special efforts are required to protect and enhance water quality and physical conditions for its propagation and distribution.

The purpose of this statement is to provide guidance for management needs to protect SAV habitat in the development of fisheries management plans and habitat protection plans. The following is a summary of the special quality of SAV as habitat and the attendant water quality/physical conditions necessary for its maintenance. Details and additional information can be found in the SAV chapter in the Coastal Habitat Protection Plan (CHPP) and background scientific references.

THE ROLE OF SAV AS HABITAT

- Submerged aquatic vegetation, which consists of plants having growing roots (rhizomes) in the sediment, serves as physical hiding places for important fish and shellfish species, as well as a food base for essential food chains. Aquatic productivity in waters with SAV beds is significantly higher than in coastal waters without SAV.
- SAV supports a vast array of epiphytes and attached invertebrates that serve as a source of food for many important fish and shellfish.
- The major criterion limiting distribution and propagation of SAV is the amount of light reaching the bottom. Suspended solids and proliferation of algae in the water column are significant causes of reduced light penetration in coastal waters. Water-column clarity, therefore, should be a significant water-quality criterion. SAV, in turn, can also improve water quality through its baffling effects on currents and through its filtering of water by attached epiphytes and invertebrates.
- SAV serves as important habitat for species such as scallops, shrimp, blue crabs and some species of fish.

MANAGEMENT GUIDELINES

- In order to delineate and assess the distribution and health of SAV habitat, SAV beds need to be mapped and monitored. The saltwater end of coastal waters supports eelgrass, widgeongrass and shoalgrass, and the freshwater end supports several species of freshwater SAV.
- Minimize nutrient and sediment loading to coastal waters that support existing SAV to protect adequate water quality as defined by water-column clarity in standard measurement units.
- All SAV needs to be protected from all bottom-disturbing fishing and recreational gear. Sufficient buffer zones surrounding SAV beds should also be protected from disturbance to prevent impacts of sediments on growing SAV.
- Provide adequate safeguards to prevent direct (or indirect) impacts from development projects adjacent to or connected to SAV.
- Assess cumulative impacts of land use and development changes in the watershed affecting SAV to identify the potential impact. Require identification of cumulative impacts as a condition of development of permit applications.
- Require compensatory mitigation where impacts are unavoidable. Initiate restoration programs to recoup an/or enhance lost SAV habitat.
- Educate landowners adjacent to SAV, boaters, and other potential interested parties about the value of SAV as a habitat for many coastal fishes and invertebrates.

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(MARCH 2003)
POLICIES FOR THE PROTECTION AND RESTORATION OF ESSENTIAL FISH HABITATS FROM BEACH DREDGING AND FILLING AND LARGE-SCALE COASTAL ENGINEERING

Policy Context

This document establishes the policies of the South Atlantic Fishery Management Council (SAFMC) regarding protection of the essential fish habitats (EFH) and habitat areas of particular concern (EFH-HAPCs) impacted by beach dredge and fill activities, and related large-scale coastal engineering projects. The policies are designed to be consistent with the overall habitat protection policies of the SAFMC as formulated and adopted in the Habitat Plan (SAFMC, 1998a) and the Comprehensive EFH Amendment (SAFMC, 1998b).

The findings presented below assess the threats to EFH potentially posed by activities related to the large-scale dredging and disposal of sediments in the coastal ocean and adjacent habitats, and the processes whereby those resources are placed at risk. The policies established in this document are designed to avoid, minimize and offset damage caused by these activities, in accordance with the general habitat policies of the SAFMC as mandated by law.

EFH At Risk from Beach Dredge and Fill Activities

The SAFMC finds:

1) In general, the array of large-scale and long-term beach dredging projects and related disposal activities currently being considered for the United States southeast together constitute a real and significant threat to EFH under the jurisdiction of the SAFMC.

2) The cumulative effects of these projects have not been adequately assessed, including impacts on public trust marine and estuarine resources, use of public trust beaches, public access, state and federally protected species, state critical habitat, SAFMC-designated EFH and EFH-HAPCs.

3) Individual beach dredge and fill projects and related large-scale coastal engineering activities rarely provide adequate impact assessments or consideration of potential damage to fishery resources under state and federal management. Historically, emphasis has been placed on the logistics of dredging and economics, with environmental considerations dominated by compliance with the Endangered Species Act for sea turtles, piping plovers and other listed organisms. There has been little or no consideration of hundreds of other species affected, many with direct fishery value.

4) Opportunities to avoid or minimize impacts of beach dredge and fill activities on fishery resources, and offsets for unavoidable impacts have rarely been proposed or implemented. Monitoring is rarely adequate to develop statistically appropriate impact evaluations.

5) Large-scale beach dredge and fill activities have the potential to impact a variety of habitats across the shelf, including:

   a) waters and benthic habitats near the dredging sites
   b) waters between dredging and filling sites
   c) waters and benthic habitats in or near the fill sites, and
   d) waters and benthic habitats potentially affected as sediments move subsequent to deposition in fill areas.

6) Certain nearshore habitats are particularly important to the long-term viability of commercial and recreational fisheries under SAFMC management, and potentially threatened by large-scale, long-term or frequent disturbance by dredging and filling:

   a) the swash and surf zones and beach-associated bars
   b) underwater soft-sediment topographic features
   c) onshore and offshore coral reefs, hardbottom and worm reefs
   d) inlets

7) Large sections of South Atlantic waters potentially affected by these projects, both individually and collectively, have been identified as EFH or EFH-HAPC by the SAFMC, as well as the Mid-Atlantic Fishery Management Council (MAFMC) in the case of North Carolina. Potentially Affected species and their EFH under federal management include (SAFMC, 1998b):

   a) summer flounder (various nearshore waters, including the surf zone and inlets; certain offshore waters)
   b) bluefish (various nearshore waters, including the surf zone and inlets)
   c) red drum (ocean high-salinity surf zones and unconsolidated bottoms nearshore waters)
   d) many snapper and grouper species (live hardbottom from shore to 600 feet, and – for estuarine-dependent species [e.g., gag grouper and gray snapper] – unconsolidated bottoms and live hardbottoms to the 100 foot contour).

e) black sea bass (various nearshore waters, including unconsolidated bottom and live hardbottom to 100 feet, and hardbottoms to 600 feet)
f) penaeid shrimp (offshore habitats used for spawning and growth to maturity, and waters connecting to inshore nursery areas, including the surf zone and inlets)
g) coastal migratory pelagics [e.g., king mackerel, Spanish mackerel] (sandy shoals of capes and bars, barrier island ocean-side waters from the surf zone to the shelf break inshore of the Gulf Stream; all coastal inlets)
h) corals of various types (hard substrates and muddy, silt bottoms from the subtidal to the shelf break)
i) areas identified as EFH for Highly Migratory Species (HMS) managed by the Secretary of Commerce (e.g., sharks: inlets and nearshore waters, including pupping and nursery grounds)

In addition, hundreds of species of crustaceans, mollusks, and annelids that are not directly managed, but form the critical prey base for most managed species, are killed or directly affected by large dredge and fill projects.

8) Beach dredge and fill projects also potentially threaten important habitats for anadromous species under federal, interstate and state management (in particular, inlets and offshore overwintering grounds), as well as essential overwintering grounds and other critical habitats for weakfish and other species managed by the Atlantic States Marine Fisheries Commission (ASMFC) and the states. The SAFMC also identified essential habitats of anadromous and catadromous species in the region (inlets and nearshore waters).

9) Many of the habitats potentially affected by these projects have been identified as EFH-HAPCs by the SAFMC. The specific fishery management plan is provided in parentheses:

a) all nearshore hardbottom areas (SAFMC, snapper grouper).
b) all coastal inlets (SAFMC, penaeid shrimps, red drum, and snapper grouper).
c) near-shore spawning sites (SAFMC, penaeid shrimps, and red drum).
d) benthic *Sargassum* (SAFMC, snapper grouper).
e) from shore to the ends of the sandy shoals of Cape Lookout, Cape Fear, and Cape Hatteras, North Carolina; Hurl Rocks, South Carolina; *Phragmatopora* (worm reefs) reefs off the central coast of Florida and nearshore hardbottom south of Cape Canaveral (SAFMC, coastal migratory pelagics).
f) Atlantic coast estuaries with high numbers of Spanish mackerel and cobia from ELMR, to include Bogue Sound, New River, North Carolina; Broad River, South Carolina (SAFMC, coastal migratory pelagics).
g) Florida Bay, Biscayne Bay, Card Sound, and coral hardbottom habitat from Jupiter Inlet through the Dry Tortugas, Florida (SAFMC, Spiny Lobster)
h) Hurl Rocks (South Carolina), The *Phragmatopoma* (worm reefs) off central east coast of Florida, nearshore (0-4 meters; 0-12 feet) hardbottom off the east coast of Florida from Cape Canaveral to Broward County; offshore (5-30 meters; 15-90 feet) hardbottom off the east coast of Florida from Palm Beach County to Fowey

Rocks; Biscayne Bay, Florida; Biscayne National Park, Florida; and the Florida Keys National Marine Sanctuary (SAFMC, Coral, Coral Reefs and Live Hardbottom Habitat).
i) EFH-HAPCs designated for HMS species (e.g., sharks) in the South Atlantic region (NMFS, Highly Migratory Species).

10) Habitats likely to be affected by beach dredge and fill projects include many recognized in state-level fishery management plans. Examples of these habitats include Critical Habitat Areas established by the North Carolina Marine Fisheries Commission, either in FMPs or in Coastal Habitat Protection Plans (CHAs).

11) Recent work by scientists in east Florida has documented important habitat values for nearshore, hardbottom habitats often buried by beach dredging projects, is used by over 500 species of fishes and invertebrates, including juveniles of many reef fishes. Equivalent scientific work is just beginning in other South Atlantic states, but life histories suggest that similar habitat use patterns will be found.

Threats to Marine and Estuarine Resources from Beach Dredge and Fill Activities and Related Large Coastal Engineering Projects

The SAFMC finds that beach dredge and fill activities and related large-scale coastal engineering projects (including inlet alteration projects) and disposal of material for navigational maintenance, threaten or potentially threaten EFH through the following mechanisms:

1) Direct mortality and displacement of organisms at and near sediment dredging sites
2) Direct mortality and displacement of organisms at initial sediment fill sites
3) Elevated turbidity and deposition of fine sediments down-current from dredging sites
4) Alteration of seafloor topography and associated current and waves patterns and magnitudes at dredging areas
5) Alteration of seafloor sediment size-frequency distributions at dredging sites, with secondary effects on benthos at those sites
6) Elevated turbidity in and near initial fill sites, especially in the surf zone, and deposition of fine sediment down-current from initial fill sites (ASMFC, 2002)
7) Alteration of nearshore topography and current and wave patterns and magnitudes associated with fill
8) Movement of deposited sediment away from initial fill sites, especially onto hardbottoms
9) Alteration of large-scale sediment budgets, sediment movement patterns and feeding and other ecological relationships, including the potential for cascading disturbance effects
10) Alteration of large-scale movement patterns of water, with secondary effects on water quality and biota
11) Alteration of movement patterns and successful inlet passage for larvae, post-larvae, juveniles and adults of marine and estuarine organisms

12) Alteration of long-term shoreline migration patterns (inducing further ecological cascades with consequences that are difficult to predict)
13) Exacerbation of transport and/or biological uptake of toxicants and other pollutants released at either dredge or fill sites

In addition, the interactions between cumulative and direct (sub-lethal) effects among the above factors certainly triggers non-linear impacts that are completely unstudied.

SAFMC Policies for Beach Dredge and Fill Projects and Related Large Coastal Engineering Projects

The SAFMC establishes the following general policies related to large-scale beach dredge and fill and related projects, to clarify and augment the general policies already adopted in the Habitat Plan and Comprehensive Habitat Amendment (SAFMC 1998a; SAFMC 1998b):

1) Projects should avoid, minimize and where possible offset damage to EFH and EFH-HAPCs.

2) Projects requiring expanded EFH consultation should provide detailed analyses of possible impacts to each type of EFH, with careful and detailed analyses of possible impacts to EFH-HAPCs and state CHAs, including short and long-term, and population and ecosystem scale effects. Agencies with oversight authority should require expanded EFH consultation.

3) Projects requiring expanded EFH consultation should provide a full range of alternatives, along with assessments of the relative impacts of each on each type of EFH, HAPC and CHAs.

4) Projects should avoid impacts on EFH, HAPCs and CHAs that are shown to be avoidable through the alternatives analysis, and minimize impacts that are not.

5) Projects should include assessments of potential unavoidable damage to EFH and other marine resources, using conservative assumptions.

6) Projects should be conditioned on the avoidance of avoidable impacts, and should include compensatory mitigation for all reasonably predictable impacts to EFH, taking into account uncertainty about these effects. Mitigation should be local, up-front and in-kind, and should be adequately monitored, wherever possible.

7) Projects should include baseline and project-related monitoring adequate to document pre-project conditions and impacts of the projects on EFH.

8) All assessments should be based upon the best available science, and be appropriately conservative so follow and precautionary principles as developed for various federal and state policies.

9) All assessments should take into account the cumulative impacts associated with other beach dredge and fill projects in the region, and other large-scale coastal engineering projects that are geographically and ecologically related.

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ENVIRONMENTAL DEFENSE

finding the ways that work

April 17, 2007

Gregory J. Thorpe, Ph.D.
Project Development and Environmental Analysis Branch
NC Department of Transportation
1548 Mail Service Center
Raleigh, NC 27699-1548
VIA FACSIMILE AND U.S. MAIL

RE: Supplement to the 2005 supplemental Draft Environmental Impact Statement (SDEIS) and Draft Section 4(f) Evaluation for the NC 12 Replacement of Herbert C. Bonner Bridge (TIP #B-2500)

Dear Dr. Thorpe,

Please accept the following comments on behalf of Environmental Defense regarding the above-referenced project. We have previously submitted comments on the Supplemental Draft Environmental Impact Statement (SDEIS) on December 8, 2005 (attached). Those prior comments remain valid regarding the alternatives presented in 2005 SDEIS and we incorporate them by reference. Our comments contained herein refer specifically to the information contained in the Supplement to the 2005 SDEIS (hereafter "Supplement").

The Supplement evaluates two additional alternatives for replacement of the Herbert C. Bonner Bridge and maintenance of NC12: a Parallel Bridge Corridor/Phased Approach w/Rodanthe Bridge Alternative, and a Parallel Bridge Corridor/Phased Approach w/Rodanthe Nourishment Alternative. Both alternatives would consist of a replacement Oregon Inlet Bridge (Phase I) in the current alignment and a series of smaller bridges constructed over the various erosion "hotspots" on Hatteras Island (Phases II – IV). The major difference in the two alternatives is the treatment of the southernmost hotspot (the "S-curves") at Rodanthe; with the "Bridge Alternative" this hotspot would be completely bridged, while the "Nourishment Alternative" would bridge the northern portion of this hotspot and rely on beach fill to mitigate erosion along the southern portion. Environmental Defense has several questions and general concerns regarding both Phased Approach Alternatives.

Construction Timing: The Supplement states that Phases II, III, and IV would be constructed post-2013, post-2020 and post-2030 respectively (with the exception of the beach fill included in the Rodanthe Nourishment alternative); it also states that construction would occur in locations where a breach is likely or where the distance between the active shoreline and NC12 is predicted to be less than the buffer distance of 230 feet by one of the above dates. However,

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oceanfront erosion does not always occur at a steady, long-term erosion rate. On the Outer Banks, erosion is far more likely to occur in a punctuated fashion as a result of hurricanes and nor'easters. These erosion-inducing events could easily result in the active shoreline being within the 230 foot buffer distance to NC12 sooner than predicted, i.e., before 2013, 2020 or 2030. If such a situation were to occur, would NCDOT proceed with phased bridge construction in the affected areas as stated in the Supplement or would other measures (i.e., beach fill) be used to increase the buffer width between NC12 and the active shoreline to 230 feet? Furthermore, would beach fill continue to be used until the 2013, 2020 or 2030 dates are reached?

Page 2-4 of the Supplement states "...if a storm related breach were to occur, or if shoreline erosion accelerated or decelerated in a particular location, implementation of any individual phase could be accelerated or delayed." However, a set of specific decision-making criteria regarding exactly when and under what conditions construction of the bridges in Phases II – IV would occur needs to be established. In the absence of such criteria, actual construction under the Phased Approach alternatives could be delayed indefinitely resulting in a de-facto Parallel Bridge w/Nourishment alternative. As detailed in our 12/8/2005 comments on the SDEIS, Environmental Defense strongly objects to the Parallel Bridge w/Nourishment alternative as it results in unacceptable cumulative and long-term impacts to natural resources and fails to meet the needs of providing safe and reliable transportation.

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Economics: Page xxvii ('Project Commitments') the Supplement states that the life expectancy of a replacement bridge is estimated to be as long as 100 years. Environmental Defense strongly believes that a true accounting of the costs associated with the various alternatives should be calculated on a timeframe comparable to the life expectancy of the bridge, rather than the artificial project endpoint of 2060. We made a similar statement in our comments on the SDEIS. Given that substantial public funds will be used for construction, the public should be informed of the maximum costs that could be incurred. Should NCDOT determine that use of additional beach fill is necessary in a scenario such as that described in the paragraphs above, those costs need to be factored into the Phased Approaches. Finally, we request additional information regarding the cause for the apparent non-linear increases in per-square-foot construction costs between the SDEIS and this Supplement.

Natural Resources: While the direct wetland impact from the phased alternatives has been evaluated to be relatively small, in part due to potential natural wetland infill from sand movement within Pea Island National Wildlife Refuge (PINWR), the total temporary and permanent biotic impacts (which include wetland impacts) from construction of either of the phased approaches are not insignificant (48.5 acres temporary biotic impact, Supplement, p. 4-30). While much of the impact might be "temporary", the magnitude of that effect on the biota and general ecology of the Refuge can be exacerbated by the timing of such "temporary" impacts. The Supplement does not adequately evaluate this.

Additionally, the phased alternatives present a likely adverse impact to federally endangered populations of both piping plover (Supplement, p. 4-37) and green sea turtle (Supplement, p. 4-38). We disagree with the biological conclusion in the Supplement of "Unresolved" for both of these species. While shoreline erosion may indeed create piping plover habitat under future

bridges (Supplement, p. 4-38), the lack of conclusive information regarding disturbance impacts from vehicle noise warrants a precautionary approach, and therefore a conclusion that the Phased Approach alternatives are likely to adversely affect this species. A similar precautionary approach and conclusion is warranted for the green sea turtle as well, given the certain impacts of bridge piles on nesting habitat quality as well as potential construction impacts. Finally, the Supplement erroneously concludes that the Phased Approach would not likely adversely affect loggerhead sea turtles, based on observations from 2003 and 2004 (Supplement to SDEIS, p. 4-39). The area should be re-evaluated before making such conclusions. The certain and potential impacts described for green sea turtles above also apply for this species.

Cumulative and Long-term Impacts: The eventual result of the Phased Approach alternatives will be several bridges in the ocean. While the immediate impacts of construction from Phases II - IV are unlikely to directly impact nearshore fish species and habitats, the long-term and cumulative impacts to these resources -- as well as nearshore benthic communities -- as erosion moves the bridges into the ocean is not considered in Section 4.12 of the Supplement. Given the discussion in Section 4.6.3 of the Supplement regarding the impact of scour from the Phased Approach alternatives on the local bathymetry and wave climate, and potentially longshore sediment transport, this is a significant omission. These are all characteristics which impact benthic community structure, and potentially resident fish species. While changes may be gradual in nature, this does not mean that they will be insignificant. Alteration of habitat structure for fauna at the base of the food chain can have cascading ecological impacts that should be acknowledged, particularly given the importance of fishing and tourism activities (e.g., birding) on the local economy. In order to adequately evaluate the Phased Alternatives an accounting of these cumulative and long-term impacts is necessary.

Aesthetics, Recreation and Access: As discussed in Sections 4.3.2 and 5.2.2 of the Supplement, the Phased Approach alternatives represent a substantial visual impact to the Refuge, and indeed, would permanently alter the undeveloped and protected character of the Refuge which makes it a unique national treasure. Furthermore, the Phased Approach alternatives provide the most restrictive access of any of the Parallel Bridge Corridor alternatives (Supplement, p. 4-5, 4-16, 5-8). Environmental Defense strongly supports continued access to the Refuge and points out, as we did in our comments on the SDEIS, that access to other public trust areas in the state is maintained without a paved road such as NC12. Finally, the limited public access provided by the Phased Approach alternatives would not only adversely affect Refuge resources, but would also severely impact recreational activities such as fishing, hiking, birding and particularly surfing. These impacts alone make the Phased Approach alternatives incompatible with the purpose and mission of the Refuge

Safety and Reliability: The Phased Approach alternatives do not appear to provide a safe and reliable means of transportation, which is of paramount importance. Overwash and flooding will continue to be an issue with these alternatives. Additionally, the eventual location of bridges in the ocean that are 25feet above mean high water will not provide safe transit during the frequent storm events which impact Hatteras Island. The Pamlico Sound alternative will provide significantly safer transit during storm events, as it would be in the lee of the island with less direct exposure to storm winds and at a lower elevation of 10 feet above mean high water. The

Long Bridge Operations and Safety Study Report (Parsons, Brinckerhoff, Quade & Douglas, June 2006) indicated that crash rates on North Carolina long bridges tended to be low and in fact were lower than crash rates observed on statewide two and four lanes roads. In addition, the crash rates for long North Carolina bridges corresponded closely with the crash rates calculated for the Chesapeake Bay Bridge Tunnel, which consists of a 15.5 mile long bridge and 2.1mile long tunnel. Based on these data, we maintain that the Pamlico Sound Bridge alternative will provide the safest and most reliable transportation to and from Harteras Island.

As stated in our previous comments on the SDEIS, none of the alternatives presented meets all needs regarding safety, reliability, economic feasibility, public access and avoidance of environmental impacts. Based on the information contained in the Supplement, Environmental Defense maintains that the Pamlico Sound Bridge alternative still presents the best solution when all of the factors above are considered and balanced. As always, we very much appreciate the opportunity to comment and respectfully thank you for your consideration of our viewpoints.

Sincerely,

Michelle C. Duval

Michelle Duval, Ph.D.
Scientist

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attachments

cc: William Biddlecome, USACE
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ENVIRONMENTAL DEFENSE
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December 8, 2005

Carl B. Goode, Jr. PE
Human Environment Unit Head
1583 Mail Service Center
Raleigh, NC 27699-1583

RE: **Supplemental Draft Environmental Impact Statement (SDEIS) and Draft Section 4(f) Evaluation of the NC 12 Replacement of the Herbert C. Bonner Bridge**

Dear Mr. Goode,

Please accept these comments on behalf of Environmental Defense regarding the aforementioned SDEIS for the replacement of the Herbert C. Bonner Bridge (the Bonner Bridge). Environmental Defense is a national 501(c)(3) organization, dedicated to protecting the environmental rights of all people, including the right to clean air, clean water, healthy food and flourishing ecosystems. We work to create practical, science-based solutions to environmental problems that are cost-effective and fair.

Much of the current controversy regarding replacement of the Bonner Bridge is due to the existence of the Pea Island National Wildlife Refuge (PINWR). The primary purpose of PINWR is as a refuge and breeding grounds for migratory birds and other wildlife, and above all, it must be allowed to function as such. Any option for replacement of the Bonner Bridge must comply with the 1997 Refuge Improvement Act, which requires that use of refuge lands must be compatible with the goals and objectives of the Refuge Management Plan and its enabling legislation. This further limits the options available to replace the bridge, which are already limited under the National Environmental Policy Act (NEPA), as well as Section 4(f) of the Department of Transportation Act of 1966. We hereby incorporate by reference the written comments submitted by the Southern Environmental Law Center (SELC) regarding the legal adequacy of the alternatives reviewed in the SDEIS. Environmental Defense has additional concerns regarding the SDEIS review of the bridge replacement options as outlined below.

Goals

The SDEIS states (p. 1-5, 1-6) that the purposes of the proposed project are to:

- Provide a new means of access from Bodie Island to Hatteras Island for its residents, businesses, services, and tourists prior to the end of the Bonner Bridge's service life;
- Provide a replacement crossing that takes into account natural channel migration expected through year 2050 and provides the flexibility to let the channel move;
- Provide a replacement crossing that will not be endangered by shoreline movement through year 2050.

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The NC Department of Transportation is also a partner in the Outer Banks Task Force (OBTF), whose goals are to:

- Preserve the natural barrier island system;
- Minimize impacts to Hatteras and Ocracoke islands;
- Maintain access to and on the islands so that the transportation system is safe, efficient and has minimal impact on the environment.

Only the Pamlico Sound option meets all of the goals stated above, while all of the Parallel Bridge options would require significant alteration of the barrier island system through either beach nourishment or filling of soundside habitats. None of the Parallel Bridge options would guarantee a replacement crossing that will not be endangered by shoreline movement. Furthermore, in the event of an emergency evacuation (e.g., hurricane evacuation) of Hatteras Island, the Pamlico Sound bridge clearly provides the safest, most reliable transportation option. The design characteristics would allow ample room for two lanes of traffic to move off the island, as well as allow for emergency vehicle access (p. 2-82, 83). The Parallel Bridge with Nourishment alternative would not provide this level of reliability and safety.

The SDEIS also acknowledges the highly variable maximum erosion rates at the different "hot spots" (p. 1-5), and the fact that both a storm-induced breach as well as increased erosion rates in general pose a significant risk to the Parallel Bridge alternatives (p. 2-74). These are quite realistic and likely risks that would increase both costs and environmental impacts. Moreover, the SDEIS states that the coastal modeling that was performed did not include cross-shore and long-shore changes in transport that could occur should a breach be allowed to remain open. This creates the question of how this would impact the Parallel Bridge "Road North/Bridge South" and "All Bridge" alternatives with regard to design characteristics that could withstand such change?

Finally, the draft Section 4(f) evaluation states that "it could be concluded that either alternative [Pamlico Sound bridge or Parallel Bridge] minimizes harm, or it could be concluded that while different in the type of harm, they are equal in the degree of harm." We firmly believe that in no way can it be concluded that any of the Parallel Bridge options are "equal" to the Pamlico Sound bridge options in the degree of harm posed, or that they "minimize" the harm posed. Rather the Parallel Bridge options all pose significantly greater harm in one aspect or another, whether that is harm to natural resources or risks to safe and reliable transit.

Economics

Table 2-9, which details the construction and maintenance costs of each of the Parallel Bridge and Pamlico Sound Bridge options to the year 2060 is faulty in that it should be projected for an additional 50 years. The SDEIS states that either of the bridge options and their components would conceivably have a lifespan of 100 years (p. 3-39, 3-43). Given the controversy surrounding the costs of the Pamlico Sound Bridge as compared to the Dare County preferred option of a Parallel Bridge with Nourishment, the potential costs of nourishment should be projected on a timeframe that is comparable to the life expectancy of the bridge components. The public has a right to know the maximum costs that would be incurred.

In addition, Dare County officials have indicated their concern that anything except a Parallel Bridge option could substantially impact the local economy due to changes in access to PINWR. However, the SDEIS indicates that the Pamlico Sound option would not have a significant economic effect, as evidenced by the statement that lost visitor expenditures would be approximately 10% of current expenditures (p. 4-11), while losses to Dare County in tax receipts would constitute only 2.5% of the total. It should also be noted that the potential economic losses due to a storm-induced breach of NC12 with the Parallel Bridge with Nourishment alternative range from $5.7million to $146.7million. These figures alone provide support for the Pamlico Sound bridge alternatives from a strictly economic sense. Therefore, the safe and reliable transit provided by the Pamlico Sound alternatives would certainly offset the loss of 2.5% of the Dare County tax receipts.

Impacts to Fisheries

As noted in the SDEIS, the NC Division of Marine Fisheries (DMF) and Marine Fisheries Commission (MFC), as well as the South Atlantic Fishery Management Council (SAFMC) and Mid-Atlantic Fishery Management Council (MAFMC) manage fishery resources within the project area. Both the NC Marine Fisheries Commission and the SAFMC have habitat protection policies regarding the use of beach fill and impacts to fish and fish habitats (attached). Section 4.7.6 acknowledges the potential adverse indirect impacts to fisheries of the Parallel Bridge with Nourishment alternative, mostly due to turbidity and impacts to benthic food resources. It also briefly states (p. 4-67) the risks associated with frequent dredging (every four years or less) and beach fill to benthic invertebrates. Given the tremendous importance of recreational and commercial fisheries to the project area, and the feasible alternative of the Pamlico Sound bridge alternative, the risks to state and federal fishery resources by the Parallel Bridge alternatives are not warranted.

Furthermore, the MFC also has a policy regarding the protection of Submerged Aquatic Vegetation (attached), which is a key nursery and foraging habitat for many recreationally and commercially important finfish and shellfish species. It should be noted that SAV is also one of the six major fish habitats identified in the state's Coastal Habitat Protection Plan (CHPP), the goal of which is to ensure long-term enhancement of coastal fisheries associated with each habitat. The development of the CHPP was a mandate of the 1997 NC Fisheries Reform Act, and is the first comprehensive ecosystem-based management plan on the Atlantic seaboard. A unique feature of the CHPP is that the Coastal Resources, Marine Fisheries and Environmental Management Commissions are to adopt and implement the plan. Adoption occurred in December 2004 and implementation plans are currently underway. A comprehensive set of management recommendations for the protection and enhancement of the six habitats identified is included in the CHPP and can be found at http://www.ncdmf.net/habitat/index.html. Only the Pamlico Sound bridge alternatives meet the goals and recommendations of the CHPP.

Cumulative and Long-term Impacts

Section 4.12 (Indirect and Cumulative Impacts) is sorely lacking in that it makes no mention of the cumulative and long-term effects to natural resources posed by the Parallel Bridge with Nourishment alternative. To our knowledge, no long-term or cumulative impacts studies exist to document the effects of repeated beach nourishment, both from a sand placement perspective and a dredging perspective. The potential long-term impacts of nourishment activities are only briefly mentioned in Section 4.7.6. The proposed project has a minimum expected lifetime of 50 years, yet no monitoring program is proposed, should the Parallel Bridge with Nourishment alternative be chosen. Given the significant potential impacts of this alternative to fish, benthic invertebrates and shorebirds, a draft monitoring plan (pre- and post-construction) should be included in the SDEIS. Although recovery may be evident within 1-3 years of sand dredging or emplacement, many benthic invertebrate populations have seasonal and interannual variability that will not be captured by a three year study. Proponents of beach fill often cite an Army Corps of Engineers seven year study of New Jersey's Sandy Hook to Barnegat Inlet nourishment project as evidence of no long-term impacts. In the context of a 50-year project, seven years is by no means "long-term". An example of a potential pre-project monitoring plan that is currently underway is that for the Dare County Beaches – Bodie Island (North) project.

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Stormwater

A concern of all interested in the Bonner Bridge replacement project is the potential impact of stormwater runoff, particularly from the Pamlico Sound bridge alternatives. Very little mention of stormwater impacts is made in the SDEIS, other than that NC DOT would examine possible best management practices to control stormwater (p. 2-82). Opponents of the Pamlico Sound bridge claim that the stormwater runoff from a 17-mile long bridge would be a significant source of pollution. However, most stormwater runoff in urban areas collects pollution from sources such as herbicides, pesticides and fertilizers which are placed on land adjacent to roads. Environmental Defense requests that a comparative stormwater analysis be performed to answer the following questions: What contaminants are currently in the stormwater runoff along the portion of NC12 in the study area? What impact does the number of vehicles parked along NC12 during peak tourist season have on stormwater (e.g., dripping oil, coolant, other fluids)? What does the current level of maintenance and repair of NC12 contribute to the contaminants in stormwater? What types of stormwater collection systems have been used in other long bridge construction projects?

Public Access

Environmental Defense firmly supports continued public access to PINWR. Visitor surveys indicate that 60% of current visitors would continue to visit the refuge, even if access is no longer by means of a paved road. The U.S. Fish and Wildlife Service (FWS) has committed to providing continued public access to PINWR, and Environmental Defense requests that the FWS establish a working group to determine the most feasible means of maintaining such access. It should be noted that North Carolina has other remote coastal recreational areas (Cape

Lookout National Seashore, Hammocks Beach State Park, etc.) that are accessed by means other than a paved road, and which have high levels of visitation during the tourist season.

In sum, it must be stated that there exists no perfect solution to the issue of safe, reliable transit over Oregon Inlet and the future of NC12 on Hatteras Island. None of the alternatives presented meets all needs with regard to safety, reliability, economic feasibility, public access and avoidance of environmental impacts. However, when all factors are balanced, and the requirements of both NEPA and Section 4(f) of the Department of Transportation Act are considered, the Pamlico Sound Bridge alternatives present the best solution to all of these issues, save access, which the USFWS has committed to address. For these reasons, Environmental Defense supports the Pamlico Sound bridge replacement corridor and requests that a working group be assembled.

We very much appreciate the opportunity to comment and respectfully thank you for your consideration of our viewpoints.

Sincerely,

Michelle A. Duval

Michelle A. Duval, Ph.D.
Scientist

attachments

cc: Amy Pickle and Derb Carter, Southern Environmental Law Center
William Biddlecome, USACOE, Wilmington District
Preston Pate, Division of Marine Fisheries
Bob Mahood, South Atlantic Fishery Management Council

North Carolina Coastal Federation
3609 Highway 24 (Ocean) Newport, NC 28570
Northern Office: P.O. Box 475, Manteo, NC 27954 (252) 473-1607

December 9, 2005

C.B. Goode Jr.
Office of Human Environment
1583 Mail Service Center
Raleigh, NC 27699-1583

Dear Mr. Goode,

On behalf of the North Carolina Coastal Federation (NCCF), I submit these comments on the draft Environmental Impact Statement for the replacement of the Herbert C. Bonner Bridge over Oregon Inlet (DOT Project No. 8.1051205). NCCF is a nonprofit organization charged with safeguarding the health and cleanliness of coastal waters. We have 8,000 members.

Bonner Bridge connects with Highway 12 at the Pea Island National Wildlife Refuge, an undeveloped piece of land set aside by federal law as habitat for wildlife. Pea Island must be allowed to function as a natural system. Because barrier islands migrate, maintaining a highway from Oregon Inlet to Rodanthe poses especially difficult challenges. While beach renourishment and dune building may be acceptable on some barrier islands where human settlement is present, Pea Island is a wild, undeveloped barrier system and must remain so. This is not simply a desire on the part of NCCF, but a requirement under federal law.

In the past two years the question of how to maintain the road to Hatteras Island has dissolved into a bitter controversy. Dare County officials want the road to remain within the refuge, while wildlife advocates want it moved into the sound. Unless some middle ground is struck, and soon, we fear the issue will have to be decided by the courts. By the time a court decision is reached and a replacement built, the Bonner Bridge will likely be out of service, leaving the people of Hatteras Island to rely on ferries. We do not want to see this issue go to court. However, everyone involved must recognize that legal action will be the end result of taking a hard-and-fast position for any alternative. We have approached numerous individuals on both sides of the controversy, with the hopes of working out a compromise. This letter constitutes both our comments on the draft EIS and some recommendations on how a compromise might be reached.

According to the designs set forth in the draft EIS, the only alternative that meets the criteria outlined above is the Pamlico Sound bridge. In addition, the Pamlico Sound bridge would be designed to last a hundred years. This is far beyond the capacity of an on-the-ground road through Pea Island, which will likely be disrupted by erosion after 50 years, at most.

The Parallel Corridor, all road, can only be maintained through a program of beach nourishment and dune building that is unacceptable. Halting barrier island migration is difficult on any shoreline. On Pea Island, it will be impossible without extreme engineering tactics that are

inappropriate for a wildlife refuge. These include the closure of breaches or inlets that open as the island continues to migrate. The flushing of tidal waters through ocean cuts is an important component of water quality. Any cuts that occur on Pea Island before 2060—and scientists agree that they will occur—must be allowed to remain open and function naturally, without hardened structures or fill. In addition, beach renourishment would produce turbidity plumes in ocean waters and would kill millions of tidewater invertebrates on which fish and migrating birds depend for food. Building dunes of 10 and 20 feet, as described in the DEIS, would hasten beach erosion and cause sand to be lost from the system as the ocean washes it out to sea. The west bank of Pea Island is already starved for sediment because of the dune building that has occurred over the past seventy years. This has led to extensive loss of wetlands; in fact, shoreline surveys show that the refuge has decreased in land mass from 5,900 in 1935 to only 5,000 acres today. Dune building within the refuge must be stopped. Such engineering tactics will become increasingly necessary as sea level rises. For these reasons, the Parallel Corridor, all road, is unacceptable.

In reviewing the draft EIS, we were hopeful that the Parallel Corridor, Road North/Bridge South or All Bridge options might provide a viable alternative that would allow public access while enabling the island to behave naturally. However, as described in the draft EIS, all alignments of the Parallel Corridor would involve intensive management of the island, including the immediate closure of any breaches or inlets that open in Pea Island. These alternatives would also continue the current practice of using dune building or beach renourishment on portions of the road that may be threatened as the island migrates, including the Canal Zone on the north end. For these reasons, the Parallel Corridor as described is unacceptable.

According to the options set forth in the DEIS, then, the Pamlico Sound corridor is the only acceptable alternative. It would avoid dune building, beach renourishment, and the closure of ocean breaches. It is also the only alternative that would meet the requirements necessary to receive federal permits under the Clean Water Act. But it would prevent the public from having the easy access to Pea Island it currently enjoys, and on which Dare County officials insist.

It should be noted that the alignment of the bridge and Highway 12 has been the subject of long discussion between the state and federal resource agencies (the Merger Team) charged with protecting public safety and the refuge. The Pamlico Sound corridor was endorsed unanimously by Merger Team members. Other corridors were considered, but problems were found with each. Routings that would have taken the road through the wildlife ponds were deemed unacceptable because of the large amount of wetlands that would be destroyed and the destruction of refuge facilities. Nonetheless, NCCF believes that because of the high degree of public opposition to the long bridge, alternative routes should be placed back on the table.

The Dare County Commissioners are on record as opposing the Pamlico Sound corridor for two reasons. First, the Pamlico Sound route would remove the need for the terminal groin on the south end of Oregon Inlet. The commissioners want the groin to remain in place to help stabilize the channel through the inlet. Second, the commissioners fear the Fish and Wildlife Service (FWS) intends to limit public access to the refuge. They demand that the refuge remain easily open to visitors.

NCCF believes it may be possible to work out a compromise that would leave the terminal groin in place and align a series of bridges and roads through the refuge designed to let the island migrate naturally. We suggest that consideration be given to building a bridge through the northern part of the refuge, with the understanding that it would be engineered to withstand tidal surge. Any breaches or inlets would be allowed to remain open. No dune building or beach renourishment would be allowed. A public access point could be included for the north end. A problem with this suggestion is that it would likely require the road to be moved west from its present location through the north portion of the refuge, into sensitive wetlands with high wildlife value. If so, it would have to be constructed using the more expensive "top-down" construction method, leapfrogging forward a section at a time, to minimize damage to the wetlands. This is essential. Even with top-down construction, mitigation would be required. While it is highly unusual for us to endorse a proposal that would destroy wetlands, we are convinced that the barrier island system, including wetlands and Submerged Aquatic Vegetation, will quickly recover once DOT stops building dunes and moving sand to protect Highway 12.

In the middle portion of the refuge, engineers could align a bridge to follow the current route of the dikes that now form the west wall of the waterfowl impoundments. In the past refuge management has voiced concern about the potential destruction of the wildlife ponds and the disturbance of having vehicles pass too close to feeding, resting, and nesting birds. County officials have countered that the wildlife ponds are heavily manipulated, and therefore not natural habitat. NCCF believes it may be possible to build a bridge to replace the western dikes, reducing wetlands destruction and leaving the middle part of the island undisturbed for wildlife. At the same time, the wildlife ponds could be reconfigured and opened to tidal flushing, thus more closely mimicking a natural estuarine system. If carefully planned, this compromise could restore components of the natural system while allowing a bridge to remain within the refuge.

FWS management says it does not have the funds for such an extensive reengineering of the refuge ponds. It would fall on the state to design and construct a roadway and the surrounding landscape features to meet both its needs and those of the FWS. While this would be highly unusual, we believe it would be much less expensive than nourishing the beaches of Pea Island and closing breaches for the life of the Parallel Corridor. It would certainly be less damaging to water quality and the barrier island system. And it would increase fisheries habitat.

South of the wildlife ponds, a bridge across New Inlet could be tied into the portion of the road that is not currently threatened by erosion. This would reduce the cost of the project. Public access to beaches could be provided in the New Inlet area and south. A bridge would again be required north of Rodanthe, in the S-curves area.

This suggested corridor is only one of several potential routings that could serve as a compromise. Others include landing a bridge near the northwest corner of North Pond and proceeding south along the dikes. It appears from the maps in the DEIS that such a routing would avoid major beds of Submerged Aquatic Vegetation, but careful surveys would need to be conducted.

Finally, in our conversations with local officials and residents, it has become clear that the favorite public destination point is the north end of the refuge. If another compromise cannot be

reached, the simplest solution would be to build the Pamlico Sound corridor with a spur to the north end. The terminal groin could be left in place. (Refuge management has indicated that it might accept leaving the groin in place, if DOT would agree to occasionally spread sand on its south side to maintain habitat for beach-nesting birds.) A spur for providing access to the north end could be included in other road alignments as well.

As a public document, the draft EIS falls short in not examining ways in which the two opposing camps—those who favor the Parallel corridor and those who favor the Pamlico Sound corridor—might be brought together. We intend this only as a starting point from which discussions can move forward. But it is clear to us that policy makers must examine more alternatives than those presented in the draft EIS, and that they must do so quickly. We urge DOT, the resource agencies, and the officials of Dare County to make a sincere and creative effort to find compromises that will satisfy parties on both sides of the issue.

In closing, everyone involved in this decision should recognize that there is no inexpensive, easy solution to this problem—because there is no cheap, impact-free way to maintain a major transportation corridor down a shifting barrier island. Provisions must be made for the changeable nature of the landscape.

Thank you for this opportunity to comment. If you have questions or would like to discuss our ideas further, please contact me at the above phone number or at hatteraskeeper@nccoast.org.

Sincerely,

Jan DeBlieu
Cape Hatteras COASTKEEPER®

North Carolina Coastal Federation

3609 Highway 24 (Ocean) Newport, NC 28570

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April 16, 2007

Gregory Thorpe, PhD
Analysis Branch
NC Department of Transportation
1548 Mail Service Center
Raleigh, NC 27699-1548

Dear Mr. Thorpe,

On behalf of the North Carolina Coastal Federation (NCCF), I submit these comments on the draft Supplemental Environmental Impact Statement for the replacement of the Herbert C. Bonner Bridge over Oregon Inlet (DOT Project No. 81051205). NCCF is a nonprofit organization charged with safeguarding the health and cleanliness of coastal waters. We have 8,000 members.

I am enclosing a copy of our letter from December 9, 2005, in which we set forth our objections to maintaining the Pea Island National Wildlife Refuge, a beautiful barrier island entrusted to federal care, as a staging ground for a highway. The island must be allowed to retreat in a natural fashion, and the road must retreat with it. Our 2005 letter also suggested a compromise for constructing a travel corridor that would provide reliable transportation to and from the villages on Hatteras Island, while granting the public access to the wildlife refuge. NCCF believes that it is possible to provide a travel corridor while at the same time allowing the barrier island to function as a natural system and allowing public access. Because Pea Island is beloved by residents of Dare County, all three of these goals are critical to the success of the project.

Our comment letter from 2005 read, in part:

Bonner Bridge connects with Highway 12 at the Pea Island National Wildlife Refuge, an undeveloped piece of land set aside by federal law as habitat for wildlife. Pea Island must be allowed to function as a natural system. Because barrier islands migrate, maintaining a highway from Oregon Inlet to Rodanthe poses especially difficult challenges. While beach renourishment and dune building may be acceptable on some barrier islands where human settlement is present, Pea Island is a wild, undeveloped barrier system and must remain so. This is not simply a desire on the part of NCCF, but a requirement under federal law.

The letter further suggested that DOT explore moving part of Highway 12 to the west side of the refuge, perhaps along the dikes that form the west wall of the wildlife

impoundments. The dikes could be replaced by bridges, restoring the natural tidal flushing of the ponds while allowing public access. We continue to believe that this alignment or one like it would provide a reasonable compromise to the impasse over the Bonner Bridge replacement. However, in later conversations with representatives of the U.S. Fish and Wildlife Service (FWS) it became clear to us that they were not willing to explore this option. They told us it was not likely to be compatible with the mission of the refuge under the 1997 National Wildlife Refuge Improvement Act. To our disappointment, discussion of the alternative was dropped. We continue to believe that this option might provide a reasonable solution to an unusually sticky problem.

For the current public comment period on the supplemental draft EIS, we feel compelled to reiterate the following points:

- Beach renourishment on a large scale is not acceptable within a national wildlife refuge. Whatever alternative is followed, Pea Island must be allowed to function as a natural barrier island. Thus, the parallel corridor with the beach renourishment option should be removed from consideration.
- The constant construction of high dunes on the east side of Highway 12 is thwarting the natural migration of the barrier island and causing sand to be washed out to sea. As a result, Pea Island is becoming more and more unstable. Thus, dune building as outlined in the supplemental DEIS should be removed from consideration.
- If a bridge is constructed in the Canal Zone portion of Highway 12, within a few years the highway will encroach on the beach, simply because of the unusually high rate of erosion in this stretch (11 to 12 feet a year, 1998 maps). It is impractical to think otherwise. Instead of taking a stroll on a peaceful, deserted strand, visitors could lay out their towels beneath a highway carrying thousands of cars a day. Is this really what DOT intends for Pea Island?
- The alternative that includes relocation of Highway 12 slightly to the west along the wildlife ponds is not likely to be found compatible with the 1997 National Wildlife Refuge Improvement Act. If this option is feasible, why not move the road to the far west side of the island?
- In choosing an option, it is vital to recognize the true costs of maintaining Highway 12 through 2060, as summarized on page vii of the document and elsewhere. Even the least expensive options far exceed the money currently available in DOT coffers.
- While the cost of the Pamlico Sound corridor, $1.3 billion to $1.8 billion, is higher than other options, it should be recognized that the Pamlico Sound bridge has a life expectancy of 100 years, twice as long as the Parallel Bridge and its various options for passage through Pea Island.

With the above considerations, we do not believe that the options laid out in the supplemental DEIS are suitable for the landscape of Pea Island or the political climate of Dare County. However, it may be possible to amend the designs of both the short bridge and long bridge to make them work. Our suggestions are as follows:

1) If the Pamlico Sound Corridor (long bridge) option is selected, access ramps should be provided to allow public access to Pea Island. A ramp might be brought in at the north end of the wildlife refuge. A second ramp might be designed to provide access to the beautiful beaches on the most stable section of Pea Island, between New Inlet and the S curves. We recognize that the ramps would add significantly to the cost of the project. However, this solution would allow the island to remain natural, provide reliable transportation to Hatteras through the 21st century, and meet the access goals of the local community.

2) If the Parallel Corridor (short bridge) is selected, DOT should work with FWS to find a route for Highway 12 on the west side of the refuge that will meet the three goals (natural island migration, reliable transportation, public access) while also meeting the management needs of the FWS. The route currently proposed through Pea Island places the natural beauty of Pea Island at risk and will force DOT into a losing battle against the ocean. We call on both DOT and FWS to negotiate in good faith on this point, and to view mitigation of impacts as an opportunity to return the wildlife refuge to a more natural landscape.

Finally, NCCF does not believe that DOT can realistically expect to maintain Highway 12 through Pea Island as designed and described in the EIS. Any beach as dynamic as that on Pea Island is a poor candidate for renourishment projects. The technical capacity of DOT to protect the road over the long run is limited and will always be, even if money were no object. If the parallel bridge is built and DOT attempts to keep Highway 12 in or near its current location, state officials and local residents should anticipate frequent disruption of highway service to Hatteras Island.

Thank you for the opportunity to submit these comments. I would be happy to answer any questions you may have.

Sincerely,

Jan DeBlieu
Cape Hatteras Coastkeeper

December 12, 2005

C.B. Goode, Jr.
Office of Human Environment
1583 Mail Service Center
Raleigh, NC 27699-1583

Dear Mr. Goode:

Please consider our comments below as part of the draft EIS on options for replacement of the Herbert C. Bonner Bridge over Oregon Inlet in Dare County (DOT Project No. 8.1051205).

In recognition of the intense development that has occurred and is continuing along the Nation's coastal barrier beaches and the special place that our Dare County Outer Banks and the adjacent inland sea of Pamlico Sound represents in the hearts of North Carolinians and the Nation, we urge that the options chosen for bridge replacement and highway 12 alignment preserve the unique environmental, cultural, and social heritage of this region. Natural areas like Pea Island and the Pamlico Sound provide ecosystem and human services that sustain not only fish and wildlife, but our lifestyles and coastal economy. These systems are also important for the rare opportunities they offer for humans to be engaged in a wild beach system. Thus, we urge care in replacement of this bridge and road so as to allow these natural areas to continue to function in a *natural* manner, while providing access for residents and visitors to enjoy the natural wonders of our Outer Banks.

We recognize that the maintenance of public vehicular access to Hatteras Island has become highly controversial. Two primary options are being considered. The first, supported by most public officials, involves a parallel replacement to the existing Bonner Bridge, combined with Highway 12 maintenance in its current alignment. This option addresses concerns over access to Pea Island and its natural attractions. However, most environmental advocates strongly prefer that access to Hatteras Island be provided by a 17-mile bridge span routed through the Pamlico Sound to avoid negative impacts to wildlife in the Pea Island refuge. Unfortunately, this option may not provide adequate public access to the refuge and will have negative impacts on Pamlico Sound.

Our review of this controversy and the scientific literature available on similar projects leads us to conclude that a compromise solution that can address both goals of environmental preservation and public access is undoubtedly desirable and possible. We would like to suggest that a variation on the Parallel Corridor, Road North/Bridge South may represent the basis for just such a compromise alternative.

One possible alternative would involve the coupling the short bridge with an alignment and design of Highway 12 that includes techniques to avoid certain especially damaging construction and landscape maintenance practices. For example, dredging and filling, channelization, and wetland destruction should be avoided as much as possible. Also "top-down" construction techniques, as noted on several bridge construction projects in Louisiana, provide opportunities to reduce construction impacts on environmentally sensitive areas associated with dredging, channelization, and soil compaction from heavy construction equipment. Impacts from runoff associated with long bridge spans can be minimized using stormwater devices and techniques that treat and disperse the discharge. Importantly, the road alignment must not use techniques that include causeways or dikes that block water flow and impede circulation, flushing, and passage of fish and other marine organisms are critical to maintaining production of ecosystem goods and

services. Additionally, upon occasion, projects that improved flushing helped enhance SAV densities in protected bays.

Using the parallel short bridge option, there would be no additional area of the Pamlico Sound newly impacted to provide access to Hatteras Island. If this short bridge option is coupled with an alignment for Highway 12 that includes design and construction techniques that avoid dredge-and-fill, use elevated sections to span the critical hotspots identified in the EIS, render beach nourishment and artificial dune building unnecessary, and allow natural island physical and biological processes to proceed unimpeded, then all interests could be satisfied. Such a solution would require a route, road/bridge design, and maintenance process that would permit breaches in Pea Island to open and fill naturally and overwash to proceed, thereby providing important bird nesting habitat. Furthermore, this design may involve some restoration of function in the ponds to increase the wetland acreage and also SAV habitat as mitigation for SAV losses involved in using the western alignment.

Our assembly and review of the technical literature provided some guidance on practices to avoid and processes to sustain during and after bridge and road construction on a coastal barrier island. In particular, there are ways to design and build bridges and roads to minimize construction, post-construction, and maintenance impacts attributed to shading, disruption of water circulation, dredging and filling, and wetland destruction. Nevertheless, no past study deals with a situation precisely analogous to the Bonner Bridge replacement issue, where access to, yet preservation of, such a valuable natural system as the Pea Island refuge is so critical. Hence, we conclude that more detailed, inspired, and motivated study of an alternative using the short bridge with a route and design for Highway 12 that maintain the environmental functions of Pea Island is advisable. Indeed, with regard to the issue of NC 12 maintenance we reiterate that the Supplemental Draft EIS notes that there is an approach in which "...components could be mixed and matched geographically along the length of NC 12 to create other variations."

Please do not hesitate to contact us for clarification and further assistance, boldly assuming that this brief analysis is helpful.

Sincerely,

Nancy M. White Ph.D.
C. "Pete" Peterson Ph.D.
John T. Wells Ph.D.

SIERRA CLUB
FOUNDED 1892

December 9, 2005

Mr. Carl B. Goode Jr.
Office of Human Environment
North Carolina Department of Transportation
1583 Mail Service Center
Raleigh, NC 27699-1583

Subject: North Carolina Chapter Sierra Club Comments on NC 12 Replacement of Herbert C. Bonner Bridge - Supplemental Draft Environmental Impact Statement, dated September 12, 2005

Dear Mr. Goode:

On behalf of the 19,000 members of the North Carolina Chapter Sierra Club, thank you for the opportunity to provide our comments on the Supplemental Draft Environmental Impact Statement for the replacement of the Herbert C. Bonner Bridge connecting NC 12 between Bodie and Hatteras Islands on North Carolina's Outer Banks. Note that we have submitted more technical comments in collaboration with other organizations in a letter sent to you by the Southern Environmental Law Center.

Our members, including over 100 who are residents of the Outer Banks, have a wide range of interests which may be affected by the proposed project. These include diverse recreational activities (fishing, birding, wind-surfing, etc.), appreciation of nature and protection/enhancement of the natural environment, business and commercial interests, and residential life. In short, we appreciate the great need for safe, reliable transportation to Hatteras Island and we believe that this need can be met in a way that preserves and, in fact, enhances the other important interests of our members, Outer Banks residents, and the public at large.

The mission of the Sierra Club is "to explore, enjoy, and protect the wild places of the Earth." The North Carolina Chapter Sierra Club can think of few places on our coast more worthy of protection, through proper management, than Oregon Inlet and the dynamic barrier island system associated with it. Appropriate management of this area - of which the bridge replacement project is a critical component - can ensure safe, reliable transportation to and from Hatteras Island, as well as through the inlet between Pamlico Sound and the Atlantic Ocean, while

restoring and protecting some of the natural integrity of the inlet and associated barrier island system. As such, we are pleased to present our vision for Oregon Inlet as it pertains to the replacement of the Herbert C. Bonner Bridge.

Executed properly, the Pamlico Sound Bridge Corridor options provide the best balance of reliable, safe transportation, environmental protection, and recreational opportunities. It is our belief that not only can environmental protection and safe, reliable access be co-achieved, but that they are actually co-dependent; that is, given the dynamic nature of this area, the options that best protect the environment also ensure the most reliable transportation. It is our further belief that the Pamlico Sound Bridge Corridor options will be easier to move through the permitting process and, as such, will be better able to meet the urgent demands of the bridge replacement schedule.

Safe, Reliable Transportation

The Pamlico Sound Bridge Corridor options will unquestionably provide the most reliable transportation to and from Hatteras Island, as these options are the only ones that totally avoid all three existing overwash hotspots on NC 12 through Pea Island National Wildlife Refuge (PINWR). Accordingly, we believe that this would ultimately be the least expensive option when all costs of the bridge options, over the potential 100-year design life cycle, are fully and fairly considered. Each of the Parallel Bridge Corridor options would require some continued maintenance of NC 12 through PINWR, with the "With Nourishment" option requiring the most extensive amount of continual maintenance work, making it the least reliable and likely, the most costly, option.

Environmental Protection

The Pamlico Sound Bridge Corridor is clearly the best option in terms of preserving the ecological and geologic integrity of the northern portion of Hatteras Island. The Sierra Club believes that the bridge replacement offers an excellent opportunity to protect and restore the natural characteristics of Oregon Inlet and the associated barrier island system, which will in turn benefit wildlife, recreational opportunity, and fisheries. As such, we believe that the following should be priorities in the bridge replacement project:

- removal of the terminal groin on the south side of Oregon Inlet;
- no nourishment/bulldozing within PINWR; and
- protection of dry and wet lands within PINWR.

The Pamlico Sound Bridge Corridor avoids submerged aquatic vegetation adjacent to Hatteras Island, and the lands of Pea Island National Wildlife Refuge (PINWR). The Pamlico Sound Bridge Corridor also precludes the need for the terminal groin to stabilize the north end of Hatteras Island as well as the need for nourishment and sand bulldozing within PINWR. In short, the Pamlico Sound Bridge Corridor keeps all options for the management of the northern portion of Hatteras Island open, while the Parallel Bridge Corridor options will tie the hands of the state and federal government to intensive and increasingly difficult and expensive sand management activities within PINWR for the life of the new bridge.

We are sensitive to the need for a reliable navigational channel through Oregon Inlet between the Pamlico Sound and Atlantic Ocean and support the 2002 decision by the White House Council on Environmental Quality (CEQ) to provide state-of-the art navigational aids and to allow the US Army Corps of Engineers to use low-impact dredging to maintain an appropriate navigable channel for the vessels that currently use the inlet. The Sierra Club supports complete removal of the terminal groin and allowing semi-natural (because of the channel maintenance dredging) migration of the inlet. The Sierra Club believes that such an approach to the maintenance of Oregon Inlet for navigation will restore semi-natural barrier island processes south of the inlet, benefiting wildlife and enhancing fisheries in the area, while ensuring safe and reliable navigation for vessels using the inlet for recreation and commerce.

Recreational Activities/Access

The Sierra Club recognizes that access to PINWR for recreational activities is a major concern of stakeholders involved in the bridge replacement planning process. Given our diverse membership, we share some of these concerns as well. While we support proposed efforts by the US Fish and Wildlife Service (USFWS) to reach consensus via future public planning sessions regarding access to PINWR and the disposition of NC 12 north of the Pamlico Sound Bridge terminus on Hatteras Island, we suggest that DOT, USFWS, and other critical parties begin this access planning process now in order to better address the public's concerns about these matters.

With respect to access in a Pamlico Sound Bridge Corridor bridge replacement option, the Sierra Club generally supports a less intensive maintenance effort for the existing NC 12, and/or its corridor, north of the south terminus of the new bridge, following the bridge's replacement. This should not include the maintenance of an artificial dune line to protect the highway. The Sierra Club supports continuing to allow access to PINWR and the inlet to the extent possible, consistent with the natural characteristics of PINWR, applicable law, and refuge policy. Such access will allow the public to explore, enjoy, and better appreciate the natural beauty and value of this rare and important barrier island ecosystem.

Likewise, we see no technical reason why fishing access to the inlet proper (such as is provided now via the catwalk on the south side of the Bonner Bridge) cannot continue to be provided in a Pamlico Sound Bridge Corridor replacement. While such a feature would certainly add to the cost of the replacement bridge, technical feasibility has been demonstrated, for example, by the public fishing pier on the Chesapeake Bay Bridge-Tunnel.

Thank you again for the opportunity to provide our comments on this extremely important project. Please do not hesitate to contact me if necessary.

Sincerely,

Victor D'Amato, PE
Coastal Issues Chair
North Carolina Chapter Sierra Club

cc: John F. Sullivan III, PE (US FHA)
William Biddlecome (US Army COE)

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Charlottesville, VA
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December 9, 2005

VIA FACSIMILE AND FIRST CLASS MAIL

Mr. Carl Goode, P.E.
Manager of Human Environment
Department of Transportation
1583 Mail Service Center
Raleigh, NC 27699-1583

Re: NC 12 Replacement of Herbert C. Bonner Bridge: Supplemental Draft Environmental Impact Statement and Draft Section 4(f) Evaluation NCDOT TIP Project Number B-2500

Dear Mr. Goode:

The Southern Environmental Law Center submits the following comments on the above-referenced Supplemental Draft Environmental Impact Statement (SDEIS) on behalf of Defenders of Wildlife, North Carolina Sierra Club, the Pamlico-Tar River Foundation, North Carolina Wildlife Federation, and the National Wildlife Federation. After reviewing the SDEIS and associated scientific research, we support the Pamlico Sound Bridge alternative and do not agree that the Parallel Bridge corridor is a viable alternative. We have numerous concerns about the adequacy of review of the environmental impacts associated with the Parallel Bridge alternatives. We also have concerns related to compliance with other federal laws, specifically the National Wildlife Refuge System Improvement Act and Section 4(f) of the Department of Transportation Act of 1966.

OVERVIEW:

The proposed project area encompasses the entirety of Pea Island National Wildlife Refuge (PINWR). Established in 1938 by Executive Order, PINWR is a "refuge and breeding ground for migratory birds and other wildlife." Exec. Order No. 7862, 3 Fed. Reg. 734 (Apr. 12, 1938). PINWR lies on the north end of Hatteras Island, separated from North Carolina's mainland by marshes and Pamlico Sound. Hundreds of thousands of migratory birds, including the greater snow goose and other migratory waterfowl, migrating shorebirds, raptors, wading birds, and migratory songbirds, use PINWR. PINWR manages approximately 1,000 acres of waterfowl impoundments for the benefit of migratory birds. Also, PINWR has 13 miles of ocean beach that provide nesting habitat for loggerhead sea turtles, green sea turtles, piping plover, and several species of shorebird.

Hatteras Island and Oregon Inlet are part of a dynamic barrier island system and PINWR relies on this dynamic process for ecological viability of the refuge. The project area is characterized by a highly variable and rapidly eroding shoreline. PINWR is subject to ocean overwash, high ocean shoreline erosion rates, inlet formation, and other impacts associated with large storm events, sea level rise, and general barrier island dynamics. While many of these natural processes are incompatible with transportation corridors, they are beneficial to the abundant PINWR wildlife and are instrumental in creating nesting habitat, feeding grounds, and other natural habitat.

As scientists have developed a better understanding of barrier island dynamics, federal and state agencies are investigating long-term solutions to the problems posed by locating transportation corridors within this volatile system. The series of short-term solutions that have been utilized to-date are costly and perpetual. Between 1987 and 1999, the Department of Transportation has spent as much as $50 million to repair and protect the existing Bonner Bridge and NC 12 from the constant beach erosion and severe weather impacts. See Letter from Mike Bryant, Pea Island National Wildlife Refuge Manager, to Citizens of Outer Banks, (June 26, 2003) (available at http://www.fws.gov/peaisland/images/bonnerbridgeletter62603.pdf) The SDEIS lists a series of additional projects within the proposed project area that continue this short-term fix approach. These additional projects include: relocating NC 12 north of Rodanthe; planning for interim measures to protect NC 12 from sand and ocean overwash at the Sandbag Area Hot Spot; and planning for interim measures to protect NC 12 from sand and ocean overwash at the Canal Zone Hot Spot. SDEIS at vi-vii. The need for these costly, temporary fixes will not end so long as NC 12 is located within this area. Furthermore, PINWR cannot be adequately managed in a manner that promotes the environmentally beneficial aspects of the barrier island system.

After several years of study, the federal and state agencies responsible for this proposed project reached concurrence that the Pamlico Sound bridge corridor would meet established long-term goals for the project area. Through the Outer Banks Task Force, state and federal agencies determined that the long-term goals for this area were (1) to preserve the natural barrier island system; (2) minimize impacts to Hatteras and Ocracoke islands; and (3) maintain access top and on the islands so that the transportation system is safe, efficient, and has minimal impact on the environment. SDEIS at 2-15. The Parallel Bridge corridor alternatives cannot meet these objectives because none preserve the natural barrier island system, all have significant effects on Hatteras Island, and the transportation corridor cannot be maintained safely and efficiently within this dynamic environment. As discussed in greater detail below, the Pamlico Sound Bridge is the only alternative that will work and can be authorized pursuant to applicable federal laws.

COMPLIANCE WITH THE NATIONAL WILDLIFE REFUGE SYSTEM IMPROVEMENT ACT

1. NCDOT and FHWA must demonstrate that bridge replacement is compatible with the purposes of Pea Island National Wildlife Refuge.

Congress passed the National Wildlife Refuge System Improvement Act ("NWRSIA") in 1997. According to the legislative history, the purpose behind NWRSIA is "to establish clearly the conservation mission of the System, provide clear Congressional guidance to the Secretary for management of the System, provide a mechanism for unit-specific refuge planning, and give refuge managers clear direction and procedures for making determinations regarding wildlife conservation and public uses of the System and individual refuges." H. Rep. No. 105-106 (May 21, 1997). In enacting NWRSAA, Congress stated:

> [I]t is the policy of the United States that – (A) each refuge shall be managed to fulfill the mission of the System, as well as the specific purposes for which that refuge was established; . . . (C) compatible wildlife-dependent recreational uses are the priority general public uses of the System and shall receive priority consideration in refuge planning and management." 16 U.S.C. § 668dd(a)(3). Further, "[T]he Secretary shall – (A) provide for the conservation of fish, wildlife, and plants, and their habitats within the System; (B) ensure that the biological integrity, diversity, and environmental health of the System are maintained for the benefit of present and future generations of Americans."
> 16 U.S.C. § 668dd(a)(4).

"[T]he Secretary shall not initiate or permit a new use of a refuge or expand, renew, or extend an existing use of a refuge, unless the Secretary has determined that the use is a compatible use and that the use is not inconsistent with public safety." 16 U.S.C. § 668dd(d)(3)(A)(i). "Compatible use" "means a wildlife-dependent recreational use or any other use of a refuge that, in the sound professional judgment of the Director, will not materially interfere with or detract from the fulfillment of the mission of the System or the purposes of the refuge." 16 U.S.C. § 668ee. "Sound professional judgment" requires "a finding, determination, or decision that is consistent with principles of sound fish and wildlife management and administration, available science and resources, and adherence to the requirements of this Act and other applicable laws." 16 U.S.C. § 668ee.

A compatibility determination must, according to the act, be based on "sound professional judgment." As discussed in the legislative history, the touchstone for "sound professional judgment" is the consideration of biological factors. "In the exercise of sound professional judgment, the refuge manager considers the biological resources and, based upon available science, whether they can sustain reasonable public use." H. Rep. No. 105-106. Although the Service's 2000 Final Compatibility Regulations declined to incorporate more explicit language related to "biological integrity, diversity, and environmental health" into the definition of "sound professional judgment," the agency acknowledged that these concepts "are an important and fundamental requirement of the

law and establish[] a baseline for all actions ... taken on refuges." 65 Fed. Reg. 62458, 62469 (Oct. 18, 2000). Finally, the legislative history makes clear that the "sound professional judgment" language was not intended to insulate compatibility decisions from judicial review under the APA. Although "discretion resides in refuge officials," the act establishes "detailed standards and procedures to be followed in making compatibility determinations," such that the judiciary has sufficient basis to evaluate compliance with the law. H. Rep. No. 105-106.

In addition to "sound professional judgment," the other major element of a compatibility decision is assessing whether the proposed use will "materially interfere with or detract from the fulfillment of the mission of the System or the purposes of the refuge." 16 U.S.C. § 668ee. According to the Fish & Wildlife Service's 2000 Final Compatibility Policy (65 Fed. Reg. 62484), which was announced concurrently with the implementing regulations:

> Inherent in fulfilling the System mission is not degrading the ecological integrity of the refuge. Compatibility, therefore, is a threshold issue, and the proponent(s) of any use or combination of uses must demonstrate to the satisfaction of the Refuge Manager that the proposed use(s) pass this threshold test. The burden of proof is on the proponent to show that they pass; not on the Refuge Manager to show that they surpass. Some uses, like a proposed construction project on or across a refuge that affects the flow of water through a refuge, may exceed the threshold immediately, while other uses, such as boat fishing in a small lake with a colonial nesting bird rookery may be of little concern if it involves few boats, but of increasing concern with growing numbers of boats. Likewise, when considered separately, a use may not exceed the compatibility threshold, but when considered cumulatively in conjunction with other existing or planned uses, a use may exceed the compatibility threshold . . . .
>
> The Refuge Manager must consider not only the direct impacts of a use but also the indirect impacts associated with the use and the cumulative impacts of the use when conducted in conjunction with other existing or planned uses of the refuge, and uses of adjacent lands or waters that may exacerbate the effects of a refuge use.

65 Fed. Reg. 62484, 62490 (Oct. 18, 2000). Of particular significance is the policy's recognition that even a nominally "compatible" use could be deemed "incompatible" by virtue of its association with or addition to other existing or planned use of a refuge. Thus, in the case of Bonner Bridge, the Service's compatibility determination of replacement of the bridge under any alternative must consider the obvious connection to the current highway through PINWR, and the impacts related to that highway.

Several court decisions provide additional clarity to the compatibility requirement. Although these cases arose under National Wildlife Refuge management

statutes predating NWRSIA, the decisions provide relevant context for the compatibility determination required for the proposed bridge replacement. In 1973, the Department of the Interior issued regulations to restrict uncontrolled beach driving within Back Bay National Wildlife Refuge (near the border between coastal VA and NC). During the 1960s and 1970s, land developers and private citizens began using the beach as a traffic corridor to access private beachfront properties south of the refuge. With the 1973 regulations, Interior stopped this activity, limiting motorized traffic through refuge to only emergency vehicles and the like. Disgruntled landowners challenged the authority of the Secretary to prohibit their driving on the beach. The district court in Coupland v. Morton, 5 ELR 20504 (E.D. Va. 1975), aff'd per curiam 5 ELR 20507 (4th Cir. 1975), summarily rejected the landowners' claim, finding "that the continued and rapidly escalating use of the Refuge beach as a traffic corridor for land developers and land owners . . . is inimical to the use of the property as a wildlife refuge and is a depradation of the purpose of the property as a wildlife refuge." 5 ELR at 20506. The Coupland case is significant because it embodies a judicial and an administrative acknowledgement that a destructive, non-wildlife-dependent activity like beach driving is "inimical" to the refuge's purpose and an affirmation of the Secretary's broad power to protect refuges from harmful activities like beach driving regardless of the countervailing social, political, or economic pressures.

In two 1978 decisions, known as Ruby Lake I and Ruby Lake II, conservationists successfully challenged the Secretary's decision not to prohibit, but to allow motorboats of unlimited horsepower in the Ruby Lake National Wildlife Refuge (Nevada). Concerned about the impact of speedy, powerful boats on the canvasback and redheaded duck populations, plaintiffs invoked the "compatibility" language of the Refuge Recreation Act of 1962, which prohibited any form of recreation that would "interfere with the [refuge's] primary purposes." 16 U.S.C. §460k. The court, in Ruby Lake I, struck down the decision to allow boats of unlimited horsepower because the Secretary failed to make the necessary "compatibility" determination. Defenders of Wildlife v. Andrus, 11 Envtl. Rptr. Cases 2098 (D.D.C. 1978). The court made several significant findings: (1) that the Secretary bears the burden of demonstrating that a permitted use "is incidental to, compatible with, and does not interfere with the primary purpose of the refuge as 'an inviolate sanctuary for migratory birds'"; (2) that the compatibility analysis under the RRA "does not permit the Secretary to weigh or balance economic, political or recreational interests against the primary purpose of the Refuge"; and (3) that a prior history of incompatible use is irrelevant and provides no basis for allowing the continuation of that use.

In the wake of the court's ruling, the Secretary promptly issued new regulations authorizing motorboat recreation. These regulations lowered the boating speed limits, but did nothing with respect to horsepower. Again, the plaintiffs challenged the regulations, and again, the court found the regulations in violation of the RRA's compatibility requirement. Defenders of Wildlife v. Andrus, 455 F. Supp. 446, 449 (D.D.C. 1978). Because of the natural unenforceability of a speed limit, the court in Ruby Lake II held that "the degree and manner of boating use" permitted by the Secretary "is inconsistent, and would interfere with the Refuge's primary purpose." Id.

The Secretary's decision to the contrary was therefore held arbitrary and capricious. Id. In conjunction, Ruby Lake I and II establish that the "compatibility" requirement (as expressed in the RRA) confers on the agency not only a power but also a duty to protect the refuge system against incompatible activities. Further, agency decisions to permit a specific use constitute final action that may be found arbitrary and capricious if they violate this duty.

Another "compatibility" determination that was found arbitrary and capricious involved the Secretary's attempt to allow an oil exploration support base within the Alaska Maritime NWR. Nat'l Audubon Soc'y v. Clark, 606 F. Supp. 825, 843, 846 (D. Alaska 1984). In the court's view, "the administrative record reveal[ed] . . . a substantial risk of significant short and long term injury to the island's wilderness qualities. Such prospective environmental degradation would inexorably conflict with the express goal of the Alaska Maritime NWR to conserve the abundant wildlife populations and habitats of this refuge in their 'natural diversity.'" Id. at 843. Compatibility determinations may involve activities that appear – to some observers – relatively innocuous. In McGrail & Rowley v. Babbitt, for example, the FWS denied the commercial permit application of a catamaran operator seeking to lead tours of about 50 people to an island within Key West NWR. 986 F. Supp. 1386 (S.D. Fla. 1997). The tour operator planned to anchor in waters off the island and allow passengers to wade up to the beach, explore the shore by kayak, fly kites, or play paddleball or frisbee in the water. Id. at 1390. FWS found the planned activity incompatible, denied the permit application, and was subsequently sued by the tour operator. The court found the agency's decision adequately justified on evidence that there was already "excessive public use" in the area and the use of kites, paddleballs, and frisbees was "incompatible with the wilderness character of the island." Id. at 1392.

2. Only the Pamlico Sound Bridge alternative complies with the National Wildlife Refuge System Improvement Act.

As recognized in the SDEIS, the continued use of NC 12 thru PINWR is a use that is subject to a compatibility determination. As discussed above, NCDOT and FHWA must demonstrate that a bridge replacement alternative is compatible with PINWR's purpose or it cannot be permitted. None of the Parallel Bridge alternatives comply with the National Wildlife Refuge Improvement Act because the associated operation and maintenance of NC 12 interferes impermissibly with the Refuge's purpose. As explained in more detail below, the only alternative that can be determined to be compatible is the Pamlico Sound Bridge.

The keystone to determining compatibility is the mission of the National Wildlife Refuge System and the purpose of PINWR. The NWRIA establishes wildlife conservation as the primary National Wildlife Refuge mission. "Inherent in fulfilling the System mission is not degrading the ecological integrity of the refuge." Final Compatibility Policy Pursuant to the National Wildlife Refuge System Improvement Act of 1997, 65 Fed. Reg. 62484, 62489 (Oct. 18, 2000). Recognizing that the ecological integrity of any national park or refuge in the project area is closely tied to the geological

dynamic system, the National Park Services policy now requires that the Cape Hatteras National Seashore be managed to "support the natural processes of barrier island dynamics." SDEIS at 2-17. PINWR was established by executive order in 1938 as the Pea Island Migratory Waterfowl Refuge and its purpose is to be "a refuge and breeding ground for migratory birds and other wildlife." 3 Fed. Reg. 734 (Apr. 12, 1938). As discussed above, PINWR supports a vast array of migratory birds, mammals, and threatened and endangered species. PINWR provides important feeding and nesting grounds for the federally listed piping plover and is a nesting area for loggerhead and green sea turtles.[1]

Building any of the Parallel Bridge alternatives will directly, substantially, and adversely affect the continued utilization of the Refuge as a breeding ground for migratory birds and other wildlife and damage the ecological integrity of the refuge. In order to maintain NC 12 through the northern portion of Hatteras Island, which is a dynamic system with dramatic shoreline erosion and potential for new inlet formation, the needs of the wildlife refuge would be subsumed by the need to move the road, nourish the beaches, and develop an artificial dune system. Currently, the constant beach erosion and severe weather events result in continual maintenance to repair and protect the integrity of NC 12. SDEIS at 2-48. The repair and maintenance of NC 12 degrades the ecological integrity of the refuge and harms the habitat of migratory birds and wildlife.

As the SDEIS acknowledges, "Oregon Inlet, Bodie Island, and Hatteras Island are part of a migrating barrier system characteristic of the southeast Atlantic Coast." SDEIS at 3-31. High erosion rates characterize these systems. "The rate of erosion of the Hatteras Island shoreline has accelerated in the last decade (1993-2003). Shoreline erosion and ocean overwash threaten to sever segments of the NC 12 roadway for several miles south of Bonner Bridge." SEDIS at 2-48. Even the inaccurate assessment provided in the SDEIS predicts that the shoreline will erode well into refuge land over the next 50 years.[2] All Parallel Bridge corridor alternatives will require continual NC 12 maintenance, including moving the road, artificial dune creation, and beach nourishment. None of these repair and maintenance methods can occur within PINWR in a manner that is compatible with the Refuge purpose.

Beyond shoreline erosion, the proposed project area is susceptible to large storm events, which dramatically shape PINWR. "North Carolina coast is subject to two types of severe windstorms: extra-tropical northeasters and hurricanes. Northeasters, with accompanying high tides and waves, can rapidly erode the shoulders of Oregon Inlet. Northeasters are fairly common in this area, with between 30 and 35 hitting the coast each year. Hurricanes may be responsible for major events, such as inlet openings and

[1] Additional comments on the endangered species impacts are included in later sections of this comment letter.

[2] Although the SDEIS relies on average annual shoreline erosion rates to predict future shoreline conditions, the average rate does not take into consideration the high annual variability of erosion and accretion. In other words, within a year a stretch of shoreline could erode 10 feet and accrete 5 feet and would only have an annual shoreline erosion of 5 feet.

closings and gorge shifts . . . " SDEIS at 3-36. As discussed in more detail below, the SDEIS underestimates the impact of these large storm events. For the purposes of the compatibility determination, these severe weather events perform important ecological functions and are beneficial to PINWR. Transportation corridors, however, require protection from severe weather events. In protecting NC 12, the natural processes are stunted and PINWR cannot fulfill its purpose.

The Pamlico Sound bridge corridor allows PINWR to manage the refuge lands in such a way as to promote habitat creation and protection for the wildlife in the refuge. None of the Parallel Bridge alternatives allows sufficient flexibility for the Fish and Wildlife Service to manage PINWR and, therefore, cannot be compatible.

COMPLIANCE WITH THE DEPARTMENT OF TRANSPORTAION ACT OF 1966

Only the Pamlico Sound Bridge alternative complies with Section 4(f) of the Department of Transportation Act of 1966.

Section 4(f) of the Department of Transportation Act of 1966 is a "plain and explicit bar" to federal approvals of highways that use section 4(f) lands and it imposes "clear and specific directives on the Secretary of Transportation." See Citizens to Preserve Overton Park v. Volpe, 401 U.S. 402, 411 (1971). As interpreted by the Court, section 4(f) creates a presumption that public lands, like those within this project area, cannot be used for a highway absent a truly compelling rationale that explains why no alternative is possible. "Section 4(f) evidences Congress' response to growing public concern over the preservation of our nation's parklands, recreation areas, wildlife and waterfowl refuges, and historic sites" Druid Hills Civic Assoc., Inc. v. Federal Highway Administration, 772 F.2d 700, 713-14 (11th Cir. 1985). The Pea Island National Wildlife Refuge may not be used for highways absent a finding by the Secretary of Transportation that no alternative exists to utilizing the refuge land. As discussed more fully below, none of the Parallel Bridge alternatives satisfy the requirements of section 4(f) of the Department of Transportation Act of 1966. The Pamlico Sound Bridge, however, is a feasible and prudent alternative and squarely meets the section 4(f) requirements.

Section 4(f) limits the Secretary to approving transportation projects on public land "**only** if (1) there is no prudent and feasible alternative to using that land; and (2) the program or project includes all possible planning to minimize harm to the . . .wildlife and waterfowl refuge." 49 U.S.C. § 303 (c) (1)-(2) (emphasis added). "The requirements are stringent. Congress clearly reflected its intent that there shall no longer be reckless, ill-considered, wanton desecration of natural sites significantly related to our country's heritage." Stop H-3 Assoc. v. Coleman, 533 F.2d 434, 438 (9th Cir. 1976). This determination is a two-step process. First, the Secretary must examine prudent and feasible alternatives that avoid using a significant park, recreation area, or refuge. If such a feasible and prudent alternative exists, then the Secretary cannot approve or fund a project that uses the refuge. But if no feasible and prudent alternative exists and use of

refuge land is unavoidable, then the Secretary must ensure that all possible measures are taken to minimize harm to the public land.

Within the Bonner Bridge project area, there are two areas that utilize public land. The northern termini of all bridge alternatives will utilize portions of the Cape Hatteras National Seashore. The southern termini of the proposed bridge options all utilize PINWR, but widely diverge on amount and impacts. Although PINWR is part of the Seashore, it is a separate section 4(f) resource and impacts to it must be evaluated separately. All of the Parallel Bridge alternatives adversely affect PINWR. The Pamlico Sound Bridge is the only alternative that completely avoids any impacts and does not utilize public land within PINWR.

1. The Pamlico Sound Bridge is a feasible and prudent alternative that prohibits the approval of any other alternative.

The Pamlico Sound Bridge is a feasible and prudent alternative that does not use Pea Island National Wildlife Refuge (PINWR) land. Feasible alternatives are those that "can be accomplished as a matter of sound engineering.' Citizens to Preserve Overton Park, 401 U.S. at 411. Only if an alternative presents "truly unusual factors" or the economic, social, or environmental costs reach "extraordinary magnitudes," will an alternative be considered to be imprudent. Id. See also, 23 C.F.R. § 771.135 (a)(2) ("Supporting information must demonstrate that there are **unique problems** or **unusual factors** involved in the use of alternatives that avoid [4(f)] properties or that the cost, social, economic, and environmental impacts, or community disruption resulting from such alternatives reach **extraordinary magnitudes**.") (emphasis added).

The Pamlico Sound Bridge is a prudent and feasible alternative to using PINWR land. It is within the range of accepted engineering to build the Pamlico Sound Bridge—it is a feasible alternative. The Pamlico Sound Bridge does not present any unique problems or unusual factors. Any replacement bridge alternative must meet the SDEIS listed purposes, which are: (1) daily and emergency access across Oregon Inlet; (2) allowing continued navigation of Oregon Inlet while allowing the channel to move and (3) ensuring that any replacement is not threatened by the dynamic shoreline movement as predicted through 2050. SDEIS at 1-5 through 1-6. The Pamlico Sound Bridge achieves the listed purposes. It provides a safe, reliable, transportation corridor that bypasses the dynamic areas of Hatteras Island and avoids impacts to PINWR.

The economic, social, and environmental impacts related to the Pamlico Sound Bridge alternative are not extraordinary. Instead, the Pamlico Sound Bridge is more effective economically, socially, and environmentally. The Pamlico Sound Bridge provides a more dependable daily and emergency transportation route. The Pamlico Sound Bridge is more cost-effective. "In fact, once a property has been designated as a § 4(f) property, the monetary expense required to protect that property in conjunction with a roadway construction project is of minimal relevance." Hatmaker v. Georgia DOT by & Through Shackelford, 973 F. Supp. 1058, 1062 (M.D. Ga. 1997). The Pamlico Sound Bridge corridor eliminates the need for costly beach nourishment, dune building, and

road maintenance that would occur in perpetuity with any other bridge replacement alternative. Although the SDEIS artificially restricts the project life to 50 years, the actual expected bridge life expectancy is 100 years. SDEIS at 3-39, 3-43. All of the Parallel Bridge alternatives, if built, would require significant annual expenditure well beyond the lifetime of any person currently involved in this project. At the end of the 100 year life-span, the dynamic nature of the barrier island system will not have changed and the state of North Carolina will have thrown away billions of dollars. The Pamlico Sound Bridge eliminates the perpetual and costly maintenance expenses and is a more economically sound bridge alternative. Furthermore, the Pamlico Sound Bridge is more environmentally responsible. By avoiding PINWR, the Pamlico Sound Bridge allows the refuge to be managed to support wildlife conservation and it avoids the adverse environmental impacts associated with beach nourishment, dune building, and other transportation corridor maintenance.

For all these reasons, the Pamlico Sound Bridge alternative is a feasible and prudent alternative and the Secretary is prohibited by Section 4(f) from funding or permitting any of the Parallel Bridge alternatives.

2. The Parallel Bridge alternatives cannot be considered because they do not minimize harm to the refuge, as required by Section 4(f).

Section 4(f) requires any alternative that utilizes public land to "include[] all possible planning to minimize harm to the . . .wildlife and waterfowl refuge." 49 U.S.C. § 303 (c) (2). The Parallel Bridge alternatives do not minimize harm to the refuge, but rather are the most harmful alternatives.

3. The draft 4(f) determination provided in the SDEIS is inadequate because it ignores the required feasible/prudent analysis and inadequately addresses the requirement that harm to the refuge is minimized.

Although the draft section 4(f) evaluation acknowledges the legal standards for a 4(f) determination, the draft 4(f) analysis omits any reference to whether the alternatives presented are feasible and prudent. SDEIS at 5-1 As discussed above, section 4(f) is an "explicit bar" to any federal approval for utilization of refuge lands. The draft section 4(f) evaluation must first look at any alternatives to using refuge lands. Then, if no feasible and prudent alternatives are found, any alternative that uses refuge land must minimize harm to the refuge. As discussed above, the Pamlico Sound Bridge alternative is feasible and prudent. Therefore, no utilization of refuge land may be permitted and the section 4(f) evaluation is complete. The current draft section 4(f) evaluation, however, recognizes that the Pamlico Sound Bridge alternative "is an avoidance alternative" because it does not use refuge lands, but the evaluation fails to determine that it is a feasible and prudent alternative. SDEIS at 5-41.

Furthermore, the draft section 4(f) arbitrarily states that both the Parallel Bridge and the Pamlico Sound alternatives minimize harm to PINWR equally. SDEIS 5-41. Section 4(f) requires that in the event there is no prudent and feasible alternative that

impacts to a wildlife refuge be minimized. The purpose of Wildlife Refuges (as discussed above in the Compatibility Section) is the conservation of wildlife. The impacts on PINWR associated with the Pamlico Sound Bridge alternative are limited to impacts on the existing visitor's center. The issues related to access by PINWR visitors should not be described as harm to the Refuge. The primary purpose of the refuge is wildlife conservation and the Parallel Bridge alternatives are the only alternatives that impact the wildlife conservation mission of PINWR. Moreover, the existing visitor could be easily relocated. All other ancillary impacts cannot be characterized as harm to the Refuge because they do not harm the purpose of the Refuge.

NEPA ENVIRONMENTAL IMPACTS ANALYSIS

Under federal law, environmental impact statements serve two key purposes. The first is to require federal agencies thoroughly and objectively to investigate, evaluate and disclose environmental consequences associated with any major federal action in sufficient detail to assist the agencies in determining whether and how to proceed with a proposed action. See Nat'l Audubon Soc'y v. Dep't of the Navy, 422 F.3d 174, 184 (4th Cir. 2005). The second is to provide the public with a full and accurate disclosure of the likely environmental impacts of a proposed action. In order to fulfill these purposes, the SDEIS must describe the purpose and need for the proposed action, analyze the direct and secondary environmental and economic impacts of a range of alternative means to fulfilling that purpose, and, if mitigation is proposed, analyze the effectiveness of the proposed mitigation. See 40 C.F.R. § 1502.1 (2005).

The SDEIS inadequately analyzes the environmental impacts related to shoreline erosion and new inlet formation; endangered and threatened species; and impacts to wetlands.

1. Shoreline Erosion, Inlet Formation, and Ocean Overwash

The proposed project is located in an extremely dynamic coastal area, which includes an active tidal inlet (Oregon Inlet) and a coast subject to significant shoreline erosion and ocean overwash. Within the project area, NC 12 is subject to perpetual threats from the shoreline erosion and ocean overwash and because of the dynamic nature of the system is subject to regular maintenance. The SDEIS does not adequately analyze the effects of shoreline erosion, inlet creation, and ocean overwash on the proposed project area. Rather, the SDEIS de-emphasizes the damage that these processes can inflict on NC 12 and neglects the beneficial impacts to the environment.

a. Shoreline Erosion

The SDEIS correctly states that the proposed project area is subject to a high rate of erosion. SDEIS at 3-31. It appears, however, that in calculating the average annual shoreline erosion rate that the SDEIS fails to incorporate several important factors.

First, the SDEIS states that shoreline erosion rates have been increasing. SDEIS at 2-48. By utilizing historic annual average erosion rates, however, the erosion rates may underestimate the amount of erosion that will occur and the projected shoreline movement through 2060 may be substantially conservative. Second, nourishment increases the erosion rate over that expected for a natural beach. See, Pilkey, et al, North Carolina Shore and Its Barrier Islands 100 (1998). Although sub-areas within the project area have been nourished in the past, the shoreline prediction rates do not appear to include a factor related to increased erosion from beach nourishment. Third, sea level rise is also predicted to increase erosion rates. Id. at 45. Finally, by utilizing an average erosion rate as a prediction tool for the shoreline, the SDEIS fails to adequately analyze the importance of large or severe storm events in shaping the proposed project area. Although the effect of Hurricane Katrina on Gulf of Mexico barrier islands is still being evaluated, there is no doubt that major weather events shape the barrier islands. This year was the most active hurricane season on record and 2006 is predicted to be of similar magnitude. Historically, major storm events have a dramatic effect on the project area—creating inlets, increasing erosion. By failing to account for the impact from severe weather events, the SDEIS arbitrarily discounts the impacts of severe weather. SDEIS at 3-36. Federal regulations require, however, that environmental impact statements analyze reasonably foreseeable catastrophic events, "even if their probability of occurrence is low." 40 C.F.R. § 1502.22 (2005).

b. Inlet Formation

Inlets are very high energy and difficult to predict. As the SDEIS accurately summarizes, experts have identified five potential inlet locations along Pea Island. The SDEIS ignores, however, the beneficial impacts to the environment of natural inlet creation, migration, and closure. For example, during severe weather events, inlets act as release valves, allowing storm surge that has entered the sound to exit. Inlets also help to protect shallow sand shoals. The Pamlico Sound Bridge corridor confers an environmental benefit on the proposed project area that should be considered in evaluating the alternatives.

c. Ocean Overwash

Ocean overwash is a natural and essential part of barrier island dynamics. Overwash moves sand to the sound side of barrier islands. Over long time scales, these processes enable barrier islands to respond to sea level rise by moving the island landward. On shorter, multi-year time scales, overwash processes deposit sand and cause landform changes, both of which are needed to maintain a healthy ecosystem for coastal plant and animal species. Because ocean overwash is detrimental to the transportation corridor, engineering practices such as artificial dune building and beach nourishment are used to prevent ocean overwash. This deprives barrier islands of the necessary resilience to respond to sea level rise and prevents habitat creation. The SDEIS does not analyze the environmental benefits from removing the transportation corridor and allowing ocean overwash.

2. Beach Nourishment

a. Biological Impacts of Nourishment on the Proposed Project

The SDEIS fails to investigate adequately negative biological impacts to beach organisms. Organisms can be harmed either directly by sand placement or indirectly through alterations to the beach environment. Indirect impacts from beach nourishment can include diminished reproductive success, reduction in biomass of prey items, and long-term changes to substrate composition at dredging sites. For example, "birds may be displaced by dredges, pipelines, and other equipment along the beach, or may avoid foraging on the beach if they are aurally affected." Atlantic States Marine Fisheries Commission, "Beach Nourishment: A Review of the Biological and Physical Impacts" (November 2002). Other direct impacts include eggs, hatchlings, and adult birds crushed by sand. Id. Indirect impacts to birds feeding are related to the sediment grain. "If the sediment is too coarse or high in shell content it can inhibit the bird's ability to extract food particles in the sand. Fine sediment that reduces water clarity can also decrease feeding efficiency of birds." Id.

b. Geological Impacts of Nourishment on the Proposed Project

Nourishment can change the geological profile of the target beach. As mentioned above," a steeper beach profile is created when sand is stacked on the beach during the nourishment process. This condition can lead to great wave energy and the beach and greater beachside erosion." Atlantic States Marine Fisheries Commission, "Beach Nourishment: A Review of the Biological and Physical Impacts" 5 (November 2002). Because of this higher erosion rate, the demand for sand increases over the life of the beach. Id. at 6. As discussed above, nourishment precludes ocean overwash, leading to further erosion on the sound side.

c. Economic Impacts of Nourishment on the Proposed Project

The SDEIS artificially limits the true cost of the Parallel Bridge/nourishment alternative because it is a cost-estimate based on a 50 year project period. The life expectancy of any of the bridge alternatives is anticipated to be 100 years. SDEIS at 3-39. If the accurate project life-span is used in nourishment cost calculations, the total cost for nourishment is estimated to be $930,000,000. See Pea Island Shoreline 100-year Assessment, FDH Engineering, Inc. (July 2004). For the long-term, the Parallel Bridge/nourishment alternative far exceeds the cost of the Pamlico Sound Bridge Corridor.

3. Endangered and Threatened Species

The SDEIS states that a parallel bridge corridor is likely to adversely affect the threatened green sea turtle and piping plover. SDEIS at 4-71, 4-73. The Pamlico Sound Bridge alternative is not likely to adversely affect any federally protected species. SDEIS at 4-69 through 4-77. The SDEIS inaccurately concludes that a parallel bridge corridor is

not likely to adversely affect the threatened loggerhead sea turtle. SDEIS at 4-73. Loggerhead sea turtles are known to breed on the beaches within the project area and, as with green sea turtles, would likely to be adversely affected by a parallel bridge alternative.

The SDEIS fails to consider the impacts of required long-term nourishment on piping plover or sea turtles. To the extent nourishment is an integral part of a parallel bridge alternative, it must be considered in assessing adverse impacts to threatened or endangered species. Long-term nourishment of 6.3 miles of beaches on a four-year return interval within the project area would have adverse impacts on piping plover and sea turtles. Long-term nourishment has several adverse effects. By utilizing nourishment and large artificial dunes to protect NC 12, the nourishment will prevent overwash. Overwash is part of ecologically important inlet creation, migration and closure and over time, helps to create new moist sand interetidal feeding areas on the sound side. Without overwash, erosion continues to threaten sound side wetlands. By suppressing overwash, nourishment leads to loss of piping plover sound side feeding habitat and nesting habitat. In addition, the nourishment and artificial dune system prevents natural maintenance of existing habitat by increasing vegetative succession. Furthermore, nourishment may result in a steeper beach profile, reducing the available intertidal area. See National Park Service, Natural Resource Year in Review—2004: Ecosystem Restoration in an Altered Coastal Environment, available at www2.nature.nps.gov/YearinReview/01_A.html (last visited Dec. 8, 2005) ("A berm constructed to reduce the potential for island breaching has prevented natural overwash processes and has reduced habitat availability of piping plover.").

The SDEIS fails to analyze the impacts on nourishment on sea turtles. Beach nourishment can directly impact turtles by burying nests and disturbing nesting turtles. Because nourishment can change the beach, it impacts turtles indirectly. Beach nourishment may result in increased sand compaction and hardness and changes in moisture content and beach slope. Furthermore, as discussed above, nourished barrier islands may erode more quickly than natural beaches. This rapid erosion creates escarpments, which hampers access to nesting sites. In a vicious cycle, the rapid erosion may necessitate re-nourishment at more frequent intervals, thereby increasing the likelihood of interference with sea turtle nesting. See Fish and Wildlife Service, Recovery Plan for the U.S. Population of Atlantic Green Turtle, 3, 1991, available at http://www.nmfs.noaa.gov/pr/readingrm/Recoverplans/Atl_green_tur_rp.pdf (last visited Dec. 8, 2005).

4. Wetlands Impacts

The various bridge alternatives assessed in the SDEIS all impact wetlands and will require authorization under Section 404 of the Clean Water Act. SDEIS at 2-116. The Pamlico Sound alternative has substantially less impact on wetlands and the aquatic environment than all of the other alternatives considered: 4.18 to 4.84 acres of wetlands (depending on the terminus) including only .01 acres of CAMA wetlands. Of the alternatives assessed, the Parallel Bridge/road north/bridge south alternative impacts by

far the largest amount of wetlands: 78.2 acres of wetlands including 11.8 acres of CAMA wetlands. SDEIS at 4-58. The Parallel Bridge/all bridge alternative impacts the second largest amount of wetlands: 12.3 acres of wetlands including 2.2 acres of CAMA wetlands. Id.

The Parallel Bridge/nourishment alternative would impact an extensive but unquantified amount of wetlands and waters. While the SDEIS states that this alternative would impact 4.3 acres of wetlands including .3 acres of CAMA wetlands, this estimate does not include extensive filling of near-shore waters associated with the required nourishment. Id. The SDEIS states that 6.3 miles of beach will be nourished every four years. SDEIS at 2-104. The SDEIS further notes that in addition to direct fill impacts, the Parallel Bridge/nourishment alternative would result in "additional impacts associated with dredging for sand and then nourishment of 6.3 miles (10.1 kilometers) of the seashore within the refuge." SDEIS at 4-66. These impacts must be assessed and considered in the 404 permit review as a part of the Parallel Bridge/nourishment alternative per 33 C.F.R. § 325.1 (d)(2):

> All activities which the applicant plans to undertake which are reasonably related to the same project and for which a DA permit would be required should be included in the same permit application. District engineers should reject, as incomplete, any permit application which fails to comply with this requirement. For example, a permit application for a marina will include dredging required for access as well as any fill associate with construction of the marina. 33 C.F.R. § 325.1 (d)(2).

Section 404(a) of the CWA, 33 U.S.C. § 1344(a), authorizes the Secretary of the Army, acting through the Corps of Engineers, to issue permits for the discharge of dredged or fill materials into wetlands or other waters. Section 404(b)(1) of the CWA, 33 U.S.C. § 1344(b)(1), directs the Environmental Protection Agency to issue guidelines ("404(b)(1) Guidelines") defining the circumstances in which dredged or fill material may be discharged into wetlands or other waters. The Corps must deny applications for section 404 permits if the discharge that would be authorized by the permit would not comply with EPA's 404(b)(1) Guidelines. 33 C.F.R. § 320.4(a). The 404(b)(1) Guidelines prohibit issuance of a permit where:

> (i) There is a practicable alternative to the proposed discharge that would have less adverse effect on the aquatic ecosystem, so long as such alternative does not have other significant adverse environmental consequences; or
>
> (ii) The proposed discharge will result in significant degradation of the aquatic ecosystem . . . ; or
>
> (iii) The proposed discharge does not include all appropriate and practicable measures to minimize potential harm to the aquatic ecosystem; or

(iv) There does not exist sufficient information to make a reasonable judgment as to whether the proposed discharge will comply with these Guidelines.

40 C.F.R. §230.12(a)(3). An alternative to discharge to a wetland "is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purpose." 40 C.F.R. § 230.10(a)(2). Where a discharge is proposed for a wetland or other special aquatic site, all practicable alternatives to the proposed discharge which do not involve a discharge to the wetland "are presumed to have less adverse impact on the aquatic ecosystem, unless clearly demonstrated otherwise." 40 C.F.R. § 230.10(a)(3). "[T]he applicant and the [Corps] are obligated to determine the feasibility of the least environmentally damaging alternatives that serve the basic project purpose. If such an alternative exists . . . the CWA compels that the alternative be considered and selected unless proven impracticable." Utahns for Better Transp. v. U.S. Dept. of Transp., 305 F.3d 1152, 1188-1189 (10th Cir. 2002). The Pamlico Sound Bridge is a practicable alternative with the least impact on aquatic ecosystems and wetlands, and is the only alternative assessed in the SDEIS that may be permitted under Section 404.

ISSUES NOT RELATED TO FEDERAL PERMITTING REQUIREMENTS: ACCESS TO PINWR BY VISITORS

The SDEIS identifies continued access to PINWR as an area of concern. We support continued public access to PINWR. We do not agree, however, the access is contingent upon maintenance of NC 12. Many public lands provide for public access to remote areas. For example, Chincoteague National Wildlife Refuge in Virginia has a transportation plan that provides for access to the barrier island, Back Bay National Wildlife Refuge in Virgina and Santa Ana National Wildlife Refuge in Texas both offer tram services, and Cape Lookout National Seashore provides a boat ferry to dock and transportation to the point.

PINWR Refuge Manager has publicly stated that "U.S. Fish and Wildlife Service will continue to allow people to enjoy compatible, wildlife-dependent recreational uses on Pea Island National Wildlife Refuge." Letter from Mike Bryant, Pea Island National Wildlife Refuge Manager, to Citizens of Outer Banks, (June 26, 2003) (available at http://www.fws.gov/peaisland/images/bonnerbridgeletter62603.pdf). We believe that access to the Refuge can be accommodated within a reasonable refuge management plan and the Fish and Wildlife Service has shown itself capable of managing a reasonable access plan for other National Wildlife Refuges.

We recognize the need to replace Bonner Bridge and support construction of a new bridge that provides dependable transportation to Hatteras Island, is environmentally sound, and is economically reasonable. We support the Pamlico Sound Bridge corridor alternative and believe that it satisfies these objectives.

Thank you for your consideration of our comments.

Sincerely,

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April 17, 2007

VIA ELECTRONIC MAIL, FACSIMILE AND FIRST CLASS MAIL

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Re: Supplement to the 2005 Supplemental Draft Environmental Impact Statement and Draft Section 4(f) Evaluation NCDOT TIP Project Number B-2500

Dear Dr. Thorpe:

B-276

The following comments on the above-referenced Supplement to the 2005 Supplemental Draft Environmental Impact Statement and Draft Section 4(f) Evaluation ("Supplement") are submitted on behalf of the Southern Environmental Law Center, the North Carolina Chapter of Sierra Club, the Pamlico-Tar River Foundation, the North Carolina Wildlife Federation and Defenders of Wildlife. These comments are intended to supplement our previous comments on the Supplemental Draft Environmental Impact Statement (SDEIS) submitted on December 9, 2005. Our prior comments remain relevant and are hereby incorporated by reference.

After reviewing the Supplement, the SDEIS, and associated scientific research, we continue to support the Pamlico Sound Bridge alternative and do not agree that any of the alternatives that utilize the Parallel Bridge corridor, including the new Phased Approach, are viable alternatives. Our comments today are focused on our numerous concerns about the adequacy of review of the environmental impacts associated with the Parallel Bridge alternatives, including the new Phased Approach and related compliance with the National Wildlife Refuge System Improvement Act and Section 4(f) of the Department of Transportation Act of 1966.

OVERVIEW:

The Supplement proposes an additional alternative—the Phased Approach—within the Parallel Bridge corridor explained in the SDEIS. This new alternative continues to maintain a transportation corridor at the cost of public safety, reliability, and ecological protection. Furthermore, the Phased Approach is not compatible with the purpose of the Pea Island National Wildlife Refuge, pursuant to the National Wildlife

Refuge System Improvement Act, nor is it a viable alternative pursuant to Section 4(f) of the Department of Transportation Act of 1966.

Pea Island National Wildlife Refuge ("Refuge") is at the core of the debate about the Bonner Bridge replacement. Hatteras Island and Oregon Inlet are part of a dynamic barrier island system and the Refuge relies on this dynamic process for ecological viability. The Refuge is subject to ocean overwash, high shoreline erosion rates, inlet formation, and other impacts associated with large storm events, sea level rise, and general barrier island dynamics. While many of these natural processes are incompatible with transportation corridors, they are beneficial to the abundant wildlife and are instrumental in creating nesting habitat, feeding grounds, and other natural habitats. These tremendous natural resources draw tourists, anglers, birders, and other outdoor enthusiasts. Many members of our organizations regularly recreate and enjoy the natural resources of the Refuge. We support protecting the biological integrity of the Refuge and ensuring continued access for all compatible wildlife-dependent recreational uses of the Refuge that are consistent with the U.S. Fish and Wildlife Service's congressionally mandated mission to "provide for the conservation of fish, wildlife, and plants, and their habitats."

NC 12 and its associated maintenance are steadily degrading the Refuge and the Phased Approach does not protect against this degradation. As discussed more fully below, the Phased Approach is not a viable alternative. The Phased Approach would keep NC 12 under construction for the life of the project as short bridges are perpetually built through the Refuge north of Rodanthe. Furthermore, the "phased" short bridge locations are estimated based on current shoreline erosion and inlet formation predictions. Shoreline changes, however, are often episodic in nature and are difficult to predict precisely. An inlet could form or the shoreline erode prior to or during a planned construction phase. Also, the effect of climate change has not been adequately evaluated. Any increase in storm intensity and/or sea level rise may cause substantial revisions to the current predictions, further exacerbating the uncertainty associated with predicting inlet/breach locations and timing.

Even if the Phased Approach could be completed in a manner compatible with the dynamic shoreline, the final project is a long bridge in the Atlantic Ocean. As the Supplement acknowledges, the Phased Approach would interfere with fishing, surfing, and other beach activities and will severely limit and reduce access to the Refuge. In contrast, the Pamlico Sound Bridge is safer, more reliable, and more protective of the environment. The Pamlico Sound Bridge would not be subject to ocean overwash, inlet formation, or erosion. It would allow the U.S. Fish and Wildlife Service to preserve and protect the Refuge and the associated wildlife. Furthermore, the Pamlico Sound Bridge is the only alternative that will work and can be authorized pursuant to applicable federal laws.

THE PHASED APPROACH CANNOT COMPLY WITH THE NATIONAL WILDLIFE REFUGE SYSTEM IMPROVEMENT ACT

In our comment letter on the SDEIS dated December 9, 2005, we reviewed in detail the legislative history and current cases interpreting the National Wildlife Refuge System Improvement Act (Refuge Act). The Refuge Act continues to be pertinent to the discussion of additional alternatives, but for the sake of brevity that discussion is hereby incorporated by reference.

The Phased Approach and any indirect or cumulative impacts associated with it are subject to a compatibility determination pursuant to the Refuge Act. The Refuge Act prevents any new use or expanded, renewed, or extended use of a refuge to be permitted, "unless the Secretary has determined that the use is a compatible use and that the use is not inconsistent with public safety." 16 U.S.C. § 668dd(d)(3)(**A**)(i). To be compatible, uses must preserve a refuge and promote the refuge system's mission. Accordingly, any use of the Refuge must be one that does not degrade the Refuge's ecological integrity nor interfere with its mission to provide a refuge and breeding ground for migratory birds and other wildlife.

All indirect and cumulative impacts that arise from a refuge use must also be considered and determined to be "compatible." The Refuge Compatibility Policy clearly states: "The Refuge Manager must consider not only the direct impacts of a use but also the indirect impacts associated with the use and the cumulative impacts of the use when conducted in conjunction with other existing or planned uses of the refuge, and uses of adjacent lands or waters that may exacerbate the effects of a refuge use." 65 Fed. Reg. 62484, 62490 (Oct. 18, 2000). Because the Phased Approach, and the associated direct and indirect impacts, is a use of the Refuge that "materially interfere[s] with" and "detract[s] from the fulfillment of the mission of the System or the purposes of the refuge," it cannot be found to be compatible. 16 U.S.C. § 668ee.

The Phased Approach directly impacts the Refuge. The Phased Approach will maintain a transportation corridor that bisects the Refuge for fifty years (the life of the project). During the life of the project the perpetual construction and associated noise and direct environmental impacts will degrade the Refuge resources, degrade wildlife habitat, and materially interfere with the purpose of the Refuge. The Phased Approach also will have significant indirect impacts. Because of the unpredictable nature of barrier island dynamics—including inlet/breach formation, shoreline erosion rates and locations, and sound side erosion—the Phased Approach will likely require "temporary" or "emergency" actions that will permanently and adversely affect the Refuge. As has been the case for maintaining NC 12 in the past, these temporary measures include sand bags, beach nourishment, dune rebuilding, dune sprigging and fencing. All of these measures interfere with the natural barrier island dynamics that are necessary to sustain naturally the Refuge and the associated wildlife. These measures have severe affects on wildlife and habitat and are reasonably foreseeable indirect impacts associated with the Phased Approach. Furthermore, the final Phased Approach is a bridge in the Atlantic Ocean. This ocean-side bridge will be a new feature on the beach, which the Supplement fails to

evaluate adequately. For example, an ocean-side bridge may affect erosion rates, inlet formation, ocean overwash, etc. Once these natural processes are interrupted, the bridge will impact migratory bird and other wildlife habitat. Although the Supplement refers to studies conducted on a pier, it is illogical to assume that a pier would have the same effects on the adjacent shoreline as a bridge that travels parallel to the shore for miles. For these reasons, the Phased Approach is not compatible with the Refuge.

The Supplement incorrectly states that a compatibility determination is only necessary for "alternatives that use Refuge lands outside the existing easement." Supplement at xxiv. First, as discussed above, the Refuge Act specifically mandates that a compatibility determination consider the direct, indirect, and cumulative impacts on refuge land and any adjacent land or waters that affect the Refuge use. The Phased Approach will have direct and indirect adverse impacts on the Refuge and it is therefore subject to a compatibility determination. Furthermore, the NC12 easement is not a carte blanche proclamation that allows NCDOT to pursue any action without respect for the Refuge Act. The Refuge Act itself recognizes that easements and right-of-ways may coexist on national wildlife refuges. Work within easements, however, may be limited by the Refuge Manager and may be subject to a compatibility determination. For example, maintenance of an existing right-of-way is subject to review and approval by the U.S. Fish and Wildlife Service and is restricted to minor actions such as minor expansions or minor realignments to meet safety standards. *See* Final Compatibility Policy Pursuant to the National Wildlife Refuge System Improvement Act of 1997, 65 Fed. Reg. 62484, 62490 (Oct. 18, 2000). The Phased Approach's impacts on the Refuge are far from minor, include significant direct and indirect effects, and cannot be determined to be compatible.

Finally, the Supplement and the SDEIS are inadequate because the information is not sufficient to prove that any of the Parallel Bridge alternatives, including the Phased Approach, could be compatible. North Carolina Department of Transportation and Federal Highway Administration have the burden to prove that a use is compatible. "Compatibility, therefore, is a threshold issue, and the proponent(s) of any use or combination of uses must demonstrate to the satisfaction of the Refuge Manager that the proposed use(s) pass this threshold test. The burden of proof is on the proponent to show that they pass; not on the Refuge Manager to show that they surpass." 65 Fed. Reg. 62484, 62490 (Oct. 18, 2000) Nothing in the Supplement or the SDEIS proves that any Parallel Bridge alternative, including the Phased Approach, could possibly be found to be compatible and the NCDOT and FHWA have not met the burden of proof.

THE PHASED APPROACH DOES NOT COMPLY WITH THE DEPARTMENT OF TRANSPORTATION ACT OF 1966

As discussed in our comment letter on the SDEIS dated December 9, 2005, which is hereby incorporated by reference, Section 4(f) of the Department of Transportation Act of 1966 is a "plain and explicit bar" to federal approvals of highways that use section 4(f) lands and it imposes "clear and specific directives on the Secretary of Transportation." See Citizens to Preserve Overton Park v. Volpe, 401 U.S. 402, 411 (1971). Pursuant to

Section 4(f), the Refuge may not be used for a transportation corridor absent a finding by the Secretary of Transportation that no alternative exists to utilizing the Refuge land.

We remain concerned that the draft Section 4(f) determination provided in the Supplement is inadequate because it fails to acknowledge that the Pamlico Sound Bridge is the only alternative that exists to utilizing the Refuge and inadequately evaluates how the other alternatives minimize harm to the Refuge. Although the draft Section 4(f) evaluation acknowledges the legal standards for a Section 4(f) determination, the draft Section 4(f) analysis omits any application of those standards. Section 4(f) is an "explicit bar" to any federal approval for utilization of refuge lands. The draft Section 4(f) evaluation must first look at any alternatives to using refuge lands. Then, if no feasible and prudent alternatives are found, any alternative that uses refuge land must minimize harm to the refuge.

The Pamlico Sound Bridge alternatives are the only alternatives to using Refuge lands and the Supplement and SDEIS recognize it as the "avoidance" alternative for Section 4(f) purposes. None of the other alternatives, including the Phased Approach, can be considered to avoid the impacts on the Refuge. Because the Pamlico Sound Bridge satisfies the first prong of the Section 4(f) evaluation, Section 4(f) explicitly bars any other alternative.

NEPA ENVIRONMENTAL IMPACTS ANALYSIS

Pursuant to the National Environmental Policy Act ("NEPA"), an Environmental Impact Statement ("EIS") is required to satisfy a number of statutory and regulatory requirements. It must consider all reasonably foreseeable significant adverse impacts of the proposed action and all reasonable alternatives to the proposed action. *See* 40 C.F.R. § 15022.22; 42 U.S.C. § 4332(C)(iii), (E); 40 C.F.R. § 1502.1. It must consider the cumulative, indirect and secondary impacts of the proposed action, including reasonably foreseeable expansions in the scope of the proposed action. 40 C.F.R. § 1502.16. All cooperating agencies have a mandatory duty to consider the environmental impacts of other "past, present, and reasonably foreseeable future actions." 40 C.F.R. § 1508.7. These regulations are directed at avoiding improper segmentation and ensuring that indirect, connected, cumulative and similar actions are properly considered in an EIS.

The Phased Approach will have significant adverse impacts on the Refuge that the Supplement fails to adequately evaluate. As discussed in our comments on the SDEIS, hereby incorporated by reference, all Parallel Bridge alternatives, including the Phased Approach, will be impacted by shoreline erosion, inlet formation, and ocean overwash. The shoreline erosion and inlet formation evaluation is particularly pertinent in evaluating the Phased Approach. Because these events are episodic by nature, it is impossible to predict precisely when and where an inlet might form or erosion imminently threaten NC 12. Although it is impossible to predict dates and times, past experience and current modeling predict that NC 12 is subject to perpetual threats. The Supplement and the SDEIS fail to take a "hard look" at the adverse impacts from placing a transportation corridor within such a dynamic system. The Phased Approach does not

avoid these impacts. The schedule for the "phased" bridges may or may not coincide with the natural movement of Hatteras Island or with predicted inlet formations. A bridge might be under construction when an inlet forms underneath it or an inlet may form prior to construction even beginning. The SDEIS and the Supplement fail to analyze the reasonably foreseeable impacts to the Refuge from temporary or "emergency" measures taken to protect a phased bridge under construction or an area that is not slated for construction until decades after the threat. These temporary or emergency measures including, for example, sand bags, road relocation, beach nourishment, dune building (and rebuilding), all have permanent and adverse ecological impacts that severely affect biota, geology, and overall ecology of the Refuge. Finally, the final outcome of the Phased Approach is a bridge in the Atlantic Ocean. The placement of a bridge of this length and size on a dynamic shoreline raises many concerns. How will the bridge withstand the natural forces, including increased impacts from wind, in a manner that provides a safe and reliable transportation corridor? How will the presence of a bridge parallel to the shore impact long shore sediment transport, erosion rates, and inlet formation? The Supplement relies on a single study of a pier and analogizes to the ocean-side bridge that is parallel to the shore. This analysis lacks substance and is inadequate. Without thoroughly and completely evaluating the impacts on the environment from these measures, the Supplement and the SDEIS fail to take a "hard look" at the reasonably foreseeable effects from the Parallel Bridge alternatives.

The Supplement also proposes a "mix and match" approach that cannot be supported by the NEPA analysis. The "mix and match" approach assumes that any and every combination of impacts has been adequately analyzed. Unfortunately, this approach fails to recognize that each alternative—bridges, nourishment, and dune building will have different environmental impacts (direct, indirect, and cumulative) depending on the magnitude of the alternative (e.g. the total miles and location of nourishment), the sequence of chosen alternatives, the timing relative to shoreline changing events, and the scope and location of the initiating event (e.g. location and size of a breach or punctuated shoreline erosion). The Supplement and the SDEIS inadequately evaluate the reasonably foreseeable environmental impacts and cannot support a "mix and match" approach.

THE PHASED APPROACH DOES NOT ADEQUATELY ADDRESS NATURAL RESOURCE IMPACTS.

The various bridge alternatives assessed in the SDEIS and the new alternatives evaluated in the Supplement all impact wetlands and will require authorization under Section 404 of the Clean Water Act. SDEIS at 2-116. The Pamlico Sound alternative impacts on wetlands and the aquatic environment are 4.18 to 4.84 acres of wetlands (depending on the terminus) including only .01 acres of CAMA wetlands. Of the alternatives assessed, the Parallel bridge/road north/bridge south alternative impacts by far the largest amount of wetlands: 78.2 acres of wetlands including 11.8 acres of CAMA wetlands. SDEIS at 4-58. The parallel bridge/all bridge alternative impacts the second largest amount of wetlands: 12.3 acres of wetlands including 2.2 acres of CAMA wetlands. Id. The parallel bridge/nourishment alternative would impact an extensive but

unquantified amount of wetlands and waters. While the SDEIS states that this alternative would impact 4.3 acres of wetlands including .3 acres of CAMA wetlands, this estimate does not include extensive filling of near-shore waters associated with the required nourishment. Id. The SDEIS states that 6.3 miles of beach will be nourished every four years. SDEIS at 2-104. The SDEIS further notes that in addition to direct fill impacts, the parallel bridge/nourishment alternative would result in "additional impacts associated with dredging for sand and then nourishment of 6.3 miles (10.1 kilometers) of the seashore within the refuge." SDEIS at 4-66.

The Supplement states that the Phased Approach would impact 3.1 acres of wetlands, including 0.3 acres of CAMA coastal wetlands. Supplement at 4-31. This lower wetland impact appears to be based on the assumption that sand movement will naturally fill wetlands prior to implementing "phases" that include wetlands that currently exist. Supplement at 4-31. This assumption fails to adequately consider the impacts from construction of the phases and the timing of the phases. As the Supplement acknowledges, construction impacts from the Phased Approach include constructing a service road that will be in service for decades. Also, when and where wetlands are naturally filled may or may not be within the same time frame as construction of the Phased Approach. Therefore, the Supplement may underestimate the wetland impacts by assuming that the Phased Approach will occur in coordination with the natural erosion and overwash cycle. Furthermore, if overwash occurs before a planned construction phase, the NC DOT will push back any sand to recreate dunes and to stabilize NC 12. This action prevents the natural filling of wetlands in the right of way, making it more likely that the actual construction of the Phased Approach will require the fill of jurisdictional wetlands. Again, these assumptions may underestimate the actual impact to wetlands from the Phased Approach.

These impacts must be assessed and considered in the 404 permit review as a part of the Phased Approach per 33 C.F.R. § 325.1 (d)(2):

> All activities which the applicant plans to undertake which are reasonably related to the same project and for which a DA permit would be required should be included in the same permit application. District engineers should reject, as incomplete, any permit application which fails to comply with this requirement. For example, a permit application for a marina will include dredging required for access as well as any fill associate with construction of the marina. 33 C.F.R. § 325.1 (d)(2).

The Supplement summarily dismisses these impacts and fails to evaluate the total wetland impacts from the Phased Approach.

Section 404(a) of the CWA, 33 U.S.C. § 1344(a), authorizes the Secretary of the Army, acting through the USACOE, to issue permits for the discharge of dredged or fill materials into wetlands or other waters. Section 404(b)(1) of the CWA, 33 U.S.C. § 1344(b)(1), directs the Environmental Protection Agency to issue guidelines ("404(b)(1) Guidelines") defining the circumstances in which dredged or fill material may be

discharged into wetlands or other waters. The USACOE must deny applications for section 404 permits if the discharge that would be authorized by the permit would not comply with EPA's 404(b)(1) Guidelines. 33 C.F.R. § 320.4(a). The 404(b)(1) Guidelines prohibit issuance of a permit where:

> (i) There is a practicable alternative to the proposed discharge that would have less adverse effect on the aquatic ecosystem, so long as such alternative does not have other significant adverse environmental consequences; or
>
> (ii) The proposed discharge will result in significant degradation of the aquatic ecosystem . . . ; or
>
> (iii) The proposed discharge does not include all appropriate and practicable measures to minimize potential harm to the aquatic ecosystem; or
>
> (iv) There does not exist sufficient information to make a reasonable judgment as to whether the proposed discharge will comply with these Guidelines.

40 C.F.R. §230.12(a)(3). An alternative to discharge to a wetland "is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purpose." 40 C.F.R. § 230.10(a)(2). Where a discharge is proposed for a wetland or other special aquatic site, all practicable alternatives to the proposed discharge which do not involve a discharge to the wetland "are presumed to have less adverse impact on the aquatic ecosystem, unless clearly demonstrated otherwise." 40 C.F.R. § 230.10(a)(3). "[T]he applicant and the [Corps] are obligated to determine the feasibility of the least environmentally damaging alternatives that serve the basic project purpose. If such an alternative exists . . . the CWA compels that the alternative be considered and selected unless proven impracticable." Utahns for Better Transp. v. U.S. Dept. of Transp., 305 F.3d 1152, 1188-1189 (10th Cir. 2002). Furthermore, the total temporary and permanent biotic impacts (which include wetland impacts) from construction of either of the phased approaches are not insignificant (48.5 acres temporary biotic impact, Supplement to SDEIS, p. 4-30). The Pamlico Sound Bridge is a practicable alternative with the least impact on aquatic ecosystems and wetlands, and is the only alternative assessed in the SDEIS or Supplement that may be permitted under Section 404.

Furthermore, the phased alternatives present a likely adverse impact to federally endangered populations of both piping plover (Supplement to SDEIS, p. 4-37) and green sea turtle (Supplement to SDEIS, p. 4-38). The supplement to the SDEIS incorrectly concludes that the phased alternatives would not likely adversely affect loggerhead sea turtles, based on observations from 2003 and 2004 (Supplement to SDEIS, p. 4-39). The area should be re-evaluated before making such conclusions. The eventual presence of

bridge pilings in the surf or on the beach would certainly impact the quality of nesting habitat for this species.

The SDEIS states that a parallel bridge corridor is likely to adversely affect the threatened green sea turtle and piping plover. SDEIS at 4-71, 4-73. The Pamlico Sound Bridge alternative is not likely to adversely affect any federally protected species. SDEIS at 4-69-4-77. The Supplement changes the SDEIS biological conclusion for green sea turtles and piping plovers to "unresolved." The SDEIS and Supplement inaccurately conclude that a parallel bridge corridor is not likely to adversely affect the threatened loggerhead sea turtle. SDEIS at 4-73. Loggerhead sea turtles are known to breed on the beaches within the project area and, as with green sea turtles, would likely to be adversely affected by a parallel bridge alternative.

The Supplement and the SDEIS fail to consider the impacts of a long-term construction schedule, as is proposed in the Phased Approach, required long-term nourishment, or any combination thereof on piping plover or sea turtles. It is of particular concern that the Supplement appears to propose any mix and match of short bridge construction, beach renourishment, and dune building. Each of these will have specific impacts on protected species, such as the piping plover and sea turtles, as well as impacts to the natural biota. For example, if nourishment is an integral part of a parallel bridge alternative, the adverse impacts to threatened or endangered species must be more completely assessed. Long-term nourishment of 6.3 miles of beaches on a four-year return interval within the project area would have adverse impacts on piping plover and sea turtles. Long-term nourishment has several adverse effects. By utilizing nourishment and large artificial dunes to protect NC 12, the nourishment will prevent overwash. Overwash is part of ecologically important inlet creation, migration and closure and over time, helps to create new moist sand intertidal feeding areas on the sound side. Without overwash, erosion continues to threaten sound side wetlands. By suppressing overwash, nourishment leads to loss of piping plover sound side feeding habitat and nesting habitat. In addition, the nourishment and artificial dune system prevents natural maintenance of existing habitat by increasing vegetative succession. Furthermore, nourishment may result in a steeper beach profile, reducing the available intertidal area. The Supplement fails to asses and evaluate the true impacts on fisheries, wildlife, and protected species and the Phased Approach therefore cannot be a permitted alternative.

THE PHASED APPROACH FAILS TO PROVIDE LONG-TERM ACCESS TO THE REFUGE

The SDEIS identifies continued access to the Refuge as an area of concern. We support continued public access to the Refuge, as stated above and in our comments on the SDEIS, as long as access is compatible with Refuge's mission. We reiterate that access is not contingent upon maintenance of NC 12 and many public lands provide for public access in ways that are compatible with the nature of the public lands and associated resources. We strongly recommend that access be accommodated within a reasonable refuge management plan.

The Phased Approach, however, will not provide compatible access and will severely limit or eliminate fishing, surfing, birding, and other resource dependent activities. Because the Phased Approach does not provide access, eliminates Refuge uses, and threatens Refuge resources, it is not a viable alternative.

THE COST ESTIMATES ARE INCONSISTENT WITH THE PROJECT LIFE SPAN AND UNFAIRLY WEIGHT THE COST TOWARDS THE MOST ENVIRONMENTALLY DAMAGING ALTERNATIVES.

The Supplement states that the life expectancy of a replacement bridge is estimated to be as long as 100 years (approximately 2110). Supplement at xxvii. Yet, the Supplement illogically truncates the cost estimates through 2060. A true accounting of the costs associated with the various alternatives should be calculated on a timeframe comparable to the life expectancy of the bridge, rather than the artificial project endpoint of 2060. By limiting the cost analysis to 50 years, any options that include long-term beach nourishment, dune rebuilding, or other shoreline stabilization have associated costs that are unfairly discounted. This limited cost analysis unfairly weights the cost against the Pamlico Sound Bridge. Furthermore, the cost estimates for the Phased Approach may also be affected by limiting the project life to 50 years. Given the higher wave energy and greater maintenance costs for a bridge in the ocean and the uncertainty associated with this unique approach, it is likely the Phased Approach costs are underestimated and unfairly exclude costs associated with an ocean-side bridge with a 100 year life span. Given that substantial public funds will be used for construction, the public should be informed of the maximum costs that could be incurred.

In addition, the Supplement notes that construction costs for all alternatives have increased. The costs, however, have not increased uniformly for all alternatives. For example, the Pamlico Sound Bridge construction costs have increased by approximately 2.25 times. Construction costs for the Parallel Bridge alternatives have only increased by 1.3 times. Such inconsistencies across alternatives raise concerns that the cost analysis is biased against the Pamlico Sound Bridge. We are concerned that the supporting documentation for the new costs is inadequate to support the revised analysis and strongly recommend revising the costs.

SECRETARY KEMPTHORNE'S LETTER FAILS TO RECOGNIZE THE DEPARTMENT OF INTERIOR'S LEGAL OBLIGATIONS PURSUANT TO THE REFUGE ACT AND TO NEPA.

The Supplement cites to and appears to rely on a letter from the Secretary of Interior Dirk Kempthorne. Secretary Kempthorne addressed a letter to Senator Richard Burr in which he declared a preference for separating the replacement of Bonner Bridge from the realignment of NC 12. *See* Supplement Appendix A-2. This letter incorrectly states that a replacement of Bonner Bridge could be compatible, "if it is constructed within the same alignment or with minor changes to the current alignment." *See id.* This

unsupported analysis is in direct conflict with the National Environmental Policy Act (NEPA) and the National Wildlife Refuge Improvement Act.

As discussed more thoroughly above, the Refuge Act requires any use of a wildlife refuge to be "compatible" and not materially interfere with the purpose of the refuge or the mission of the refuge system. Because an evaluation of any proposed use (new or existing use) must include the direct and indirect impacts and include impacts that result from using adjacent lands or waters, the construction of a replacement bridge cannot be separated from maintenance of NC 12. To the extent that Secretary Kempthorne's letter suggests that separation of the bridge from the road alleviates the need for a compatibility determination, the letter is in direct conflict with the Refuge Act and the Department of Interior's implementing guidance.

Not only is the Secretary's letter in conflict with the laws and regulations on "compatibility," the severance of a replacement bridge from NC 12 may be in violation of NEPA. As discussed more fully above, NEPA prohibits improper segmentation of projects and requires that all direct, indirect, and cumulative impacts be evaluated in environmental impact statements.
The Council on Environmental Quality ("CEQ") requires thorough consideration of the secondary and cumulative impacts of federal projects. 40 C.F.R. §§ 1502.16; 1508.7; 1508.25. The CEQ has defined cumulative effects as

> impacts on the environment which 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 significant actions taking place over a period of time.

40 C.F.R. § 1508.7.

The cumulative impact analysis is not perfunctory, but rather "must provide a 'useful analysis of the cumulative impacts of past, present and future projects.' ... [C]umulative impact analysis must be timely. It is not appropriate to defer consideration of cumulative impacts to a future date when meaningful consideration can be given now." *Hugh R. Kern v. U.S. BLM*, 2002 U.S. App. LEXIS 4602 (9th Cir. Mar. 22, 2002). "The purpose of the cumulative impact analysis is to provide readers with a complete understanding of the environmental effect a proposed action will cause." *North Carolina Alliance for Transp. Reform v. United States Dep't of Transp.*, 151 F.Supp.2d 661, 698 (M.D.N.C. 2001).

Building a replacement bridge in a similar location to the existing Bonner Bridge necessitates a full environmental impact analysis of maintaining NC 12 through the Refuge. Secretary Kempthorne cannot segment the projects and avoid the associated NEPA analysis. The indirect and cumulative impact analysis cannot defer consideration of the effects of maintaining NC 12 in its current location. Building a Parallel Bridge

alternative, including the Phased Approach, will forever marry maintenance of NC 12 in a manner and location that is fundamentally incompatible with an unpredictable environment. The decision to maintain NC 12 in its current location has environmentally devastating consequences that must be fully evaluated and cannot be severed from an environmental impact analysis of a replacement bridge.

We recognize the need to replace Bonner Bridge and support construction of a new bridge that provides dependable transportation to Hatteras Island, is environmentally sound, and is economically reasonable. We support the Pamlico Sound Bridge corridor alternative and believe that it satisfies these objectives.

Thank you for your consideration of our comments.

Sincerely,

Amy Pickle
Staff Attorney
Southern Environmental Law Center

Noah Matson
Director of Federal Lands Program
Defenders of Wildlife

Heather Jacobs
Pamlico-Tar RIVERKEEPER®
Pamlico-Tar River Foundation

Mary Alsentzer
Executive Director
Pamlico-Tar River Foundation

Larry Thompson
Executive Directory
North Carolina Wildlife Federation

Victor D'Amato, P.E.
Coastal Issues Chair
North Carolina Chapter of Sierra Club

Cc: Carl Goode, North Carolina Department of Transportation
William Biddlecome, US Army Corps of Engineers
Pete Benjamin, US Fish & Wildlife Service
Mike Bryant, US Fish & Wildlife Service

Appendix C

Relocation Reports

C. Relocation Reports

This appendix contains the relocations reports for the Supplemental Draft Environmental Impact Statement (SDEIS) and the 2007 Supplement to the SDEIS.

SDEIS RELOCATION REPORTS C-2

SUPPLEMENT TO THE SDEIS RELOCATION REPORT C-7

EIS RELOCATION REPORT

North Carolina Department of Transportation
RELOCATION ASSISTANCE PROGRAM

X E.I.S. ☐ CORRIDOR ☐ DESIGN

WBS:	32635.1.2	COUNTY	Dare	"Curved Intersection" and Bridge in Rodanthe
I.D. NO.:	B-2500	F.A. PROJECT	BRS-2358 (15)	~~XX~~ OLD ALTERNATE "A" – OCT 2003
DESCRIPTION OF PROJECT:	Replacement of Herbert C. Bonner Bridge over Oregon Inlet on NC 12-			

ESTIMATED DISPLACEES

Type of Displacees	Owners	Tenants	Total	Minorities
Residential	6	0	6	
Businesses	6	0	6	
Farms				
Non-Profit				

INCOME LEVEL

0-15M	15-25M	25-35M	35-50M	50 UP

VALUE OF DWELLING				DSS DWELLING AVAILABLE			
Owners		Tenants		For Sale		For Rent	
0-20M		$ 0-150		0-20M		$ 0-150	
20-40M		150-250		20-40M		150-250	
40-70M		250-400		40-70M	20's FJB	250-400	
70-100M		400-600		70-100M		400-600	
100 UP	6	600 UP		100 UP	100's UP FJB	600 UP	
TOTAL	6						

ANSWER ALL QUESTIONS

Yes	No	Explain all "YES" answers.
	X	1. Will special relocation services be necessary?
	X	2. Will schools or churches be affected by displacement?
	X	3. Will business services still be available after project?
X		4. Will any business be displaced? If so, indicate size, type, estimated number of employees, minorities, etc.
	X	5. Will relocation cause a housing shortage?
		6. Source for available housing (list).
	X	7. Will additional housing programs be needed?
X		8. Should Last Resort Housing be considered?
	X	9. Are there large, disabled, elderly, etc. families?
	X	10. Will public housing be needed for project?
		11. Is public housing available?
X		12. Is it felt there will be adequate DSS housing housing available during relocation period?
	X	13. Will there be a problem of housing within financial means?
X		14. Are suitable business sites available (list source).
		15. Number months estimated to complete RELOCATION?

REMARKS (Respond by Number)

4- Six busnesses will be replaced, Wood framed Shopping Center (Building includes 4 Units)
1) Roses Spot/Subs & Pizza
2) The Bead Shop
3) Auto Service Shop & Repairs
4) South Island Seafood
5) ISFBus, Hatteras Trampolina
6) 1SFBus-Building on property of Kevin Darcy is outside of Right of Way but in easement

6 & 14- Multiple Listing Service, newspaper, local realtors

8- As mandated by law

*Note: Portion of canopy and pumps on Midgett property are located within existing Right of Way.

Right of Way Agent — Date 7-22-05

Ann Simpson — Relocation Coordinator — Date 7-22-05

EIS RELOCATION REPORT

North Carolina Department of Transportation
RELOCATION ASSISTANCE PROGRAM

X E.I.S. ☐ CORRIDOR ☐ DESIGN

WBS:	32635.1.2	COUNTY	Dare	"T" Intersection and Bridge in Rodanthe
I.D. NO.:	B-2500	F.A. PROJECT	BRS-2358 (15)	*** OLD ALTERNATE "C" – OCT 2003
DESCRIPTION OF PROJECT:	Replacement of Herbert C. Bonner Bridge over Oregon Inlet on NC 12- "T" Intersection and Bridge in Rodanthe			

ESTIMATED DISPLACEES

Type of Displacees	Owners	Tenants	Total	Minorities
Residential	5	0	5	
Businesses	*1	0	1	
Farms				
Non-Profit				

ANSWER ALL QUESTIONS

Yes	No	Explain all "YES" answers.
	X	1. Will special relocation services be necessary?
	X	2. Will schools or churches be affected by displacement?
	X	3. Will business services still be available after project?
	X	4. Will any business be displaced? If so, indicate size, type, estimated number of employees, minorities, etc.
	X	5. Will relocation cause a housing shortage?
		6. Source for available housing (list).
	X	7. Will additional housing programs be needed?
X		8. Should Last Resort Housing be considered?
	X	9. Are there large, disabled, elderly, etc. families?
	X	10. Will public housing be needed for project?
		11. Is public housing available?
X		12. Is it felt there will be adequate DSS housing housing available during relocation period?
	X	13. Will there be a problem of housing within financial means?
X		14. Are suitable business sites available (list source).
		15. Number months estimated to complete RELOCATION?

INCOME LEVEL

0-15M	15-25M	25-35M	35-50M	50 UP

VALUE OF DWELLING				DSS DWELLING AVAILABLE			
Owners		Tenants		For Sale		For Rent	
0-20M		$ 0-150		0-20M		$ 0-150	
20-40M		150-250		20-40M		150-250	
40-70M	1	250-400		40-70M	20's FEB	250-400	
70-100M		400-600		70-100M		400-600	
100 UP	4	600 UP		100 UP	100's UP FEB	600 UP	
TOTAL	5						

REMARKS (Respond by Number)

*Note: Building on property of Kevin Darcy is outside of Right of Way. But easement runs through it. Building appears to be used for storage.

6 & 14- Multiple Listing Service, newspaper, local realtors

8- As mandated by law

JMKil — Right of Way Agent — 7-22-05 Date

Am Simpson — Relocation Coordinator — 7-22-05 Date

EIS RELOCATION REPORT

North Carolina Department of Transportation
RELOCATION ASSISTANCE PROGRAM

X E.I.S. ☐ CORRIDOR ☐ DESIGN

WBS:	32635.1.2	COUNTY	Dare	"BEACH NOURISHMENT"
I.D. NO.:	B-2500	F.A. PROJECT	BRS-2358 (15)	
DESCRIPTION OF PROJECT:	Replacement of Herbert C. Bonner Bridge over Oregon Inlet on NC 12-Parallel Bridge Corridor with "Nourishment"			

ESTIMATED DISPLACEES

Type of Displacees	Owners	Tenants	Total	Minorities
Residential	0		0	
Businesses	0		0	
Farms				
Non-Profit				

INCOME LEVEL

0-15M	15-25M	25-35M	35-50M	50 UP

VALUE OF DWELLING				DSS DWELLING AVAILABLE			
Owners		Tenants		For Sale		For Rent	
0-20M		$ 0-150		0-20M		$ 0-150	
20-40M		150-250		20-40M		150-250	
40-70M		250-400		40-70M		250-400	
70-100M		400-600		70-100M		400-600	
100 UP		600 UP		100 UP		600 UP	
TOTAL							

ANSWER ALL QUESTIONS

Yes	No	Explain all "YES" answers.
	X	1. Will special relocation services be necessary?
	X	2. Will schools or churches be affected by displacement?
	X	3. Will business services still be available after project?
	X	4. Will any business be displaced? If so, indicate size, type, estimated number of employees, minorities, etc.
	X	5. Will relocation cause a housing shortage?
		6. Source for available housing (list).
	X	7. Will additional housing programs be needed?
X		8. Should Last Resort Housing be considered?
	X	9. Are there large, disabled, elderly, etc. families?
	X	10. Will public housing be needed for project?
		11. Is public housing available?
X		12. Is it felt there will be adequate DSS housing housing available during relocation period?
	X	13. Will there be a problem of housing within financial means?
X		14. Are suitable business sites available (list source).
		15. Number months estimated to complete RELOCATION?

REMARKS (Respond by Number)

There are no impacts as far as residential and business relocations for this Alternative.

6 & 14 -Multiple Listing Service, newspaper, local realtors

8 – As mandated by law

JMK — 7-22-05
Right of Way Agent — Date

Ann Simpson — 7-22-05
Relocation Coordinator — Date

EIS RELOCATION REPORT

North Carolina Department of Transportation
RELOCATION ASSISTANCE PROGRAM

X E.I.S. ☐ CORRIDOR ☐ DESIGN

WBS:	32635.1.2	COUNTY	Dare	Alternate 2, Section 2 WITH ACCESS OPTION TO FERRY SITE IN RODANTHE
I.D. NO.:	B-2500	F.A. PROJECT	BRS-2358 (15)	
DESCRIPTION OF PROJECT:	Replacement of Herbert C. Bonner Bridge over Oregon Inlet on NC 12- "Parallel Bridge Corridor-Road North/Bridge South- Blue Access Opt. To Ferry			FJB

ESTIMATED DISPLACEES

Type of Displacees	Owners	Tenants	Total	Minorities
Residential	2		2	
Businesses	0		0	
Farms				
Non-Profit				

ANSWER ALL QUESTIONS

Yes	No	Explain all "YES" answers.	
	X	1.	Will special relocation services be necessary?
	X	2.	Will schools or churches be affected by displacement?
	X	3.	Will business services still be available after project?
	X	4.	Will any business be displaced? If so, indicate size, type, estimated number of employees, minorities, etc.
	X	5.	Will relocation cause a housing shortage?
		6.	Source for available housing (list).
	X	7.	Will additional housing programs be needed?
X		8.	Should Last Resort Housing be considered?
	X	9.	Are there large, disabled, elderly, etc. families?
	X	10.	Will public housing be needed for project?
		11.	Is public housing available?
X		12.	Is it felt there will be adequate DSS housing housing available during relocation period?
	X	13.	Will there be a problem of housing within financial means?
X		14.	Are suitable business sites available (list source).
		15.	Number months estimated to complete RELOCATION?

INCOME LEVEL

0-15M	15-25M	25-35M	35-50M	50 UP

VALUE OF DWELLING				DSS DWELLING AVAILABLE			
Owners		Tenants		For Sale		For Rent	
0-20M		$ 0-150		0-20M		$ 0-150	
20-40M		150-250		20-40M		150-250	
40-70M	1	250-400		40-70M	20's FJB	250-400	
70-100M		400-600		70-100M		400-600	
100 UP	1	600 UP		100 UP	100's Up FJB	600 UP	
TOTAL	2						

REMARKS (Respond by Number)

Note: "All Bridge" Alternate 2, Section 1 FJB

*"Red Access" Option will have no residential or business relocation.

6 & 14- Multiple Listing Service, newspaper, local realtors

8- As mandated by law

[signature]	7-22-05	Ann Simpson	7-22-05
Right of Way Agent	Date	Relocation Coordinator	Date

EIS RELOCATION REPORT

North Carolina Department of Transportation
RELOCATION ASSISTANCE PROGRAM

X E.I.S. ☐ CORRIDOR ☐ DESIGN

WBS:	32635.1.2	COUNTY	Dare	"All Bridge" Alternate 2, Section 2 WITH
I.D. NO.:	B-2500	F.A. PROJECT	BRS-2358 (15)	ACCESS OPTION TO FERRY SITE IN RODANTH FOS
DESCRIPTION OF PROJECT:	Replacement of Herbert C. Bonner Bridge over Oregon Inlet on NC 12- Parallel Bridge Corridor-Road North/Bridge South- Blue Access Opt. To Ferry			

ESTIMATED DISPLACEES

Type of Displacees	Owners	Tenants	Total	Minorities
Residential	2		2	
Businesses	0		0	
Farms				
Non-Profit				

ANSWER ALL QUESTIONS

Yes	No	Explain all "YES" answers.
	X	1. Will special relocation services be necessary?
	X	2. Will schools or churches be affected by displacement?
	X	3. Will business services still be available after project?
	X	4. Will any business be displaced? If so, indicate size, type, estimated number of employees, minorities, etc.
	X	5. Will relocation cause a housing shortage?
		6. Source for available housing (list).
	X	7. Will additional housing programs be needed?
X		8. Should Last Resort Housing be considered?
	X	9. Are there large, disabled, elderly, etc. families?
	X	10. Will public housing be needed for project?
		11. Is public housing available?
X		12. Is it felt there will be adequate DSS housing housing available during relocation period?
	X	13. Will there be a problem of housing within financial means?
X		14. Are suitable business sites available (list source).
		15. Number months estimated to complete RELOCATION?

INCOME LEVEL

0-15M	15-25M	25-35M	35-50M	50 UP

VALUE OF DWELLING				DSS DWELLING AVAILABLE			
Owners		Tenants		For Sale		For Rent	
0-20M		$ 0-150		0-20M		$ 0-150	
20-40M		150-250		20-40M		150-250	
40-70M	1	250-400		40-70M	20's FOS	250-400	
70-100M		400-600		70-100M		400-600	
100 UP	1	600 UP		100 UP	100's UP FOS	600 UP	
TOTAL	2						

REMARKS (Respond by Number)

Note: "All Bridge" Alternate 2, Section 1 FOS

*"Red" Access Option will have no residential or business relocation.

6 & 14- Multiple Listing Service, newspaper, local realtors

8- As mandated by law

[signature]	7-22-05	AM Simpton	7-22-05
Right of Way Agent	Date	Relocation Coordinator	Date

EIS RELOCATION REPORT

North Carolina Department of Transportation
RELOCATION ASSISTANCE PROGRAM

X E.I.S. ☐ CORRIDOR ☐ DESIGN

WBS:	32635.1.2	COUNTY	Dare	Alternate	of	Alternate
I.D. NO.:	B-2500	F.A. PROJECT	BRS-2358(15)			
DESCRIPTION OF PROJECT:	Replacement of Herbert C. Bonner Bridge Over Oregon Inlet On NC12					

ESTIMATED DISPLACEES

Type of Displacees	Owners	Tenants	Total	Minorities
Residential	2	1	3	0
Businesses	1	0	1	0
Farms	0	0	0	0
Non-Profit	0	0	0	0

INCOME LEVEL

0-15M	15-25M	25-35M	35-50M	50 UP
0	3	0	0	0

VALUE OF DWELLING				DSS DWELLING AVAILABLE			
Owners		Tenants		For Sale		For Rent	
0-20M	0	$ 0-150	0	0-20M	0	$ 0-150	0
20-40M	0	150-250	0	20-40M	0	150-250	0
40-70M	0	250-400	0	40-70M	0	250-400	0
70-100M	0	400-600	0	70-100M	1	400-600	0
100 UP	2	600 UP	1	100 UP	3	600 UP	3
TOTAL	2		1		4		3

ANSWER ALL QUESTIONS

Yes	No	Explain all "YES" answers.	
	X	1.	Will special relocation services be necessary?
	X	2.	Will schools or churches be affected by displacement?
	X	3.	Will business services still be available after project?
X		4.	Will any business be displaced? If so, indicate size, type, estimated number of employees, minorities, etc.
	X	5.	Will relocation cause a housing shortage?
		6.	Source for available housing (list).
	X	7.	Will additional housing programs be needed?
X		8.	Should Last Resort Housing be considered?
	X	9.	Are there large, disabled, elderly, etc. families?
	X	10.	Will public housing be needed for project?
		11.	Is public housing available?
X		12.	Is it felt there will be adequate DSS housing housing available during relocation period?
	X	13.	Will there be a problem of housing within financial means?
X		14.	Are suitable business sites available (list source).
		15.	Number months estimated to complete RELOCATION? 8 mo.

REMARKS (Respond by Number)

4- Business is "Sea Chest", which is opened seasonally. It is not open at this time and could not contact anyone regarding number of employees. Appears there could be a residence on the second floor.

6 & 14-Multiple Listing Service, newspaper and local realtors

8_ As mandated by law

Note: The two buildings located on Parcel 012484000(Dare County parcel#) appear to be seasonal residences. Both buildings were vacant at this time.

All are Unoccupied at this time.

There are also 3 miscellaneous non-residential relocations, none of which requires a full business move.

J. M. Kinlaw
Right of Way Agent

1/31/07
Date

Andy Simpson
Relocation Coordinator

2-5-07
Date

FRM15-E Revised 09-02

Original & 1 Copy Relocation Coordinator
2 Copy Division Relocation File

Appendix D

NEPA/404 Merger Concurrence Forms

D. NEPA/404 Merger Concurrence Forms

CONCURRENCE POINT 1 AGREEMENT – PURPOSE AND NEED D-2

CONCURRENCE POINT 2 AGREEMENT – ALTERNATIVES TO BE STUDIED IN DETAIL (REVISED SINCE 2/12/03) D-4

CONCURRENCE POINT 2A AGREEMENT – BRIDGING DECISIONS AND ALIGNMENT REVIEW D-5

CONCURRENCE POINT 2 AGREEMENT – ALTERNATIVES TO BE STUDIED IN DETAIL (REVISED SINCE 7/23/03) D-6

CONCURRENCE POINT 3 AGREEMENT – LEAST ENVIRONMENTALLY DAMAGING PRACTICABLE ALTERNATIVE D-12

Section 404/NEPA Merger Project Team Meeting Agreement
Concurrence Point No. 1 - Purpose and Need

Project No./TIP No./Name/Description:

Federal Project Number: BRNHF-12(24) (previously BRS-2358(15));
State Project Number 8.1051205 (previously 8.1051201);
TIP Project Number: B-2500
Description: Replacement of the Herbert C. Bonner Bridge (Bridge No. 11) over Oregon Inlet in Dare County

Purpose of and Need for the Proposed Project:

(See the Purpose and Need Statement for more information.)

The purposes of the proposed action are to:

- Prior to the end of the service life of the Bonner Bridge, provide a new means of access from Bodie Island to Hatteras Island for its residents, businesses, services, and tourists, ~~including users of the Hatteras Island portion of the Cape Hatteras National Seashore and the Pea Island National Wildlife Refuge.~~ 10/31/10

  Needs Addressed: Although the existing Bonner Bridge is reaching the end of its service life, continued demand for convenient daily and emergency access across Oregon Inlet is expected to occur.

- Provide a replacement crossing that takes into account natural channel migration expected through year 2050 and provides the flexibility to let the channel move.

  Needs Addressed: The natural channel or gorge through Oregon Inlet migrates. A replacement bridge needs to provide spans of sufficient height and width for navigation through the anticipated area of future natural channel migration, helping to reduce future dredging needs.

- Provide a replacement crossing that will not be endangered by shoreline movement through year 2050 and is placed so it can continue to serve NC 12 easily, even if that road must be shifted because of shoreline erosion and overwash.

  Needs Addressed: The southern terminus of the existing bridge is north of portions of NC 12 threatened by shoreline erosion and overwash. Placing the southern terminus of a replacement bridge south of one or more of these areas will eliminate the need to maintain these threatened segments of NC 12.

The Project Team concurred on this date of 7·31·02 with the purpose of and need for the proposed project as stated above.

USACE E. David Franklin

NCDOT

USEPA

USFWS Garland S. Pardue

NCDWQ John E. Hennessy

NCWRC Franklin J. Mc Bride

NCDCR

FHWA

NMF

NCDMF

NCDCM

USCG

PINWR Mike Bryant

NPS

Section 404/NEPA Merger Project Team Meeting Agreement
Concurrence Point No. 2 - Alternatives to be Studied in Detail in the Supplemental Draft Environmental Impact Statement
(Revised since 2/12/03)

Project Information:

Federal Project Number:	BRNHF-12(24) (previously BRS-2358(15))
State Project Number:	8.1051205 (previously 8.1051201)
TIP Project Number:	B-2500
Description:	Replacement of the Herbert C. Bonner Bridge (Bridge No. 11) over Oregon Inlet in Dare County

Alternatives to be Studied in Detail in the Supplemental Draft Environmental Impact Statement:

The Project Team concurred on this date of July 23, 2003 **that additional environmental analysis will be conducted on Corridor Alternative 4 (Rodanthe Area Endpoint 2) for the proposed Bonner Bridge replacement.**

USACE		NCDOT	
USEPA		USFWS	
NCDWQ		NCWRC	
NCDCR		FHWA	
NMF		NCDMF	
NCDCM	(for Charles Jones)	NPS	
PINWR			

Section 404/NEPA Merger Project Team Meeting Agreement
Concurrence Point No. 2A – Bridging Decisions and Alignment Review

Project Information:

Federal Project Number:	BRNHF-12(24) (previously BRS-2358(15))
State Project Number:	8.1051205 (previously 8.1051201)
TIP Project Number:	B-2500
Project Description:	Replacement of the Herbert C. Bonner Bridge (Bridge No. 11) over Oregon Inlet in Dare County

Bridging Decisions and Alignment Review:

	Alternative / Segments	Estimated Length
	Alternative A - Segments FDA	18.0 miles (28.8 kilometers)
OUT	Alternative B - Segments FDB	18.1 miles (29.0 kilometers)
	Alternative C - Segments FDC	17.9 miles (28.6 kilometers)
OUT	Alternative D - Segments FEA	17.0 miles (27.2 kilometers)
OUT	Alternative E - Segments FEB	17.1 miles (27.4 kilometers)
OUT	Alternative F - Segments FEC	16.9 miles (27.0 kilometers)

The Project Team has concurred on this date of July 23, 2003 **with the above alignment and approximate bridge length of each alternative as stated above. Furthermore, Alternatives** FDA + FDC **will be carried forward for detailed study in the Supplemental Draft Environmental Impact Statement.**

USACE William J. Bilbreame

NCDOT Roger C. Creath

USEPA

USFWS Garland B. Pardue

NCDWQ John E. Hennessy

NCWRC

NCDCR Sandra D. McGee

FHWA

NMF Ronald J. Sechler

NCDMF

NCDCM (For Charles Jones)

NPS Lawrence A. Belli

PINWR Mike Bryant

Section 404/NEPA Merger Project Team Meeting Agreement *REVISED* Concurrence Point No. 2 - Alternatives to be studied in detail in the NEPA document.

(Revised Since 7/23/03)

Project No./TIP No./Name/Description:

Federal Project Number: BRNHF-12(24)
State Project Number: 8.1051205
TIP Number: B-2500
TIP Description: Replacement of the Herbert C. Bonner Bridge (Bridge No. 11) over Oregon Inlet in Dare County.

Alternatives to be studied in detail in the NEPA document:

The Project Team has concurred on this date of _____ that additional environmental analysis will be conducted on the Parallel Bridge Alternative in addition to the Long Bridge Alternative (formerly known as Corridor 4, Rodanthe Area Endpoint 2) for the proposed Bonner Bridge replacement. The project study limits for both alternatives will extend south to Rodanthe.

USACE _____ NCDOT _____

USEPA _____ USFWS _____

NCDWQ _____ NCWRC _____

SHPO _____ FHWA _____

NMF _____ NCDMF _____

NPS _____ NCDCM _____

Section 404/NEPA Merger Project Team Meeting Agreement
REVISED Concurrence Point No. 2 - Alternatives to be studied in detail in the NEPA document.
(Revised Since 7/23/03)

Project No./TIP No./Name/Description:

Federal Project Number: BRNHF-12(24)
State Project Number: 8.1051205
TIP Number: B-2500
TIP Description: Replacement of the Herbert C. Bonner Bridge (Bridge No. 11) over Oregon Inlet in Dare County.

Alternatives to be studied in detail in the NEPA document:

The Project Team has concurred on this date of _____ that additional environmental analysis will be conducted on the Parallel Bridge Alternative in addition to the Long Bridge Alternative (formerly known as Corridor 4, Rodanthe Area Endpoint 2) for the proposed Bonner Bridge replacement. The project study limits for both alternatives will extend south to Rodanthe.

USACE _____ NCDOT _____

USEPA _____ 7/11/04 USFWS _____

NCDWQ _____ NCWRC _____

SHPO _____ FHWA _____

NMF _____ NCDMF _____

NPS _____ NCDCM _____

Section 404/NEPA Merger Project Team Meeting Agreement *REVISED* Concurrence Point No. 2 - Alternatives to be studied in detail in the NEPA document.

(Revised Since 7/23/03)

Project No./TIP No./Name/Description:

Federal Project Number: BRNHF-12(24)
State Project Number: 8.1051205
TIP Number: B-2500
TIP Description: Replacement of the Herbert C. Bonner Bridge (Bridge No. 11) over Oregon Inlet in Dare County.

Alternatives to be studied in detail in the NEPA document:

The Project Team has concurred on this date of Oct 13, 2004 that additional environmental analysis will be conducted on the Parallel Bridge Alternative in addition to the Long Bridge Alternative (formerly known as Corridor 4, Rodanthe Area Endpoint 2) for the proposed Bonner Bridge replacement. The project study limits for both alternatives will extend south to Rodanthe.

USACE _____ NCDOT _____

USEPA _____ USFWS Michael R. Bryant
Refuge Manager, Pea Island NWR

NCDWQ _____ NCWRC _____

SHPO _____ FHWA _____

NMF _____ NCDMF _____

NPS _____ NCDCM _____

Section 404/NEPA Merger Project Team Meeting Agreement
REVISED Concurrence Point No. 2 - Alternatives to be studied in detail in the NEPA document.
(Revised Since 7/23/03)

Project No./TIP No./Name/Description:

Federal Project Number: BRNHF-12(24)
State Project Number: 8.1051205
TIP Number: B-2500
TIP Description: Replacement of the Herbert C. Bonner Bridge (Bridge No. 11) over Oregon Inlet in Dare County.

Alternatives to be studied in detail in the NEPA document:

The Project Team has concurred on this date of 29 Sept 2004 that additional environmental analysis will be conducted on the Parallel Bridge Alternative in addition to the Long Bridge Alternative (formerly known as Corridor 4, Rodanthe Area Endpoint 2) for the proposed Bonner Bridge replacement. The project study limits for both alternatives will extend south to Rodanthe.

USACE _____	NCDOT _____
USEPA _____	USFWS _____
NCDWQ _____	NCWRC _____
SHPO _____	FHWA _____
NMF _____	NCDMF _____
NPS Lawrence A. Belli Supt Cape Hatteras NS.	NCDCM _____

Section 404/NEPA Merger Project Team Meeting Agreement
REVISED Concurrence Point No. 2 - Alternatives to be studied in detail in the NEPA document.

(Revised Since 7/23/03)

Project No./TIP No./Name/Description:

Federal Project Number: BRNHF-12(24)
State Project Number: 8.1051205
TIP Number: B-2500
TIP Description: Replacement of the Herbert C. Bonner Bridge (Bridge No. 11) over Oregon Inlet in Dare County.

Alternatives to be studied in detail in the NEPA document:

The Project Team has concurred on this date of _____ that additional environmental analysis will be conducted on the Parallel Bridge Alternative in addition to the Long Bridge Alternative (formerly known as Corridor 4, Rodanthe Area Endpoint 2) for the proposed Bonner Bridge replacement. The project limits for both alternatives will extend south to Rodanthe.

USACE _____ NCDOT _____

USEPA _____ USFWS _____

NCDWQ John E. Hennessy _____ NCWRC _____

SHPO _____ FHWA _____

NMF _____ NCDMF _____

NFS _____ NCDCM _____

Section 404/NEPA Merger Project Team Meeting Agreement
REVISED Concurrence Point No. 2 - Alternatives to be studied in detail in the NEPA document.
(Revised Since 7/23/03)

Project No./TIP No./Name/Description:

Federal Project Number: BRNHF-12(24)
State Project Number: 8.1051205
TIP Number: B-2500
TIP Description: Replacement of the Herbert C. Bonner Bridge (Bridge No. 11) over Oregon Inlet in Dare County.

Alternatives to be studied in detail in the NEPA document:

The Project Team has concurred on this date of _____ that additional environmental analysis will be conducted on the Parallel Bridge Alternative in addition to the Long Bridge Alternative (formerly known as Corridor 4, Rodanthe Area Endpoint 2) for the proposed Bonner Bridge replacement. The project study limits for both alternatives will extend south to Rodanthe.

USACE _____ NCDOT _____

USEPA _____ 9/11/04 USFWS _____

NCDWQ _____ NCWRC _____

SHPO _____ FHWA _____

NMF _____ NCDMF _____

NPS _____ NCDCM _____

Potential Summary of Merger 01 Dispute Resolution Board Meeting
8.27.2007

Issue: Concurrence Point 3 – Least Environmentally Damaging Practicable Alternative (LEDPA)
Bonner Bridge : B-2500

The Sponsoring Agencies (hereafter referred to as agencies) of Merger 01 have reached concurrence on an approach to advance the Bonner Bridge project and provide a replacement of the Bonner Bridge essentially within the same alignment or with minor changes to the current alignment as presently outlined in the Parallel Bridge alternates.

- The agencies concur that a Final Supplemental Environmental Impact Statement needs to address all comments received to date and a Record of Decision completed as soon as possible.

- Concurrence on this point does not imply that state or federal permits or other approvals for this activity will be granted: rather, it simply means that the agencies agree that, given the information provided, the Phased Approach/Bridge Alternative can be identified as the LEDPA in the NEPA/404 document.

The environment in the study area is complex and constantly changing. The ability to predict the effect of Mother Nature's future impact on the study area is extremely difficult to quantify. The shoreline alone is continually moving and unexpected storms will exacerbate the uncertainties. The environment present today can be changed overnight by Mother Nature. The environment outlined in an environmental document at the time of approval will likely change before permits are requested.

Based on the information available to the agencies as of today, the agencies concur in the following:

- The Pamlico Sound Bridge corridor is not practicable, based upon cost estimates, and thus is not the LEDPA.
- The Parallel Bridge Corridor contains various alternates, all of which include a short parallel replacement structure adjacent to the existing Bonner Bridge. The agencies concur that Phase I of the project should be to construct the replacement bridge within this corridor as soon as possible. Every possible effort

needs to be made for the bridge touchdown point to stay within the existing alignment on Pea Island. The agencies agree, based upon the information available today, Phase I should be advanced through the Merger '01 Process in order to insure applicable permits and other approvals can be granted when requested by NCDOT.

- Phase I alone as outlined above does not meet purpose and need of the project and thus additional phases of work will be needed to meet purpose and need.

- The agencies concur that the remaining phases of work present substantial challenges before the appropriate agencies will be satisfied in order to grant applicable permit and approvals. It will be incumbent on NCDOT to provide the necessary information to the permitting agencies to satisfy their needs before permits and approvals are granted.
- At the time of permit application, all reasonable, practicable and feasible alternatives will be considered and evaluated for each phase. This evaluation will include avoidance, minimization, and compensatory mitigation considerations for each selected alternative.
- The NCDOT should finalize the Supplemental Draft EIS and address all comments to date. It is expected that the Phased Approach/Bridge will be identified in the Record of Decision as the LEDPA. The agencies today are concurring this alternate is the LEDPA, but with the clear understanding that no permitting agency is bound by this concurrence to grant permits or approvals for the entire LEDPA. To reiterate, the agencies believe Phase I needs to be advanced through Merger '01. Remaining phases beyond Phase I are more problematic from a permitting aspect given the information available today. These remaining phases of work in the Phased Approach/Bridge Alternative indicate work on Pea Island will be done within the existing easement via the construction of short bridge segments, or other alternatives as determined at that time. The agencies concur, based on the information available today, they can not conclusively say that permits or approvals will or will not be granted for these additional phases. The agencies do agree that permits will not be granted for these remaining phases of work until their applicable laws

and regulations have been satisfied. The agencies are reaching concurrence on this approach for the purposes of advancing the project to a ROD but are making it clear the remaining phases of work may need further study after the ROD but before any permits or approvals are granted.

One of the basic principles of Merger 01 is found in Paragraph B of the Memorandum of Understanding that states:
Regulatory/Resource Agency participation in this process does not imply endorsement of a transportation plan or project. Nothing in these procedures is intended to diminish, modify, or otherwise affect the statutory or regulatory authorities of the agencies involved. In the event of any conflict between this process and other statutes or regulations, the statutes or regulations control.

The Signatures of Sponsor Agencies Below Signify Agreement To the Above Points:

William G. Laxton,
Deputy Secretary, North Carolina Department of Environment and Natural Resources

William F. Rosser
State Highway Administrator, North Carolina Department of Transportation

S. Kenneth Jolly
Chief, Regulatory Division, Wilmington District, United States Army Corps of Engineers

Donald J. Voelker
Assistant Division Administrator, Federal Highway Administration North Carolina Division

Appendix E

Supplemental Materials

E. Supplemental Materials

This appendix contains the supplemental materials from Appendix B of the 2005 Supplemental Draft Environmental Impact Statement (SDEIS), as well as from Appendix B of the 2007 Supplement to the SDEIS (SSDEIS). It also contains handouts from the public hearings for the SDEIS and the SSDEIS, as well as the most recent project newsletters, three local government resolutions related to the Bonner Bridge replacement project, and the US Fish and Wildlife Service Biological and Conference Opinions.

CONCURRENCE FORMS FOR ASSESSMENT OF HISTORIC RESOURCE EFFECTS E-2

CITIZENS INFORMATIONAL WORKSHOP HANDOUTS E-4

JUNE 2003 NEWSLETTER E-9

OCTOBER 2005 NEWSLETTER E-11

FEBRUARY 2007 NEWSLETTER E-13

PUBLIC HEARING HANDOUTS E-15

LOCAL GOVERNMENT RESOLUTIONS E-26

US FISH AND WILDLIFE SERVICE BIOLOGICAL AND CONFERENCE OPINIONS E-32

FIGURE E-1 FORECAST 2010 TO 2060 HIGH EROSION SHORELINE LOCATIONS E-68

FIGURE E-2 BIOTIC COMMUNITIES E-75

Federal Aid # **BRNHF-12(24)** *TIP #* **B-2500** *County:* **Dare**

CONCURRENCE FORM FOR ASSESSMENT OF EFFECTS

Project Description: Herbert C. Bonner Bridge Replacement on NC 12 over Oregon Inlet

On June 28, 2005, representatives of the

- ☒ North Carolina Department of Transportation (NCDOT)
- ☒ Federal Highway Administration (FHWA)
- ☒ North Carolina State Historic Preservation Office (HPO)
- ☒ Other *John Page from Parsons Brinckerhoff Quade & Douglas, Inc.*

Reviewed the subject project and agreed

- ☐ There are no effects on the National Register-listed property/properties located within the project's area of potential effects and listed on the reverse.
- ☒ There are no effects on the National Register-eligible property/properties located within the project's area of potential effects and listed on the reverse.
- ☒ There is an effect on the National Register-listed property/properties located within the project's area of potential effects. The property/properties and the effect(s) are listed on the reverse.
- ☒ There is an effect on the National Register-eligible property/properties located within the project's area of potential effects. The property/properties and effect(s) are listed on the reverse.

Signed:

Mary Pope Furr — Representative, NCDOT — 7.22.2005 Date

RHA — FHWA, for the Division Administrator, or other Federal Agency — 7.22.05 Date

Representative, HPO — 7/22/05 Date

Renee Gledhill-Earley — State Historic Preservation Officer — 7-22-05 Date

E-2

Properties within the area of potential effects for which there is no effect. Indicate if property is National Register-listed (NR) or determined eligible (DE).

Pea Island National Wildlife Refuge (DE)

- no effect for the Pamlico Sound Bridge Corridor because there will be no construction activities in the refuge

Rodanthe Historic District (DE) [which includes the Chicamacomico Life Saving Station (NR)]

- no effect for the Parallel Bridge Corridor with Beach Nourishment and Dunes because there will be no construction activities in the district

---

Properties within the area of potential effects for which there is an effect. Indicate property status (NR or DE) and describe the effect.

Pea Island National Wildlife Refuge (DE)

- no adverse effect for the Parallel Bridge Corridor with Beach Nourishment and Dunes because the dunes will only be on the east side of NC 12 and the existing dikes and ponds will remain in place
- adverse effect for the Parallel Bridge Corridor with the Relocation of NC 12 and New Bridge at Rodanthe because relocation of NC 12 will intrude approximately 700' into the existing dikes and ponds
- adverse effect for the Parallel Bridge Corridor with the Relocation of NC 12 on a Bridge and New Bridge at Rodanthe because the elevation of NC 12 on a bridge would place the new facility over the existing dikes and ponds

Rodanthe Historic District (DE) [which includes the Chicamacomico Life Saving Station (NR)]

- no adverse effect for the Pamlico Sound Bridge Corridor since the district would not be directly affected by construction, however the new bridge would have a direct visual impact on the district. This effect would not be adverse.
- no adverse effect for the Parallel Bridge Corridor with the Relocation of NC 12 and New Bridge at Rodanthe since the district would not be directly affected by construction, however the new bridge would have a direct visual impact on the district. This effect would not be adverse.
- no adverse effect for the Parallel Bridge Corridor with the Relocation of NC 12 on a Bridge and New Bridge at Rodanthe since the district would not be directly affected by construction, however the new bridge would have a direct visual impact on the district. This effect would not be adverse.

Initialed: NCDOT MPF FHWA RHA HPO SDM

(former) Oregon Inlet US Coast Guard Station (NR)

- adverse effect for the Pamlico Sound Bridge Corridor because of the potential loss of access to the site(and loss of ability to move the building) plus the foreseeable consequences of erosion due to the removal of the terminal groin at the north end of Hatteras Island once the new structure id complete
- adverse effect for the Parallel Bridge Corridor with Beach Nourishment and Dunes because the new facility will be 70' in height (the current bridge is 15') near the station and will drastically alter historic view and function of station (guardsmen could watch 360 degrees for wrecks); also the higher bridge will alter the character of the setting
- adverse effect for the Parallel Bridge Corridor with the Relocation of NC 12 and New Bridge at Rodanthe because the new facility will be 57' in height (the current bridge is 15') near the station and will drastically alter historic view and function of station (guardsmen could watch 360 degrees for wrecks); also the higher bridge will alter the character of the setting
- adverse effect for the Parallel Bridge Corridor with the Relocation of NC 12 on a Bridge and New Bridge at Rodanthe because the new facility will be 57' in height (the current bridge is 15') near the station and will drastically alter historic view and function of station (guardsmen could watch 360 degrees for wrecks); also the higher bridge will alter the character of the setting

Initialed: NCDOT MPA FHWA RHA HPO SDM

*This is a supplement to the effects form dated 7·22·2005

CONCURRENCE FORM FOR ASSESSMENT OF EFFECTS

Project Description: Replace Bonner Bridge on NC 12 over Oregon Inlet

On 11/28/2006, representatives of the

☒ North Carolina Department of Transportation (NCDOT)
☒ Federal Highway Administration (FHWA)
☒ North Carolina State Historic Preservation Office (HPO)
☒ Other *John Page from Parsons Brinkerhoff Quade & Douglas, Inc.*

Reviewed the subject project and agreed

☐ There are no effects on the National Register-listed property/properties located within the project's area of potential effect and listed on the reverse.

☒ There are no effects on the National Register-eligible property/properties located within the project's area of potential effect and listed on the reverse.

☒ There is an effect on the National Register-listed property/properties located within the project's area of potential effect. The property/properties and the effect(s) are listed on the reverse.

☒ There is an effect on the National Register-eligible property/properties located within the project's area of potential effect. The property/properties and effect(s) are listed on the reverse.

Signed:

Mary Pope Furr — 12/1/2006
Representative, NCDOT — Date

Donald W Burns — 12/5/06
FHWA, for the Division Administrator, or other Federal Agency — Date

Renee Gledhill-Earley — 12-6-06
State Historic Preservation Officer — Date

*Federal Aid #*BRNHF-12(24) *TIP #*B-2500 *County:* Dare

Properties within the area of potential effect for which there is no effect. Indicate if property is National Register-listed (NR) or determined eligible (DE).

Rodanthe Historic District (DE, boundaries amended in 2006)

- No effect for the Phased Approach with Beach Nourishment because there will be no construction activities within the district.

Properties within the area of potential effect for which there is an effect. Indicate property status (NR or DE) and describe the effect.

(former) Oregon Inlet US Coast Guard Station (NR)

- Adverse effect for the Phased Approach because the new, higher facility will alter the historic view and function of the station; also the higher bridge and new fishing pier will alter the character of the setting.

Pea Island National Wildlife Refuge (DE)

- Adverse effect for the Phased Approach because the new facility will require a bridge approximately 33 feet in height throughout the refuge that will alter the historic naturalized setting.

Rodanthe Historic District (DE, boundaries amended in 2006)

- Adverse effect for the Phased Approach with the Rodanthe Bridge because the new bridge would enter the district at a height of approximately 33 feet and would taper down to a height of approximately 12 feet as it exits the district. One way access roads along both sides of the bridge would be necessary for access and direct vehicle access across NC 12 would be eliminated in the district. The bridge and the one way frontage roads alter the setting and visually and physically bisect the community.

- Adverse effect for the Parallel Bridge Corridor with the Relocation of NC 12 and a New Bridge at Rodanthe (Road North/Bridge South) because the new facility will require acquisition of new Right of Way within the district. Not only will the district be directly affected by construction, but the new bridge will have a direct visual impact on its setting. ***This is a change from the 2005 effects determination for this corridor because the boundaries of the district were amended in 2006.***

Initialed: NCDOT MPJ FHWA DB HPO SDM

Replacement of the Herbert C. Bonner Bridge (Bridge No. 11) on NC 12 over Oregon Inlet

Citizens Informational Workshop June 26, 2003

Rodanthe Waves Salvo Community Center & Cape Hatteras Secondary School

Welcome.

Welcome to the North Carolina Department of Transportation's (NCDOT's) Citizens Informational Workshop for the proposed replacement of the Herbert C. Bonner Bridge. The NCDOT plans to prepare an Environmental Impact Statement (EIS) for the replacement of the existing bridge on NC 12 over Oregon Inlet. The purpose of the proposed project is to replace the existing bridge prior to the end of its reasonable service life so that the need for convenient daily travel and emergency access across the Oregon Inlet can continue to be met. The EIS will evaluate several alternatives.

Tonight's workshop has three purposes.

1. To introduce the EIS study.
2. To introduce two potential replacement corridors and their characteristics.
3. To discuss concerns, receive comments, and answer questions on the corridors and any other aspect of the study.

The agenda tonight is informal.

We have brought several display boards that:

- Illustrate corridor alternatives for the proposed Bonner Bridge Replacement project;
- Compare the two corridor alternatives still under consideration at this time;
- Display many of the issues that will be evaluated in the environmental study;
- Show the schedule for the proposed project; and
- Present the ways the public can be involved in the project study.

Representatives from the study team are here and can be found at the display boards. They are ready to discuss your concerns, receive comments, and answer any questions you may have regarding the project.

We welcome comments on any aspect of the study.

We would particularly like to hear your thoughts on:

- The characteristics of the study area and their relative importance to study decision-making; and
- The types of information you want to know so that we can keep you informed.

Comments we receive, either in person tonight or by mail, will be considered during the course of the study. If you want to give us your comments in writing, the attached form is provided for your convenience.

Your comments are welcome throughout the study.

We are looking forward to your continued participation. You may call or write the study team with concerns, comments or questions throughout the study. Call the project's toll-free information line

→1-866-803-0529←

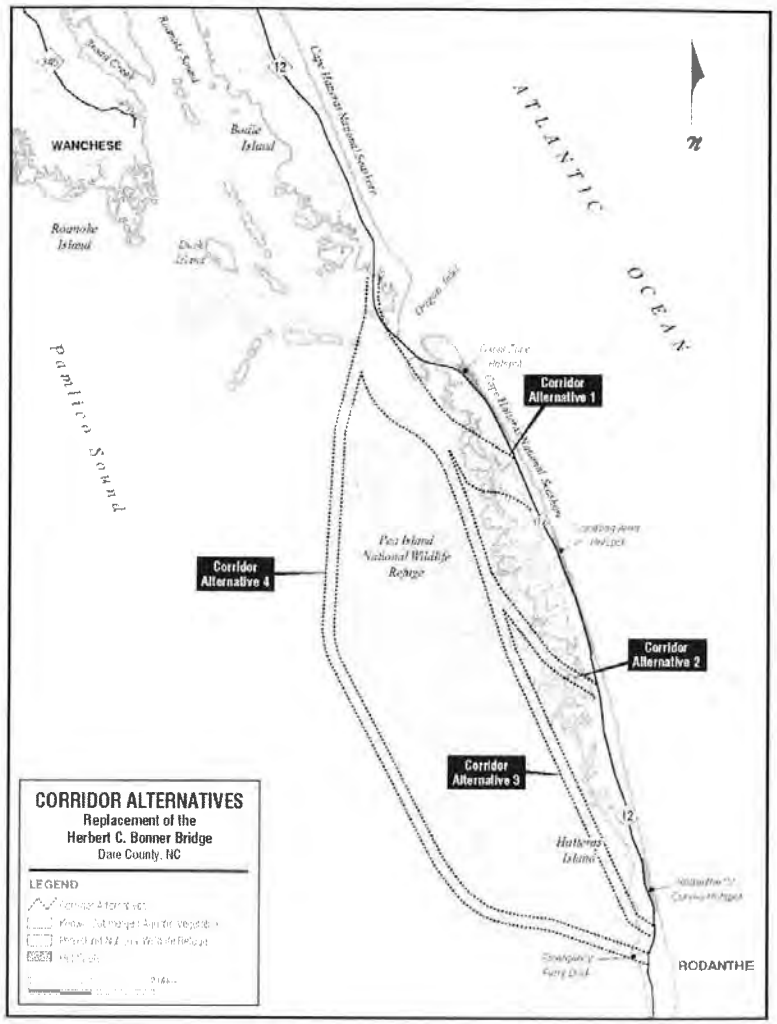
between 8 a.m. and 5 p.m. Monday through Friday. You can leave your recorded comment or question and someone will call you back. Or you can connect to an operator who can transfer your call to a member of the study team. A voice mail service answers the information line during non-business hours and you can leave a recorded message. You may send written comments to:

Mr. John Page, AICP, CEP
Parsons Brinckerhoff Quade & Douglas, Inc.
909 Aviation Parkway, Suite 1500
Morrisville, NC 27560

If you would like to write the North Carolina Department of Transportation, address your letters to:

Ms. Jennifer Harris, PE
North Carolina Department of Transportation
Project Development and Environmental Analysis Branch
1548 Mail Service Center
Raleigh, NC 27699-1548

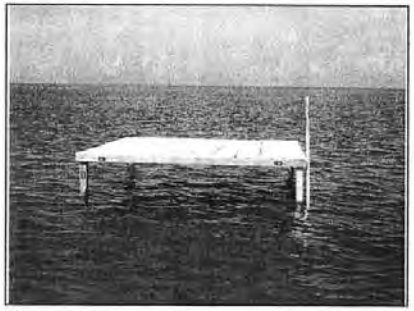
Copies of the first issue of the *Bonner Bridge Update* newsletter are available here tonight. If you would like to be added to our newsletter mailing list, please check the appropriate box on the attached comment sheet. You can leave the comment form at the sign-in table or mail it to the address at the bottom of the form.



SUBMERGED AQUATIC VEGETATION STUDY NEAR BONNER BRIDGE

The NC Department of Transportation (NCDOT) is in the process of performing a Submerged Aquatic Vegetation (SAV) study in Pamlico Sound for the construction of a replacement bridge over Oregon Inlet. To assist with this study, NCDOT has constructed 24, 10'x10' platforms that will be used by the NCDOT Photogrammetry Unit to control aerial photography. The aerial photography will be used to accurately map the locations of submerged aquatic vegetation (sea grass).

These platforms are made of treated 2"x4"s attached to 4"x4" posts extending 3' to 4' above the water with white vinyl nailed to the top. An amber flashing photocell light will be attached to the top of each platform. The light will flash every 4 seconds. Red and yellow alternating reflectors will be attached to the lights.



Example of a platform without the light attached.

At the conclusion of this study, these platforms will be removed. The time frame to complete this study could be anywhere from 6 months to one year depending on the weather.

The approximate locations of these platforms are as follows:

Platform No.	Latitude	Longitude	Platform No.	Latitude	Longitude
1	N 35^33'08.4"	W 75^31'55.8"	13	N 35^42'30.6"	W 75^34'22.4"
2	N 35^35'15.2"	W 75^33'01.8"	14	N 35^44'39.4"	W 75^35'36.2"
3	N 35^37'18.3"	W 75^34'11.4"	15	N 35^46'50.1"	W 75^36'44.8"
4	N 35^39'30.7"	W 75^35'23.2"	16	N 35^49'09.8"	W 75^37'43.0"
5	N 35^41'41.1"	W 75^36'34.1"	17	on land	on land
6	N 35^43'51.5"	W 75^37'45.8"	18	N 35^36'47.2"	W 75^28'37.4"
7	N 35^46'01.9"	W 75^38'57.1"	19	N 35^38'57.5"	W 75^29'47.9"
8	N 35^48'12.4"	W 75^40'07.8"	20	N 35^41'07.8"	W 75^30'58.2"
9	N 35^33'57.1"	W 75^29'43.8"	21	N 35^43'18.1"	W 75^32'09.1"
10	N 35^35'45.7"	W 75^30'51.3"	22	N 35^45'28.4"	W 75^33'20.8"
11	N 35^38'08.9"	W 75^32'00.4"	23	N 35^47'43.2"	W 75^34'26.2"
12	N 35^40'18.9"	W 75^33'10.2"	24	N 35^49'47.3"	W 75^35'43.3"

For further information regarding the SAV study or these platforms please contact T.K.Wheeler, PE, PLS @ 252 514-4784 or Parks Icenhour, PE, PLS @ 919-662-4616.

Replacement of the Herbert C. Bonner Bridge (Bridge No. 11) on NC 12 over Oregon Inlet

Citizens Informational Workshop
June 26, 2003

Rodanthe Waves Salvo Community Center & Cape Hatteras Secondary School

Name: _____

Address: _____ Apt./Suite No: _____

City: _____ State: _____ Zip: _____

Telephone: _____

Representing: _____

☐ Check if you want to be added to the mailing list and receive future issues of the newsletter

Comments: _____

Which meeting location did you attend? Rodanthe ____ or Buxton ____

Please leave your completed comment form at the sign-in table or mail it to:

Mr. John Page, AICP, CEP
Parsons Brinckerhoff Quade & Douglas, Inc.
909 Aviation Parkway, Suite 1500
Morrisville, NC 27560

Replacement of the Herbert C. Bonner Bridge (Bridge No. 11) on NC 12 over Oregon Inlet

Citizens Informational Workshop
July 22, 2003

Roanoke Island Festival Park **Manteo, North Carolina**

Welcome.

Welcome to the North Carolina Department of Transportation's (NCDOT's) Citizens Informational Workshop for the proposed replacement of the Herbert C. Bonner Bridge. The NCDOT plans to prepare an Environmental Impact Statement (EIS) for the replacement of the existing bridge on NC 12 over Oregon Inlet. The purpose of the proposed project is to replace the existing bridge prior to the end of its reasonable service life so that the need for convenient daily travel and emergency access across the Oregon Inlet can continue to be met. The EIS will evaluate several alternatives.

Tonight's workshop has three purposes.

1. To introduce the EIS study.
2. To introduce two potential replacement corridors and their characteristics.
3. To discuss concerns, receive comments, and answer questions on the corridors and any other aspect of the study.

The agenda tonight is informal.

We have brought several display boards that:

- Illustrate corridor alternatives for the proposed Bonner Bridge Replacement project;
- Compare the two corridor alternatives still under consideration at this time;
- Display many of the issues that will be evaluated in the environmental study;
- Show the schedule for the proposed project; and
- Present the ways the public can be involved in the project study.

Representatives from the study team are here and can be found at the display boards. They are ready to discuss your concerns, receive comments, and answer any questions you may have regarding the project.

We welcome comments on any aspect of the study.

We would particularly like to hear your thoughts on:

- The characteristics of the study area and their relative importance to study decision-making; and
- The types of information you want to know so that we can keep you informed.

Comments we receive, either in person tonight or by mail, will be considered during the course of the study. If you want to give us your comments in writing, the attached form is provided for your convenience.

Your comments are welcome throughout the study.

We are looking forward to your continued participation. You may call or write the study team with concerns, comments or questions throughout the study. Call the project's toll-free information line

→1-866-803-0529←

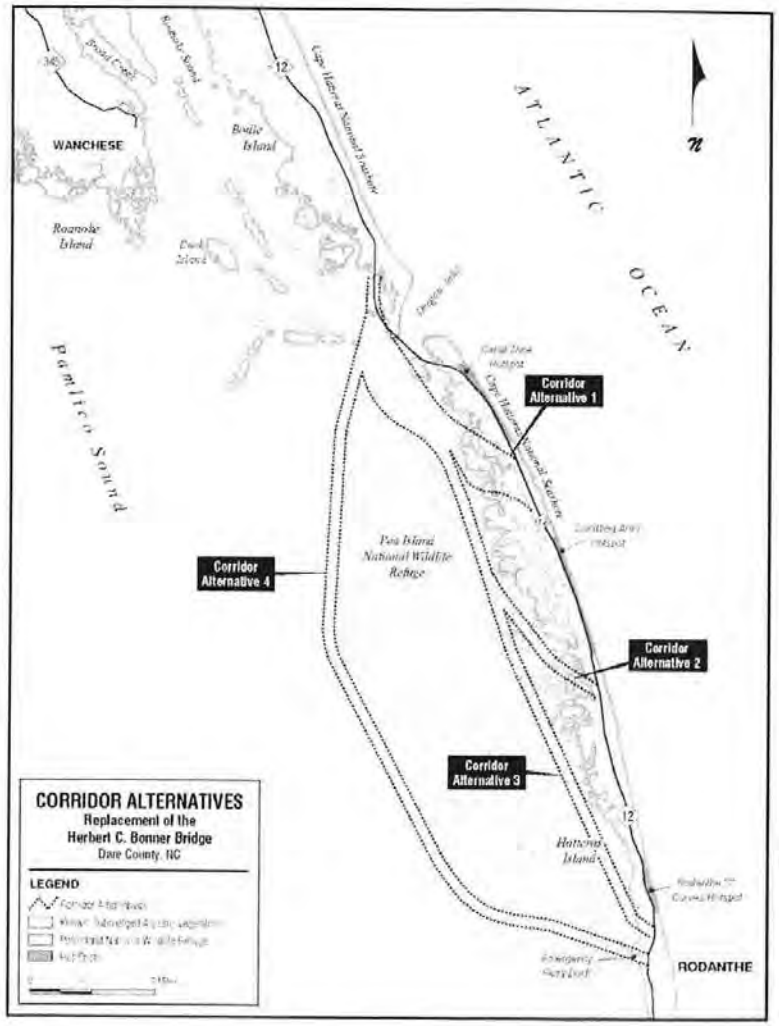
between 8 a.m. and 5 p.m. Monday through Friday. You can leave your recorded comment or question and someone will call you back. Or you can connect to an operator who can transfer your call to a member of the study team. A voice mail service answers the information line during non-business hours and you can leave a recorded message. You may send written comments to:

Mr. John Page, AICP, CEP
Parsons Brinckerhoff Quade & Douglas, Inc.
909 Aviation Parkway, Suite 1500
Morrisville, NC 27560

If you would like to write the North Carolina Department of Transportation, address your letters to:

Ms. Jennifer Harris, PE
North Carolina Department of Transportation
Project Development and Environmental Analysis Branch
1548 Mail Service Center
Raleigh, NC 27699-1548

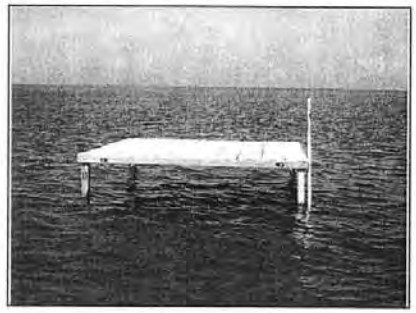
Copies of the first issue of the *Bonner Bridge Update* newsletter are available here tonight. If you would like to be added to our newsletter mailing list, please check the appropriate box on the attached comment sheet. You can leave the comment form at the sign-in table or mail it to the address at the bottom of the form.



SUBMERGED AQUATIC VEGETATION STUDY NEAR BONNER BRIDGE

The NC Department of Transportation (NCDOT) is in the process of performing a Submerged Aquatic Vegetation (SAV) study in Pamlico Sound for the construction of a replacement bridge over Oregon Inlet. To assist with this study, NCDOT has constructed 24, 10'x10' platforms that will be used by the NCDOT Photogrammetry Unit to control aerial photography. The aerial photography will be used to accurately map the locations of submerged aquatic vegetation (sea grass).

These platforms are made of treated 2"x4"s attached to 4"x4" posts extending 3' to 4' above the water with white vinyl nailed to the top. An amber flashing photocell light will be attached to the top of each platform. The light will flash every 4 seconds. Red and yellow alternating reflectors will be attached to the lights.



Example of a platform without the light attached.

At the conclusion of this study, these platforms will be removed. The time frame to complete this study could be anywhere from 6 months to one year depending on the weather.

The approximate locations of these platforms are as follows:

Platform No.	Latitude	Longitude	Platform No.	Latitude	Longitude
1	N 35^33'08.4"	W 75^31'55.8"	13	N 35^42'30.6"	W 75^34'22.4"
2	N 35^35'15.2"	W 75^33'01.8"	14	N 35^44'39.4"	W 75^35'36.2"
3	N 35^37'18.3"	W 75^34'11.4"	15	N 35^46'50.1"	W 75^36'44.8"
4	N 35^39'30.7"	W 75^35'23.2"	16	N 35^49'09.8"	W 75^37'43.0"
5	N 35^41'41.1"	W 75^36'34.1"	17	on land	on land
6	N 35^43'51.5"	W 75^37'45.8"	18	N 35^36'47.2"	W 75^28'37.4"
7	N 35^46'01.9"	W 75^38'57.1"	19	N 35^38'57.5"	W 75^29'47.9"
8	N 35^48'12.4"	W 75^40'07.8"	20	N 35^41'07.8"	W 75^30'58.2"
9	N 35^33'57.1"	W 75^29'43.8"	21	N 35^43'18.1"	W 75^32'09.1"
10	N 35^35'45.7"	W 75^30'51.3"	22	N 35^45'28.4"	W 75^33'20.8"
11	N 35^38'08.9"	W 75^32'00.4"	23	N 35^47'43.2"	W 75^34'26.2"
12	N 35^40'18.9"	W 75^33'10.2"	24	N 35^49'47.3"	W 75^35'43.3"

For further information regarding the SAV study or these platforms please contact T.K.Wheeler, PE, PLS @ 252-514-4784 or Parks Icenhour, PE, PLS @ 919-662-4616.

Replacement of the Herbert C. Bonner Bridge (Bridge No. 11) on NC 12 over Oregon Inlet

Citizens Informational Workshop
July 22, 2003

Roanoke Island Festival Park **Manteo, North Carolina**

Name: _____

Address: _____ Apt./Suite No: _____

City: _____ State: _____ Zip: _____

Telephone: _____

Representing: _____

☐ Check if you want to be added to the mailing list and receive future issues of the newsletter

Comments: _____

Please leave your completed comment form at the sign-in table or mail it to:

Mr. John Page, AICP, CEP
Parsons Brinckerhoff Quade & Douglas, Inc.
909 Aviation Parkway, Suite 1500
Morrisville, NC 27560

Issue No. 1 June 2003

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

REPLACEMENT OF THE HERBERT C. BONNER BRIDGE (BRIDGE NO. 11) ON NC 12 OVER OREGON INLET

Bonner Bridge Update

Environmental Impact Statement TIP Project No. B-2500 Dare County, North Carolina

NEW OREGON INLET BRIDGE PROPOSED

Bulletin Board

Bonner Bridge Citizens Informational Workshops Scheduled for June 26, 2003
4:00 - 7:00 PM

RODANTHE
Rodanthe Waves Salvo Community Center
23186 Myrna Peters Road
Rodanthe, NC 27968

BUXTON
Cape Hatteras Secondary School (Auditorium)
48576 Highway 12
Buxton, NC 27920

Both Bonner Bridge Replacement and NC 12 Overwash Issues Addressed

The North Carolina Department of Transportation (NCDOT) is proposing to build a new bridge to replace the existing Bonner Bridge over Oregon Inlet prior to the end of its reasonable service life. Four corridors were evaluated for the replacement bridge. The corridors are shown in the figure on page 3. Corridor Alternative 4 would minimize natural resource impacts and would bypass three locations on NC 12 regularly threatened by overwash. Corridor Alternative 1 would minimize costs but may not be compatible with the management strategies of the Pea Island National Wildlife Refuge. Corridor Alternatives 2 and 3 are no longer under consideration because of higher cost and natural resource impacts.

The NCDOT and a multi-agency team studied the four bridge corridors before Alternatives 1 and 4 were selected for more detailed evaluation. The corridors were evaluated for their potential impacts to natural resources, including federally protected species, wetlands and submerged aquatic vegetation (SAVs), costs, construction method, and compatibility with Pea Island National Wildlife Refuge and National Park Service plans and policies. All of the corridors begin on Bodie Island at the northern endpoint of the existing bridge near the Oregon Inlet Marina and the U.S. Coast Guard Station.

continued on page 2

Citizens Informational Workshops

Citizens Informational Workshops are scheduled for June 26th in Rodanthe and Buxton. These workshops will provide the public an opportunity to learn more about the proposed bridge and discuss concerns with NCDOT. Two workshop locations will make it more convenient for property and business owners on Hatteras Island to attend one of the workshops.

One workshop will be held at the community center in Rodanthe. The other workshop will be held at Cape Hatteras Secondary School in Buxton. Both workshops will be informal, with the public welcome to drop in any time between 4 and 7 pm to view displays and ask questions about the project. Study team members will be on hand to discuss the project with you.

The same information will be available at both workshops. If you cannot attend one of the workshops you may write the study team or call the toll-free project information line with your comments or questions. See the last page of this newsletter for the names and numbers of study team contacts.

continued from page 1

NC 12 on Hatteras Island is regularly threatened by shoreline erosion and overwash. Three areas, known as "hot spots" are especially vulnerable. A new bridge located in Corridor Alternative 1 would connect existing NC 12 from the tip of Bodie Island to south of the first hot spot, known as the Canal Zone. The approximately six-mile long bridge would cost substantially less to construct than a new bridge located in Corridor Alternative 4 but would have greater potential impacts to wetlands and waterfowl feeding areas.

The Canal Zone hot spot is located within the Pea Island National Wildlife Refuge. The Pea Island National Wildlife Refuge, as shown by the shaded area in the figure on page 3, extends from the tip of Hatteras Island to Rodanthe. The U.S. Fish and Wildlife Service must find the bridge compatible with Pea Island National Wildlife Refuge management strategies in order to construct the new bridge within Corridor Alternative 1. Early coordination efforts between NCDOT and the U.S. Fish and Wildlife Service indicate that a new bridge in Corridor Alternative 1 is not likely to be determined compatible with Refuge management strategies. Additional information on U.S. Fish and Wildlife Service compatibility determinations can be found on their website at http://policy.fws.gov/603fw2.html.

A new bridge in Corridor Alternative 4 would connect existing NC 12 from just north of the emergency ferry dock in Rodanthe to the southern tip of Bodie Island. The approximately 17-mile long bridge would minimize impacts to important natural resources such as wetlands, submerged aquatic vegetation, and bird feeding areas. It would bypass the Canal Zone hot spot and two additional hot spots on NC 12 that are currently subject to frequent ocean overwash. Relocating NC 12 on structure in the Pamlico Sound west of Hatteras Island would eliminate the inconvenience and economic loss that results when substantial overwash occurs. In addition, a bridge in the Pamlico Sound will place NC 12 outside the Refuge.

Why is a New Bridge Needed?

A NCDOT Bridge Inspection Report for June 2002 rated the condition of the existing bridge as "poor". Additional maintenance and rehabilitation is needed to keep the bridge open until the new bridge is built. A new bridge is necessary because the existing Bonner Bridge is reaching the end of its reasonable service life and continued demand for convenient daily travel and emergency access across Oregon Inlet is expected.

What is the Status of the Study?

A Draft Environmental Impact Statement (DEIS) for the replacement of Bonner Bridge was approved in 1993. Public hearings were held early in 1994. The preferred alternative was to construct a new bridge immediately west of the existing bridge. A Supplemental Draft Environmental Impact Statement (SDEIS) will be prepared to evaluate additional bridge corridors, and will recommend a new preferred alternative for the proposed Bonner Bridge replacement. The project study team will assess natural resource, historic architecture, archaeological, coastal movement, and community data before determining the best corridor for the new bridge. Results from natural resource and community studies and compatibility with Pea Island National Wildlife management strategies will be considered in selecting the best location for the new bridge. Public comments at the workshops will also be an important component of the decision-making process.

Public Involvement Opportunities

Citizens Informational Workshops are just one public involvement opportunity. Other opportunities for the public to be informed, ask questions, or make suggestions are:

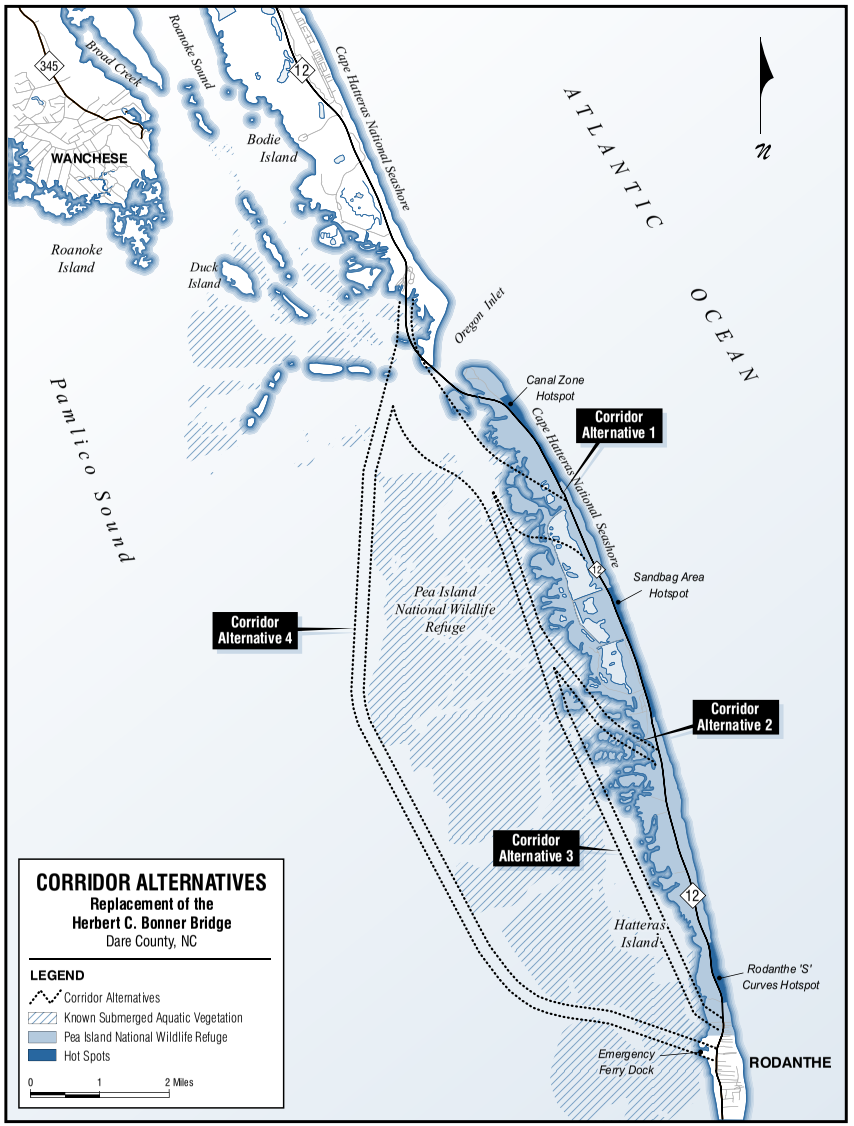
- Newsletters will be mailed periodically during the study to inform citizens of project findings and upcoming events.
- Small Group Meetings with community groups or organizations can be arranged. The study team will meet with you at your request to discuss specific issues. Organization(s) sponsoring these meetings are responsible for arranging a meeting location and notifying participants.
- Toll-free Project Information Line provides direct contact between citizens and the study team.
- Study team members may also be contacted through the mail by writing to one of the contacts listed on the back page of the newsletter.

What are the Next Steps?

The next steps for the study team are to select the agency preferred alternative and develop the preliminary designs, assess the impacts, and write the supplemental DEIS.

NCDOT's goal is to open the new bridge to traffic by 2010. In order to meet this goal, the following schedule must be met:

Supplemental Draft EIS	February 2004
Final EIS	February 2005
Record of Decision	May 2005
Begin Right-of-Way Acquisition	August 2005
Begin Construction	August 2006



Contacting the Study Team

This newsletter is being sent to individuals who have requested to be on the Bonner Bridge Study mailing list, property owners on Hatteras Island, and individuals who are on mailing lists maintained by the U.S. Fish and Wildlife Service's Pea Island National Wildlife Refuge, and the National Park Service, Cape Hatteras National Seashore.

If you have any questions or wish to be added to our newsletter mailing list, please call John Page or Liz Kovasckitz on our toll-free project information line, **1-866-803-0529**. If you call outside of normal business hours, please leave a message and someone will return your call. You may also write the study team at:

Mr. John Page, AICP, CEP
Parsons Brinckerhoff Quade & Douglas, Inc.
909 Aviation Parkway, Suite 1500
Morrisville, NC 27560

or

Ms. Jennifer Harris, PE
NC Department of Transportation
Project Development and Environmental Analysis Branch
1548 Mail Service Center
Raleigh, NC 27699-1548

We hope to see you at one of the Citizens Informational Workshops on June 26th!

North Carolina Department of Transportation
Project Development and Environmental Analysis Branch
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Issue No. 2 October 2005

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

REPLACEMENT OF THE HERBERT C. BONNER BRIDGE (BRIDGE NO. 11) ON NC 12 OVER OREGON INLET

Bonner Bridge Update

Environmental Impact Statement TIP Project No. B-2500 Dare County, North Carolina

BONNER BRIDGE REPLACEMENT PUBLIC HEARINGS ARE SCHEDULED

Supplemental Draft Environmental Impact Statement Evaluating Two Alternative Corridors Available for Review

Bulletin Board

PUBLIC HEARINGS AND PRE-HEARING OPEN HOUSE WORKSHOPS

NOVEMBER 9, 2005

MANTEO
Dare County Justice Center
962 Marshall Collins Drive
Manteo, NC

OPEN HOUSE WORKSHOP:
3:00 pm - 6:00 pm

PUBLIC HEARING:
7:00 pm

NOVEMBER 10, 2005

RODANTHE
Rodanthe-Waves-Salvo
Community Center
23186 Myrna Peters Road
Rodanthe, NC

OPEN HOUSE WORKSHOP:
3:00 pm - 6:00 pm

PUBLIC HEARING:
7:00 pm

THE SDEIS

The Supplemental Draft Environmental Impact Statement (SDEIS) for the Bonner Bridge Replacement Project is available for review. Two replacement bridge corridors and several alternatives within those corridors are evaluated in the SDEIS. A summary of the SDEIS findings is included in this newsletter. To review a copy of the SDEIS, you may visit one of the public review locations.

See box on back page.

PUBLIC HEARINGS

Public Hearings are scheduled for November 9, 2005 at the Dare County Justice Center at 7:00 p.m., and November 10, 2005 at the Rodanthe-Waves-Salvo Community Center at 7:00 p.m. The purpose of the hearings is to give citizens the opportunity to express their opinions about the project and the various alternatives. Pre-hearing open house workshops will be held from 3:00 p.m. to 6:00 p.m. prior to both Public Hearings to provide citizens an opportunity to:

- Learn more about the study
- Review the hearing maps of the alternatives
- Ask questions on an informal basis
- Provide comments

Locations and times of the workshops and hearings are listed to the left on the Bulletin Board.

HOW TO COMMENT ON THE PROJECT

Comments on the project and the various alternatives may be:

- Mailed in
- Submitted in writing at either of the open houses or at the hearings
- Presented orally at the hearings

Oral and written comments carry equal weight and both will become part of the hearing record. Mailed comments should be sent by December 10, 2005 to:

Mr. Carl Goode, PE
Head, Human Environment Unit
NCDOT
1583 Mail Service Center
Raleigh, NC 27699-1583

Those wishing to speak at the public hearings can register at either of the pre-hearing open houses, at the hearings, by calling the Project's Toll-Free Information Line (1-866-803-0529), or by calling Mr. Goode at 919-715-1515. Oral comments will be limited to 5 minutes, although additional comments may be offered after all those registered have spoken.

FACTORS IMPORTANT TO THE SELECTION OF A PREFERRED BONNER BRIDGE REPLACEMENT CORRIDOR AND A COMPARISON OF ALTERNATIVES

A preferred replacement bridge corridor alternative will be selected after careful consideration of the contents of the SDEIS, public hearing comments, and written federal, state, and local government agency and citizen comments. At this time, important decision-making factors are expected to be:

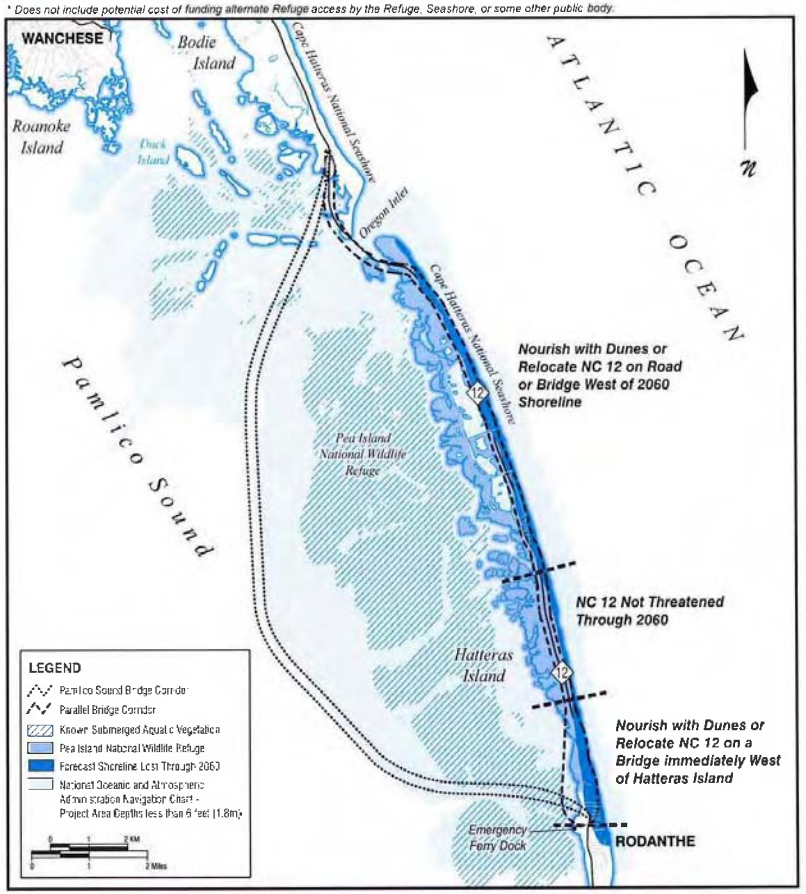
- Cost and how the project will be funded.
- Compatibility of the Parallel Bridge Corridor alternatives with the goals, objectives, and establishing legislation of the Pea Island National Wildlife Refuge under the requirements of the National Wildlife Refuge System Improvement Act of 1997.
- Future public access to the Refuge, whether by paved road with the Parallel Bridge Corridor or an alternative form of access with the Pamlico Sound Bridge Corridor.
- The extent to which each alternative avoids and minimizes impacts to wetlands as per the requirements of the federal Clean Water Act and Executive Order 11990.
- The extent to which each alternative minimizes harm to the Cape Hatteras National Seashore and the Refuge. Section 4(f) of the Department of Transportation Act of 1966 states that the use of land from a significant publicly owned park, recreation area, or wildlife and waterfowl refuge, or any significant historic site, cannot be approved unless a determination is made that: 1) there is no feasible and prudent alternative to the use of land from the property; and 2) the action includes all possible planning to minimize harm to the property resulting from such use. If a preferred alternative is selected for which this determination cannot be made, federal highway funds cannot be used when replacing Bonner Bridge.

COMPARISON OF ALTERNATIVES

	Alternatives	Description	Key Community & Cultural Resource Impacts	Key Natural Resource Impacts	Other Considerations
Pamlico Sound Bridge Corridor	Pamlico Sound Bridge	The bridge would be approximately 17.5 miles long, beginning in Rodanthe and ending in the Oregon Inlet Marina area. It would extend north from Rodanthe in Pamlico Sound up to approximately 5 miles west of Hatteras Island. It would have two 12-foot lanes and two 8-foot shoulders.	Alternate form of access to Refuge and historic former US Coast Guard Station; uses 3.5 acres of Seashore on Bodie Island; visual impacts to homes along shoreline in Rodanthe.	Construction dredging for 8.0 miles.	Potential storm-related island breach location at southern end of Refuge bypassed; no Refuge compatibility determination needed.
	With Curved Rodanthe Terminus	The bridge would terminate in Rodanthe with a sweeping curve that would connect directly to NC 12 just south of Sea Oats Drive (near the Liberty Service Station).	Displaces 6 homes and 6 businesses.	6.0 acres of natural plant community used; 4.8 acres of wetland filled.	
	With Intersection Rodanthe Terminus	The bridge would terminate in Rodanthe at a signalized intersection at NC 12 directly across from America Drive.	Displaces 5 homes and 1 business.	5.2 acres of natural plant community used; 4.2 acres of wetland filled.	
Parallel Bridge Corridor	Oregon Inlet Bridge	The bridge would be approximately 2.7 miles long beginning at the north end of Hatteras Island and ending in the Oregon Inlet Marina area. The bridge would be just west of Bonner Bridge with two 12-foot lanes and two 6-foot shoulders. It would be built in association with a long-term strategy for maintaining NC 12 through the Refuge.	New bridge a substantial visual presence at historic former US Coast Guard Station; uses 2.3 acres of Seashore on Bodie Island; maintains paved road access to Refuge.	Construction dredging for 2,000 foot, 2,400-foot construction haul road west of Bodie Island.	Refuge compatibility determination needed.
	With Nourishment	NC 12 would remain in its current location. The Oregon Inlet bridge would tie into the existing NC 12 right-of-way in the Refuge. Beach nourishment plus dune enhancement would be used to maintain an adequate beach and dune system to protect NC 12 in its current location. Beach nourishment would occur every four years; dune restoration every 12 years.	No displacements; uses 19.7 acres of Refuge (a Significant Natural Heritage Area or SNHA) lands for new dunes plus periodic nourishment of 6.3 miles of seashore.	22.8 acres of natural plant community used; 4.3 acres of wetland filled; two threatened/endangered species likely to be adversely affected (green sea turtle and piping plover).	Risk of storm-related island breach at southern end of Refuge (such a breach could take 3 to 5 months to close); Refuge compatibility determination needed.
	With Road North/Bridge South	This alternative would place NC 12 on a 2-lane bridge with 8-foot shoulders west of Hatteras Island beginning at a new intersection in Rodanthe (at Myrna Peters Road) and continuing to a point approximately 2 miles north of the Refuge's southern boundary. NC 12 would then remain unchanged for 2.6 miles. Beginning at a point approximately 1.3 miles south of the Refuge's ponds and continuing north to Oregon Inlet, NC 12 would be relocated as a paved road to a point 230 feet west of the forecast worst-case 2060 shoreline. These new dunes would be built as needed as the shoreline erodes towards the relocated road.	Displaces 7 homes; requires 90.3 acres new highway right-of-way in Refuge, a SNHA; adverse effect on Refuge as an historic resource; substantial visual impacts to homes along shoreline in Rodanthe.	87.5 acres of natural plant community used; 78.2 acres of wetland filled; two threatened/endangered species likely to be adversely affected (green sea turtle and piping plover).	Potential storm-related island breach location bridged; Refuge compatibility determination needed.
	With All Bridge	This alternative would include the same bridge in the Rodanthe area as the Road North/Bridge South Alternative and NC 12 would then remain unchanged for 1.8 miles. In the central and northern part of the Refuge, NC 12 would be constructed on a 2-lane bridge with 8-foot shoulders to the west of the existing road. Access to the Refuge would be available at Oregon Inlet, the north end of the ponds, and the 1.8 miles where NC 12 remains unchanged.	Displaces 2 homes; requires 89.6 acres new right-of-way in Refuge, a SNHA; access lost to Refuge Visitor Center, headquarters, and North Pond Wildlife Trail; adverse effect on Refuge as an historic resource; substantial visual impacts to homes along shoreline in Rodanthe and substantial visual intrusion by NC 12 bridge into landscape of Refuge.	14.6 acres of natural plant community used; 12.3 acres of wetland filled, two threatened/endangered species likely to be adversely affected (green sea turtle and piping plover).	Potential storm-related island breach location bridged; Refuge compatibility determination needed.

COST IN MILLIONS OF DOLLARS	PAMLICO SOUND BRIDGE CORRIDOR		PARALLEL BRIDGE CORRIDOR		
	With Curved Rodanthe Terminus	With Intersection Rodanthe Terminus	With Nourishment	With Road North/ Bridge South	With All Bridge
Replacement Bridge	$416.8	$414.2	$191.0	$191.0	$191.0
NC 12 Maintenance	-	-	$437.7	$106.6	$296.0
Right-of-Way	$6.9	$5.2	$0.8	$1.7	$1.7
TOTAL	$423.7	$419.4	$629.5	$299.3	$488.7

** Does not include potential cost of funding alternate Refuge access by the Refuge, Seashore, or some other public body.*



WHAT HAPPENS NEXT

After comments from citizens, local government, and state and Federal regulatory and resource agencies are reviewed, the NCDOT, the FHWA, and the agencies will identify a least environmentally damaging practicable alternative from those studied in the SDEIS. The NCDOT will then select a preferred alternative. A Final Environmental Impact Statement (FEIS) will then be prepared. The FEIS will include:

- Citizen and government agency comments along with appropriate responses; and
- A description of the preferred alternative and the reason for its selection.

FEEL FREE TO CONTACT THE STUDY TEAM

This newsletter is being sent to individuals who have requested to be on the Bonner Bridge Study mailing list, property owners on Hatteras Island, and individuals who are on mailing lists maintained by the U.S. Fish and Wildlife Service's Pea Island National Wildlife Refuge, and the National Park Service's Cape Hatteras National Seashore.

If you have any questions or wish to be added to our newsletter mailing list, please call John Page or Bobby Norburn on our toll-free project information line, 1-866-803-0529. You may also write the study team at:

Mr. John Conforti, REM
NC Department of Transportation
Project Development and
Environmental Analysis Branch
1548 Mail Service Center
Raleigh, NC 27699-1548

-- or --

Mr. John Page, AICP, CEP
Parsons Brinckerhoff Quade &
Douglas, Inc.
909 Aviation Parkway
Suite 1500
Morrisville, NC 27560

The SDEIS is available for public review at Dare County, North Carolina library locations in Hatteras Village, Kill Devil Hills, and Manteo; and at the Fessenden Recreation Center in Buxton, North Carolina.

The SDEIS is posted for on-line review at: http://www.obtf.org under OBTF Documents

Maps of the two corridors, as well as copies of the SDEIS, are available for review at:

Dare County Planning & Inspections Satellite Office
49815 NC Highway 12
Buxton, NC

County Manager's Office
Dare County Administration Building
211 Budleigh Street
Manteo, NC

US Post Office
25969 NC Highway 12
Rodanthe, NC

North Carolina Department of Transportation
Project Development and Environmental Analysis Branch
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Issue No. 3 February 2007
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

REPLACEMENT OF THE HERBERT C. BONNER BRIDGE (BRIDGE NO. 11) ON NC 12 OVER OREGON INLET

Bonner Bridge Update

Environmental Impact Statement TIP Project No. B-2500 Dare County, North Carolina

NEW BONNER BRIDGE PUBLIC HEARINGS SCHEDULED WITH FOCUS ON TWO NEW ALTERNATIVES

Supplement to the September 12, 2005 Supplemental Draft Environmental Impact Statement (SDEIS) Evaluating the Two Additional Detailed Study Alternatives Available for Review and Comment

THE SUPPLEMENT TO THE SEPTEMBER 12, 2005 SDEIS

A Supplement to the September 12, 2005 SDEIS for the Bonner Bridge Replacement Project is available for review and comment. Two additional alternatives (named the Phased Approach alternatives) within the Parallel Bridge Corridor are evaluated in the Supplement. These additional alternatives are being considered for the replacement of the Bonner Bridge along with the five alternatives that were previously evaluated in the SDEIS and presented at public hearings November 9 and 10, 2005. A summary of the Supplement and the 2005 SDEIS findings is included in this newsletter. To review a copy of the Supplement or the 2005 SDEIS, you may visit one of the public review locations (see box on back page).

Factors important to selecting a preferred alternative include: cost and funding; compatibility with the National Wildlife Refuge System Improvement Act of 1997; future public access to the Refuge; natural resource impacts; the extent to which each alternative minimizes harm to the Cape Hatteras National Seashore and the Refuge; and the potential for community impacts in Rodanthe.

Bulletin Board

PUBLIC HEARINGS AND PRE-HEARING OPEN HOUSE WORKSHOPS

MARCH 28, 2007

MANTEO
Dare County Justice Center
962 Marshall Collins Drive
Manteo, NC

OPEN HOUSE WORKSHOP:
3:00 pm - 6:00 pm

PUBLIC HEARING:
7:00 pm

MARCH 29, 2007

RODANTHE
Rodanthe-Waves-Salvo
Community Center
23186 Myrna Peters Road
Rodanthe, NC

OPEN HOUSE WORKSHOP:
3:00 pm - 6:00 pm

PUBLIC HEARING:
7:00 pm

PUBLIC HEARINGS

Locations and times of the workshops and hearings scheduled for March 28, 2007 and March 29, 2007 are listed to the left on the Bulletin Board. The purpose of the hearings is to give citizens the opportunity to express their opinions about the project and the various alternatives. Pre-hearing open house workshops will be held from 3:00 p.m. to 6:00 p.m. prior to both Public Hearings to provide citizens an opportunity to:

- Learn more about the study
- Review the hearing maps of the alternatives
- Ask questions on an informal basis
- Provide comments

HOW TO COMMENT ON THE PROJECT

Comments on the project and the various alternatives may be mailed in, submitted in writing at either of the open houses or at the hearings, or presented orally at the hearings. Oral and written comments carry equal weight and both will become part of the hearing record. Mailed comments should be sent by April 17, 2007 to:

Mr. Carl Goode, PE
Head, Human Environment Unit
NCDOT
1583 Mail Service Center
Raleigh, NC 27699-1583

Those wishing to speak at the public hearings can register at either of the pre-hearing open houses, at the hearings, by calling the Project's Toll-Free Information Line (1-866-803-0529), or by calling Mr. Goode at 919-715-1515. Oral comments will be limited to 5 minutes, although additional comments may be offered after all those registered have spoken.

COMPARISON OF ALTERNATIVES

	ALTERNATIVES	DESCRIPTION	KEY COMMUNITY & CULTURAL RESOURCE IMPACTS	KEY
PAMLICO SOUND BRIDGE CORRIDOR	Pamlico Sound Bridge	The bridge would be approximately 17.5 miles long, beginning in Rodanthe and ending in the Oregon Inlet Marina area. It would extend north from Rodanthe in Pamlico Sound up to approximately 5 miles west of Hatteras Island. It would have two 12-foot lanes and two 8-foot shoulders.	Alternate form of access to Refuge and historic former US Coast Guard Station; uses 3.5 acres of Seashore on Bodie Island; visual impacts to homes along shoreline in Rodanthe.	Cor
	With Curved Rodanthe Terminus	The bridge would terminate in Rodanthe with a sweeping curve that would connect directly to NC 12 just south of Sea Oats Drive (near the Liberty Service Station).	Displaces 6 homes and 6 businesses.	6.0 ac
	With Intersection Rodanthe Terminus	The bridge would terminate in Rodanthe at a signalized intersection at NC 12 directly across from America Drive.	Displaces 5 homes and 1 business.	5.2 ac
PARALLEL BRIDGE CORRIDOR	Oregon Inlet Bridge	The bridge would be approximately 2.7 miles long beginning at the north end of Hatteras Island and ending in the Oregon Inlet Marina area. The bridge would be just west of Bonner Bridge with two 12-foot lanes and two 6-foot shoulders. It would be built in association with a long-term strategy for maintaining NC 12 through the Refuge.	New bridge a substantial visual presence at historic former US Coast Guard Station; uses 2.3 acres of Seashore on Bodie Island; maintains paved road access to Refuge.	Constr foot c
	With Nourishment	NC 12 would remain in its current location. The Oregon Inlet bridge would tie into the existing NC 12 easement in the Refuge. Beach nourishment plus dune enhancement would be used to maintain an adequate beach and dune system to protect NC 12 in its current location. Beach nourishment would occur every four years; dune restoration every 12 years.	No displacements; uses 19.7 acres of Refuge (a Significant Natural Heritage Area or SNHA) lands for new dunes plus periodic nourishment of 6.3 miles of seashore.	22.8 ac 4.3 a tempor and pip been
	With Road North/Bridge South	This alternative would place NC 12 on a 2-lane bridge with 8-foot shoulders west of Hatteras Island beginning at a new intersection in Rodanthe (at Myrna Peters Road) and continuing to a point approximately 2 miles north of the Refuge's southern boundary. NC 12 would then remain unchanged for 2.6 miles. Beginning at a point approximately 1.3 miles south of the Refuge's ponds and continuing north to Oregon Inlet, NC 12 would be relocated as a paved road to a point 230 feet west of the forecast worst-case 2060 shoreline. Three new dunes would be built as needed as the shoreline erodes towards the relocated road.	Displaces 2 homes and no businesses; requires 92.9 acres new highway easement in Refuge, a SNHA; adverse effect on Refuge as an historic resource; adverse effect on Chicamacomico Life Saving Station and Rodanthe Historic District because alternative would be within district; substantial visual impacts to homes along shoreline in Rodanthe.	87.5 ac 78.2 tempor and pip been
	With All Bridge	This alternative would include the same bridge in the Rodanthe area as the Road North/Bridge South Alternative and NC 12 would then remain unchanged for 1.8 miles. In the central and northern part of the Refuge, NC 12 would be constructed on a 2-lane bridge with 8-foot shoulders to the west of the existing road. Access to the Refuge would be available at Oregon Inlet, the north end of the ponds, and the 1.8 miles where NC 12 remains unchanged.	Displaces 2 homes and no businesses; requires 89.6 acres new highway easement in Refuge, a SNHA; access lost to Refuge Visitor Center, headquarters, and North Pond Wildlife Trail; adverse effect on Refuge as an historic resource; adverse effect on Chicamacomico Life Saving Station and Rodanthe Historic District because alternative would be within district; substantial visual impacts to homes along shoreline in Rodanthe and substantial visual intrusion by NC 12 bridge into landscape of Refuge.	14.6 ac 12.3 tempor and pip been
	With Phased Approach/ Rodanthe Bridge	This alternative would include a modified Oregon Inlet bridge and elevating portions of NC 12 through the Refuge and northern Rodanthe on new bridges within the existing NC 12 easement. It would be built in four phases, with the first phase being the Oregon Inlet bridge and additional phases being built as necessitated by shoreline erosion. With this alternative, the bridge and approach roadway would begin in Rodanthe approximately 1.1 miles south of the Refuge boundary (at a point that is south and west of where the projected 2060 worst-case shoreline crosses NC 12). Once all four phases are completed, the NC 12 bridge would extend from this point north to Oregon Inlet except for the 2.1 mile length of NC 12 in the southern half of the Refuge that would not be threatened by erosion prior to 2060. Access to properties adjacent to the bridge in Rodanthe would be provided by a one-lane, one-way frontage road on each side of the NC 12 bridge. Three crossovers between the two frontage roads underneath the NC 12 bridge would be provided south of the Refuge boundary.	Displaces 2 homes and a commercial building containing a business and a residence, plus 2 additional businesses partially affected; NC 12 right-of-way widened in Rodanthe; access to homes and businesses in Rodanthe maintained, but travel would become circuitous in areas with frontage roads; access to Refuge limited to two locations, so access lost to Refuge facilities except fishing at north end of Hatteras Island; would affect beach activities once shoreline erodes and bridge is located on beach or in ocean; substantial visual impacts on landscape of Refuge and in Rodanthe where an elevated roadway would be introduced into views for 1.1 miles; adverse effect on Refuge as an historic resource; adverse effect on Chicamacomico Life Saving Station and Rodanthe Historic District because of change in visual setting.	4.6 perma natural wetl wetlanc plov docum
	With Phased Approach/ Rodanthe Nourishment	This alternative also would include a modified Oregon Inlet bridge and elevating portions of NC 12 through the Refuge and northern Rodanthe on new bridges within the existing NC 12 easement. It also would be built in four phases, with the first phase being the Oregon Inlet bridge and additional phases being built as necessitated by shoreline erosion. With this alternative, the bridge and approach roadway would begin in Rodanthe approximately 0.3 mile south of the Refuge boundary. Once all four phases are completed, the NC 12 bridge would extend from this point north to Oregon Inlet except for the 2.1 mile length of NC 12 in the southern half of the Refuge that would not be threatened by erosion prior to 2060. Access to properties adjacent to the bridge in Rodanthe would be provided by a one-lane, one-way frontage road on each side of the NC 12 bridge. One crossover between the one-way frontage roads would be provided immediately south of the Refuge boundary. South of the bridge, NC 12 in Rodanthe would be protected through 2060 by beach nourishment (repeated every four years) for a total distance of approximately 6,000 feet at the southern end of the Refuge and in northern Rodanthe.	No displacements; NC 12 right-of-way widened in Rodanthe; access to homes and businesses in Rodanthe maintained, but travel would become circuitous in areas with frontage roads; access to Refuge limited to two locations, so access lost to Refuge facilities except fishing at north end of Hatteras Island; would affect beach activities once shoreline erodes and bridge is located on beach or in ocean; substantial visual impacts on landscape of Refuge and in Rodanthe where an elevated roadway would be introduced into views for 0.3 mile; adverse effect on Refuge as an historic resource; uses minor amount of Refuge (a SNHA) lands for periodic nourishment of 1,500 feet of seashore.	3.7 perma natural wetl wetlanc plov docun

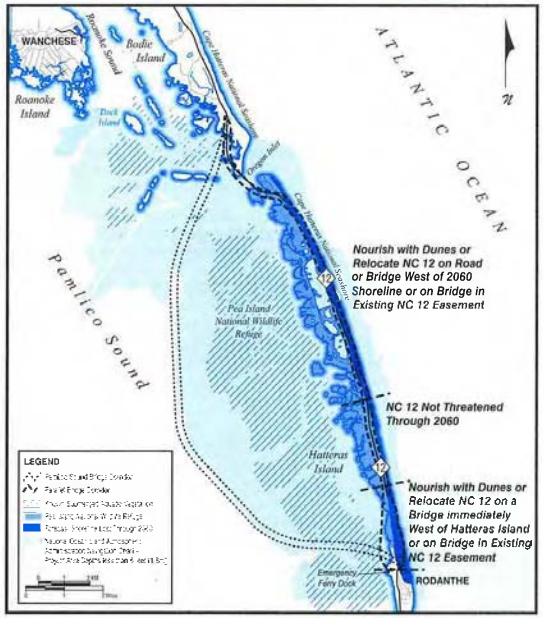
ATURAL RESOURCE IMPACTS	OTHER CONSIDERATIONS
ıruction dredging for 8.0 miles.	Potential storm-related island breach location at southern end of Refuge bypassed, no Refuge compatibility determination needed.
s of natural plant community used; 4.8 acres of wetland filled.	
s of natural plant community used; 4.2 acres of wetland filled.	
tion dredging for 2,000 feet; 2,400-nstruction haul road west of Bodie Island.	Refuge compatibility determination needed.
es of natural plant community used; res of wetland filled; 6.0 acres of y wetland impacts; green sea turtle g plover (threatened species) have ocumented and habitat present in project area.	Risk of storm-related island breach at southern end of Refuge, could take 3 to 6 months to close; Refuge compatibility determination needed.
es of natural plant community used; res of wetland filled; 6.0 acres of y wetland impacts; green sea turtle g plover (threatened species) have ocumented and habitat present in project area.	Potential storm-related island breach location bridged; Refuge compatibility determination needed.
es of natural plant community used; res of wetland filled; 6.0 acres of y wetland impacts; green sea turtle g plover (threatened species) have ocumented and habitat present in project area.	Potential storm-related island breach location bridged; Refuge compatibility determination needed.
cres of natural plant community nily used; 27.8 acres of temporary ant community impacts; 3.1 acres of d filled; 12.5 acres of temporary mpacts; green sea turtle and piping (threatened species) have been nted and habitat present in project area.	Potential storm-related island breach location in northern Rodanthe bridged.
cres of natural plant community nily used; 27.8 acres of temporary ant community impacts; 3.1 acres of d filled; 12.5 acres of temporary mpacts; green sea turtle and piping (threatened species) have been nted and habitat present in project area.	Potential storm-related island breach location in northern Rodanthe partially bridged.

COST COMPARISON MATRIX

HIGHWAY COST RANGE IN MILLIONS OF DOLLARS	PAMLICO SOUND BRIDGE CORRIDOR		PARALLEL BRIDGE CORRIDOR				
	With Curved Rodanthe Terminus	With Intersection Rodanthe Terminus	With Nourish-ment	With Road North/ Bridge South	With All Bridge	With Phased Approach/ Rodanthe Bridge	With Phased Approach/ Rodanthe Nourishment
Replacement Bridge	$933.5 - $1,425.5	$929.1 - $1,418.1	$260.0 - $309.0	$260.0 - $309.0	$260.0 - $309.0	$294.0 - $347.0	$294.0 - $347.0
NC 12 Maintenance	$0	$0	$325.8 - $575.4	$187.6 - $276.6	$562.4 - $841.0	$539.1 - $811.7	$589.9 - $912.1
Operation and Maintenance to 2060	$356.4	$356.2	$80.7	$131.2	$274.2	$260.3	$245.3
Other	$15.7	$13.8	$5.3	$23.4	$11.1	$20.0	$78.0
Total Highway Cost to 2060	$1,305.6 - $1,797.6	$1,299.1 - $1,788.1	$671.8 - $970.4	$602.2 - $740.2	$1,107.7 - $1,435.3	$1,113.4 - $1,439.0	$1,207.2 - $1,582.4

All costs updated since the release of the September 2005 SDEIS. These cost ranges do not include potential cost of funding alternate Refuge access by the Refuge, Seashore, or some other public body, utility relocation costs, and other potential non-highway costs discussed in the Supplement to the SDEIS.

PROJECT LOCATION MAP



WHAT HAPPENS NEXT

After comments from citizens, local government, and state and Federal regulatory and resource agencies are reviewed, the NCDOT, the FHWA, and the agencies will identify a least environmentally damaging practicable alternative from those studied in the Supplement and the September 12, 2005 SDEIS. The NCDOT will then select a preferred alternative. A Final Environmental Impact Statement (FEIS) will then be prepared. The FEIS will include:

- Citizen and government agency comments along with appropriate responses; and
- A description of the preferred alternative and the reason for its selection.

FEEL FREE TO CONTACT THE STUDY TEAM

If you have any questions or wish to be added to our newsletter mailing list, please call John Page or Bobby Norburn on our Toll-Free Project Information Line, 1-866-803-0529. You may also write the study team at:

Ms. Beth Smyre
NC Department of Transportation
Project Development and
Environmental Analysis Branch
1548 Mail Service Center
Raleigh, NC 27699-1548

-- or --

Mr. John Page, AICP, CEP
PB Americas, Inc.
909 Aviation Parkway
Suite 1500
Morrisville, NC 27560

The Supplement and the September 12, 2005 SDEIS are available for public review at Dare County, North Carolina library locations in Hatteras Village, Kill Devil Hills, and Manteo; and at the Fessenden Recreation Center in Buxton, North Carolina.

The Supplement and the September 12, 2005 SDEIS are posted for on-line review at: http://www.obtf.org under OBTF Documents.

Maps of the two corridors and the corridor alternatives, as well as copies of the Supplement and the September 12, 2005 SDEIS, are available for review at:

Dare County Planning & Inspections Satellite Office
49815 NC Highway 12
Buxton, NC

County Manager's Office
Dare County Administration Building
211 Budleigh Street
Manteo, NC

US Post Office
25969 NC Highway 12
Rodanthe, NC

North Carolina Department of Transportation
Project Development and Environmental Analysis Branch
Attention: Beth Smyre
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

NC 12 Replacement of Herbert C. Bonner Bridge

Over Oregon Inlet

Project No. 8.1051205

TIP No. B-2500

Dare County

Corridor Public Hearing

Dare County Justice Center
November 9, 2005

Rodanthe Waves Salvo Community Center
November 10, 2005

PURPOSE OF PUBLIC HEARING

Tonight's hearing is one step in the Department of Transportation's procedure for including the public as a part of the project's development process. The Department of Transportation is soliciting your views on the location for the proposed NC 12 Replacement of Herbert C. Bonner Bridge (Bridge No. 11 over Oregon Inlet).

YOUR PARTICIPATION

Now that the opportunity is here you are urged to participate by making your comments and/or questions a part of the public record. This may be done by having them recorded at tonight's public hearing, writing them on the attached comment sheet and leaving it with a Department of Transportation representative here tonight or by submitting them in writing by December 10, 2005 to the following address:

Mr. Carl Goode, P. E.
Manager of Human Environment
1583 Mail Service Center
Raleigh, NC 27699-1583

Everyone present is urged to participate in the proceedings. It is important, however, that **THE OPINIONS OF ALL INDIVIDUALS BE RESPECTED REGARDLESS OF HOW DIVERGENT THEY MAY BE FROM YOUR OWN.** Accordingly, debates, as such, are out of place at public meetings. Also, this is not a forum to be used as a POPULAR REFERENDUM to determine the alignment by a majority vote of those present.

WHAT IS DONE WITH THE INPUT?

A meeting will be held after the comment period has ended. This meeting will be attended by DOT staffs representing Planning, Design, Human Environment, and others who play a role in the development of a project. When appropriate, representatives from local staff and officials also attend as well as representatives from the Federal Highway Administration.

All spoken and written issues are discussed at this meeting. Most issues are resolved at this time. The Department considers safety, costs, service to traffic, social impacts, environmental impacts, and public comments in making decisions. Complex issues may require additional study and may be further reviewed by higher management, Board of Transportation members, and the Secretary of Transportation. Minutes of this meeting are made and are available to the public. You may request a copy of these minutes using the attached comment sheet.

Two possible termini design options are being evaluated in Rodanthe. With the Curved Rodanthe Terminus, the proposed bridge would end in a curve that would connect the bridge directly to NC 12. With the Intersection Rodanthe Terminus, the proposed bridge would end with a signalized intersection at NC 12. The bridge would extend north from Rodanthe in Pamlico Sound up to approximately 5 miles (8 kilometers) west of Hatteras Island. The project would end at the northern terminus of the Bonner Bridge on Bodie Island within the Cape Hatteras National Seashore. The Parallel Bridge Corridor contains a proposed Oregon Inlet bridge that would be up to 2.7 miles (4.3 kilometers) in length. The NC 12 maintenance component would keep NC 12 open from the community of Rodanthe to the Oregon Inlet bridge's southern terminus, a distance of approximately 12.5 miles (20.1 kilometers). The NC 12 maintenance component would pass through the Pea Island National Wildlife Refuge (Refuge), which has shared jurisdiction with the Seashore.

The Nourishment Alternative assumes that NC 12 would remain in its current location and beach nourishment plus dune enhancement would be used to maintain a minimally adequate beach and dune system. The total length of beach requiring regular nourishment would be approximately 6.3 miles (10.1 kilometers). Nourishment would occur in four locations, likely repeated at four year intervals.

With the Road North/Bridge South Alternative, NC 12 would be placed on a bridge west of Hatteras Island beginning at a new intersection in Rodanthe and continuing to a point approximately 2 miles (3.2 kilometers) north of the Refuge's southern boundary where the project, would meet existing NC 12. NC 12 would then remain unchanged for 2.6 miles (4.2 kilometers).
Beginning at a point approximately 1.3 miles (2.1 kilometers) south of the Refuge's ponds NC 12 would be relocated to a point 230 feet (70.1 meters) west of the forecast worst-case 2060 shoreline. This relocation would continue 7.1 miles (11.4 kilometers) north until the relocated NC 12 would meet the Oregon Inlet Bridge. Three 10-foot-high dunes, totaling 2,100 feet (640 meters) in length would be built, but not immediately. They would be built when needed as the shoreline erodes towards the relocated road. The first one is not expected to be needed until 2030.

The All Bridge Alternative would include the same bridge in the Rodanthe area as the Road North/Bridge South Alternative. In the central and northern part of the Refuge, NC 12 would be constructed on a bridge to the west of the existing road. Two road segments would be included in this relocation, one near Oregon Inlet and one just north of the Refuge's ponds where access from NC 12 to the Refuge would be provided. Access to the Refuge also would be available in a 1.8-mile (2.9-kilometer) section of NC 12 that would be left unchanged between the Rodanthe area bridge and the beginning of the next bridge section south of the ponds. The bridges associated with this alternative would span the five potential storm-related island breach locations.

DESCRIPTION OF PROJECT

The North Carolina Department of Transportation proposes to replace the Herbert C. Bonner Bridge across Oregon Inlet in Dare County. Bonner Bridge, built across Oregon Inlet in 1962, is approaching the end of its reasonable service life. Bonner Bridge is part of NC 12 and provides the only highway connection between Hatteras Island and Bodie Island. The replacement structure would serve the same function.

PURPOSE OF PROJECT

The purposes of the project are to:

Provide a new means of access from Bodie Island to Hatteras Island for its residents, businesses, services, and tourists prior to the end of the Bonner Bridge's service life.

Provide a replacement crossing that takes into account natural channel migration expected through year 2050 and provides the flexibility to let the channel move.

Provide a replacement crossing that will not be endangered by shoreline movement through year 2050.

ALTERNATIVES

Two replacement bridge corridors are being considered, the Pamlico Sound Bridge Corridor and the Parallel Bridge Corridor with NC 12 Maintenance. The alternatives associated with each corridor are:

Pamlico Sound Bridge Corridor.
-With Curved Rodanthe Terminus.
-With Intersection Rodanthe Terminus.

Parallel Bridge Corridor.
-With Nourishment.
-With Road North/Bridge South.
Bonner Bridge Replacement SDEIS ill NCDOT TIP Project Number B-2500

-With All Bridge.
The Pamlico Sound Bridge Corridor contains a proposed Pamlico Sound bridge that would be approximately 17.5 miles (28.2 kilometers) in length. The total project length would be 18 miles (29.0 kilometers), including the bridge and the approach roads at the northern and southern ends.
The southern terminus of the project would be in the community of Rodanthe on Hatteras Island.

Although the NC 12 Maintenance alternatives are described and addressed in this Supplemental Draft Environmental Impact Statement (SDEIS) as three separate alternatives, their components could be mixed and matched geographically along the length of NC 12 to create other variations.
Bonner Bridge Replacement SDEIS v NCDOT TIP Project Number B-2500
The typical section for a Pamlico Sound bridge would provide two 12-foot (3.6-meter) travel lanes and two 8-foot (2.4-meter) shoulders. This bridge's navigation spans would provide a minimum navigation opening of 200 feet (61 meters) horizontally and 75 feet (23 meters) vertically. The navigation zone (area with spans of the navigation span height and width) would be 1,600 to 2,000 feet (488 to 610 meters) long. It is anticipated that the typical bridge span outside the navigation zone would be 140 to 150 feet (42.7 to 45.7 meters). Outside the I navigation zone, the vertical clearance of the bridge currently is expected to be approximately 10 feet (3.1 meters) above mean high water. A project in the Pamlico Sound Bridge Corridor would cost approximately $419 to $424 million (construction and right-of-way cost in 2005 dollars).

The typical section for the Oregon Inlet Bridge in the Parallel Bridge Corridor would provide two 12-foot (3.6-meter) travel lanes and two 6-foot (1.8-meter) shoulders. The bridge would include a series of navigational spans across Oregon Inlet. This "navigation zone" would be up to 5,000 feet (1,524 meters) long, with a vertical clearance of approximately 75 feet (22.9 meters). Spans in the navigation zone would provide 200 feet (61 meters) of horizontal clearance. The Nourishment Alternative for NC 12 maintenance allows NC 12 to remain in its current location and beach nourishment plus dune enhancement would be used to maintain a minimally adequate beach and dune system. The bridges associated with the Road North/Bridge South Alternative and the All Bridge Alternative would provide two 12-foot (3.6-meter) travel lanes and two 8-foot (2.4-meter) shoulders. The typical bridge span would be100 feet (30.5 meters). The vertical clearance of the bridge is expected to be approximately 10 feet (3.1 meters) above mean high water. The typical section of relocated roadway would have two 12-foot (3.6-meter) travel lanes I with 8-foot (2.4-meter) shoulders (4-foot [1.2-meter] paved). The construction and right-of-way cost (in 2005 dollars) for the alternatives in the Parallel Bridge Corridor would be: $629 million (Nourishment), $299 million (Road North/Bridge South), and $489 million for All Bridge. These costs include $191 million for an Oregon Inlet bridge. Bonner Bridge would be demolished at a cost of about $4 million (2005 dollars). Separate contracts would be issued for construction of a Pamlico Sound Bridge and demolition and I removal of Bonner Bridge. With an Oregon Inlet bridge, demolition could be within the same contract as construction.

PROCESS, SCHEDULE, and COST

The Herbert C. Bonner Bridge replacement project plan to use 80% federal funds and 20% state funds for right-of-way acquisition and construction. The Federal Highway Administration (FHWA) is the lead federal agency for the proposed project. Therefore, the FHWA, in consultation with the NCDOT, will make the final decision on the Preferred Alternatives for this project. The FHWA and NCDOT must consider the following when making the decision:

The information contained in the Herbert C. Bonner Bridge Replacement SDEIS.
Input received from the public during the public hearings and SDEIS review period.
Input received from the local, state, and federal agencies during the SDEIS review period, including the following:

- US Army Corps of Engineers
- US Fish and Wildlife Service
- US Environmental Protection Agency
- NC Department of Environment and Natural Resources
- NC Wildlife Resources Commission
- State Historic Preservation Office
- US Coast Guard
- National Park Service

Permits will be required from the following agencies before construction can begin:

- US Army Corps of Engineers
- US Coast Guard
- National Park Service
- US Fish and Wildlife Service
- NC Department of Environment and Natural Resources Division of Coastal Management
- NC Department of Environment and Natural Resources Division of Water Quality

Because these permits are required before a project can be constructed, the North Carolina Department of Transportation, the Federal Highway Administration, and the US Army Corps of Engineers entered into an agreement several years ago. This agreement, which includes other environmental agencies, provides for concurrence points during the development of transportation projects so that when it becomes time to acquire the appropriate permits, decisions have already been made and agreed upon.

However, it does not mean permits are automatic, but it does provide for an orderly process whereby decisions are made. The two alternatives shown for this project are a result of agreement for alternatives to carry forward. The next step after all comments are received, including the public hearing comments, is to choose a least environmentally damaging practicable alternative. This is a decision in which all the appropriate agencies have a role. Any decision made is subject to review by agency and government leaders.

Under the current schedules right of way acquisition is to begin in the spring of 2007 and construction to begin in the spring of 2008. These schedules are subject to change. Estimated costs are shown below.

The NC 12 Replacement of Herbert C. Bonner Bridge Supplemental Draft Environmental Impact Statement (SDEIS) and maps are available for review at the following locations:

Dare County Manager's Office, 211 Budleigh Street, Manteo
Rodanthe Post Office, 25969 HWY 12
Dare County Planning and Inspections Satellite Office, Buxton

A copy of the SDEIS is available for public review at the following locations:

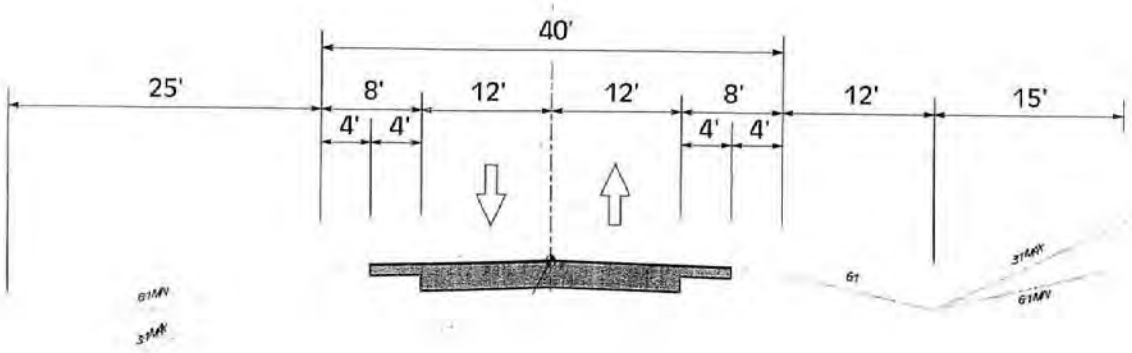
Dare County Library, 700 HWY 64/264, Manteo
Dare County Library, 56658 NC 12 HWY, Hatteras
Dare County Library, 400 Mustian Street, Kill Devil Hills

And at:

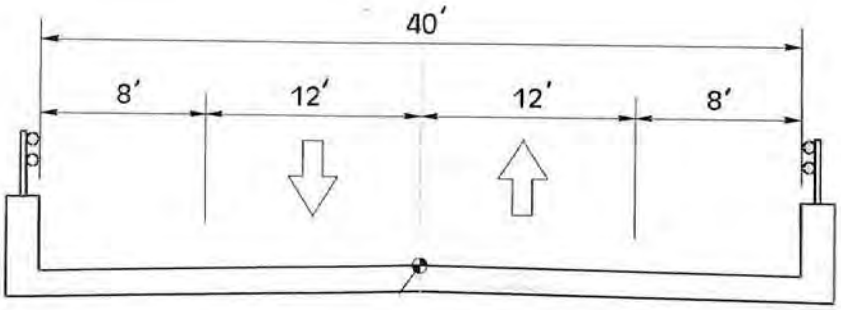
Dare County Planning Department, 2601 N. Croatan Highway, Kill Devil Hills
Fessenden Recreation Center, Buxton
NCDOT Division Office, Edenton
NCDOT District Office, Elizabeth City

Cost in Millions of Dollars	PAMLICO SOUND BRIDGE		PARALLEL BRIDGE		
	Curved Terminus	Intersection Terminus	Nourishment	Road North/Bridge South	All Bridges
Replacement Bridge	$416.8	$414.2	$191.0	$191.0	$191.0
NC 12 Maintenance	-	-	$437.7	$106.6	$296.0
Right of Way	$6.9	$5.2	$0.8	$1.7	$1.7
TOTAL	$423.7	$419.4	$629.5	$299.3	$488.7

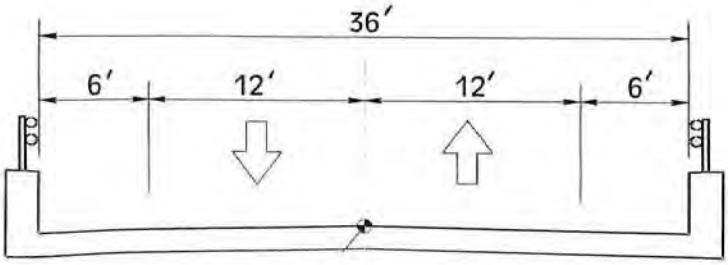
Roadway Typical Section

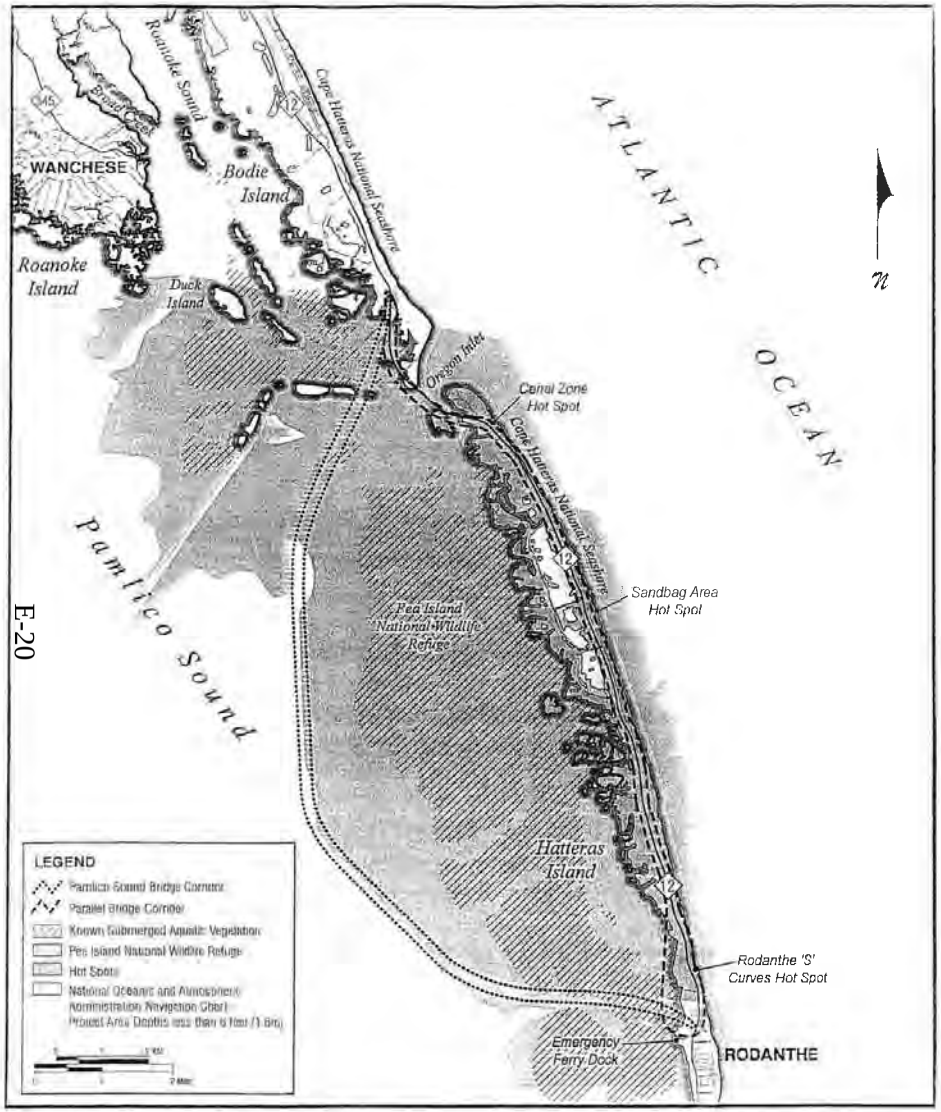


Bridge Typical Section



Oregon Inlet Bridge Typical Section





REPLACEMENT BRIDGE CORRIDOR ALTERNATIVES

COMMENT SHEET

NC 12 Replacement of Herbert C. Bonner Bridge over Oregon Inlet

Corridor Public Hearing

B-2500 8.1051205 Dare County

November 9 and 10, 2005

NAME: _____

ADDRESS: _____

COMMENTS AND\OR QUESTIONS:

Comments may be mailed to:
C. B. Goode, Jr., P. E.
Office of Human Environment Unit Head
1583 Mail Service Center
Raleigh, NC 27699-1583 Phone: (919) 715-1515 Fax: (919) 715-1501
E-mail: cgoode@dot.state.nc.us

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

Replacement of the Herbert C. Bonner Bridge on NC 12

WBS No. 32635.1.3
TIP PROJECT B-2500
Federal Aid No. BRS-2358 (15)

Dare County

Public Hearing

Informal Open House 3:00 p.m. – 6:00 p.m.
Formal Presentation 7:00 p.m.
Dare County Justice Center
962 Marshall Collins Drive
Manteo
March 28, 2007

Informal Open House 3:00 p.m. – 6:00 p.m.
Formal Presentation 7:00 p.m.
Rodanthe-Waves Salvo Community Center
23186 Myrna Peters Road
Rodanthe
March 29, 2007

PURPOSE OF PROJECT

The North Carolina Department of Transportation (NCDOT), Division of Highways, proposes to replace the Herbert C. Bonner Bridge on NC 12. The purposes of the project are to:

- Provide a new means of access from Bodie Island to Hatteras Island for its residents, businesses, services, and tourists prior to the end of the Bonner Bridge's service life.
- Provide a replacement crossing that takes into account natural channel migration expected through year 2050 and provides the flexibility to let the channel move.
- Provide a replacement crossing that will not be endangered by shoreline movement through year 2050.

PURPOSE OF PUBLIC HEARING

Today's hearing is an important step in the NCDOT's procedure for making you, the public, a part of the project development process. The purpose of the hearing is to obtain public input on the location and design of the proposed project.

Planning and environmental studies on the highway project are provided in the environmental reports – the February 2007 Supplement to the September 12, 2005 Supplemental Draft Environmental Impact Statement (SDEIS) and the 2005 SDEIS. Copies of these reports and today's hearing map displaying the location and design have been available for public review at the Dare County Manager's Office, Dare County Administrative Office, 211 Budleigh Street, Manteo, at the Rodanthe Post Office, 25969 HWY 12, Rodanthe, and at the Dare County Planning and Inspections Satellite Office, 49815 NC HWY 12, Buxton.

Additional copies of the 2007 Supplement and the 2005 SDEIS have been available at Dare County Libraries in Manteo at 700 HWY 64/264, in Hatteras at 56658 NC 12 HWY, and in Kill Devil Hills at 400 Mustian Street, the Dare County Planning Department, 2601 N. Croatan Highway, Kill Devil Hills, the Fessenden Recreation Center, Buxton, the NCDOT Division Office, Edenton, NC, and the NCDOT District Office, Elizabeth City, NC.

The 2007 Supplement and the 2005 SDEIS may also be viewed at www.OBTF.org.

YOUR PARTICIPATION

Now that the opportunity is here, you are encouraged to participate by making your comments and/or questions a part of the public record. This may be done by having them recorded at the Formal Public Hearing or by writing them on the attached comment sheet. Several representatives of the North Carolina Department of Transportation are present. They will be happy to talk with you, explain the design to you and answer your questions. You may write your comments or questions on the comment sheet and leave it with one of the representatives or mail them by April 17, 2007 to the following address:

Mr. Carl Goode, Jr., P.E., Unit Head
NCDOT - Human Environment Unit
1583 Mail Service Center
Raleigh, NC 27699-1583
Email: cgoode@dot.state.nc.us

Everyone present is urged to participate in the proceedings. It is important, however, that **THE OPINIONS OF ALL INDIVIDUALS BE RESPECTED REGARDLESS OF HOW DIFFERENT THEY MAY BE FROM YOUR OWN.** Accordingly, debates, as such, are out of place at public hearings. Also, the public hearing is not to be used as a POPULAR REFERENDUM to determine the location and/or design by a majority vote of those present.

WHAT IS DONE WITH THE INPUT?

A post-hearing meeting will be conducted after the comment period has ended. NCDOT staff representing Planning, Design, Traffic, Division, Right of Way, Public Involvement & Community Studies and others who play a role in the development of a project will attend this meeting. The project will also be reviewed with federal agencies such as the Federal Highway Administration and the US Army Corps of Engineers as well as state agencies such as the NC Department of Environment and Natural Resources. When appropriate, local government officials will attend.

All spoken and written issues are discussed at this meeting. Most issues are resolved at the post-hearing meeting. The NCDOT considers safety, costs, traffic service, social impacts and public comments in making decisions. Complex issues may require additional study and may be reviewed by higher management, Board of Transportation Members and/or the Secretary of Transportation.

Minutes of the post-hearing meeting are prepared and a summary is available to the public. You may request this document on the attached comment sheet.

STATE-FEDERAL RELATIONSHIP

This proposed project is a Federal-Aid Highway Project and thus will be constructed under the State-Federal Aid Highway Program. Financing of this project will be 80% Federal Funds and 20% State Funds. The Board of Transportation is responsible for the selection and scheduling of projects on the Federal Aid System, their location, design and maintenance cost after construction. The Federal Highway Administration is responsible for the review and approval of the previously mentioned activities to ensure that each Federal Aid Project is designed, constructed and maintained to Federal Aid Standards.

NEED FOR THE PROJECT

Bonner Bridge, built across Oregon Inlet in 1962, is approaching the end of its reasonable service life. The need for a crossing of the Oregon Inlet will continue past the end of the service life of the Bonner Bridge. Continued demand for convenient daily and emergency access across Oregon Inlet is expected. The natural channel or gorge through the Oregon Inlet migrates. A replacement bridge needs to provide spans of sufficient height and width for navigation through the anticipated area of future natural channel migration, thereby helping to reduce future dredging needs, dredging impacts, and the costs of dredging. The southern end of the Bonner Bridge is north of parts of NC 12 that are frequently threatened by shoreline erosion and overwash. Placing the southern terminus of a replacement bridge at Rodanthe, or implementing a long-term NC 12 maintenance project between Rodanthe and the Oregon Inlet, is intended to eliminate the need for regular emergency maintenance of NC 12 in this part of the Hatteras Island. Bonner Bridge is part of NC 12 and provides the only highway connection between Hatteras Island and Bodie Island. The replacement structure would serve the same function.

Tonight's public hearing will present all alternatives; the five presented in the November 2005 Public Hearings plus two additional ones added since then. Public comments about these alternatives are solicited and will be used to aid in the selection process.

PROJECT DESCRIPTION

Two replacement bridge corridors are being considered, the Pamlico Sound Bridge Corridor and the Parallel Bridge Corridor with NC 12 Maintenance. The alternatives associated with each corridor are:

Pamlico Sound Bridge Corridor

- Pamlico Sound Bridge
  - With Curved Rodanthe Terminus
  - With Intersection Rodanthe Terminus

Parallel Bridge Corridor

- Oregon Inlet Bridge
  - With Nourishment
  - With Road North/Bridge South
  - With All Bridge
  - With Phased Approach/Rodanthe Bridge
  - With Phased Approach/Rodanthe Nourishment

Please refer to the Comparison of Alternatives matrix for a description of each alternative

PROPOSED PROJECT INFORMATION

Tentative Schedule:

Construction: 2009
Replacement Bridge Completion: 2013

RIGHT OF WAY PROCEDURES

After decisions are made regarding the final design, the proposed right-of-way limits will be staked in the ground. If you are an affected property owner, a Right of Way Agent will contact you and arrange a meeting. The agent will explain the plans and advise you as to how the project will affect you. The agent will inform you of your rights as a property owner. If permanent right of way is required, professionals who are familiar with real estate values will evaluate or appraise your property. The evaluations or appraisals will be reviewed for completeness and accuracy and then the Right of Way Agent will make a written offer to you. The current market value of the property at its highest and best use when appraised will be offered as compensation. The Department of Transportation must:

1. Treat all owners and tenants equally.
2. Fully explain the owner's rights.
3. Pay just compensation in exchange for property rights.
4. Furnish relocation advisory assistance.

RELOCATION ASSISTANCE

If you are a relocatee, that is, if your residence or business is to be acquired as part of the project, additional assistance in the form of advice and compensation is available. You will also be provided with assistance on locations of comparable housing and/or commercial establishments, moving procedures, and moving aid. Moving expenses may be paid for you. Additional monetary compensation is available to help homeowners cope with mortgage increases, increased value of comparable homes, closing costs, etc. A similar program is available to assist business owners. The Right of Way Agent can explain this assistance in greater detail.

NOTE: PAMPHLETS SUMMARIZING RIGHT OF WAY AND RELOCATION PROCEDURES ARE AVAILABLE AT THE SIGN IN TABLE.

COMPARISON OF ALTERNATIVES

	ALTERNATIVES	DESCRIPTION	KEY COMMUNITY & CULTURAL RESOURCE IMPACTS	KEY
PAMLICO SOUND BRIDGE CORRIDOR	Pamlico Sound Bridge	The bridge would be approximately 17.5 miles long, beginning in Rodanthe and ending in the Oregon Inlet Marina area. It would extend north from Rodanthe in Pamlico Sound up to approximately 5 miles west of Hatteras Island. It would have two 12-foot lanes and two 8-foot shoulders.	Alternate form of access to Refuge and historic former US Coast Guard Station; uses 3.5 acres of Seashore on Bodie Island; visual impacts to homes along shoreline in Rodanthe.	Cor
	With Curved Rodanthe Terminus	The bridge would terminate in Rodanthe with a sweeping curve that would connect directly to NC 12 just south of Sea Oats Drive (near the Liberty Service Station).	Displaces 6 homes and 6 businesses.	6.0 ac
	With Intersection Rodanthe Terminus	The bridge would terminate in Rodanthe at a signalized intersection at NC 12 directly across from America Drive.	Displaces 5 homes and 1 business.	5.2 ac
PARALLEL BRIDGE CORRIDOR	Oregon Inlet Bridge	The bridge would be approximately 2.7 miles long beginning at the north end of Hatteras Island and ending in the Oregon Inlet Marina area. The bridge would be just west of Bonner Bridge with two 12-foot lanes and two 6-foot shoulders. It would be built in association with a long-term strategy for maintaining NC 12 through the Refuge.	New bridge a substantial visual presence at historic former US Coast Guard Station; uses 2.3 acres of Seashore on Bodie Island; maintains paved road access to Refuge.	Constr foot c
	With Nourishment	NC 12 would remain in its current location. The Oregon Inlet bridge would tie into the existing NC 12 easement in the Refuge. Beach nourishment plus dune enhancement would be used to maintain an adequate beach and dune system to protect NC 12 in its current location. Beach nourishment would occur every four years; dune restoration every 12 years.	No displacements; uses 19.7 acres of Refuge (a Significant Natural Heritage Area or SNHA) lands for new dunes plus periodic nourishment of 6.3 miles of seashore.	22.8 ac 4.3 a tempor and pip been
	With Road North/Bridge South	This alternative would place NC 12 on a 2-lane bridge with 8-foot shoulders west of Hatteras Island beginning at a new intersection in Rodanthe (at Myrna Peters Road) and continuing to a point approximately 2 miles north of the Refuge's southern boundary. NC 12 would then remain unchanged for 2.6 miles. Beginning at a point approximately 1.3 miles south of the Refuge's ponds and continuing north to Oregon Inlet, NC 12 would be relocated as a paved road to a point 230 feet west of the forecast worst-case 2060 shoreline. Three new dunes would be built as needed as the shoreline erodes towards the relocated road.	Displaces 2 homes and no businesses; requires 92.9 acres new highway easement in Refuge, a SNHA; adverse effect on Refuge as an historic resource; adverse effect on Chicamacomico Life Saving Station and Rodanthe Historic District because alternative would be within district; substantial visual impacts to homes along shoreline in Rodanthe.	87.5 ac 78.2 tempor and pip been
	With All Bridge	This alternative would include the same bridge in the Rodanthe area as the Road North/Bridge South Alternative and NC 12 would then remain unchanged for 1.8 miles. In the central and northern part of the Refuge, NC 12 would be constructed on a 2-lane bridge with 8-foot shoulders to the west of the existing road. Access to the Refuge would be available at Oregon Inlet, the north end of the ponds, and the 1.8 miles where NC 12 remains unchanged.	Displaces 2 homes and no businesses; requires 89.6 acres new highway easement in Refuge, a SNHA; access lost to Refuge Visitor Center, headquarters, and North Pond Wildlife Trail; adverse effect on Refuge as an historic resource; adverse effect on Chicamacomico Life Saving Station and Rodanthe Historic District because alternative would be within district; substantial visual impacts to homes along shoreline in Rodanthe and substantial visual intrusion by NC 12 bridge into landscape of Refuge.	14.6 ac 12.3 tempor and pip been
	With Phased Approach/ Rodanthe Bridge	This alternative would include a modified Oregon Inlet bridge and elevating portions of NC 12 through the Refuge and northern Rodanthe on new bridges within the existing NC 12 easement. It would be built in four phases, with the first phase being the Oregon Inlet bridge and additional phases being built as necessitated by shoreline erosion. With this alternative, the bridge and approach roadway would begin in Rodanthe approximately 1.1 miles south of the Refuge boundary (at a point that is south and west of where the projected 2060 worst-case shoreline crosses NC 12). Once all four phases are completed, the NC 12 bridge would extend from this point north to Oregon Inlet except for the 2.1 mile length of NC 12 in the southern half of the Refuge that would not be threatened by erosion prior to 2060. Access to properties adjacent to the bridge in Rodanthe would be provided by a one-lane, one-way frontage road on each side of the NC 12 bridge. Three crossovers between the two frontage roads underneath the NC 12 bridge would be provided south of the Refuge boundary.	Displaces 2 homes and a commercial building containing a business and a residence, plus 2 additional businesses partially affected; NC 12 right-of-way widened in Rodanthe; access to homes and businesses in Rodanthe maintained, but travel would become circuitous in areas with frontage roads; access to Refuge limited to two locations, so access lost to Refuge facilities except fishing at north end of Hatteras Island; would affect beach activities once shoreline erodes and bridge is located on beach or in ocean; substantial visual impacts on landscape of Refuge and in Rodanthe where an elevated roadway would be introduced into views for 1.1 miles; adverse effect on Refuge as an historic resource; adverse effect on Chicamacomico Life Saving Station and Rodanthe Historic District because of change in visual setting.	4.6 perma natural wetl wetlan plov docum
	With Phased Approach/ Rodanthe Nourishment	This alternative also would include a modified Oregon Inlet bridge and elevating portions of NC 12 through the Refuge and northern Rodanthe on new bridges within the existing NC 12 easement. It also would be built in four phases, with the first phase being the Oregon Inlet bridge and additional phases being built as necessitated by shoreline erosion. With this alternative, the bridge and approach roadway would begin in Rodanthe approximately 0.3 mile south of the Refuge boundary. Once all four phases are completed, the NC 12 bridge would extend from this point north to Oregon Inlet except for the 2.1 mile length of NC 12 in the southern half of the Refuge that would not be threatened by erosion prior to 2060. Access to properties adjacent to the bridge in Rodanthe would be provided by a one-lane, one-way frontage road on each side of the NC 12 bridge. One crossover between the one-way frontage roads would be provided immediately south of the Refuge boundary. South of the bridge, NC 12 in Rodanthe would be protected through 2060 by beach nourishment (repeated every four years) for a total distance of approximately 6,000 feet at the southern end of the Refuge and in northern Rodanthe.	No displacements; NC 12 right-of-way widened in Rodanthe; access to homes and businesses in Rodanthe maintained, but travel would become circuitous in areas with frontage roads; access to Refuge limited to two locations, so access lost to Refuge facilities except fishing at north end of Hatteras Island; would affect beach activities once shoreline erodes and bridge is located on beach or in ocean; substantial visual impacts on landscape of Refuge and in Rodanthe where an elevated roadway would be introduced into views for 0.3 mile; adverse effect on Refuge as an historic resource; uses minor amount of Refuge (a SNHA) lands for periodic nourishment of 1,500 feet of seashore.	3.7 perma natural wetl wetlan plov docun

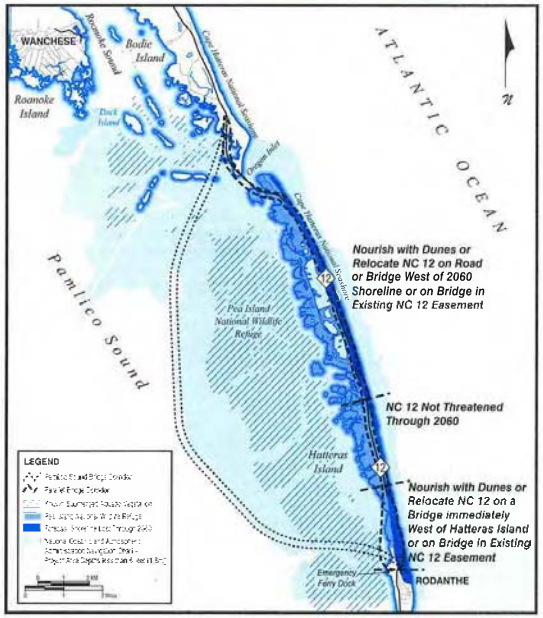
ATURAL RESOURCE IMPACTS	OTHER CONSIDERATIONS
ruction dredging for 8.0 miles.	Potential storm-related island breach location at southern end of Refuge bypassed, no Refuge compatibility determination needed.
s of natural plant community used; 4.8 acres of wetland filled.	
s of natural plant community used; 4.2 acres of wetland filled.	
tion dredging for 2,000 feet; 2,400-nstruction haul road west of Bodie Island.	Refuge compatibility determination needed.
es of natural plant community used; res of wetland filled; 6.0 acres of y wetland impacts; green sea turtle g plover (threatened species) have ocumented and habitat present in project area.	Risk of storm-related island breach at southern end of Refuge, could take 3 to 6 months to close; Refuge compatibility determination needed.
es of natural plant community used; res of wetland filled; 6.0 acres of y wetland impacts; green sea turtle g plover (threatened species) have ocumented and habitat present in project area.	Potential storm-related island breach location bridged; Refuge compatibility determination needed.
es of natural plant community used; res of wetland filled; 6.0 acres of y wetland impacts; green sea turtle g plover (threatened species) have ocumented and habitat present in project area.	Potential storm-related island breach location bridged; Refuge compatibility determination needed.
res of natural plant community nity used; 27.6 acres of temporary ent community impacts; 3.1 acres of d filled; 12.5 acres of temporary mpacts; green sea turtle and piping (threatened species) have been nted and habitat present in project area.	Potential storm-related island breach location in northern Rodanthe bridged.
res of natural plant community nity used; 27.6 acres of temporary ent community impacts; 3.1 acres of d filled; 12.5 acres of temporary mpacts; green sea turtle and piping (threatened species) have been nted and habitat present in project area.	Potential storm-related island breach location in northern Rodanthe partially bridged.

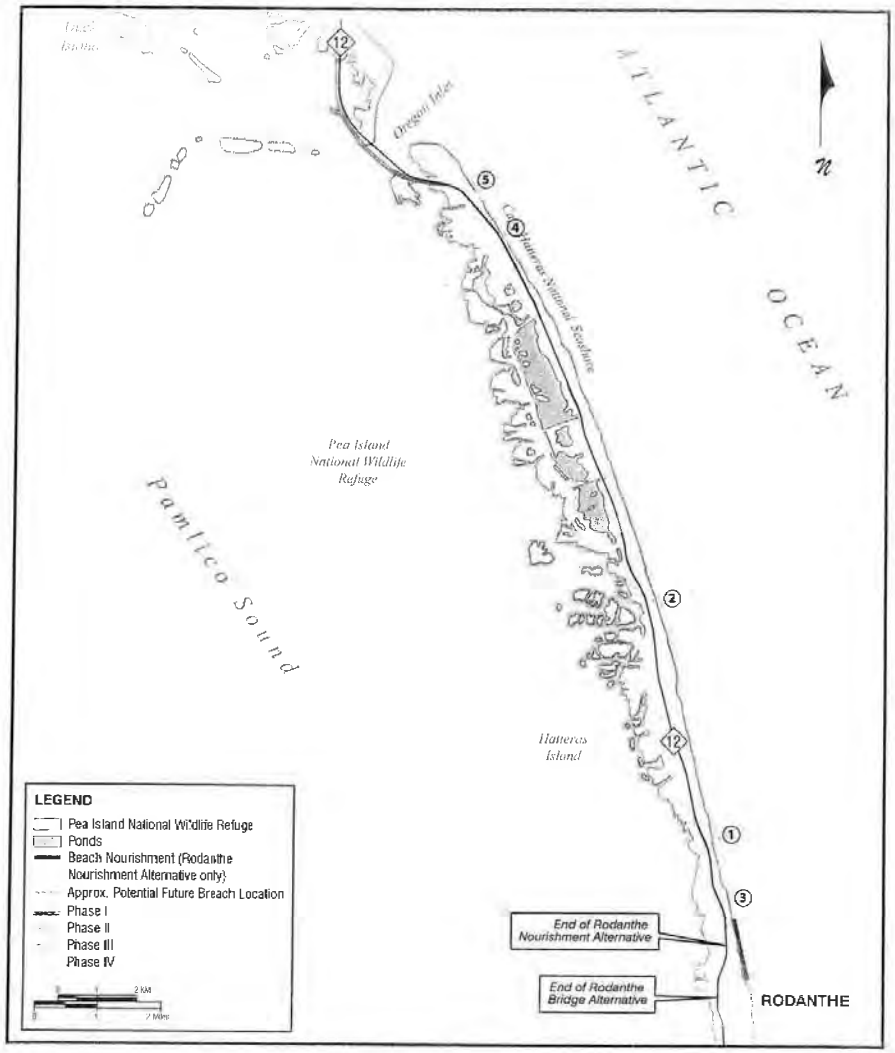
COST COMPARISON MATRIX

HIGHWAY COST RANGE IN MILLIONS OF DOLLARS	PAMLICO SOUND BRIDGE CORRIDOR		PARALLEL BRIDGE CORRIDOR				
	With Curved Rodanthe Terminus	With Intersection Rodanthe Terminus	With Nourish-ment	With Road North/ Bridge South	With All Bridge	With Phased Approach/ Rodanthe Bridge	With Phased Approach/ Rodanthe Nourishment
Replacement Bridge	$933.5 - $1,425.5	$929.1 - $1,418.1	$260.0 - $309.0	$260.0 - $309.0	$260.0 - $309.0	$294.0 - $347.0	$294.0 - $347.0
NC 12 Maintenance	$0	$0	$325.8 - $575.4	$187.6 - $276.6	$562.4 - $841.0	$539.1 - $811.7	$589.9 - $912.1
Operation and Maintenance to 2060	$356.4	$356.2	$80.7	$131.2	$274.2	$260.3	$245.3
Other	$15.7	$13.8	$5.3	$23.4	$11.1	$20.0	$78.0
Total Highway Cost to 2060	$1,305.6 - $1,797.6	$1,299.1 - $1,788.1	$671.8 - $970.4	$602.2 - $740.2	$1,107.7 - $1,435.3	$1,113.4 - $1,439.0	$1,207.2 - $1,582.4

All costs updated since the release of the September 2005 SDEIS. These cost ranges do not include potential cost of funding alternate Refuge access by the Refuge, Seashore, or some other public body, utility relocation costs, and other potential non-highway costs discussed in the Supplement to the SDEIS.

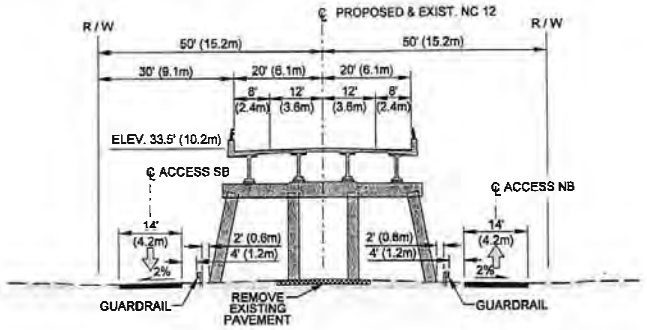
PROJECT LOCATION MAP



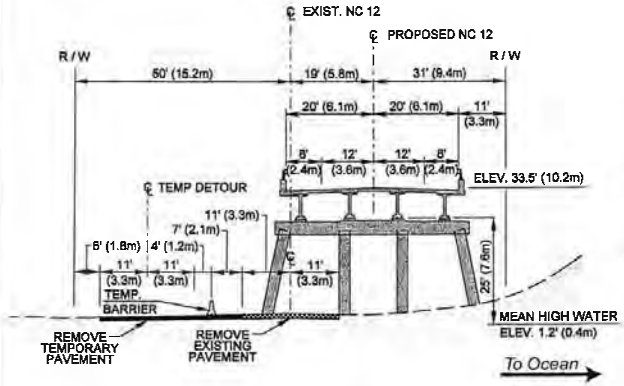


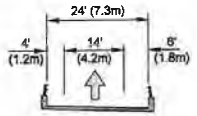
PARALLEL BRIDGE CORRIDOR WITH PHASED APPROACH

Figure 2-1



TYPICAL SECTION IN RODANTHE



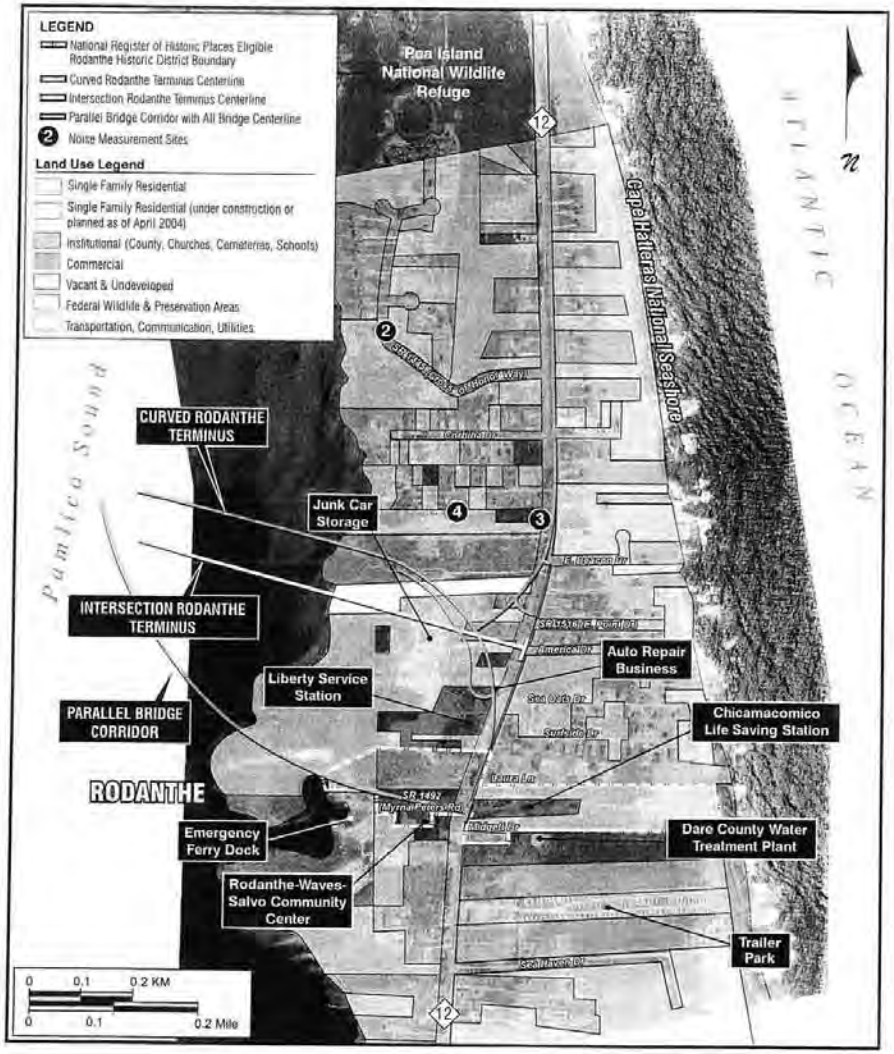


RAMP TYPICAL SECTION

TYPICAL SECTION IN REFUGE

R / W = Edge of NC 12 Easement or Right-of-Way
℄ = Centerline
SB = Southbound
NB = Northbound

PHASED APPROACH ALTERNATIVE TYPICAL SECTIONS	Figure 2-4



UPDATED SDEIS FIGURE 3-1c - LAND USE RODANTHE AREA	Figure 3-2

COMMENT SHEET

Herbert C. Bonner Bridge Replacement

Formal Public Hearings – March 28 and 29, 2007

TIP Project No. B-2500 Dare County WBS No. 32635.1.3

NAME:

ADDRESS:

COMMENTS AND/OR QUESTIONS:

Comments may be submitted by April 17, 2007 to:

Mr. Carl Goode, Jr., PE, Unit Head
NCDOT - Human Environment Unit
1583 Mail Service Center
Raleigh, NC 27699-1583
Phone: (919) 715-1515 FAX: (919) 715-1501
Email: cgoode@dot.state.nc.us

TOWN OF KILL DEVIL HILLS
Post Office Box 1719, 102 Town Hall Drive
Kill Devil Hills, North Carolina 27948
252-449-5300
www.kdhnc.com

August 17, 2007

The Honorable Michael F. Easley
Governor of North Carolina
Office of the Governor
20301 Mail Service Center
Raleigh, North Carolina 27699

Re: Resolution urging North Carolina Department of Transportation and the U. S. Fish and Wildlife Division, U. S. Department of the Interior, to replace the aging Herbert C. Bonner Bridge over Oregon Inlet with a parallel bridge immediately

Dear Governor:

At the August 13, 2007 meeting, the Kill Devil Hills Board of Commissioners unanimously approved the *Resolution urging North Carolina Department of Transportation and the U. S. Fish and Wildlife Division, U. S. Department of the Interior, to replace the aging Herbert C. Bonner Bridge over Oregon Inlet with a parallel bridge immediately.*

The Herbert C. Bonner Bridge is a critical transportation link to and from Hatteras Island and is of vital importance to the quality of life of the residents of Hatteras Island and Dare County, North Carolina.

Issues of public safety, business and commerce, and tourism must be included when considering the importance of a safe and secure structure across Oregon Inlet. The Herbert C. Bonner Bridge has reached the end of its reasonable service life as evidenced by the recent inspection done by the North Carolina Department of Transportation, where the ***bridge received a rating of two out of 100 points for structural sufficiency.***

The North Carolina Department of Transportation has presented two alternative plans to replace the bridge and the Kill Devil Hills Board of Commissioners endorses the immediate construction of a parallel bridge.

We are pleased to provide a copy of the resolution to you and will appreciate your assistance in this area.

Sincerely yours,

Raymond P. Sturza, II
Mayor

C: Dare County Tourism Board
Dare County and Local Municipalities
The Honorable Richard Burr
The Honorable Elizabeth Dole
The Honorable Walter B. Jones
The Honorable Marc Basnight
The Honorable Timothy L. Spears
Dirk Kempthorne, Secretary of the Interior
John F. Sullivan, III, P.E. Federal Highway Administration
Gregory J. Thorpe, Ph.D., North Carolina Department of Transportation
Brian Yamamoto, P.E., North Carolina Department of Transportation
Elizabeth A. Smyre, North Carolina Department of Transportation
Mike Murray, Superintendent, Cape Hatteras National Seashore
Mike Bryant, Refuge Manager, Pea Island National Wildlife Refuge
Michael Davenport, Dare County Oregon Inlet & Waterways Comm.
File

TOWN OF KILL DEVIL HILLS

Land Where Flight Began

Resolution urging the North Carolina Department of Transportation and the U.S. Fish and Wildlife Division, U.S. Department of the Interior, to replace the aging Herbert C. Bonner Bridge over Oregon Inlet with a parallel bridge immediately

WHEREAS, the Herbert C. Bonner Bridge spanning Oregon Inlet is a critical transportation link to and from Hatteras Island; and,

WHEREAS, the bridge is of vital importance to the quality of life of the residents of Hatteras Island and Dare County; and

WHEREAS, the related issues of public safety, business and commerce, and tourism must be included when considering the importance of a safe and secure structure across Oregon Inlet; and

WHEREAS, one of the primary reasons visitors come to the Outer Banks are our natural, cultural, and historic resources; and

WHEREAS, south of Oregon Inlet is located the Pea Island National Wildlife Refuge which is a popular migratory pathway for more than 400 species of birds; the majority of the Cape Hatteras National Seashore – our nation's first national seashore; the Cape Hatteras Lighthouse; the Chicamacomico Lifesaving Station; the Bodie Island Lighthouse; and miles and miles of America's greatest public beaches; and

WHEREAS, more than five million people visit Dare County's Outer Banks each year, annually generating in excess of $620 million in direct tourism expenditures; and

WHEREAS, 26% of Dare County's tourism related revenues are generated by Hatteras Island visitors, including a majority of the Northern Dare Beaches visitors who, during their stay on the Outer Banks, make a day trip to Hatteras and Ocracoke Islands, via the bridge over Oregon Inlet; and

WHEREAS, the Herbert C. Bonner Bridge has been recently inspected by the North Carolina Department of Transportation and given a Structural Sufficiency Rating of two out of 100 points; and

WHEREAS, the Herbert C. Bonner Bridge has reached the end of its reasonable service life and the North Carolina Department of Transportation has presented two alternative plans to replace the bridge; and

WHEREAS, the Kill Devil Hills Board of Commissioners deplores the loss of life caused by the recent collapse of the Interstate 35W Bridge in Minneapolis, Minnesota and has the greatest sympathy for all affected by this tragic event; and

WHEREAS, it is incumbent on all levels of government to protect human safety; and

WHEREAS, continuing to delay construction of the replacement to the Bonner Bridge places public safety, business and commerce, and tourism in our area at potential risk; and

WHEREAS, the Town of Kill Devil Hills has gone on record in support of construction of a bridge parallel to the existing Herbert C. Bonner Bridge and the preservation of the terminal rock groin on the southside of Oregon Inlet and continued fortification of the groin as the chief stabilizing defense of the northernmost end of Hatteras Island;

NOW THEREFORE BE IT RESOLVED, that the Kill Devil Hills Board of Commissioners urges the North Carolina Department of Transportation, the U.S. Fish and Wildlife Service, and all other involved entities to immediately begin construction on a bridge parallel to the existing Herbert C. Bonner Bridge, maintain the navigational channel through Oregon Inlet, and provide no less than equal access to the entirety of Hatteras Island also known as Pea Island.

Adopted this 13th day of August 2007.

SE

Raymond P. Sturza, II
Mayor

ATTEST:

Mary E. Quidley, Town Clerk

E-28

POST OFFICE BOX 549
101 VETERANS MEMORIAL DRIVE
KITTY HAWK, NC 27949

TOWN OF KITTY HAWK
First in Flight December 17, 1903

PHONE (252) 261-3552
FAX (252) 261-7900
WWW.TOWNOFKITTYHAWK.ORG
E-MAIL: INFO@TOWNOFKITTYHAWK.ORG

September 7, 2007

The Honorable Michael F. Easley
Governor of North Carolina
Office of the Governor
20301 Mail Service Center
Raleigh, North Carolina 27699

Re: Resolution Urging the North Carolina Department of Transportation, U. S. Fish and Wildlife Division, and the U. S. Department of the Interior, to Replace the Aging Herbert C. Bonner Bridge Over Oregon Inlet with a Parallel Bridge Immediately

Dear Governor,

At the September 4, 2007 Town Council meeting the Kitty Hawk Town Council unanimously approved the *Resolution Urging the North Carolina Department of Transportation, U. S. Fish and Wildlife Division, and the U. S. Department of the Interior, to Replace the Aging Herbert C. Bonner Bridge Over Oregon Inlet with a Parallel Bridge Immediately.*

As you may know, the Herbert C. Bonner Bridge is a critical transportation link to and from Hatteras Island and is of vital importance to the quality of life of the residents of Hatteras Island and Dare County, North Carolina.

The issues of public safety, business, commerce, and tourism cannot be ignored when considering the safe transport of vehicles across the Oregon Inlet. The Herbert C. Bonner Bridge has reached the end of its reasonable service life as evidenced by its recent inspection by the North Carolina Department of Transportation, where the bridge received a rating of two (2) out of a possible one hundred (100) points for structural sufficiency.

The North Carolina Department of Transportation has presented two alternative plans to replace the bridge and the Kitty Hawk Town Council endorses the immediate construction of a parallel bridge.

We are pleased to provide a copy of the resolution to you and will appreciate your assistance in this regard.

Sincerely,

Clifton G. Perry, Mayor

Cc: Dare County Tourism Board
Dare County and Local Municipalities
The Honorable Richard Burr
The Honorable Elizabeth Dole
The Honorable Walter B. Jones
The Honorable Marc Basnight
The Honorable Timothy L. Spear
Dirk Kempthorne, Secretary of the Interior
John F. Sullivan, III, P. E. Federal Highway Administration
Gregory J. Thorpe, Ph. D., North Carolina Department of Transportation
Brian Yamamoto, P. E., North Carolina Department of Transportation
Elizabeth A. Smyre, North Carolina Department of Transportation
Mike Murray, Superintendent, Cape Hatteras National Seashore
Mike Bryant, Refuge Manager, Pea Island National Wildlife Refuge
Michael Davenport, Dare County Oregon Inlet & Waterways Comm.

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E-MAIL: INFO@TOWNOFKITTYHAWK.ORG

Town of Kitty Hawk
Resolution Urging the North Carolina Department of Transportation, U.S. Fish and Wildlife Division, and the U.S. Department of the Interior To Replace the Aging Herbert C. Bonner Bride Over Oregon Inlet With a Parallel Bridge Immediately

WHEREAS, the Herbert C. Bonner Bridge spanning Oregon Inlet is a critical transportation link to and from Hatteras Island; and

WHEREAS, the bridge is of vital importance to the quality of life of the residents of Hatteras Island and Dare County; and

WHEREAS, the related issues of public safety, business and commerce, and tourism must be included when considering the importance of a safe and secure structure across Oregon Inlet; and

WHEREAS, one of the primary reasons visitors come to the Outer Banks are our natural cultural, and historic resources; and

WHEREAS, south of Oregon Inlet is located the Pea Island national Wildlife Refuge which is a popular migratory pathway for more than 400 species of birds; the majority of the Cape Hatteras National Seashore – our nation's first national seashore; the Cape Hatteras Lighthouse; the Chicamacomico Lifesaving Station; the Bodie Island Lighthouse; and miles and miles of America's greatest public beaches; and

WHEREAS, more than five million people visit Dare County's Outer Banks each year, annually generating in excess of $620 million in direct tourism expenditures; and

WHEREAS, 26% of Dare County's tourism related revenues are generated by Hatteras Island visitors, including a majority of the Northern Dare Beaches visitors who, during their stay on the Outer Banks, make a day trip to Hatteras and Ocracoke Islands, via the bridge over Oregon Inlet; and

WHEREAS, the Herbert C. Bonner Bridge has been recently inspected by the North Carolina Department of Transportation and given a Structural Sufficiency Rating of two out of 100 points; and

WHEREAS, the Herbert C. Bonner Bridge has reached the end of its reasonable service life and the North Carolina Department of Transportation has presented two alternative plans to replace the bridge; and

WHEREAS, the Kitty Hawk Town Council deplores the loss of life caused by the recent collapse of the Interstate 35W Bridge in Minneapolis, Minnesota and has the greatest sympathy for all affected by this tragic event; and

WHEREAS, it is incumbent on all levels of government to protect human safety; and

WHEREAS, continuing to delay construction of the replacement to the Bonner Bridge places public safety, business and commerce, and tourism in our area at potential risk; and

WHEREAS, the Town of Kitty Hawk has gone on record in support of construction of a bridge parallel to the existing Herbert C. Bonner Bridge and the preservation of the terminal rock groin on the south side of Oregon Inlet and continued fortification of the groin as the chief stabilizing defense of the northernmost end of Hatteras Island;

NOW THEREFORE BE IT RESOLVED, that the Kitty Hawk Town Council urges the North Carolina Department of Transportation, the U.S. Fish and Wildlife Service, and all other involved entities to immediately begin construction on a bridge parallel to the existing Herbert C. Bonner Bridge, maintain the navigational channel through Oregon Inlet, and provide no less than equal access to the entirety of Hatteras Island also known as Pea Island.

Adopted this 4th day of September 2007.

Clifton G. Perry, Mayor

Lynn U. Morris, Town Clerk

Town of Southern Shores

5375 N. Virginia Dare Trail, Southern Shores, NC 27949
Phone 252-261-2394 / Fax 252-255-0876
info@southernshores-nc.gov
www.southernshores-nc.gov

Resolution # 2007-08-01

Resolution urging the North Carolina Department of Transportation and the U.S. Fish and Wildlife Division, U.S. Department of the Interior, to replace the aging Herbert C. Bonner Bridge over Oregon Inlet with a parallel bridge immediately

WHEREAS, the Herbert C. Bonner Bridge spanning Oregon Inlet is a critical transportation link to and from Hatteras Island; and,

WHEREAS, the bridge is of vital importance to the quality of life of the residents of Hatteras Island and Dare County; and

WHEREAS, the related issues of public safety, business and commerce, and tourism must be included when considering the importance of a safe and secure structure across Oregon Inlet; and

WHEREAS, one of the primary reasons visitors come to the Outer Banks are our natural, cultural, and historic resources; and

WHEREAS, south of Oregon Inlet is located the Pea Island National Wildlife Refuge which is a popular migratory pathway for more than 400 species of birds; the majority of the Cape Hatteras National Seashore – our nation's first national seashore; the Cape Hatteras Lighthouse; the Chicamacomico Lifesaving Station; the Bodie Island Lighthouse; and miles and miles of America's greatest public beaches; and

WHEREAS, more than five million people visit Dare County's Outer Banks each year, annually generating in excess of $620 million in direct tourism expenditures; and

WHEREAS, 26% of Dare County's tourism related revenues are generated by Hatteras Island visitors, including a majority of the Northern Dare Beaches visitors who, during their stay on the Outer Banks, make a day trip to Hatteras and Ocracoke Islands, via the bridge over Oregon Inlet; and

WHEREAS, the Herbert C. Bonner Bridge has been recently inspected by the North Carolina Department of Transportation and given a Structural Sufficiency Rating of two out of 100 points; and

WHEREAS, the Herbert C. Bonner Bridge has reached the end of its reasonable service life and the North Carolina Department of Transportation has presented two alternative plans to replace the bridge; and

WHEREAS, the Southern Shores Town Council deplores the loss of life caused by the recent collapse of the Interstate 35W Bridge in Minneapolis, Minnesota and has the greatest sympathy for all affected by this tragic event; and

WHEREAS, it is incumbent on all levels of government to protect human safety; and

WHEREAS, continuing to delay construction of the replacement to the Bonner Bridge places public safety, business and commerce, and tourism in our area at potential risk; and

WHEREAS, the Town of Southern Shores has gone on record in support of construction of a bridge parallel to the existing Herbert C. Bonner Bridge and the preservation of the terminal rock groin on the southside of Oregon Inlet and continued fortification of the groin as the chief stabilizing defense of the northernmost end of Hatteras Island;

NOW THEREFORE BE IT RESOLVED, that the Southern Shores Town Council urges the North Carolina Department of Transportation, the U.S. Fish and Wildlife Service, and all other involved entities to immediately begin construction on a bridge parallel to the existing Herbert C. Bonner Bridge, maintain the navigational channel through Oregon Inlet, and provide no less than equal access to the entirety of Hatteras Island also known as Pea Island.

Adopted this 28th day of August 2007.

SEAL

Donel C. Smith
Mayor

ATTEST:

Carrie Gordin, Town Clerk

United States Department of the Interior

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

July 10, 2008

John F. Sullivan, III, P.E.
Federal Highway Administration
310 New Bern Avenue, Suite 410
Raleigh, North Carolina 27601

Dear Mr. Sullivan:

This transmits the U.S. Fish and Wildlife Service (USFWS) Raleigh Field Office's biological and conference opinions based on our review of the proposed replacement of the Herbert C. Bonner Bridge (Bridge No. 11 over Oregon Inlet) in Dare County, North Carolina (TIP No. B-2500). These opinions assess the effects of the project on the piping plover (*Charadrius melodus*), loggerhead sea turtle (*Caretta caretta*), green sea turtle (*Chelonia mydas*), and leatherback sea turtle (*Dermochelys coriacea*), and proposed critical habitat for wintering piping plovers. These opinions are provided in accordance with section 7(a)(2) of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*). This document addresses the requirements of the ESA but does not address other environmental statutes such as the National Environmental Policy Act or Fish and Wildlife Coordination Act. Your March 5, 2008 request for formal consultation was received on March 6, 2008.

Since the proposed project is a multi-phased project which will be staggered over more than 24 years, and since final designs for each phase are not yet developed, the USFWS plans to proceed with a form of a programmatic consultation known as an appended consultation. In this appended programmatic consultation, the USFWS has conducted the required analysis of the entire project based on what is known at the present time, and one programmatic biological and conference opinion has been developed for the overall project. In the following opinions we have determined that the project is not likely to jeopardize the continued existence of the piping plover, loggerhead sea turtle, green sea turtle, and leatherback sea turtle, and is not likely to destroy or adversely modify proposed critical habitat for wintering piping plovers. The USFWS has issued incidental take for these species which reflect the maximum potential take for the entire project over the proposed extended timeframe of the project.

As additional design information is developed for subsequent phases of the project, this information must be provided to us so that it may be appended to the existing biological opinion. The USFWS will then analyze the new information for each subsequent phase of the project to insure that the take associated with each future phase, cumulatively, does not exceed the maximum amount of take authorized in the incidental take statement included in this biological opinion. If the scope of future phases of the project should differ significantly from the

conceptual design information, or if the cumulative amount of take should exceed that authorized, then consultation will need to be reinitiated. The reasonable and prudent measures, and associated terms and conditions, contained within this biological opinion apply to the overall project; however, as designs for subsequent phases are developed, additional reasonable and prudent measures may be necessary to minimize the level of take.

If you have any questions concerning this biological opinion, please contact me at (919) 856-4520 (Ext. 11).

Sincerely,

Pete Benjamin
Field Supervisor

Attachment

cc: Ken Graham, USFWS, Atlanta, GA
Ann Hecht, USFWS, Sudbury, MA
Sandy MacPherson, USFWS, Jacksonville, FL
Mike Bryant, USFWS, Manteo, NC
Bill Biddlecome, USACE, Washington, NC
Greg Thorpe, NCDOT, Raleigh, NC
Logan Williams, NCDOT, Raleigh, NC
Clay Willis, NCDOT, Edenton, NC
David Harris, NCDOT, Raleigh, NC
Chris Militscher, USEPA, Raleigh, NC
Travis Wilson, NCWRC, Creedmoor, NC
Cathy Brittingham, NCDCM, Raleigh, NC
David Wainwright, NCDWQ, Raleigh, NC

The following opinions are based on information provided in the March 2008 biological assessment (BA)(FHWA and NCDOT 2008a), the April 8, 2008 addendum to the BA (FHWA and NCDOT 2008b, *in litt.*), the *Supplement to the 2005 Supplemental Draft Environmental Impact Statement and Draft Section 4(f) Evaluation* (SSDEIS)(FHWA and NCDOT 2007), meetings, telephone conversations, emails, field investigations, and other sources of information. A complete administrative record of this consultation is on file at this office.

CONSULTATION HISTORY

1997 – The Federal Highway Administration (FHWA) initiates formal consultation on an earlier version of the proposed project.

1998 – After several months of discussions between the USFWS and the North Carolina Department of Transportation (NCDOT), both parties agreed that formal consultation was premature.

December 12, 2007 – The USFWS met with FHWA and NCDOT to discuss the preparation of a BA.

March 6, 2008 – The USFWS received a letter from the FHWA, dated March 5, 2008, with the attached BA, requesting formal consultation for the replacement of the Herbert C. Bonner Bridge.

March 13, 2008 – The USFWS sent a letter to FHWA stating that all information required for initiation of consultation was either included with their March 5, 2008 letter or was otherwise available.

April 9, 2008 – The USFWS received an addendum to the BA dated April 8, 2008. The addendum clarified several issues and provided revised Figures 1 and 4.

June 4, 2008 – The USFWS provided the FHWA and NCDOT with a draft biological opinion.

June 11, 2008 – The USFWS met with the FHWA and NCDOT to discuss the draft biological opinion and reasonable and prudent measures.

July 9, 2008 – The USFWS met with NCDOT to discuss the draft reasonable and prudent measures.

BIOLOGICAL AND CONFERENCE OPINIONS

I. DESCRIPTION OF PROPOSED ACTION

The existing Bonner Bridge is a two-lane bridge that takes NC 12 across Oregon Inlet and connects Bodie Island with Hatteras Island in Dare County, North Carolina. Bonner Bridge is 2.4 miles long and is located at the northern end of the action area. Existing NC 12 within the

action area is a two-lane paved road extending southward from the southern end of the bridge for approximately 13.5 miles to the southern project terminus at Rodanthe. The total length of the project from the north terminus to the south terminus is 16.1 miles long. However, construction will only occur along approximately 14.0 miles. The proposed action, known as the Phased Approach/Rodanthe Bridge Alternative, is a four-phased project which includes the following:

- Phase I – replace the existing Bonner Bridge with a new 2.6 mile long bridge slightly to the west of the existing bridge – approximate construction timeframe 2009-2013
- Phase II – elevate approximately 5.6 miles of NC 12 onto three bridges – to begin approximately 2013-2015
- Phase III – elevate approximately 1.9 miles of NC 12 onto one bridge – to begin approximately 2019-2020
- Phase IV – elevate approximately 2.6 miles of NC 12 onto two bridges – to begin approximately 2029-2030

On Hatteras Island, NCDOT asserts that construction will be confined to the existing NC 12 right-of-way. A more detailed project description of the Phased Approach/Rodanthe Bridge Alternative can be found in Section 2.2 of the SSDEIS (FHWA and NCDOT 2007).

The timing of the construction of Phases II to IV is based on assumptions corresponding to forecast shoreline erosion trends and maintaining minimum 230-foot buffer distance between the existing NC 12 edge of pavement and the active shoreline. These assumptions are based on worst-case scenario modeling of shoreline erosion and the location and likelihood of future breaches on Hatteras Island. Since these are forecasts only, the exact timing and scope of each phase could change based on the reality of future shoreline erosion. As such, project descriptions of Phases II, III and IV should be viewed as approximations. The USFWS suspects that one substantial hurricane in the interim could dramatically change the predictions of worst-case scenario modeling. Although Phases II to IV will initially be built over land ostensibly within existing NCDOT right-of-way, based on shoreline erosion models, up to 8.0 miles of the bridges may ultimately be in open water by 2060.

Action Area

The action area lies within the North Carolina Outer Banks and is comprised of a dynamic barrier island system formed by wind and wave action. The barrier islands that make up the Outer Banks are sand ridges with underlying layers of limestone, sand, and clay. The action area extends from Rodanthe on Hatteras Island north to the southern end of Bodie Island and includes that portion of Hatteras Island (from the east to west shore), the area of the Atlantic Ocean one-half mile east of the Hatteras Island shoreline, portions of Oregon Inlet, and the southern tip of Bodie Island. It passes through the Cape Hatteras National Seashore (CAHA) and encompasses the Pea Island National Wildlife Refuge (PINWR). Though largely undeveloped, most of the action area consists of natural vegetation communities that have been influenced by past and present human disturbances. The construction and maintenance of an artificial sand berm along the seaward side of NC 12 has significantly interrupted the natural barrier island ecosystem processes (e.g. limiting overwash and disrupting island migration).

Conservation Measures

Conservation measures represent actions, pledged in the project description, that the action agency will implement to minimize the effects of the proposed action and further the recovery of the species under review. Such measures should be closely related to the action and should be achievable within the authority of the action agency. Since conservation measures are part of the proposed action, their implementation is required under the terms of the consultation. The FHWA and NCDOT have proposed the following conservation measures.

- The Phased Approach/Rodanthe Bridge Alternative will allow natural shoreline migration and the formation of new inlet habitats to occur.
- The project will incorporate the most current BMPs to reduce habitat degradation from stormwater runoff pollution.
- Phase I of the project will be built at least 125 feet farther west of the Bonner Bridge and currently occupied piping plover habitat.
- NCDOT does not anticipate the use of explosives during construction or demolition of the existing bridge.
- The NCDOT contractor will use pipeline or clamshell dredging, rather than a hopper dredge to minimize effects to sea turtles.
- No permanent light fixtures will be installed on the bridge or the approaches (with the exception of navigation lights as required by the U.S. Coast Guard).
- Seabeach amaranth surveys will be conducted at least one year prior to initiating bridge construction activities.
- Temporary facilities such as haul roads that affect proposed critical habitat will be removed as soon as possible.

II. STATUS OF THE SPECIES/CRITICAL HABITAT

A. Species/critical habitat description

Piping plover

The piping plover is a small, pale-colored shorebird, about seven inches long with a wingspan of about 15 inches (Palmer 1967). On January 10, 1986, the piping plover was listed as endangered in the Great Lakes watershed and threatened elsewhere within its range, including migratory routes outside of the Great Lakes watershed and wintering grounds (USFWS 1985). Piping plovers were listed principally because of habitat destruction and degradation, predation, and human disturbance. Protection of the species under the ESA reflects the species' precarious status range-wide. Three separate breeding populations have been identified, each with its own recovery criteria: the Northern Great Plains (threatened), the Great Lakes (endangered), and the Atlantic Coast (threatened). The piping plover winters in coastal areas of the U.S. from North Carolina to Texas, and along the coast of eastern Mexico and on Caribbean islands from Barbados to Cuba and the Bahamas (Elliott-Smith and Haig 2004). Information from

observation of color-banded piping plovers indicates that the winter ranges of the breeding populations overlap to a significant degree.

The recovery objective for the Great Lakes population includes:

> at least 150 pairs (300 individuals), for at least five consecutive years, with at least 100 breeding pairs (200 individuals) in Michigan and 50 breeding pairs (100 individuals) distributed among sites in other Great Lakes states; five-year average fecundity is within the range of 1.5-2.0 fledglings per pair, per year, across the breeding distribution, and ten-year population projections indicate the population is stable or continuing to grow above the recovery goal; ensure protection and long-term maintenance of essential breeding and wintering habitat, sufficient in quantity, quality, and distribution to support the recovery goal of 150 pairs (300 individuals); genetic diversity within the population is deemed adequate for population persistence and can be maintained over the long-term; and, agreements and funding mechanisms are in place for long-term protection and management activities in essential breeding and wintering habitat (USFWS 2003).

The recovery objective for the northern Great Plains population includes:

> sustaining 2,300 pairs of birds for at least 15 years, meeting recovery objectives for birds in prairie Canada, and providing long term protection of essential breeding and wintering habitat.

The recovery objective for the Atlantic Coast population includes:

> verification of the adequacy of a 2,000-pair population of piping plovers to maintain heterozygosity and allelic diversity over the long term; achieve five-year average productivity of 1.5 fledged chicks per pair in each of the four recovery units; institute long-term agreements among cooperating agencies, landowners, and conservation organizations to assure protection and management sufficient to maintain the target populations in each recovery unit and average productivity; and, ensure long-term maintenance of wintering habitat, sufficient in quantity, quality, and distribution to maintain survival rates for a 2,000-pair population (USFWS 1996).

The recovery plan for the Atlantic Coast population of the piping plover (USFWS 1996) delineates four recovery units within the population: Atlantic Canada, New England, New York-New Jersey, and Southern (Delaware, Maryland, Virginia, and North Carolina). Extensive efforts to observe and report sightings of greater than 1,400 Atlantic Coast piping plovers color-banded in Virginia, Maryland, Massachusetts, and five Eastern Canadian provinces between 1985 and 2003 have documented many inter-year movements among sites within recovery units, but few records of plovers breeding outside the recovery unit where they were banded (Loegering 1992, Cross 1996, USFWS 1996, Amirault et al. 2005), supporting the premise that immigration and emigration have relatively little influence on abundance trends at the scale of the recovery unit.

Recovery criteria established within the recovery plan defined population and productivity goals for each recovery unit, as well as for the population as a whole. The recovery objective for the Atlantic Coast population is to increase and maintain for five years a total of 2,000 breeding pairs, distributed among the four recovery units – Atlantic Canada, 400 pairs; New England, 625

pairs; New York-New Jersey, 575 pairs; and, Southern, 400 pairs. Attainment of these goals for each recovery unit is an integral part of a piping plover recovery strategy that seeks to reduce the probability of extinction for a population with low rates of inter-regional dispersal by: (1) contributing to the population total, (2) reducing vulnerability to environmental variation (including catastrophes such as hurricanes, oil spills, or disease), (3) increasing likelihood of genetic interchange among subpopulations, and (4) promoting re-colonization of any sites that experience declines or local extirpations due to low productivity or temporary habitat succession. The plan further states: "A premise of this plan is that the overall security of the Atlantic Coast piping plover population is profoundly dependent upon attainment and maintenance of the minimum population levels for the four recovery units. Any appreciable reduction in the likelihood of survival of a recovery unit will also reduce the probability of persistence of the entire population."

The USFWS has designated critical habitat for the piping plover on three occasions. Two of these designations protected different breeding populations of the piping plover. Critical habitat for the Great Lakes breeding population was designated May 7, 2001 (USFWS 2001a), and critical habitat for the northern Great Plains breeding population was designated September 11, 2002 (USFWS 2002). The USFWS designated critical habitat for wintering piping plovers on July 10, 2001 (USFWS 2001b). Wintering piping plovers may include individuals from the Great Lakes and northern Great Plains breeding populations as well as birds that nest along the Atlantic coast. The three separate designations of piping plover critical habitat demonstrate the diversity of constituent elements among the two breeding populations and wintering piping plovers.

Designated critical habitat for wintering piping plovers originally included approximately 1,798 miles of mapped shoreline and 165,211 acres of mapped area along the coasts of North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas.

The primary constituent elements for piping plover wintering habitat are those biological and physical features that are essential to the conservation of the species. These areas typically include those coastal areas that support intertidal beaches and flats and associated dune systems and flats above annual high tide (USFWS 2001b). Primary constituent elements of wintering piping plover critical habitat include sand or mud flats or both with no or sparse emergent vegetation. Adjacent unvegetated or sparsely vegetated sand, mud, or algal flats above high tide are also important, especially for roosting piping plovers (USFWS 2001b). The units designated as critical habitat are those areas that have consistent use by piping plovers and that best meet the biological needs of the species. The amount of wintering habitat included in the designation appears sufficient to support future recovered populations, and the existence of this habitat is essential to the conservation of the species. Additional information on each specific unit included in the designation can be found at 66 Federal Register 36038 (USFWS 2001b).

Since the designation of wintering critical habitat, four units in North Carolina were vacated and remanded back to the USFWS for reconsideration by Court order (Cape Hatteras Access Preservation Alliance v. U.S. Department of Interior (344 F. Supp. 2d 108 (D.D.C. 2004)). The four critical habitat units vacated were NC-1, NC-2, NC-4, and NC-5, and all occurred within CAHA. On June 12, 2006, the USFWS proposed to amend and re-designate these four units as

critical habitat for wintering piping plover (USFWS 2006a). These units encompass the primary constituent elements found at Bodie Island Spit, Cape Point, Hatteras Spit and Ocracoke Spit within CAHA. On May 15, 2008, the USFWS proposed a revised designation of critical habitat which would add areas to units NC-1 and NC-4 (USFWS 2008d).

Loggerhead sea turtle

The loggerhead sea turtle, listed as a threatened species on July 28, 1978 (NMFS and USFWS 1978), inhabits the continental shelves and estuarine environments along the margins of the Atlantic, Pacific, and Indian Oceans. Loggerhead turtles nest within the continental U.S. from Louisiana to Virginia. Major nesting concentrations are found on the coastal islands of North Carolina, South Carolina, and Georgia, and on the Atlantic and Gulf coasts of Florida (Hopkins and Richardson 1984).

Adults and sub-adults have a reddish-brown carapace (top of shell). Scales on the top and sides of the head and top of the flippers are also reddish-brown, but have yellow borders. The neck, shoulders and limb bases are dull brown on top and medium yellow on the sides and bottom. The plastron (underside of shell) is also medium yellow. Adult average size is 36 inches straight carapace length; average weight is 253 pounds. Hatchlings are dull brown in color. Average size at hatching is 1.8 inches long; average weight is 0.7 ounces. Mating takes place from late March to early June, and eggs are laid throughout the summer (NMFS and USFWS 1991b).

The recovery objectives for the southeastern U.S. population of the loggerhead turtle (NMFS and USFWS 1991b) include:

> over a period of 25 years, the adult female population in Florida is increasing, and in North Carolina, South Carolina, and Georgia nesting numbers are returning to pre-listing levels. For North Carolina, that equates to 800 nests per year. For South Carolina and Georgia nesting numbers must be 10,000 and 2,000 nests per year, respectively. These above conditions must be met with data from standardized surveys which will continue for at least five years after recovery. Furthermore, at least 25 percent of all available nesting beaches must be in public ownership, distributed over the entire nesting range and encompassing at least 50 percent of the nesting activity within each state. In addition, all priority one tasks identified in the recovery plan must be successfully implemented (NMFS and USFWS 1991b).

No critical habitat has been designated for the loggerhead turtle. However, on March 5, 2008, the National Marine Fisheries Service (NMFS) announced a 90-day finding for a petition to reclassify loggerhead turtles in the western North Atlantic Ocean as a Distinct Population Segment with endangered status and designate critical habitat (NMFS 2008).

Green sea turtle

The green sea turtle was federally listed as a protected species on July 28, 1978 (NMFS and USFWS 1978). Breeding populations of the green turtle in Florida and along the Pacific Coast of Mexico are listed as endangered; all other populations are listed as threatened. The green turtle has a worldwide distribution in tropical and subtropical waters. Major green turtle nesting

colonies in the Atlantic occur on Ascension Island, Aves Island, Costa Rica, Suriname, and Trindade Island, Brazil.

Adult green turtles may reach a size of 39 inches in length and weigh 397 pounds. The carapace is smooth and is gray, green, brown, and black. The plastron is yellowish white. Hatchlings weigh about 0.9 ounces and are about two inches long. Hatchlings are black on top and white on the bottom (NMFS and USFWS 1991a).

Within the U.S., green turtles nest in small numbers in the U.S. Virgin Islands and Puerto Rico, and in larger numbers along the east coast of Florida, particularly in Brevard, Indian River, St. Lucie, Martin, Palm Beach, and Broward Counties (NMFS and USFWS 1991a). Nesting also has been documented along the Gulf coast of Florida from Escambia County through Franklin County in Northwest Florida and from Pinellas County through Collier County in Southwest Florida (FFWCC 2006b). Green turtles have been known to nest in Georgia, but only on rare occasions (GDNR 2004). The green turtle also nests sporadically in North Carolina and South Carolina (Woodson and Webster 1999, South Atlantic Fishery Management Council 2008).

Recovery objectives for the U.S. population of the green turtle (NMFS and USFWS 1991a) include:

> over a period of 25 years, that the level of nesting in Florida has increased to an average of 5,000 nests per year for at least six years where nesting data are based on standardized surveys; at least 25 percent of all available nesting beaches is in public ownership and encompasses at least 50 percent of the nesting activity; and a reduction in stage class mortality is reflected in higher counts of individuals on foraging grounds. In addition, all priority one tasks identified in the recovery plan must be successfully implemented (NMFS and USFWS 1991a).

Critical habitat for the green sea turtle has been designated for the water surrounding Culebra Island, Puerto Rico and its outlying keys.

Leatherback sea turtle

The leatherback sea turtle, listed as an endangered species on June 2, 1970 (USFWS 1970), nests on shores of the Atlantic, Pacific, and Indian Oceans. Non-breeding animals have been recorded as far north as the British Isles and the Maritime Provinces of Canada and as far south as Argentina and the Cape of Good Hope (Pritchard 1992). Nesting grounds are distributed circumglobally, with the Pacific Coast of Mexico once supporting the world's largest known concentration of nesting leatherbacks (Pritchard 1982). The largest nesting colonies in the wider Caribbean region are found in Suriname/French Guiana, Trinidad, Costa Rica, Panama, Colombia, and Guyana (NMFS and USFWS 1992; National Research Council 1990; Troëng et al. 2004).

The leatherback is the largest living turtle, and is so distinctive as to be placed in a separate taxonomic family, Dermochelyidae. The carapace is distinguished by a rubber-like texture, about 1.6 inches thick, and made primarily of tough, oil-saturated connective tissue. No sharp angle is formed between the carapace and the plastron, resulting in the animal being somewhat

barrel-shaped. The average curved carapace length for adult turtles is 61 inches and weight ranges from 441 to 1,543 pounds. Hatchlings are mostly black on top and are covered with tiny scales; the flippers are edged in white, and rows of white scales appear as stripes along the length of the back. Hatchlings average 2.4 inches long and 1.6 ounces in weight. In the adult, the skin is black and scaleless. The undersurface is mottled pinkish-white and black. The front flippers are proportionally longer than in any other sea turtle, and may span 106 inches in an adult. In both adults and hatchlings, the upper jaw bears two tooth-like projections (NMFS and USFWS 1992).

The leatherback regularly nests in Puerto Rico, the U.S. Virgin Islands, and along the Atlantic coast of Florida (NMFS and USFWS 1992). Leatherback turtles have been known to nest in Georgia, South Carolina, and North Carolina, but only on rare occasions (Rabon et al. 2003, GDNR 2004). Leatherback nesting also has been reported on the northwest coast of Florida (LeBuff 1990.

The recovery objective for U.S. population of the leatherback turtle include:

> when the adult female population increases over the next 25 years, as evidenced by a statistically significant trend in the number of nests at Culebra, Puerto Rico, St. Croix, U.S. Virgin Islands, and along the east coast of Florida, and nesting habitat encompassing at least 75 percent of nesting activity in the U.S. Virgin Islands, Puerto Rico, and Florida is in public ownership. In addition, all priority one tasks identified in the recovery plan must be successfully implemented (NMFS and USFWS 1992).

Critical habitat has been designated for the leatherback sea turtle in the U.S. Virgin Islands.

B. Life History

Piping plover

Piping plover breeding activity begins in mid-March when birds begin returning to their nesting areas (Coutu et al. 1990, Cross 1990, Goldin et al. 1990, MacIvor 1990, Hake 1993). Males establish and defend territories and court females (Cairns 1982). Piping plovers are monogamous, but usually shift mates between years (Wilcox 1959, Haig and Oring 1988, MacIvor 1990) and less frequently between nesting attempts in a given year (Haig and Oring 1988, MacIvor 1990, Strauss 1990). Plovers may begin breeding as early as one year of age (MacIvor 1990, Haig 1992); however, the percentage of birds that breed in their first adult year is unknown. Observations suggest that this species exhibits a high degree of nest site fidelity (Wilcox 1959, Haig 1985, Haig and Oring 1988).

Piping plover nests can be found above the high tide line on coastal beaches, on sand flats at the ends of sand spits and barrier islands, on gently sloping foredunes, in blowout areas behind primary dunes, and in washover areas cut into or between dunes. The birds may also nest on areas where suitable dredge material has been deposited. Nest sites are shallow, scraped depressions in substrates ranging from fine-grained sand to mixtures of sand and pebbles, shells or cobble (Bent 1929, Burger 1987a, Cairns 1982, Patterson 1988, MacIvor 1990, Strauss 1990, Flemming et al. 1992). Nests are usually found in areas with little or no vegetation; although, on

occasion, piping plovers will nest under stands of American beachgrass or other vegetation (Patterson 1988, MacIvor 1990, Flemming et al. 1992). Plover nests may be very difficult to detect, especially during the 6 to 7 day egg-laying phase when the birds generally do not incubate (Goldin 1994).

Eggs may be present on the beach from early April through late July. Clutch size for an initial nest attempt is usually four eggs, one laid every other day. Eggs are pyriform in shape, and variable buff to greenish brown in color, marked with black or brown spots. The incubation period usually lasts 27 to 28 days. Full-time incubation usually begins with the completion of the clutch and is shared equally by both sexes (Wilcox 1959, Cairns 1977, MacIvor 1990). Eggs in a clutch usually hatch within 4 to 8 hours of each other, although the hatching period of one or more eggs may be delayed by up to 48 hours (Cairns 1977, Wolcott and Wolcott 1999).

Piping plovers generally fledge only a single brood per season, but may renest several times if previous nests are lost. Chicks are precocial (Wilcox 1959, Cairns 1982). They may move hundreds of yards from the nest site during their first week of life (see Table 1 in USFWS 1996), and chicks may increase their foraging range up to 3,000 feet before they fledge (Loegering 1992). Chicks remain together with one or both parents until they fledge at 25 to 35 days of age. Depending on date of hatching, flightless chicks may be present from mid-May until late August, although most fledge by the end of July (Patterson 1988, Goldin et al. 1990, MacIvor 1990, Howard et al. 1993).

Cryptic coloration is a primary defense mechanism for this species; nests, adults, and chicks all blend in with their typical beach surroundings. Chicks sometimes respond to vehicles and/or pedestrians by crouching and remaining motionless (Cairns 1977, Tull 1984, Goldin 1993b, Hoopes 1993). Adult piping plovers also respond to intruders (avian and mammalian) in their territories by displaying a variety of distraction behaviors, including squatting, false brooding, running, and injury feigning. Distraction displays may occur at any time during the breeding season but are most frequent and intense around the time of hatching (Cairns 1977).

Plovers feed on invertebrates such as marine worms, fly larvae, beetles, crustaceans, and mollusks (Bent 1929, Cairns 1977, Nicholls 1989). Important feeding areas include intertidal portions of ocean beaches, washover areas, mudflats, sand flats, wrack lines, sparse vegetation, and shorelines of coastal ponds, lagoons, or salt marshes (Gibbs 1986, Coutu et al. 1990, Hoopes et al. 1992, Loegering 1992, Goldin 1993a, Elias-Gerken 1994). Studies have shown that the relative importance of various feeding habitat types may vary by site (Gibbs 1986, Coutu et al. 1990, McConnaughey et al. 1990, Loegering 1992, Goldin 1993a, Hoopes 1993, Elias-Gerken 1994) and by stage in the breeding cycle (Cross 1990). Adults and chicks on a given site may use different feeding habitats in varying proportion (Goldin et al. 1990). Feeding activities of chicks are particularly important to their survival. Most time budget studies reveal that chicks spend a high proportion of their time feeding. Cairns (1977) found that piping plover chicks typically tripled their weight during the first two weeks post-hatching; chicks that failed to achieve at least 60 percent of this weight gain by the twelfth day were unlikely to survive.

During courtship, nesting, and brood rearing, feeding territories are generally contiguous to nesting territories (Cairns 1977), although instances where brood-rearing areas are widely

separated from nesting territories are common. Feeding activities of both adults and chicks may occur during all hours of the day and night (Staine and Burger 1994), and at all stages in the tidal cycle (Goldin 1993a, Hoopes 1993).

Both spring and fall migration routes of Atlantic Coast breeders are believed to occur primarily within a narrow zone along the Atlantic Coast (USFWS 1996). Some mid-continent breeders travel up or down the Atlantic Coast before or after their overland movements (Stucker and Cuthbert 2006). Use of inland stopovers during migration is also documented (Pompei and Cuthbert 2004). The pattern of both fall and spring counts at many Atlantic Coast sites demonstrates that many piping plovers make intermediate stopovers lasting from a few days up to one month during their migrations (NPS 2003, Noel et al. 2005, Stucker and Cuthbert 2006). In addition, this species exhibits a high degree of both intra- and inter-annual wintering site fidelity (Drake et. al. 2001, Noel et al. 2005, Stucker and Cuthbert 2006).

A growing body of information shows that overwash-created and -perpetuated habitats, including accessible bayside flats, unstabilized and recently healed inlets, and moist sparsely vegetated barrier flats are especially important to piping plover productivity and carrying capacity in the New York-New Jersey and Southern recovery units.

In New Jersey, Burger (1994) studied piping plover foraging behavior and habitat use at three sites that offered the birds: ocean, dune, and backbay habitats. The primary focus of the study was on the effect of human disturbance on habitat selection, and it found that both habitat selection and foraging behavior correlated inversely with the number of people present. In the absence of people on an unstabilized beach, plovers fed in ocean and bayside habitats in preference to the dunes.

Loegering and Fraser (1995) found that chicks on Assateague Island, Maryland that were able to reach bay beaches and the island interior had significantly higher fledgling rates than those that foraged solely on the ocean beach. Higher foraging rates, percentage of time spent foraging, and abundance of terrestrial arthropods on the bay beach and interior island habitats supported their hypothesis that foraging resources in interior and bayside habitats are key to reproductive rates on that site. Their management recommendations stressed the importance of sparsely vegetated cross-island access routes maintained by overwash, and the need to restrict or mitigate activities that reduce natural disturbance during storms.

Dramatic increases in plover productivity and breeding population on Assateague since the 1991-1992 advent of large overwash events corroborate Loegering and Fraser's conclusions. Piping plover productivity, which had averaged 0.77 chicks per pair during the five years before the overwash, averaged 1.67 chicks/pair in 1992-96. The nesting population on the northern five miles of the island also grew rapidly, doubling by 1995 and tripling by 1996, when 61 pairs nested there (MacIvor 1996). Habitat use is primarily on the interior and bayside.

In Virginia, Watts et al. (1996) found that piping plovers nesting on 13 barrier islands between 1986 and 1988 were not evenly distributed along the islands. Beach segments used by plovers had wider and more heterogeneous beaches, fewer stable dunes, greater open access to bayside

foraging areas, and proximity to mudflats. They note that characteristics of beaches selected by plovers are maintained by frequent storm disturbance.

At Cape Lookout National Seashore in North Carolina, 13 to 45 pairs of plovers have nested on North and South Core Banks each year since 1992 (NPS 2007d). While these unstabilized barrier islands total 44 miles long, nesting distribution is patchy, with all nests clustered on the dynamic ends of the barrier islands, recently closed and sparsely vegetated "old inlets," expansive barrier mudflats, or new ocean-to-bay overwashes. During a 1990 study, 96 percent of brood observations were on bay tidal flats, even though broods had access to both bay and ocean beach habitats (McConnaughey et al. 1990).

At CAHA, distribution of nesting piping plovers is also "clumped," with nesting areas characterized by a wide beach, relatively flat intertidal zone, brackish ponds, and temporary pools formed by rainwater and overwash (Coutu et al. 1990).

Notwithstanding the importance of bayside (soundside) flats, ephemeral pools, and sparsely vegetated barrier flats for piping plover nest site selection and chick foraging, ocean intertidal zones are also used by chicks of all ages. For example, between 1993 and 1996 on the Maryland end of Assateague Island, four to 12 percent of annual observations of plover broods occurred on the ocean beach (NPS and Maryland DNR 1993-1996). A three-year study of piping plover chick foraging activity at six sites on four Virginia barrier islands (Cross and Terwilliger 2000) documented chick use of the ocean intertidal zone at three of six study sites. Intensive observations at Chincoteague National Wildlife Refuge Overwash Zone in 2004, where chicks had unimpeded access to a large undisturbed bayside flat, documented occasional visits to the ocean intertidal zone by six of eleven broods ranging in age from one to 24 days (Hecht 2004, *in litt.*).

Wintering and migrating piping plovers on the Atlantic Coast are generally found at the accreting ends of barrier islands, along sandy peninsulas, and near coastal inlets. Wintering piping plovers appear to prefer sand flats adjacent to inlets or passes, sandy mud flats along prograding spits (areas where the land rises with respect to the water level), and overwash areas as foraging habitats. These substrate types may have a richer infauna than the foreshore of high energy beaches and often attract large numbers of shorebirds. Roosting plovers are generally found along inlet and adjacent ocean and estuarine shorelines and their associated berms and on nearby exposed tidal flats (Nicholls and Baldassarre 1990). Since tidal conditions and weather often cause plovers to move among habitat patches, diverse habitat patches may be especially important to plovers and may concentrate wintering piping plovers when roosting and feeding areas are adjacent (Johnson and Baldassarre 1988, Nicholls and Baldassarre 1990, Drake et al. 2001). Wintering plovers with small home ranges which contain safe roosts and abundant food should experience low commuting costs, and would be expected to have higher survival (Drake et al. 2001).

Cohen et al. (in press) conducted a study on wintering piping plovers at and near the Oregon Inlet during the winter of 2005/2006. They found that all plover habitat use fell into one of three habitat zones: ocean beach, sound beach, and sound island (dredged material, shoal, and other marsh and mudflat/sandflat islands). In the study, plovers were more likely to use sound islands

than ocean beach or sound beach when the intertidal area of sound islands was exposed during low tide. Plovers using ocean beach spent less time foraging (18%) than when on sound beaches (88%) and sound islands (83%).

Factors affecting the piping plover during its life cycle

Predation has been identified as a major factor limiting piping plover reproductive success at many Atlantic Coast sites (Burger 1987a, MacIvor 1990, Cross 1991, Patterson et al. 1991, Elias-Gerken, 1994). As with other limiting factors, the nature and severity of predation is highly site specific. Predators of piping plover eggs and chicks include foxes, skunks, raccoons, rats, opossums, crows, gulls, grackles, American kestrels, domestic and feral dogs and cats, and ghost crabs.

Substantial evidence exists that human activities are affecting types, numbers, and activity patterns of predators, thereby exacerbating natural predation. Non-native species such as feral cats and rats are considered significant predators at some sites (Goldin et al. 1990, Post 1991). Humans have also indirectly influenced predator populations by abetting the expansions in the populations and/or range of other species such as gulls (Drury 1973). Strauss (1990) found that the density of fox tracks on a beach area was higher during periods of more intensive human use.

Predation and nest abandonment because of predators have been implicated as a cause of low reproductive success (Cooper 1990, Coutu et al. 1990, Kuklinski et al. 1996). Predator trails (of foxes, dogs, and cats) have been seen around areas of the last known location of piping plover chicks. Predatory birds also are relatively common during their fall and spring migration along the Atlantic Ocean coastline, and there is a possibility they may occasionally take plovers.

Piping plover habitats (breeding and non-breeding) are dependent on natural forces of creation and renewal. However, storms and severe cold weather are believed to take their toll on plovers. After an intense snowstorm swept the entire North Carolina coast in late December 1989, high mortality of many coastal bird species was noted (Fussell 1990). Piping plover numbers decreased significantly from about 30 to 40 birds down to 15 birds. While no dead piping plovers were found, circumstantial evidence suggests that much of the decrease was mortality (Fussell 1990). Hurricanes may also result in direct mortality or habitat loss, and if piping plover numbers are low enough or if total remaining habitat is sparse relative to historical levels, population responses may be impaired even through short-term habitat losses. Wilkinson and Spinks (1994) suggest that, in addition to the unusually harsh December 1989 weather, low plover numbers seen in South Carolina in January 1990 (11 birds, compared with more than 50 during the same time period in 1991 to 1993) may have been influenced by effects on habitat and food availability caused by Hurricane Hugo in September 1989. Hurricane Elena struck the Alabama coast in September 1985 and subsequent surveys noted a reduction of intertidal foraging habitat on Dauphin and Little Dauphin Islands (Johnson and Baldassarre 1988). Birds were observed foraging at Sand Island, a site that was used little prior to the hurricane.

Unrestricted use of motorized vehicles on beaches is a serious threat to piping plovers and their habitats. Vehicles can crush eggs (Wilcox 1959, Tull 1984, Burger 1987b, Patterson et al. 1991, Shaffer and Laporte 1992) as well as adults and chicks. However, the mobility of newly hatched

chicks and adults does not lessen the susceptibility to mortality by vehicles. For example, in Massachusetts and New York, biologists documented 14 incidents in which 18 chicks and two adults were killed by vehicles between 1989 and 1993 (Melvin et al. 1994). Goldin (1993b) compiled records of 34 chick mortalities (30 on the Atlantic Coast and four on the northern Great Plains) due to vehicles. Biologists that monitor and manage piping plovers believe that many more chicks are killed by insufficiently-managed vehicles than are found and reported (Melvin et al. 1994). Beaches used by vehicles during nesting and brood-rearing periods.generally have fewer breeding plovers than available nesting and feeding habitat can support. In contrast, plover abundance and productivity has increased on beaches where vehicle restrictions during chick-rearing periods have been combined with protection of nests from predators (Goldin 1993b).

Typical behaviors of piping plover chicks increase their vulnerability to vehicles. Chicks frequently move between the upper berm or foredune and feeding habitats in the wrack line and intertidal zone. These movements place chicks in the paths of vehicles driving along the berm or through the intertidal zone. Chicks stand in, walk, and run along tire ruts, and sometimes have difficulty crossing deep ruts or climbing out of them (Strauss 1990, Eddings 1991, Howard et al. 1993). Chicks sometimes stand motionless or crouch as vehicles pass by, or do not move quickly enough to get out of the way (Tull 1984, Hoopes et al. 1992, Goldin 1993b).

Vehicles also significantly degrade piping plover habitat or disrupt normal behavior patterns. They may harm or harass plovers by crushing wrack into the sand and making it unavailable as cover or a foraging substrate (Hoopes et al. 1992, Goldin 1993b), by creating ruts that can trap or impede movements of chicks (Jacobs 1988, *in litt.*), and by preventing plovers from using habitat that is otherwise suitable (MacIvor 1990, Strauss 1990, Hoopes et al. 1992, Goldin 1993b, Hoopes 1994). Zonick (2000) found that ORV density negatively correlated with abundance of roosting, nonbreeding plovers on the ocean beach in Texas. Studies elsewhere (e.g. Wheeler 1979) demonstrate adverse effects of ORV driving on soundside beaches on the abundance of infauna essential to piping plover foraging requirements.

Lighting may also negatively affect piping plovers. While the extent that artificial lighting (including vehicle lights) affects piping plovers is unknown, there is evidence that American oystercatcher (*Haematopus palliatus*) chicks and adults are attracted to vehicle headlights and may move toward areas of ORV activity. During a 2005 study at Cape Lookout National Seashore, adult and chick oystercatchers were observed running or flying directly into the headlights of oncoming vehicles, and two two-day old oystercatcher chicks were run over by an all-terrain vehicle after being observed foraging with the adults near the high tide line at night (Simons et al. 2005).

Pedestrian and non-motorized recreational activities can be a source of both direct mortality and harassment of piping plovers. There are a number of potential sources for pedestrians on the beach, including those individuals driving and subsequently parking on the beach, those originating from off-beach parking areas (hotels, motels, commercial facilities, beachside parks, etc.), and those from beachfront and nearby residences.

Pedestrians on beaches may crush eggs (Burger 1987b, Shaffer and Laporte 1992, NPS 1993), or flush plovers from nests exposing their eggs to predators. Concentrations of pedestrians may also deter piping plovers from using otherwise suitable habitat. Ninety-five percent of Massachusetts plovers (n = 209) observed by Hoopes (1993) were found in areas that contained less than one person per 2 acres of beach. Elias-Gerken (1994) found that piping plovers on Jones Beach Island, New York, selected beachfront that had less pedestrian disturbance. Sections of beach at Trustom Pond National Wildlife Refuge in Rhode Island were colonized by piping plovers within two seasons of their closure to heavy pedestrian recreation. Burger (1991, 1994) found that the presence of people at several New Jersey sites caused plovers to shift their habitat use away from the ocean front to interior and bayside habitats; the time plovers devoted to foraging decreased and the time spent alert increased when more people were present. Burger (1991) also found that when plover chicks and adults were exposed to the same number of people, the chicks spent less time foraging and more time crouching, running away from people, and being alert than did the adults.

Pedestrians may flush incubating plovers from nests, exposing eggs to excessive temperatures. Repeated exposure of shorebird eggs on hot days may cause overheating, killing the embryos (Bergstrom 1989); excessive cooling may kill embryos or retard their development, delaying hatching dates (Welty 1982). Pedestrians can also displace unfledged chicks (Strauss 1990, Burger 1991, Hoopes et al. 1992, Loegering 1992, Goldin 1993b), forcing them out of preferred habitats, decreasing available foraging time, and causing expenditure of energy.

Fireworks are highly disturbing to piping plovers (Howard et al. 1993). Plovers are also intolerant of kites, particularly as compared to pedestrians, dogs, and vehicles; biologists believe this may be because plovers perceive kites as potential avian predators (Hoopes et al. 1992).

Noncompliant pet owners who allow their dogs off leash have the potential to flush piping plovers and these flushing events may be more prolonged than those associated with pedestrians or pedestrians with dogs on leash. Unleashed dogs may chase plovers (McConnaughey et al. 1990), destroy nests (Hoopes et al. 1992), and kill chicks (Cairns and McLaren 1980, Boyagian 1994, *in litt.*).

Demographic models for piping plovers indicate that even small declines in adult and juvenile survival rates will cause very substantial increases in extinction risk (Melvin and Gibbs 1994, Larson et al. 2000, Wemmer et al. 2001, Calvert et al. 2006). Furthermore, insufficient protection of non-breeding piping plovers has the potential to quickly undermine the progress toward recovery achieved at breeding sites. For example, a banding study conducted between 1998 and 2004 in Atlantic Canada found lower return rates of juvenile (first year) birds to the breeding grounds than was documented for Massachusetts (Melvin and Gibbs 1994), Maryland (Loegering 1992), and Virginia (Cross 1996) breeding populations in the mid-1980s and very early 1990s. This is consistent with failure of the Atlantic Canada population to increase abundance despite very high productivity (relative to other breeding populations) and extremely low rates of dispersal to the U.S. (Calvert et al. 2006). This suggests that maximizing productivity does not ensure population increases; management must focus simultaneously on all sources of stress on the population within management control.

Loggerhead sea turtle

Loggerheads are known to nest on average about four times within a nesting season, ranging from one to seven times (Talbert et al. 1980, Lenarz et al. 1981, Richardson and Richardson 1982, Murphy and Hopkins 1984). The interval between nesting varies around a mean of about 14 days (Dodd 1988). Mean clutch size varies from about 100 to 126 eggs per nest along the southeastern U.S. coast (NMFS and USFWS 1991b). The loggerhead returns at intervals of two to three years, but the number can vary from one to seven years (Dodd 1988). Age at sexual maturity is likely to be greater than 30 years (Snover 2002).

Green sea turtle

Green turtles deposit from one to nine clutches within a nesting season, but the overall average is about 3.3. The interval between nesting varies around a mean of about 13 days (Hirth 1997). Mean clutch size varies widely among populations. Average clutch size reported for Florida was 136 eggs in 130 clutches (Witherington and Ehrhart 1989). Only occasionally do females produce clutches in successive years. Usually two to four years intervene between breeding seasons (NMFS and USFWS 1991a). Age at sexual maturity is believed to be 20 to 50 years (Hirth 1997).

Leatherback sea turtle

Leatherbacks nest an average of five to seven times within a nesting season, with an observed maximum of 11 (NMFS and USFWS 1992). The interval between nesting is about nine to ten days. Clutch size averages 101 eggs on Hutchinson Island, Florida (Martin 1992). Most leatherbacks return at two to three-year intervals based on data from the Sandy Point National Wildlife Refuge, St. Croix, U.S. Virgin Islands (McDonald and Dutton 1996). Leatherbacks are believed to reach sexual maturity in six to ten years (Zug and Parham 1996).

Factors affecting sea turtles during portions of their life cycle

Artificial lighting is one of the most significant impacts on sea turtle survival, especially of post-emergent hatchlings (Mann 1977, Ehrhart and Witherington 1987, Witherington 1992). Visual cues are the primary sea-finding mechanism for hatchlings (Mrosovsky and Carr 1967, Mrosovsky and Shettleworth 1968, Dickerson and Nelson 1989, Witherington and Bjorndal 1991). Hatchlings show a tropotactic response to light upon emergence, so any visual stimulus in the field of vision has some effect on the direction chosen by the hatchlings (Mrosovsky 1970). Hatchlings instinctively orient to the brightest horizon, which, in the absence of artificial lights, is usually the ocean horizon. It is possible to attract hatchlings out of the surf with a bright light, demonstrating the importance of light stimulus in hatchling behavior (Carr and Ogren 1960, Ehrhart and Witherington 1987).

Artificial lighting cues can cause misorientation (hatchlings travel along a consistent course toward a light source) or disorientation (hatchlings are not able to set a particular course and wander aimlessly) (Philibosian 1976, Mann 1977, Witherington 1990). Hatchlings are frequently attracted to point source lights on buildings and roadways in urban areas (McFarlane

1963, Philibosian 1976, Mann 1978, Witherington 1992). Urban areas may also have a non-point source nighttime glow which may disorient hatchlings from otherwise dark sections of beach (Witherington 1993, Tuxbury and Salmon 2005). Light intensities from sky measurements taken on the beach can be higher than the ocean horizon (Salmon et al. 1995a).

Once disoriented, turtles often enter conflicting light environments as they head landward. As hatchlings approach buildings and roads, they encounter obstacles that may screen the source of artificial light (Salmon et al. 1995b). They may then re-orient themselves correctly toward the ocean or continue along the obstruction (e.g. seawall, deep ruts, buildings) until they can see the original or perhaps another source of artificial light. If the obstructions are high enough and continuous enough to prevent the hatchlings from leaving the beach, the lightening sky as sunrise approaches often becomes a dominant influence and attracts the hatchlings to the surf. Mann (1977) also found that most turtles in artificial light-dominated areas oriented correctly on brightly moonlit nights. On moonless nights, hatchlings were more easily disoriented by artificial lights.

The correlation between level of light-caused disruption and survivorship has not, however, been identified. It has been demonstrated that there are relative degrees of sub-lethal and lethal effects, ranging from mild misorientation of a few hatchlings to strong disorientation of a whole clutch resulting in mortality for many hatchlings (Salmon et al. 1995a, Witherington et al. 1996).

Both Mann (1977) and Ehrhart and Witherington (1987) found high mortality in the emergences where the majority of the hatchlings were strongly disoriented. If the hatchlings do not manage to enter the surf, they may enter the vehicle corridor where they are subject to being run over, trapped in tire ruts and become vulnerable to predators, or become irretrievably lost from finding their way to the surf. The protracted wanderings of disoriented hatchlings also lengthens the time they are susceptible to predation from raccoons, ghost crabs, seabirds, fish crows, night herons and possibly dogs and cats. The prolonged exposure can exhaust and/or dehydrate the turtles to the point of death or limit their chance of survival once in the water. Weakened hatchlings that eventually reach the water may be more vulnerable to marine predators, which are abundant in nearshore waters (Wyneken et al. 1994).

Research has also documented significant reduction in sea turtle nesting activity on beaches illuminated with artificial lights (Witherington 1992). Lights may deter females from coming ashore to nest or disorient females trying to return to the surf after a nesting event. However, artificial lighting does not appear to be as problematic for nesting adult female sea turtles as compared to hatchlings. They seem to use a straight-ahead method to select a nest site. They do not appear to be affected as much by artificial lights along the beach as they are by bright lights immediately in front of them upon emerging from the surf (Salmon et al. 1995b, Witherington 1992). Distant point sources and urban glow are more likely to affect hatchlings than adult females (Salmon et al. 1995b). The effects of lights on the female's decision of where to emerge remain unknown.

Hurricanes and other storms during late summer and fall on the east coast of the U.S. create conditions that often result in beach erosion and the subsequent loss of sea turtle nests. Nests may be washed out or inundated long enough to result in egg mortality. In the last several years,

numerous hurricanes and tropical storms have resulted in substantial impacts to the coastal environment along most of the eastern United States. Erosion resulted in a reduction of beach profile in some areas and an accretion of sand in others. High tides and storm surges from these tropical systems overwashed, washed out, buried, or inundated sea turtle nests. Due to nesting chronology, most of the nests lost to storm events will be loggerhead and a few green sea turtle nests. Leatherback sea turtles typically nest earlier in the season and most, if not all, nests have hatched prior to the peak of the tropical storm season.

The use of ORVs on sea turtle nesting beaches can adversely affect the egg, hatchling, and nesting life stages of sea turtles. Vehicles can directly impact sea turtles by running over nesting females and hatchlings making their way to the ocean; crushing nests; deterring females from nesting and approaching nesting beaches; and changing the beach profile and nesting habitat (e.g., compacting sand and making nest excavation difficult, producing ruts in the sand that trap hatchlings, and creating escarpments that prevent females from accessing the beach). Vehicles on beaches, especially during night hours, run the risk of striking adult females emerging on the beach to nest or hatchlings making their way towards the surf after emerging from the nest (National Research Council 1990).

Driving on dune systems alters beach habitat for turtle nesting. Vehicles change the character of the beach profile (Hosier and Eaton 1980), thus increasing the chance of unsuitable nesting habitat for turtles and reducing the number of nests laid and/or hatchlings produced. Erosion can increase in areas with vehicular traffic (National Research Council 1990), which can create escarpments that prevent females from reaching the nesting area of the beach or act as obstacles to hatchlings trying to reach the ocean.

Ruts caused by ORVs reduce the number of hatchlings that make it to the ocean (Lamont et al. 2002). The ruts act as barriers which trap hatchlings making them prone to desiccation and predation. Live and desiccated turtles have been observed in deep vehicle ruts (LeBuff 1990). The ruts can also act as pathways, leading hatchlings away from the ocean. Apparently, hatchlings become diverted not necessarily because they cannot physically climb out of the rut (Arianoutsou 1988, Hughes and Caine 1994), but because the sides of the track cast a shadow and the hatchlings lose their line of sight to the ocean horizon (Mann 1977). If hatchlings are detoured along vehicle ruts, they are at greater risk to vehicles, predators, fatigue, and desiccation. However, hatchling turtles also have a greater probability of overturning when they have to maneuver over ruts in the sand (Hosier 1981; Hosier et al. 1981), which can expose them to desiccation and predation. At least two studies have confirmed hatchling disorientation by vehicular ruts (Cox et al. 1994, Hosier et al. 1981).

Sand compaction resulting from ORVs may increase the length of time required for female sea turtles to excavate nests. If sediments become too compacted, a female turtle may have difficulty excavating an egg chamber of adequate depth or dimensions (Raymond 1984, Ryder 1990, Carthy 1994). Compression of sand by vehicles also causes reduced hatching success of loggerhead turtle nests (Mann 1977). Nesting areas with vehicle traffic have a lower hatchling emergence due to egg chamber cave-ins, making it harder for hatched turtles to emerge to the surface (Mann 1977). Mortality while hatching out of eggs is also higher on beaches open to public access than beaches with restricted access (Kudo et. al. 2003).

Pedestrian traffic on the beach can have a wide variety of adverse affects on sea turtles. People often walk on beaches at night seeking encounters with nesting female sea turtles. These interactions can interfere with the successful excavation of a nest chamber and/or deposition of eggs and may result in abandonment of nesting attempts (McFarlane 1963, Johnson et al. 1996). Once a turtle leaves the beach, she may return to the same location or select a new site later that night or the following night. However, repeated interruption of nesting may cause a turtle to construct her nest in a sub-optimal incubation environment, postpone nesting for several days, prompt movement many miles from the original chosen nesting site, or cause the turtle to shed her eggs at sea (Murphy 1985). Studies of pedestrian impacts on loggerhead sea turtle nests in Japan have shown that beaches with full pedestrian access have significantly lower emergence success, compared to nests laid on beaches with restricted pedestrian access (Kudo et al. 2003). The full extent to which nighttime beach use by humans may affect sea turtles is not known.

Increased pedestrian use increases the amount of trash left behind on the beach. This waste becomes a threat to hatchlings and adult turtles on the beach and in the water. Sea turtles ingest waste products, especially plastics, due to their resemblance to jellyfish, a turtle food source (National Research Council 1990). Bugoni et al. (2001) found as much as 60 percent of the turtles investigated had ingested marine debris. Beach trash can also impede the movement of hatchlings to the ocean.

Dogs running freely on beaches have been identified as potential predators of eggs, hatchlings and even adult sea turtles (Dodd 1988, Santos and Godfrey 2001).

C. Population dynamics

Piping plover

Great Lakes Population

The Great Lakes plovers once nested on Great Lakes beaches in Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, Wisconsin, and Ontario. Russell (1983) reviewed historical records to estimate the pre-settlement populations of the plover throughout this range. While estimates may be high for some Great Lakes states, no other historic estimates are available. Total population estimates ranged from 492 to 682 breeding pairs in the Great Lakes region; Michigan alone may have had the most with as many as 215 pairs. When listed, the Great Lakes population numbered only 17 known breeding pairs that nested in northern Michigan. Gradual increases in this population have been documented since listing and these birds are now known to have expanded to the south and west (USFWS 2003). Twenty-nine breeding pairs were observed in 2001 (Ferland and Haig 2002). As of 2007, there were an estimated 63 nesting pairs (Dingledine 2008, *in litt.*).

Great Lakes piping plovers nest on wide, flat, open, sandy or cobble shoreline with very little grass or other vegetation. Reproduction is adversely affected by human disturbance of nesting areas and predation by foxes, gulls, crows and other avian species. Shoreline development, such

as the construction of marinas, breakwaters, and other navigation structures, has adversely affected nesting and brood rearing.

Northern Great Plains Population

The Northern Great Plains plover breeds from Alberta to Manitoba, Canada and south to Nebraska; although some nesting has recently occurred in Oklahoma. Currently the most westerly breeding piping plovers in the United States occur in Montana and Colorado.

Nesting occurs on sand flats or bare shorelines of rivers and lakes, including sandbar islands in the upper Missouri River system, and patches of sand, gravel, or pebbly-mud on the alkali lakes of the northern Great Plains. Breeding surveys in the early 1980s reported 2,137 to 2,684 adult plovers in the northern Great Plains/Prairie region (Haig and Oring 1985). In 1991, 2,032 adult plovers were observed in the U.S. portion of the northern Great Plains (Haig and Plissner 1993). The number declined to 1,599 in 1996 (Plissner and Haig 1997), a reduction of 21 percent from 1991. Part of this reduction may be an artifact of increased numbers of plovers nesting in Canada in 1996 due to high water levels in the U S. (Plissner and Haig 1997). Overall in both the U.S. and Canadian portion of the northern Great Plains, 3,469 adult piping plovers were observed in 1991; 3,286 were observed in 1996; and 2,953 were observed in 2001 (Ferland and Haig 2002). The 2001 figure includes 1,291 breeding pairs

The decline of piping plovers on rivers in the Northern Great Plains has been largely attributed to the loss of sandbar island habitat and forage base due to dam construction and operation While piping plovers do nest on shorelines of reservoirs created by the dams, reproductive success is often low and reservoir habitat is not available in many years due to high water levels or vegetation. Dams operated with steady constant flows allow vegetation to grow on potential nesting islands, making these sites unsuitable for nesting. Population declines in alkali wetlands are attributed to wetland drainage, contaminants, and predation.

Atlantic Coast Population

The Atlantic Coast piping plover breeds on coastal beaches from Newfoundland and southeastern Quebec to North Carolina. Historical population trends for the Atlantic Coast piping plover have been reconstructed from scattered, largely qualitative records. Nineteenth-century naturalists, such as Audubon and Wilson, described the piping plover as a common summer resident on Atlantic Coast beaches (Haig and Oring 1987). However, by the beginning of the 20th Century, egg collecting and uncontrolled hunting, primarily for the millinery trade, had greatly reduced the population, and in some areas along the Atlantic Coast, the piping plover was close to extirpation. Following passage of the Migratory Bird Treaty Act (40 Stat. 775; 16 U.S.C. 703-712) in 1918, and changes in the fashion industry that no longer exploited wild birds for feathers, piping plover numbers recovered to some extent (Haig and Oring 1985).

Available data suggest that the most recent population decline began in the late 1940s or early 1950s (Haig and Oring 1985). Reports of local or statewide declines between 1950 and 1985 are numerous, and many are summarized by Cairns and McLaren (1980) and Haig and Oring (1985). While Wilcox (1939) estimated more than 500 pairs of piping plovers on Long Island, New

York, the 1989 population estimate was 191 pairs (see Table 4, USFWS 1996). There was little focus on gathering quantitative data on piping plovers in Massachusetts through the late 1960s because the species was commonly observed and presumed to be secure. However, numbers of piping plover breeding pairs declined 50 to 100 percent at seven Massachusetts sites between the early 1970s and 1984 (Griffin and Melvin 1984). Piping plover surveys in the early years of the recovery effort found that counts of these cryptically colored birds sometimes went up with increased census effort, suggesting that some historic counts of piping plovers by one or a few observers may have underestimated the piping plover population. Thus, the magnitude of the species decline may have been more severe than available numbers imply.

The Atlantic Coast population has increased from 790 pairs since listing to a preliminary estimate of 1,887 pairs in 2007 (USFWS 2008a)(final 2006 estimate of 1,749 pairs, USFWS 2006b). Population growth has been greatest in the New England and New York-New Jersey recovery units, with a more modest and recent increase in the Southern unit and an even smaller increase in Atlantic Canada. Periodic rapid declines in abundance of breeding pairs at the level of the recovery unit, including a 68 percent decline in the southern half of the Virginia barrier island chain and North Carolina between 1995 and 2001, illustrate continued population vulnerability. As of 2007, the Southern recovery unit had 333 nesting pairs (USFWS 2008a) The abundance objectives for the Atlantic Coast population and the Southern recovery unit are 2,000 and 400 breeding pairs, respectively, and must be sustained for five years (USFWS 1996).

Species as a whole

The 2001 International Piping Plover Breeding Census resulted in 2,747 breeding pairs distributed across all three breeding populations (Ferland and Haig 2002). Total population numbers have fluctuated over time with some areas experiencing increases and others decreases.

Loggerhead sea turtle

From 1989 to 1998, total estimated loggerhead nesting in the southeastern U S. ranged from approximately 53,000 to 92,000 nests per year, with well over 90% of the nests occurring in Florida (Turtle Expert Working Group 2000). In 1998, 85,988 nests were documented in Florida alone. However, that number had declined to 49,776 nests in 2006 (FFWCC 2006a). An analysis of nesting data from the Florida Index Nesting Beach Survey (INBS) Program from 1989 to 2007, a more consistent and accurate index survey that includes a subset of the total Florida beach length, showed an overall decrease in loggerhead nesting of 37% (FFWCC 2007).

Standardized monitoring of nearly all ocean-facing beaches in North Carolina was implemented in the mid-1990s. Data collected to date on annual numbers of nests in North Carolina are insufficient to detect a trend. An analysis of a longer-term dataset available for several nesting beaches in the southern reach of North Carolina showed that there was no increasing or decreasing trend in annual nest numbers (Hawkes et al. 2005). Additional, long-term nesting data are needed to determine whether current declines in nesting are part of the inherent variability in sea turtle nesting patterns or the result of other factors.

From a global perspective, the southeastern U.S. nesting aggregation is of importance to the survival of the species and is second in size only to that which nests on islands in the Arabian Sea off Oman (Ross 1982, Ehrhart 1989, NMFS and USFWS 1991b). The status of the Oman loggerhead nesting population, reported to be the largest in the world (Ross 1979), is uncertain because of the lack of long-term standardized nesting or foraging ground surveys and its vulnerability to increasing development pressures near major nesting beaches and threats from fisheries interactions on foraging grounds and migration routes (Possardt 2005, *in litt.*). The loggerhead nesting aggregations in Oman, the southeastern U.S., and Australia have been estimated to account for about 88 percent of nesting worldwide (NMFS and USFWS 1991b).

Green sea turtle

Based on an analysis of 46 green turtle nesting concentrations worldwide, approximately 109,000 to 151,000 females nest annually (NMFS and USFWS 2007a). However, this is a crude estimate since not all nesting sites are included, and some data are not fully verifiable. Since 1989, approximately 579 to 9,642 green turtles have annually nested in Florida, with the all-time high number occurring in 2005 (FFWCC 2006a). Green turtles sporadically nest in North Carolina, South Carolina and Georgia in small numbers. In 2007, 15 green turtles nests were observed in North Carolina (SCDNR 2007). In the U.S. Pacific, over 90 percent of nesting throughout the Hawaiian archipelago occurs at the French Frigate Shoals, where about 200 to 700 females nest each year (NMFS and USFWS 1998). Elsewhere in the U.S. Pacific, nesting takes place at scattered locations in the Commonwealth of the Northern Marianas, Guam, and American Samoa. In the western Pacific, the largest green turtle nesting aggregation in the world occurs on Raine Island, Australia, where tens of thousands of females nest nightly in an average nesting season (Limpus et al. 1993). In the Indian Ocean, major nesting beaches occur in Oman where 30,000 females are reported to nest annually (Ross and Barwani 1995).

Leatherback sea turtle

Pritchard (1982) estimated 115,000 female leatherback turtles worldwide, of which 60% nested along the Pacific coast of Mexico. Spotila et al. (1996) later estimated that only 34,500 females (with confidence limits of 26,200 to 42,900) remained worldwide. The most recent population size estimate for North America alone is from 34,000 to 94,000 adult leatherbacks (Turtle Expert Working Group 2007). A dramatic drop in nesting numbers has been recorded on major nesting beaches along the Pacific Ocean, although a sizeable nesting population exists in Papua-Indonesia (Dutton et al. 2007, Hitipeuw et al. 2007). Severe declines in leatherback nesting have occurred over the last two decades along the Pacific coasts of Mexico and Costa Rica (Spotila et al. 2000). The Pacific Mexican leatherback nesting population, once considered to be the world's largest leatherback nesting population (historically estimated to be 65 percent of worldwide population), is now less than one percent of its estimated size in 1980 (Pritchard 1982, Sarti Martinez et al. 2007). The Malaysian nesting population has collapsed and is near extirpation (Chan and Liew 1996). In the Atlantic Ocean, overall, there appears to be an increasing or stable population trend in all regions except the Western Caribbean and West Africa (for the latter, no long-term data are available)(Turtle Expert Working Group 2007).

The largest nesting populations at present occur in the western Atlantic Ocean in Trinidad and Suriname/French Guiana (4,500 to 7,500 females nesting/year) and in the eastern Atlantic Ocean in Gabon (Billes et al. 2000). In the U.S., most nesting occurs in Florida, U.S. Virgin Islands and Puerto Rico. From 1989 to 2006, 98 to 935 nests were observed in Florida (FFWCC 2006a). An analysis of the Florida Index Nesting Beach Survey shows an overall increase in leatherback nesting from 1989 to 2006 (FFWCC 2007). The U.S. Virgin Islands and Puerto Rico nesting populations also appear to be increasing (Dutton et al. 2005, Turtle Expert Working Group 2007). Leatherback nesting is low in number and sporadic in North Carolina. In 2007, 10 leatherbacks nested in North Carolina (SCDNR 2007)

D. Status and distribution

Piping plover

Populations of piping plovers have declined from historic numbers. Unregulated hunting drove plovers to near extinction in the early 1900s, but protective legislation resulted in population recovery by the mid-1920s. However, piping plover numbers declined again in the 1940s and 1950s due to shoreline development. River flow alteration, channelization, and reservoir construction also contributed to declines during this period.

The endangered Great Lakes population is at a low level. From an all-time low of 12 nesting pairs in 1990, the population has increased to an estimated 63 nesting pairs in 2007 (Dingledine 2008, *in litt.*). During this period most nesting occurred in Michigan, but recently, as many as five pairs have nested along the Lake Superior shoreline in Wisconsin. Also, in 2007 the first successful nesting pair in over 30 years was recorded in the Great Lakes region of Ontario, Canada (Dingledine 2008, *in litt.*).

The Northern Great Plains breeding population continues to decline. Overall, there were an estimated 1,291 northern Great Plains nesting pairs in the U.S. and Canada in 2001. Current estimates of piping plover survival rates are limited, but most mortality was thought to occur during migration or on wintering grounds (Root et al. 1992). The decline of this population has been attributed to the construction of reservoirs that result in the loss of sandbar habitat.

The Atlantic Coast breeding population has experienced an overall increase since listing, but these increases are regionally variable with some areas continuing to experience periodic population declines (USFWS 2008b). The Atlantic Coast population of piping plovers has increased from 790 nesting pairs in 1986 to a preliminary estimate of 1,887 nesting pairs in 2007 (USFWS 2008a). However, the increase is unevenly distributed (with most pairs occurring in New England and New York-New Jersey). Growth of the Atlantic Coast population has followed intensive, expensive, and sustained protection of breeding pairs by USFWS, Canadian Wildlife Service, state, and provincial wildlife agencies; federal, state, municipal, and private landowners; non-government organizations, academic organizations, and interested individuals.

Much of the plover's historic habitat along the Atlantic Coast has already been destroyed or permanently degraded by development and human use. The construction of houses and commercial buildings on and adjacent to barrier beaches directly removes plover habitat and

results in increased human disturbance. Additional disturbance comes in the form of recreational use of beach habitats. While legal restrictions on coastal development may slow the future pace of physical habitat destruction, the trend in habitat availability for this species is inexorably downward. Furthermore, habitat availability for the species is compromised by the ever increasing human access to, and recreational use of, these coastal habitats. The decrease in habitat availability, especially with regard to the dynamic nature of these coastal areas, may force birds to nest in suboptimal habitats, the effects of which could manifest itself in poor future reproductive success.

The decrease in the functional suitability of the plover's habitat due to accelerating recreational activity on the Atlantic Coast may impact productivity. Functional habitat loss occurs when suitable nesting sites are made unusable because high human and/or animal use precludes the birds from successfully nesting. Population growth along both the U.S. and Canadian coasts fosters an ever increasing demand for beach recreation. In 2004, about 30 percent of the U.S. Atlantic Coast population of piping plovers nested on federally owned beaches where some protection is afforded under section 7 of the ESA. The remaining 70 percent of the birds nested on state, town, or privately-owned beaches where plover managers are implementing protections in the face of increasing disturbance from recreation and development. Unfortunately for the piping plover, recreational activities and public use of federally owned beaches have also increased. Pressure on Atlantic Coast beach habitat from development and human disturbance continues (USFWS 1996).

Piping plovers winter in coastal areas of the U.S. from North Carolina to Texas and in portions of Mexico and the Caribbean. Birds from the three breeding populations overlap in their use of wintering habitat. In 2001, 2,389 piping plovers, accounting for approximately 40 percent of the known breeding birds recorded during a breeding census were located during a winter census (Haig et al. 2005). While only 16 percent of all nonbreeding birds counted during the 2001 census were found on the Atlantic Coast, observations of banded migrating and wintering piping plovers from the Great Lakes and Atlantic Canada breeding populations were heavily concentrated on the southern U.S. Atlantic Coast (Amirault et al. 2005, Stucker and Cuthbert 2006). The status of wintering piping plovers is difficult to assess, but threats to piping plover wintering habitat identified by the USFWS during its designation of critical habitat continue to affect the species. Unregulated motorized and pedestrian recreational use, inlet and shoreline stabilization projects, beach maintenance and nourishment, and pollution affect most wintering areas. Conservation efforts at some locations have likely resulted in the enhancement of wintering habitat.

We are aware of the following site-specific conditions that affect the status of several wintering piping plover habitats, including critical habitat units. In Texas, one critical habitat unit was afforded greater protection due to the acquisition of adjacent upland properties by the local Audubon chapter. In another unit in Texas, vehicles were removed from a portion of the beach, thus decreasing the likelihood of automobile disturbance to plovers. In Florida, land acquisition has been initiated within portions of one critical habitat unit in the panhandle. The USFWS remains in a contractual agreement with the U.S. Department of Agriculture for predator control within limited coastal areas in the panhandle, including portions of some critical habitat units. Continued removal of potential terrestrial predators is likely to enhance survivorship of wintering

piping plovers. In North Carolina, one critical habitat unit was afforded greater protection when the local Audubon chapter agreed to manage the area specifically for piping plovers and other shorebirds following the relocation of the nearby inlet channel.

Loggerhead sea turtle

Genetic research involving analysis of mitochondrial DNA has identified five different loggerhead subpopulations/nesting aggregations in the western North Atlantic:

- Northern subpopulation occurring from North Carolina to around Cape Canaveral, Florida (about 29° N.);
- South Florida subpopulation occurring from about 29° N on Florida's east coast to Sarasota on Florida's west coast;
- Dry Tortugas, Florida, subpopulation;
- Northwest Florida subpopulation occurring at Eglin Air Force Base and the beaches near Panama City; and
- Yucatán subpopulation occurring on the eastern Yucatán Peninsula, Mexico.

These data indicate that maternally based gene flow between these five regions is very low. If nesting females are extirpated from one of these regions, regional dispersal will not be sufficient to rapidly replenish the depleted nesting subpopulation (Bowen 1995, *in litt*; Bowen et al. 1993; Encalada et al. 1998; Pearce 2001).

The Northern subpopulation has declined substantially since the early 1970s. Standardized ground surveys of 11 North Carolina, South Carolina and Georgia nesting beaches showed a significant declining trend of 1.9% annually from 1983 to 2005 (NMFS and USFWS 2007b). Nest totals from aerial surveys conducted by the South Carolina Department of Natural Resources showed a 3.1% annual decline from 1980 to 2002 (NMFS and USFWS 2007b). Although long-term data are not available for all beaches in North Carolina, an analysis of annual nest totals on beaches in the southern part of NC showed no discernable increasing or decreasing trend (Hawkes et al. 2005).

An analysis of nesting data from the Florida Index Nesting Beach Survey (INBS) Program from 1989 to 2007 showed an overall decrease in loggerhead nesting of 37% (FFWCC 2007). The Florida Panhandle subpopulation shows a significant declining trend of 6.8% annually from 1995 to 2005 (NMFS and USFWS 2007b).

Current threats include loss or degradation of nesting habitat from coastal development and beach armoring; confusion of hatchlings by beachfront lighting; excessive nest predation by native and non-native predators; degradation of foraging habitat; marine pollution and debris; watercraft strikes; disease; and incidental take from channel dredging and commercial trawling, longline, and gill net fisheries. There is particular concern about the extensive incidental take of juvenile loggerheads in the eastern Atlantic by longline fishing vessels from several countries (Lutcavage et al. 1997, Lewison et al. 2004).

Green sea turtle

Total population estimates for the green turtle are unavailable, and trends based on nesting data are difficult to assess because of large annual fluctuations in numbers of nesting females. Some nesting localities appear to be stable or increasing, while others appear to be declining. Trend data are unavailable for many locations (NMFS and USFWS 2007a). The endangered Florida nesting population appears to have increased from 1989 to 2006. This may partially be due to increased protections through state legislation in Florida (NMFS and USFWS 2007a).

A major factor contributing to the green turtle's decline worldwide has been commercial harvest for eggs and food. Fibropapillomatosis, a disease of sea turtles characterized by the development of multiple tumors on the skin and internal organs, is also a mortality factor and has seriously impacted green turtle populations in Florida, Brazil, Hawaii, and other parts of the world. The tumors interfere with swimming, eating, breathing, vision, and reproduction. Heavy tumor burdens are fatal to the turtles (Herbst 1994). Other threats include loss or degradation of nesting habitat from coastal development and beach armoring; confusion of hatchlings by beachfront lighting; excessive nest predation by native and non-native predators; degradation of foraging habitat; marine pollution and debris; watercraft strikes; and incidental take from channel dredging and commercial fishing operations (Lutcavage et al. 1997).

Leatherback sea turtle

Leatherbacks are less common in the Indian Ocean and in very low numbers in the western Pacific Ocean. The East Pacific and Malaysia leatherback populations have collapsed. Using an age-based demographic model, Spotila et al. (1996) determined that leatherback populations in the Indian Ocean and western Pacific Ocean cannot withstand even moderate levels of adult mortality. They concluded that leatherbacks are on the road to extinction and further population declines can be expected unless action is taken to reduce adult mortality and increase survival of eggs and hatchlings. The largest populations are in the Atlantic Ocean, in Suriname/French Guiana, Gabon, Trinidad and Costa Rica/Panama (Troëng et al. 2004). The North Atlantic population is estimated at 34,000 to 94,000 adults (Turtle Expert Working Group 2007) and appears stable.

The crash of the Pacific leatherback population is believed primarily to be the result of exploitation by humans for the eggs and meat, as well as incidental take in numerous commercial fisheries of the Pacific (Chan and Liew 1996, Spotila et al. 2000). Other factors threatening leatherbacks globally include loss or degradation of nesting habitat from coastal development, confusion of hatchlings by beachfront lighting, excessive nest predation by native and non-native predators, degradation of foraging habitat, marine pollution and debris, and watercraft strikes (Lutcavage et al. 1997).

E. Analysis of the species/critical habitat likely to be affected

Piping plovers

Piping plovers from the Atlantic Coast population are the focus of these biological and conference opinions when referencing breeding birds. Since recovery units have been established in an approved recovery plan for the piping plover (USFWS 1996), these biological and conference opinions will also consider the effects of the proposed project on plovers in the Southern recovery unit. Piping plovers from all three breeding populations are referenced when discussing effects of the proposed action on migrating and wintering plovers. The proposed action has the potential to adversely affect nesting and non-nesting adults, eggs, chicks, and juveniles during the nesting season, and adults and juveniles during the migrating and wintering seasons within the proposed project area

Sea turtles - all species

The proposed action has the potential to adversely affect nesting females, eggs, hatchlings, and post-hatchling washbacks within the action area. The effects of the proposed action on sea turtles will be considered further in the remaining sections of these biological and conference opinions. For loggerhead turtles, specifically, the focus of these biological and conference opinions will consider the effects of the proposed action on nesting loggerheads from North Carolina and the Northern subpopulation, as well as the southeastern U.S. population as a whole.

Other Species

In addition to the four species and proposed critical habitat that are the subject of this formal consultation and conference, the FHWA has determined that, based on lack of habitat, the project will have no effect on the red-cockaded woodpecker (*Picoides borealis*) and red wolf (*Canis rufus*). We concur with these determinations. Also, the FHWA has determined that the project may affect, but is not likely to adversely affect the roseate tern (*Sterna dougallii*), West Indian manatee (*Trichechus manatus*) and seabeach amaranth (*Amaranthus pumilus*). Based on available information, the USFWS concurs with these determinations. The hawksbill sea turtle (*Eretmochelys imbricata*) and Kemp's ridley sea turtle (*Lepidochelys kempii*) do not normally nest in North Carolina, but occur in waters off the North Carolina coast. These two turtle species, along with the shortnose sturgeon (*Acipenser brevirostrum*), fall within the purview of the NMFS. The species discussed in this paragraph will not be considered further in this consultation.

III. ENVIRONMENTAL BASELINE

Under section 7(a)(2) of the ESA, when considering the "effects of the action" on federally listed species, the USFWS is required to take into consideration the environmental baseline. The environmental baseline includes past and ongoing natural factors and the past and present impacts of all federal, state, or private actions and other activities in the action area (50 CFR 402.02), including federal actions in the area that have already undergone section 7 consultation,

and the impacts of state or private actions which are contemporaneous with the consultation in process.

A. Status of the Species Within the Action Area

Piping Plover

Piping plover habitat within the action area occurs within an area affected by dynamic coastal processes and ongoing human uses. Suitable piping plover habitat appears to be present at and near Oregon Inlet, Green Island and along the ocean shoreline. Along the existing NC 12, artificial berms are constructed and maintained to protect NC 12 from rising high tide lines and erosion. The longshore transport of sediments continues to operate, but not the cross-island transport that maintains optimal piping plover habitat. This may result in the species currently concentrating near Oregon Inlet.

There is minimal piping plover breeding activity within the action area. Breeding activity has only been observed along both sides of Oregon Inlet. One breeding pair has been recorded at Bodie Island Spit on the north side of Oregon Inlet during five out of the last ten years (2001, 2002, 2004, 2006 and 2007)(Cameron 2008a, *in litt.*; NCWRC 2008b). During this same timeframe, one nest was observed in each of the years 2001, 2002, 2004 and 2007. In 2007, three chicks hatched, and one fledged, from a nest on Bodie Island Spit approximately 1700 feet northeast of the existing Bonner Bridge (NPS 2007a, NPS 2007b). One or two breeding pairs were observed on the south side of Oregon Inlet on PINWR during each of the years from 1998 to 2003 (Cameron 2008a, *in litt.*; NCWRC 2008b), with one nest being observed in 2001 and 2002 (Sue Cameron, NCWRC waterbird biologist, pers. comm. March 24, 2008). Vegetation succession on the south side of Oregon Inlet has reduced favorable nesting habitat there. In 2007, the action area accounted for only 1.6% of piping plover breeding activity within North Carolina (one out of 61 breeding pairs)(Cameron 2008b, *in. litt.*; NCWRC 2008c).

The number of piping plovers within the action area during the winter or migration is more difficult to assess. Regular surveys have not been conducted for non-breeding (including migrating and overwintering) plovers. However, non-breeding piping plovers have been observed within the action area, primarily at Bodie Island Spit (Cameron 2008, *in litt.*; NCWRC 2008a, NPS 2007a, NPS 2006b). Cohen et al. (in press) found that wintering plovers used ocean beach, sound beach and sound islands near Oregon Inlet. They estimated a minimum total wintering population of 11 birds in the vicinity of Oregon Inlet (including Green Island) during the winter of 2006/2007.

Proposed critical habitat for wintering piping plovers, Unit NC-1 Oregon Inlet, lies within the action area (USFWS 2008d). This unit contains a mix of intertidal beach and sand and/or mud flats (between annual low tide and annual high tide) with no or very sparse emergent vegetation, and adjacent areas of unvegetated or sparsely vegetated dune systems and sand and/or mud flats above annual high tide. Unit NC-1 is the northernmost critical habitat unit proposed within the wintering range of the piping plover. Consistent use by wintering plovers has been reported at Oregon Inlet dating from the mid-1960s. As many as 39 plovers have been reported from single day surveys during the fall migration (NCWRC 2008a). Cohen et al. (in press) reported

wintering birds using portions of the proposed Unit NC-1. Recent surveys have also recorded use of proposed Unit NC-1 by at least one banded piping plover from the endangered Great Lakes breeding population, with at least nine other birds recorded at other sites within the Dare County portion of the Outer Banks (Stucker and Cuthbert 2006). Until recently, limited banding has been done in the Great Plains population, so it is uncertain whether or to what extent birds from this population winter in this unit.

Loggerhead sea turtle

Loggerhead turtles usually nest from late April or early May through mid-September (Meylan et al. 1995). From 1996 to 2006, there were a total 126 loggerhead nests observed within the action area, averaging 11.5 nests per year (Godfrey 2008, *in litt.*).

Green sea turtle

Green turtles usually nest from late May or early June to early or mid-September (Woodson and Webster 1999). From 1996 to 2006, there were 5 or 6 green turtle nests observed within the action area, averaging 0.5 nests per year (Godfrey 2008, *in litt.*; USFWS 2008c, *in litt.*).

Leatherback sea turtle

Nesting by leatherback turtles is rare in North Carolina, with only 10 nests documented statewide in 2007 (SCDNR 2007). From 1996 to 2006, no leatherback nests were documented within the action area (Godfrey 2008, *in litt.*).

Summary of the status of sea turtles at within the action area

From 2000 to 2006, the extent of sea turtle nesting within the action area annually represented 0.9 to 2.3% of total sea turtle nesting in North Carolina (Godfrey 2008, *in litt.*; NPS 2007c). Although the USFWS recognizes sea turtles can occur and will nest within the action area, the total number of turtle nests potentially affected is relatively small when compared to the recovery and survival needs of each species.

B. Factors affecting species environment within the action area

A number of ongoing anthropogenic and natural factors may affect the species addressed in these biological and conference opinions. Many of these effects have not been evaluated with respect to biological impacts on the species. In addition, some are interrelated and the effects of one cannot be separated from others. Known or suspected factors affecting the species addressed in these biological and conference opinions are discussed below.

Manteo (Shallowbag) Bay Project

The Army Corps of Engineers (COE) completed formal consultation, pursuant to section 7 of the ESA, with the USFWS in December 1990 for maintenance dredging at Oregon Inlet that would place about 1.5 million cubic yards of dredged sediments per year on the ocean beaches at

PINWR. The COE subsequently reinitiated consultation four times, with the USFWS subsequently providing amendments to the original biological opinion on July 12, 1991; August 1, 2001; June 11, 2002; and May 22, 2008. The June 2002 amendment addressed the modification of the inlet dredging to include the removal of 1.3 to 1.8 million cubic yards of sediments from the inlet and the southern end of Bodie Island spit and disposal of the material on the beaches of PINWR. The biological opinion allowed incidental take of up to one sea turtle nest. This take could take the form of burial or crushing of a nest, or inhibition of nesting due to beach disturbance or scarp formation associated with the placement of dredge material on the beach.

Terminal Groin

Oregon Inlet is part of a migrating barrier island system. Oregon Inlet is migrating south-southwest and historically was eroding the north end of Hatteras Island. In order to protect the Bonner Bridge, the NCDOT completed the construction of a terminal groin on the north end of Hatteras Island in 1991. This structure armored the north shore of Hatteras Island and ended the migration of the north end of the island. As a result, the natural barrier island processes which create piping plover habitat have stopped at the south side of Oregon Inlet. Furthermore, armoring the shore has resulted in increased vegetation coverage and succession which reduces the quantity and quality of piping plover habitat.

Sand Berm Construction

The NCDOT regularly reconstructs the sand berms along portions of NC 12 in PINWR and CAHA. The project varies in scale and scope, but typically entails placing sand that has washed or blown from the seaward dune onto the road back into the footprint of the seaward dune, and is intended to maintain access along NC Highway 12. Typically, the federal nexus for these projects are the required special use permits issued by PINWR and CAHA. Before a special use permit can be issued, the appropriate office must first consult with the USFWS's Raleigh Field Office under the provisions of the ESA.

The sand berm construction occurs in areas potentially used by piping plovers for foraging. Anticipated impacts of sand berm construction on piping plovers include:

- harassment in the form of disturbing foraging, migrating or wintering birds;
- preclusion of cross-island transport processes that form and maintain optimal habitat; and,
- destruction of foraging habitat.

Sand berm construction also occurs in areas used by sea turtles for nesting. Anticipated impacts of sand berm construction on sea turtles include:

- destruction of sea turtle nests and deposited eggs that may have been missed by a nest survey and egg relocation program;
- reduced hatching success due to egg mortality during relocation and adverse conditions at the relocation site;

- harassment in the form of disturbing or interfering with female sea turtles attempting to nest within the construction area or adjacent beaches as a result of construction activities;
- disorientation of hatchling sea turtles on beaches adjacent to the construction area as they emerge from nests and crawl to the water because of project lighting; and
- limiting the width of the nesting beach.

Lighting

The extent that lighting affects piping plovers is unknown. However, there is evidence that American oystercatcher (*Haematopus palliatus*) chicks and adults are attracted to vehicle headlights and may move toward areas of ORV activity. During a 2005 study at Cape Lookout National Seashore, adult and chick oystercatchers were observed running or flying directly into the headlights of oncoming vehicles, and two two-day old oystercatcher chicks were run over by an all-terrain vehicle after being observed foraging with the adults near the high tide line at night (Simons et al. 2005). ORV driving is prohibited within most of the action area, being limited to the northernmost portion of the action area on the southern end of Bodie Island at Oregon Inlet, and approximately 1.1 miles of beach southward from the southern boundary of PINWR.

Although extensive monitoring of the effects of lighting on sea turtles has not been conducted within the action area, the southern end of the action may be affected by light originating from the village of Rodanthe.

Predation

Predation of piping plovers has not been directly observed within the action area, but predation and nest abandonment because of predators have been implicated as a cause of low reproductive success at CAHA (Cooper 1990, Coutu et al. 1990, Kuklinski et al. 1996). Mammalian and avian predators are relatively common within the action area. Red foxes (*Vulpes vulpes*) are relatively recent arrivals within the action area. Red foxes were first observed within CAHA on Bodie Island in 1996 and on Hatteras Island in 2000 (NPS 2001). Due to the presence of tracks, red foxes are suspected in disappearances of piping plovers and nest abandoning. Predation of sea turtle nests and hatchlings at CAHA has been documented. Red foxes and ghost crabs (*Ocypode* spp.) have been known to depredate sea turtle nests (NPS 2007c).

Stochastic (Random) Events

The impacts of tropical storms and associated coastal erosion on piping plovers within the action area have not been assessed. However, such events have the potential to destroy nests. Extremely cold temperatures may also adversely affect wintering birds.

High tides and storm surges from tropical weather systems can overwash, wash out, or inundate sea turtle nests. In the last several years, hurricanes and tropical storms have resulted in substantial impacts to the coastal environment along the action area. Erosion resulted in a reduction of beach profile in some areas and an accretion of sand in others. In the last ten years

(1998 to 2007), zero to nine sea turtle nests per year were lost within PINWR to storms and inundation (USFWS 2008c).

Habitat Management and Protection

With the exception of the southern terminus of the action area near Rodanthe, the coastline of the action area is under public ownership, either as CAHA or PINWR. Public ownership confers some conservation benefit to listed species, but land use decisions by the government agencies managing these lands ultimately determines the extent of conservation value these areas will have for threatened or endangered species.

In all cases, public ownership removes some threats that might otherwise be present if the properties were owned by private landowners and subsequently developed according to existing zoning regulations. In most cases, public ownership precludes the need for coastal armoring or beach nourishment, since these activities on public lands are rarely deemed appropriate (but see **Manteo Bay Project** section above). Thus, adverse effects to sea turtles and piping plovers associated with these activities are avoided or minimized on public lands. Public ownership also minimizes the likelihood that light pollution from homes and other development will become a significant problem since no commercial and residential development will occur on public lands. Therefore, along the shoreline of public parcels, disorientation of adult or hatchling sea turtles or piping plovers due to artificial lighting of homes or businesses will have been avoided or greatly reduced with public ownership.

Vehicle Use on the Beach

Oregon Inlet is one of the first beach access points for ORVs within CAHA when traveling from the developed coastal communities of Nags Head, Kill Devil Hills, Kitty Hawk, and Manteo. As such, the inlet spit is a popular area for ORV users to congregate. A recent visitor use study of the park reported that Oregon Inlet is the second most popular ORV use area in the park (Vogelsong 2003). As a result, sandy beach and mud and sand flat habitat being proposed as critical habitat in this unit may require special management considerations or protection. The Bodie Island Spit and an approximately 1.1 mile section of beach south of the southern boundary of PINWR are the only portions of the action area where vehicles are allowed on the beach.

Vehicles can significantly degrade piping plover habitat and disrupt normal behavior patterns of the birds. ORV users routinely violate bird closure areas (NPS 2006a, NPS 2007a). While there are no records of plover mortality at Oregon Inlet due to vehicles or tire ruts, the prospects of finding a dead, small, sand-colored bird or chick is unlikely. During the winter of 2005/2006, Cohen et al. (in press) found that when piping plovers used ocean beach habitat at Oregon Inlet, plovers were far more likely to use the PINWR side of Oregon Inlet (96% of the time; no ORV use) than the Bodie Island side (4% of the time). The lesser use of the Bodie Island side coincides with the ORV use there. They also found that piping plovers commonly roosted on the PINWR side, but only rarely roosted on the Bodie Island side, despite the fact that the Bodie Island side was closer to their foraging sites. They recommended controlled management experiments to determine if recreational disturbance drives roost site selection at Oregon Inlet, and if control of disturbance might lead to increased use of the northern beach as a roost area.

As a result of a recent lawsuit in federal court, a settlement was agreed upon that would increase protection for breeding plovers within CAHA. Terms of the consent decree will result in buffers being established during portions of the spring and summer around bird breeding and nesting areas, including creating a 1000 meter vehicle perimeter around piping plover chicks until they have fledged (NPS 2008b).

The use of ORVs on sea turtle nesting beaches can adversely affect the egg, hatchling, and nesting life stages of sea turtles. There are no specific records of vehicles colliding with nesting turtles or hatchlings within the action area, but the potential exists since ORV users have been reported to violate closed areas (NPS 2007c). Impacts from vehicles running over sea turtle nests have been reported at other locations within CAHA (NPS 2007c).

Vehicular ruts create obstacles for sea turtle hatchlings moving from the nest to the ocean. Possible mortality of hatchlings can occur due to being trapped in tire ruts. In addition, indirect effects may occur from weakened individuals dying at sea or made more vulnerable to predators. CAHA implements measures (including closures around known nests) to manage these effects. Another potential indirect effect of vehicular traffic is compaction of beach sediments under the weight of vehicles, thus creating suboptimal nesting habitat conditions.

Pedestrian Use of the Beach

Though no statistics exist to quantify the amount of pedestrian traffic on the beaches within the action area, evidence exist that people walking on the beach affects nesting and wintering piping plovers and nesting sea turtles and their nests, eggs, and hatchlings. Closure areas are established to protect plovers and sea turtles, but pedestrians sometimes violate these (NPS 2008a, NPS 2007a, NPS 2007c). Pedestrians have been documented harassing nesting sea turtles within CAHA (e.g. crowding around nesting turtle and taking flash photographs) and digging within turtle nests (NPS 2007c). Pedestrian use is allowed day and night within CAHA, but only during the day within PINWR.

Dog Use on the Beach

Dogs on a leash are allowed within both CAHA and PINWR, except in designated areas where no dogs are allowed. However, violations occur and enforcement is difficult because of the limited number of NPS and USFWS staff. Dogs running freely on beaches are potential predators of piping plover eggs and chicks, and can harass nesting, migrating or wintering adults. Dogs are also potential predators of sea turtle eggs, hatchlings, and even adult sea turtles. Unleashed dogs have been observed digging into nests. However, the extent of the effects from these actions to plovers and sea turtles within the action area is unknown.

IV. EFFECTS OF THE ACTION

Under section 7(a)(2) of the Act, "effects of the action" refers to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are

interrelated or interdependent with that action. The federal agency is responsible for analyzing these effects. The effects of the proposed action are added to the environmental baseline to determine the future baseline, which serves as the basis for the determination in these biological and conference opinions. Should the effects of the federal action result in a situation that would jeopardize the continued existence of the species, we may propose reasonable and prudent alternatives that the federal agency can take to avoid a violation of section 7(a)(2). The discussion that follows is our evaluation of the anticipated direct and indirect effects of the proposed project. Indirect effects are those caused by the proposed action that occur later in time but are still reasonably certain to occur (50 CFR 402.02).

A. Factors to be considered

Piping plovers

Proximity of the action: The proposed action occurs within the nesting range of the Atlantic Coast piping plover breeding population. Since recovery units have been established in an approved recovery plan, these biological and conference opinions consider the effects of the proposed project on plovers in the Southern recovery unit, as well as the Atlantic Coast population and the entire species. The proposed action also occurs within the migrating and overwintering range of all three breeding populations of the piping plover. Additionally, the proposed action would occur within one proposed critical habitat unit for wintering plovers.

Distribution: The expected disturbance from the proposed action is likely to occur throughout the action area, but in a staggered manner over time.

Timing: The proposed action will occur throughout the year. Specifically, the proposed action will occur during the breeding, migrating and wintering seasons of the piping plover.

Nature of the effect: The project may affect breeding, nesting, migrating, roosting, or foraging activities of piping plovers. This may take the form of habitat loss, new habitat creation, preclusion of habitat utilization, harassment/disturbance resulting in behavior modification, and mortality in the form of egg, chick or adult death. Also considered are the potential effects on the primary constituent elements within one proposed critical habitat unit.

Duration/Disturbance frequency: The proposed project will be built in four phases, with Phase I beginning in 2009 and Phase IV beginning approximately 2029 or 2030. Each phase will involve 3 – 3.5 years of construction. The construction of each phase will be continuous from start to finish, operating year-round. Therefore, construction will be staggered over an approximately 25 year time span, with gaps of no construction between each phase. Each phase will only affect a portion of the action area at any one time.

The phasing of the construction of Phases II to IV is based on assumptions corresponding to forecast shoreline erosion trends and maintaining minimum 230-foot buffer distance between the existing NC 12 edge of pavement and the active shoreline. These assumptions are based on worst-case scenario modeling of shoreline erosion and the location and likelihood of future breaches on Hatteras Island. Since these are forecasts only, the exact timing and scope of each

phase could change based on the reality of future shoreline erosion. As such, the duration of the construction should be viewed as an approximation. Since piping plovers may be present throughout the year, plovers could be affected at any time during any of the phases or during subsequent maintenance of the facility.

Although construction activity will be a temporary affect, the new structures will permanently alter the habitat for piping plovers, although not necessarily all negatively in the long-term. Natural barrier island processes, which are currently precluded along much of the action area by the maintenance of NC 12, will be allowed to resume to an extent. Also, maintenance of the facility will be an ongoing activity on both a periodic and as-needed basis.

Disturbance intensity: Although the potential for disturbance to the piping plovers throughout the action area is high, the intensity of the disturbance is only expected to be high at and near Oregon Inlet. The rest of the action area currently has relatively little use by plovers. Therefore, Phase I has the greatest potential to affect plovers. The intensity of disturbance will likely be greatest for nesting piping plovers (April 1 through August 31) since they are tied to a point on the landscape with a nest, or when rearing young that have not yet fledged. However, relatively little nesting occurs within the action area. The intensity of disturbance may also be high for wintering plovers at Oregon Inlet. However, the small loss of proposed critical wintering habitat will likely have a discountable effect.

Disturbance severity: Although Phase I has the potential to affect nesting piping plovers, the severity of the affect, considering all the Atlantic Coast nesting, is relatively minor. Impacts to wintering plovers are of particular concern for the endangered Great Lakes breeding population. At least one individually identifiable Great Lakes piping plover has been observed at Oregon Inlet (Stucker and Cuthbert 2006).

Sea turtles – all species

Proximity of the action: The proposed action occurs within the northern nesting range of the loggerhead, green, and leatherback sea turtles. Specifically, the proposed action occurs within the range of the Northern subpopulation of the loggerhead turtle.

Distribution: The expected disturbance from the proposed action is likely to occur on all ocean facing beaches throughout the action area.

Timing: The proposed action will occur throughout the year. Any effects to sea turtles are expected to occur primarily during the sea turtle nesting and hatching seasons from May 1 through November 15. The greatest effects may occur at night from construction lighting and lights from vehicles traveling on the finished facility.

Nature of the effect: The project may affect nesting sea turtles, eggs, and hatchlings. This may take the form of habitat alteration, new habitat formation, preclusion of habitat utilization, harassment/disturbance resulting in behavior modification, and mortality in the form of egg, hatchling or adult death. Based on nesting records for the last ten years, we expect

approximately 96% of all effects to sea turtles will involve loggerhead sea turtles and 4% will involve green and leatherback sea turtles.

Duration/ Disturbance frequency: The duration/disturbance frequency to sea turtles is similar to that described above for piping plovers; except that the effects will primary occur during nesting and hatching seasons from May 1 through November 15.

Disturbance intensity: The potential for disturbance to the sea turtle populations throughout the action area is highest for possible effects of construction lighting at night and lights from vehicles traveling on the finished facility.

Disturbance severity: Since nearly all the sea turtle nesting that occurs within the action area is by loggerheads, the severity of the disturbance to green and leatherback turtles is expected to be minimal. However, the effects to loggerheads could lessen the contribution of those turtles to the recovery goal for the northern nesting subpopulation of loggerheads. However, this may be balanced by possible habitat creation resulting from allowing natural barrier island processes to occur within more of the action area.

B. Analysis for effects of the action

Beneficial effects:

Since NCDOT maintains an artificial berm along the seaward side of NC 12 through most of the project area, natural barrier island processes such as ocean overwash, island migration and inlet formation have been mostly precluded, thus severely limiting the formation of new habitat for piping plovers. Elevating most of NC 12 onto a bridge will allow for the maintenance of the artificial berm to be discontinued, thus allowing the natural barrier island processes to resume. Ocean overwash and possible new inlets would likely create new potential habitat for plovers. Eventually, westward migration of the island would result in some portion of the bridges to be in the ocean eastward of the beach.

Similarly, elevating NC 12 onto bridges may potentially improve sea turtle nesting habitat. Currently, most of the beach along the seaward side of NC 12 is narrow, steep and subject to high wave energy. The potential nesting area is constrained to a narrow width along much of the action area by the artificial berm along NC 12. Elevating most of NC 12 onto bridges would allow the natural barrier island processes to widen the beach area available for nesting; however, as portions of the beach migrate westward underneath the bridge, some of the beach may not be suitable nesting habitat for some period of time as it would be underneath the bridge and subject to shading effects (thus affecting hatching and sex ratios). Eventually, portions of the beach would migrate westward beyond the bridge and potentially provide suitable nesting habitat. Turtles would have to crawl or swim between bridge piles in order to utilize the newly widened beach. The effect that the bridge piles would have on emerging sea turtles is expected to be minimal. Bouchard et al. (1998) found that simulated piles did not totally preclude nesting activity of loggerhead and green sea turtles at Melbourne Beach, Florida, but did reduce nesting in an area with piles on the beach by 41%. However, the simulated piles used in the study were

spaced 17 feet apart, whereas the piles for the Phase II, III and IV bridges will be 100-120 feet apart. This wider distance would likely have a much lesser affect on nesting activity.

Piping plover

Direct effects:

The most quantifiable effect on piping plovers pertains to breeding. The only nesting activity recorded within the action area has occurred at Oregon Inlet. Although no breeding pairs have been observed at the north end of Hatteras Island near the Inlet since 2003 (Cameron 2008a, *in litt.*; NCWRC 2008b), and habitat quality for nesting has declined in recent years due to vegetation encroachment, habitat quality can improve quickly with severe storms, so the site still has the potential for nesting activity. At the Bodie Island Spit, a single nest in each of the years 2001, 2002, 2004 and 2007 has been observed >0.25 mile east of the existing Bonner Bridge (NPS 2007b). The new bridge will be constructed 125-500 feet farther west of the existing bridge, thus farther from the known nesting sites. However, demolition of the old bridge will require the presence of heavy equipment and noise ~0.25 mile from the known nesting area. Although it is unlikely that any nesting habitat would be physically disturbed, it is possible that the presence of construction equipment, construction activity and associated noise may preclude or disrupt breeding behaviors, including courtship, egg laying, incubation, and chick rearing on part or all of Bodie Island Spit or the northern end of Hatteras Island for some portion of the construction of Phase I and demolition of the existing Bonner Bridge. In addition, the northern end of Phase II may have similar effects to the potential nesting area on the north end of Hatteras Island. These effects will be temporary, covering a subset of each of the estimated 3-3.5 year construction timeframes for Phases I and II. However, it is uncertain that any breeding pairs would be precluded from nesting. Anecdotal evidence implies that some or all of the preferred nesting sites may be sufficiently distant from the work zones to avoid disturbance effects. Phases III and IV will not be located near any currently suitable plover nesting habitat.

Due to fill and pile placement in Phase I, there will be a direct loss of <0.1 acre of beach that is potential foraging and roosting habitat. It is not anticipated that the presence of the completed new bridge will preclude piping plovers from foraging since plovers currently forage at the existing Bonner Bridge. Phases II, III and IV will not result in the direct loss of any current foraging or roosting habitat.

Perhaps the most likely and most widespread, but the least quantifiable, direct effect is disturbance and/or flushing of foraging or roosting plovers during the construction of each of the phases. The presence of heavy equipment, construction activity and associated noise will be in close proximity to potential foraging and roosting habitat. Phase I and the northern end of Phase II have the greatest likelihood of disturbing foraging or roosting plovers and/or precluding foraging/roosting habitat from being used on portions of Bodie Island Spit and the north end of Hatteras Island. Also, Phase I comes within 0.3 mile of soundside ephemeral intertidal shoals or flats that are used by foraging plovers. The rest of Phase II and all of Phases III and IV have the potential to effect foraging or roosting plovers, however these phases are located adjacent to portions of the action area that currently have less foraging/roosting activity. This effect will be

temporary and staggered over time and location, lasting for some subset of the estimated 3-3.5 year construction timeframe for each phase.

The biological effects of disturbance to foraging or roosting plovers are difficult to quantify. In general, however, we know that plovers require food and shelter. Any actions that limit their ability to feed or shelter probably have adverse effects on individual birds because flushed birds expend energy to avoid disturbance (Stillman et al. 2007). The degree that piping plovers are adversely affected depends largely on how much time they are precluded from feeding or sheltering in relation to the amount of time they would feed or shelter if they were not flushed. To evaluate the biological effects of flushing, the identity of individual piping plovers would have to be known and the amount and extent of flushing would need to be documented consistently over time for each bird. Furthermore, these individual birds would need to be followed throughout the year to determine if their survival rates or nesting success were lower than other birds not subjected to flushing. Given there are other factors that affect the survival or reproductive success of piping plovers (predation, weather, food availability and quality, etc.) it would be difficult to isolate the effects of flushing. A large number of individual birds would have to be studied over a relatively long period in order to attempt to quantify the effects of flushing. We are aware of no such long term and statistically robust studies.

Effects to proposed critical habitat:

Proposed critical habitat Unit NC-1 currently supports the primary constituent elements essential for the conservation of the species and does support consistent use by wintering piping plovers. Although the new bridge in Phase I will cross through approximately 1700 feet of proposed critical habitat on Bodie Island, the direct loss to fill and pile placement is <0.1 acre. The existing Bonner Bridge crosses through approximately 3680 feet of proposed critical habitat on Bodie Island, but is not part of the proposed critical habitat. The demolition of the existing bridge and the construction of the new bridge will likely have temporary direct effects to primary constituent elements (e.g. haul roads, ruts, hydrological effects, etc.). After construction and demolition are completed, all temporary structures will be removed and the habitat restored to pre-disturbance conditions. Therefore, the effect will be short-term (i.e. considerably less than the estimated 3.5 years for completion of Phase I). A portion of Phase II on Hatteras Island will occur adjacent to proposed critical habitat, but not within it.

Interrelated and interdependent effects:

The effects of the action under consultation are analyzed together with the effects of other activities that are interrelated to, or interdependent with, that action. An interrelated activity is an activity that is part of the proposed action and depends on the proposed action for justification. An interdependent activity is an activity that has no independent utility apart from the action under consultation.

Periodic bridge maintenance or repair activities may require the presence of inspectors and equipment to operate in the vicinity of potential piping plover habitat, thus causing disturbance to foraging/roosting plovers or precluding the use of habitat. These effects are difficult to

quantify. Disturbance from human recreation is already present, and thus the effect of maintenance and repair work would be additive to an existing level of disturbance.

In addition, the maintenance or repair activities may have temporary effects to the primary constituent elements of the proposed critical habitat. However, these effects would likely be short in duration since all disturbed areas would be restored to pre-disturbance conditions once the maintenance or repair is completed.

Indirect effects:

Indirect effects are caused by or result from the proposed action, are later in time, and are reasonably certain to occur. If, by the elevation of much of NC 12 onto bridges and allowing natural barrier island processes to resume, new piping plover habitat is created in the future (see **Beneficial Effects** above), new conditions will exist for indirect effects. These indirect effects will be identical to the direct effects described above (i.e. effects on nesting, disturbance/flushing of foraging/roosting plovers, and precluding habitat use) during maintenance or repair activities; however, they will be to plovers using habitat that does not currently exist. If new piping plover habitat is created, portions of the beach will eventually move westward underneath the new bridges. The effect of having a bridge immediately overhead or adjacent to potential nesting habitat is unknown. Foraging under or adjacent to bridges is not expected to preclude foraging since plovers currently forage adjacent to the existing Bonner Bridge.

Depending on final design of each bridge, the new bridges could provide perches for predators (e.g. gulls, crows, etc.) that may prey on piping plover adults, chicks or eggs. However, these predators currently fly over piping plover habitat, so the extent of any additional effect would be difficult to determine.

Sea Turtles - All Species

Direct effects:

None of the project will be built within existing sea turtle nesting habitat; therefore, there will be no direct loss of turtle nesting habitat. However, all four phases will be built in close proximity to turtle nesting beaches. The greatest potential direct effects will likely be those caused by the use of construction lighting.

The USFWS recognizes that lights have the potential to disorient both hatchlings and nesting females. Artificial lighting can cause misorientation or disorientation (Philibosian 1976, Mann 1977, Witherington 1990). Misorientation can result in fatigue, dehydration, and increased likelihood of predation (Witherington et al. 1996). The correlation between level of light-caused disruption and survivorship has not, however, been identified. It has been demonstrated that there are relative degrees of sub-lethal and lethal effects (Salmon et al. 1995a; Witherington et al. 1996).

The effects of construction lighting will be temporary and staggered over space and time as each of the four phases is built. The effect will be year-round during the 3-3.5 year construction

timeframe for each phase, with periods of no effect between each phase. There will be no permanent lighting on bridge.

Other possible direct effects include disturbance of nesting females from noise or vibration from construction equipment. These effects would also be temporary and staggered over space and time.

Interrelated and interdependent effects:

Periodic bridge maintenance or repair activities may require the presence of inspectors and equipment to operate in the vicinity of potential sea turtle nesting habitat, thus causing disturbance to nesting females or emerging hatchlings, or precluding the use of nesting habitat. It is assumed that maintenance or repair activities would not occur at night, therefore minimizing the level of effects. When, in the future, portions of the beach migrate west of the bridge and sea turtle nesting beach is adjacent to the bridge, any vehicles or equipment driving on the beach for maintenance or repair activities could run over undetected turtle nests.

Indirect effects:

If, by the elevation of much of NC 12 onto bridges and allowing natural barrier island processes to resume, new sea turtle nesting habitat is created in the future, or if existing sea turtle nesting beach is widened and improved in quality (see **Beneficial Effects** above), new conditions will exist for indirect effects. Sea turtle nesting beach is currently limited in width by the artificial berm along the seaward side of NC 12. In Phases II, III and IV, the berm will be incrementally eliminated, and sea turtles may nest farther inland on the newly widened beach. This may result in sea turtles nesting near, under or beyond the new bridges. The presence of bridge piles and bridge superstructure overhead will alter light levels, beach morphology, and sand characteristics. It is important to note that the following indirect effect would occur to sea turtle nesting habitat that does not currently exist, but would be expected to exist sometime in the future.

From 2020 to 2060, it is estimated that up to 1.8 miles of NC 12 will be over dry beach at any one time, shading up to 9.5 acres of potential turtle nesting habitat. Shading would provide overall less desirable nesting conditions since beach sands shaded by the bridge would be expected to have a lower temperature. Temperature is negatively correlated with egg development time, so eggs under the bridge may display increased incubation time thus potentially exposing them to increased threats (e.g. predation, tidal inundation). Temperature also strongly determines gender of the hatchlings (Yntema and Mrosovsky 1982, Standora and Spotila 1985). Higher temperatures produce females, while lower temperatures produce males. Therefore beach shading by the bridge may alter the sex ratio of hatchlings. Since most nesting females emerge from the ocean at night, females may not be aware they are nesting underneath a bridge. These effects would be temporary since the beach would be expected to continue migrating westward.

As beach migration continues westward, portions of the nesting beach will eventually be located landward of the bridges. Turtles would have to crawl or swim between bridge piles in order to

utilize the newly widened beach. Over the life of the project, up to 3.3 miles of beach could have piles at any one time, thus potentially causing some level of deterrent to nesting. The effect that the bridge piles would have on emerging sea turtles is expected to be minimal. Bouchard et al. (1998) found that simulated piles did not totally preclude nesting activity of loggerhead and green sea turtles at Melbourne Beach, Florida, but did reduce nesting in an area with piles on the beach by 41%. However, the simulated piles used in the study were spaced 17 feet apart, whereas the piles for the Phase II, III and IV bridges will be 100-120 feet apart. This wider distance would likely have a much lesser affect on nesting activity. Again, this effect would be on nesting habitat that does not currently exist.

As portions of the beach migrate westward of the bridge, some bridge piles will be located within the nearshore waters. These bridge piles may attract and concentrate predatory fish. Predation on turtle hatchlings can be high in nearshore waters (Stancyk 1982, Wyneken and Salmon 1996). However, with bridge bents spaced 100-120 feet apart, increased predation due to the presence of bridge piles will likely be minimal.

Another indirect effect is that of vehicle lights traveling on the finished bridges. It is unknown whether vehicle lights moving parallel to the beach would discourage the emergence of nesting females. It is also unknown whether vehicle lights would misorient or disorient turtle hatchlings. Vehicle lights would not be a stationary source of light and would vary with differing levels of traffic. However, a higher traffic volume would likely occur during the summer tourist season, which overlaps with turtle nesting season. The height of the bridges and height of bridge barriers may mitigate some of the negative effects.

C. Species' response to proposed action

Piping plover

Numbers of individuals/populations in the action area affected: One breeding pair has been recorded at Bodie Island Spit on the north side of Oregon Inlet during five out of the last ten years (2001, 2002, 2004, 2006 and 2007)(Cameron 2008a, *in litt.*; NCWRC 2008b). During this same timeframe, one nest was observed in each of the years 2001, 2002, 2004 and 2007. In 2007, three chicks hatched, and one fledged, from a nest on Bodie Island Spit approximately 1700 feet northeast of the existing Bonner Bridge (NPS 2007a, NPS 2007b). One or two breeding pairs were observed on the south side of Oregon Inlet on PINWR during each of the years from 1998 to 2003 (Cameron 2008a, *in litt.*; NCWRC 2008b), with one nest being observed in 2001 and 2002 (Sue Cameron, NCWRC waterbird biologist, pers. comm. March 24, 2008). In 2007, the action area accounted for only 1.6% of piping plover breeding activity within North Carolina (one out of 61 breeding pairs)(Cameron 2008b, *in. litt.*; NCWRC 2008c). Overall, 0-3 breeding pairs have been observed in the action area for each of the last ten years.

The number of piping plovers within the action area during the winter or migration is more difficult to assess. Regular surveys have not been conducted for non-breeding (including migrating and overwintering) plovers. Cohen et al. (in press) estimated a minimum total wintering population of 11 birds in the vicinity of Oregon Inlet (including Green Island) during the winter of 2006/2007. As many as 39 piping plovers have been reported from single day

surveys during the fall migration at Bodie Island Spit, and as many as 41 plovers have been reported from single day Christmas Bird Counts at Oregon Inlet (NCWRC 2008a).

The total amount of proposed critical habitat to be permanently lost is <0.1 acre. An unknown acreage (though likely small amount) of proposed critical habitat will be temporarily affected during the construction phase.

Sensitivity to change: Piping plovers are sensitive to negative impacts during the breeding and non-breeding periods. Plovers may be deterred from nesting in given area where disturbance occurs. Sensitivity to change for non-breeding birds is difficult to assess. However, effects could be more detrimental for non-breeding plovers from the endangered Great Lakes population. Stucker and Cuthbert (2006) recorded at least one identifiable individual from the Great Lakes population wintering at Oregon Inlet, with at least nine other individuals of that population observed within CAHA outside the action area.

Resilience: Unless new inlets form within the action area, the breeding population of piping plovers is likely to remain low. However, elevating much of NC 12 onto bridges would allow natural barrier island processes to resume, potentially creating new inlets and plover habitat. Piping plover productivity has historically been low in all of North Carolina (NCWRC 2008c). However, improved protective measures and substantial decreases in disturbance to promote nesting opportunities and protect established nests and chicks could increase productivity.

The proposed critical wintering habitat within the action area is highly dynamic and resilient. Temporary disturbances will be unrecognizable in a short time.

Recovery rate: Piping plover habitat is inherently dynamic and carrying capacity fluctuates accordingly. The breeding population within the action has varied from zero to three pairs over the last ten years. At these low population levels, extirpation may occur for any number of reasons, including factors unrelated to the proposed action. While the specific recovery rate of piping plovers within the action area is unknown, the recovery rate is expected to be moderate if the birds are protected from all stressors. For example, several areas within the Atlantic Coast breeding population quadrupled their population size in as few as five years (USFWS 1996).

The specific effects of disturbance on non-breeding plovers are less well understood. However, reduced ability to rest and decreased food abundance could reduce survivorship of migrating and wintering birds. Demographic models for piping plovers, including two Atlantic Coast studies (Melvin and Gibbs 1994, Amirault et al. 2005), show that even small declines in adult and juvenile survival rates will cause substantial increases in extinction risk.

Other than the minimal amount of proposed critical habitat that would be permanently lost, the primary constituent elements within temporarily affected proposed critical habitat would recover very quickly after project construction ends.

Sea turtles – all species

Numbers of individuals/populations in the action area affected: From 1996 to 2006, there were a total 126 loggerhead nests observed within the action area, averaging 11.5 nests per year. From 1996 to 2006, there were 5 or 6 green turtle nests observed within the action area, averaging 0.5 nests per year. From 1996 to 2006, there were no leartherback turtle nests observed (Godfrey 2008, *in litt.*; USFWS 2008c, *in litt.*). From 2000 to 2006, the extent of sea turtle nesting within the action area annually represented 0.9 to 2.3% of total sea turtle nesting in North Carolina (Godfrey 2008, *in litt.*; NPS 2007c).

Sensitivity to change: Sea turtles are relatively sensitive to changes in the nesting environment, especially artificial light. There is high potential for nesting females and hatchlings to be misoriented or disoriented by construction lighting and possibly vehicle lights from the finished bridges. Sea turtle eggs are also sensitive to the nesting environment. The sex of an embryonic sea turtle is determined by the temperature of the nest environment. Shading effects on beach that has migrated underneath the bridges may change the nest environment by lowering sand temperature and changing the sex ratio.

Resilience: If fewer sea turtle hatchlings reach the ocean after hatching due to misorientation or disorientation from artificial light, fewer females will then return to nest at that location in the future. Also, loggerhead nests on North Carolina beaches (and in the Northern subpopulation) produce a greater proportion of males than do beaches in the southern part of the species' range. A reduction in the number of males contributed to the greater population may have adverse affects on future reproduction in the population. However, the extent of this effect is unknown.

Recovery rate: In general, the recovery rate of sea turtles is slow. Sea turtles reach sexual maturity at different ages depending on the species. Leatherback turtles can reach sexual maturity as early as six or seven years of age. However, loggerhead and green sea turtles do not reach sexual maturity until 20 to 50 years of age. If there is a reduction in the number of nests laid within the action area, and a subsequent reduction in the number of hatchlings produced, it may take decades before those hatchlings are contributing reproductively to the population.

V. CUMULATIVE EFFECTS

Cumulative effects include the effects of future state, local, or private actions that are reasonably certain to occur in the action area considered in these biological and conference opinions. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA.

Any maintenance activities on existing NC 12 that are conducted entirely within the NCDOT right-of-way do not have any federal nexus. These activities are most likely to occur after storm events in which sand is blown or washed over the road. Removal of the sand and reconstruction of the existing artificial berm would not be conducted within either piping plover or sea turtle habitat; however, the activities would be immediately adjacent to potential habitat. Disturbance from presence of heavy equipment, noise and vibration may flush piping plovers and preclude

foraging, roosting or nesting. This disturbance may also disturb nesting female sea turtles. Lights from construction equipment may misorient or disorient sea turtle hatchlings. These effects would be expected to be short in duration for each maintenance event, but have historically occurred several times a year. As portions of NC 12 are elevated onto bridges in Phases II, III and IV, these types of maintenance events would decrease.

The relocation of the former Oregon Inlet US Coast Guard Station may also have a similar short-term effect on piping plovers and sea turtles. However, this would be a one-time event.

VI. CONCLUSION

After reviewing the current status of the piping plover, loggerhead sea turtle, green sea turtle and leatherback sea turtle; the environmental baseline for the action area; and all effects of the proposed project, it is the USFWS's biological and conference opinion that the proposed replacement of the Bonner Bridge and subsequent phases of elevating portions of NC 12 onto bridges (TIP No. B-2500), as proposed, is not likely to jeopardize the continued existence of these species, and is not likely to destroy or adversely modify proposed critical wintering habitat for piping plover. No critical habitat has been designated for the loggerhead sea turtle; therefore, none will be affected. Critical habitat has been designated for the green sea turtle in Puerto Rico, and critical habitat has been designated for the leatherback sea turtle in the U.S. Virgin Islands; however, this action does not affect these areas and no destruction or adverse modification of that critical habitat is anticipated.

This non-jeopardy opinion is based, in part, on the following facts:

Piping plover

The Atlantic Coast nesting population of piping plover is a component of the entity listed as threatened which encompasses all breeding piping plovers except the Great Lakes breeding population. The Atlantic Coast population has increased from 790 pairs since listing to a preliminary estimation of 1,887 pairs in 2007 (USFWS 2008a). While the Great Plains populations experienced a decline of about 13 percent between 1991 and 2001, the overall status of the listed entity is likely to be increasing. The Southern recovery unit has gained 163 pairs since listing. As of 2007, the Southern recovery unit had 333 breeding pairs (USFWS 2008a). The abundance component of the recovery objective for the Atlantic Coast population and the Southern recovery unit is 2,000 and 400 breeding pairs, respectively (USFWS 1996).

The current number of breeding pairs using the action area (0-3 in the past ten years) is only a small part of the breeding population of the Southern recovery unit and the overall Atlantic Coast breeding population. In an unlikely worst case scenario, up to three breeding pairs could be precluded from nesting. However, it is uncertain that any breeding pairs would be precluded from nesting. Some or all of the preferred nesting sites may be sufficiently distant from the work zones to avoid disturbance effects.

The current number of piping plovers using the action area during migration and winter is significant, and the action area is an important migratory stopover site and over winter destination. Although the action area is relatively large, the adverse affects due to disturbance from construction will be staggered over space and time; therefore, only portions of the action area will see disturbance at any one time. The effects may contribute to a lessening of survivorship; however, this would be extremely difficult to determine.

Although uncertain, the project may have significant beneficial effects for piping plovers. As Phases II, III, and IV are constructed; the artificial berm along existing NC 12 will no longer be maintained, thus allowing natural barrier island processes such as island overwash, island migration and inlet formation to resume. At some point new habitat may be created for breeding, migrating, and wintering plovers via these natural processes.

Sea turtles

From 2000 to 2006, the extent of sea turtle nesting within the action area annually represented 0.9 to 2.3% of total sea turtle nesting in North Carolina (Godfrey 2008, *in litt.*; NPS 2007c). Over the past ten years, the action area averaged only 11.5 loggerhead nests and 0.5 green turtle nests per year. No leatherback turtles have been observed to nest within the action area (Godfrey 2008, *in litt.*). For loggerheads, the number represents only a miniscule contribution to the Northern subpopulation.

Other than the chance of a future maintenance or repair activity crushing an undetected nest, it is unlikely that any sea turtle nests will be directly lost. The most likely effect involves artificial lighting affecting nesting females and hatchlings during project construction. The total extent of this effect is unknown. However, artificial light from construction will be temporary and staggered throughout the action area over space and time. There will be no permanent light fixtures on the bridge. The permanent effect of vehicle lights traveling parallel to the beach is unknown. Other causes of disturbance due to construction will also be temporary.

Though uncertain, the project may have significant beneficial effects for nesting sea turtles. As Phases II, III, and IV are constructed; the artificial berm along existing NC 12 will no longer be maintained, thus allowing natural barrier island processes such as island overwash and island migration to resume. The existing beach along much of the action area is narrow, steep and subject to high energy wave action. With the elimination of the artificial berm along NC 12, the beach will widen and flatten out. Although the quality of the widened beach habitat may not be ideal for some period of time (i.e. while the bridge is overhead), and the permanent effects of vehicle lights overhead are unknown, there is the potential to eventually provide additional beach nesting opportunities where nests are less likely to be destroyed due to inundation and severe wave action.

Proposed species/critical habitat

The one proposed critical habitat unit for wintering piping plovers within the action area will continue to support primary constituent elements essential for the conservation of the species. The total permanent loss of proposed critical habitat will be <0.1 acre. Due to the dynamic

nature of the primary constituent elements, all temporary effects to the proposed unit will be indiscernible soon after construction is completed. For this reason it is our conference opinion that the proposed action is not likely to destroy or adversely modify proposed critical habitat.

INCIDENTAL TAKE STATEMENT

Section 9 of the ESA and federal regulations pursuant to Section 4(d) of the ESA prohibit the taking of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct. Harm is further defined by the USFWS to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns such as breeding, feeding or sheltering. Harass is defined by the USFWS as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of Section 7(b)(4) and Section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the ESA provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by the FHWA so that they may become binding conditions of any grant or permit issued to the NCDOT, as appropriate, for the exemption in section 7(o)(2) to apply. The FHWA has a continuing duty to regulate the activity covered by this Incidental Take Statement. If the FHWA (1) fails to assume and implement the terms and conditions or (2) fails to require the NCDOT to adhere to the terms and conditions of the Incidental Take Statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, the FHWA or the NCDOT must report the progress of the action and any impact on the species to the USFWS.

Amount or Extent of Take Anticipated

Piping plovers

- Breeding piping plovers: The USFWS expects incidental take of breeding plovers will be difficult to detect. The take would be the lost potential for nesting due to disturbance of breeding pairs at the nesting sites from nearby construction activity. It would be impossible to determine whether the lack of nesting or the absence of breeding pairs was due to the project or some other unrelated factor. It would only be possible to infer that the project directly caused the loss of a nest if an established nest was abandoned at the time construction began in the vicinity. Also, plover nests are cryptic and easily overlooked. However, this undetected level of take may occur near Oregon Inlet at historical nesting locations. Based on historical nesting data, the maximum level of incidental take is three breeding pairs per year precluded from nesting or caused to abandon nests during

construction for Phases I and II during each nesting season (i.e. April 1 to July 15) and the harassment of the associated breeding pairs.

- Migrating and wintering piping plovers: The USFWS expects incidental take of non-breeding plovers will be difficult to detect for the following reasons: sub-lethal effects are not easily determined; harassment which contributes to lessened survivorship may only be apparent on the breeding grounds the following year; and dead plovers may not be detectible. However, take of all migrating and wintering plovers throughout the extent of suitable habitat within the action area can be anticipated in all four phases of the project by the disturbance of feeding or roosting plovers from nearby construction activity.

Sea turtles - all species

The USFWS expects incidental take of all species of sea turtles will be difficult to detect for the following reasons:

- the turtles nest primarily at night and all nests are not found because (a) natural factors, such as rainfall, wind, and tides may obscure crawls and (b) human-caused factors, such as pedestrian and vehicular traffic, may obscure crawls;
- the total number of hatchlings per undiscovered nest is unknown;
- an unknown number of females may avoid the project beach and be forced to nest in a less than optimal area; and
- lights may misdirect an unknown number of hatchlings and cause death

However, take of all sea turtles throughout the extent of nesting habitat within the action area can be anticipated in all four phases of the project by harm or harassment due to the effects of artificial light and disturbance from construction and future maintenance and repair activities on nesting females and hatchlings. Also, as portions of the beach migrate westward, take of all undetected nests throughout the extent of the nesting habitat can be anticipated from future maintenance or repair activities that may crush undetected nests. Finally, as portions of the beach migrate westward, take of all nesting sea turtles throughout the extent of nesting habitat within the action area can be anticipated from reduced nesting by females deterred by bridge piles on the beach and by shading effects on sex ratios of eggs in nests constructed underneath the bridges.

Effect of the Take

In the accompanying biological and conference opinions, the USFWS determined that this level of anticipated take is not likely to result in jeopardy to the species, or destruction or adverse modification of designated or proposed critical habitat.

Reasonable and Prudent Measures

The USFWS believes the following reasonable and prudent measures are necessary and appropriate to minimize take of the piping plover, loggerhead sea turtle, green sea turtle, and

leatherback sea turtle. These nondiscretionary measures include, but are not limited to, the terms and conditions outlined in this biological and conference opinion.

Piping plover

1. Avoid disturbing nesting piping plovers.

2. To the extent possible, avoid disturbing foraging and roosting plovers.

3. To minimize the effect of harassment on foraging plovers, provide alternative foraging areas.

4. Avoid or minimize opportunities for avian predator perches.

Sea turtles – all species

1. Avoid disturbing nesting sea turtles, nests and hatchlings.

2. Educate construction contractors and pertinent NCDOT staff as to the adverse effects of artificial lighting on sea turtles.

3. Minimize the effects of construction lighting on nesting sea turtles and hatchlings.

4. Minimize the effects of vehicle headlights from the completed bridge.

5. Avoid permanent light fixtures.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, the NCDOT must comply with the following terms and conditions, which implement the reasonable and prudent measures described previously. These terms and conditions are nondiscretionary.

Piping plover

1. All construction equipment and personnel must avoid all bird closure areas within CAHA and PINWR.

   All future routine maintenance activities of bridge structures that would occur within or adjacent to current or future plover nesting areas must occur outside the nesting season (April 1 – July 15).

   All future repair work on bridge structures that would occur within or adjacent to current or future plover nesting areas must occur outside the nesting season (April 1 – July 15) unless emergency or human safety considerations require otherwise. In this event, the area must be surveyed for nesting plovers and avoided to the extent possible.

2. During the construction of Phases II, III and IV, keep all construction equipment and activity within the existing right-of-way.

   Do not moor any construction barges within 300 feet of the following islands: Green Island, Wells Island, Parnell Island, Island MN, Island C, the small unnamed island immediately east of Island C, Island D, and Island G (see figure 1).

3. All dredge spoil excavated for construction barge access must be used to augment either existing dredge-material islands or to create new dredge-material islands for use by foraging plovers. This must be accomplished as per the specifications of the North Carolina Wildlife Resources Commission. The point of contact is Sue Cameron at 910-325-3602. If the dredge material is used outside the current defined action area, the action area is assumed to be expanded to cover the beneficial placement of the material.

4. To the maximum extent practical, while ensuring the safety of the traveling public, limit or avoid the use of road signs or other potential predator perches adjacent to plover nesting or foraging areas. Where signs or other structures are necessary, determine if alternative designs would be less conducive for perching on by avian predators (gulls, crows, grackles, hawks, etc.). For example, minimize or avoid the use of large cantilever signs in favor of smaller and shorter designs.

Sea turtles – all species

1. All construction equipment and personnel must avoid all marked sea turtle nests.

   Construction material and equipment staging areas must not be located seaward of the artificial dune.

   All future routine maintenance activities of bridge structures that would occur within or adjacent to current or future sea turtle nesting habitat, and which would require vehicles or equipment on the beach or the use of night lighting (excluding navigation lights required by the U.S. Coast Guard), must occur outside the nesting season (May 1 – November 15).

   All future repair work of bridge structures that would occur within or adjacent to current or future sea turtle nesting habitat, and which would require vehicles or equipment on the beach or the use of night lighting (excluding navigation lights required by the U.S. Coast Guard) must occur outside the nesting season (May 1 – November 15) unless emergency or human safety considerations require otherwise. In this event, the area must be surveyed for sea turtle nests and avoided to the extent possible.

2. Provide an opportunity for the USFWS or an USFWS designee to educate construction contractor managers, supervisors, foremen and other key personnel and resident NCDOT personnel with oversight duties (division engineer, resident engineer, division

environmental officer, etc.) as to adverse effects of artificial lighting on nesting sea turtles and hatchlings, and to the importance of minimizing those effects.

3. During turtle nesting season (May 1 – November 15), use the minimum number and the lowest wattage lights that are necessary for construction.

   During turtle nesting season, portable construction lighting must be of the low-pressure sodium-vapor type.

   During turtle nesting season, utilize directional shields on all portable construction lights, and avoid directly illuminating the turtle nesting beach at night.

   During turtle nesting season, all portable construction lights must be mounted as low to the ground as possible.

   During turtle nesting season, turn off all lights when not needed.

4. For Phases II, III and IV, on the ocean side, design the bridge structure in a manner which will shield the beach on the east side from direct light emanating from passenger vehicle headlights. For the small portion of Phase I over land on Hatteras Island, retrofit the bridge structure at the time that Phase II connects with Phase I. The specific design of the bridge will be developed in consultation with the USFWS prior to re-evaluation of the environmental document for Phase II.

5. Avoid retrofitting the bridges and approach roads with permanent light fixtures in the future (excluding navigation lights required by the U.S. Coast Guard).

Coordination of Incidental Take Statements with Other Laws, Regulations, and Policies

The USFWS will not refer the incidental take of any migratory bird for prosecution under the Migratory Bird Treaty Act of 1918, as amended (16 USC § 703-712), if such take is in compliance with the terms and conditions (including amount and/or number) specified herein.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. The following conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or proposed critical habitat, to help implement recovery plans, or to develop information.

Piping plovers

The FHWA and/or NCDOT could contribute funding to the current CAHA predator removal program or any future PINWR predator removal program.

The pond located behind the terminal groin at the north end of Hatteras Island has historically provided foraging habitat for plovers whenever NCDOT has mined sand from it. The NCDOT could continue to utilize this pond as a source of sand for construction/maintenance purposes. The NCDOT could remove the sand such that the elevation and shape of the mined area is restored to a moist/wet sand habitat conducive to plover foraging. This should be coordinated with the PINWR. The point of contact is Dennis Stewart at 252-473-1131 ext. 231.

Sea turtles – all species

The FHWA and/or NCDOT could contribute funding to the Network for Endangered Sea Turtles (N.E.S.T.), a nonprofit organization dedicated to the preservation and protection of sea turtle habitat in the Outer Banks from the Virginia border to Oregon Inlet. N.E.S.T. monitors this area for nesting activity.

In order for the USFWS to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, we request notification of the implementation of any conservation recommendations.

REINITIATION/CLOSING STATEMENT

This concludes formal consultation on the action outlined in your March 5, 2008 request for formal consultation. As provided in 50 CFR section 402.16, reinitiation of formal consultation is required where discretionary federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

You may ask the USFWS to confirm the conference opinion as a biological opinion issued through formal consultation, if the critical habitat is designated. The request must be in writing. If the USFWS reviews the proposed action and finds that there have been no significant changes in the action as planned or information used during the conference, the USFWS will confirm the conference opinion as a biological opinion on the project and no further section 7 consultation will be necessary.

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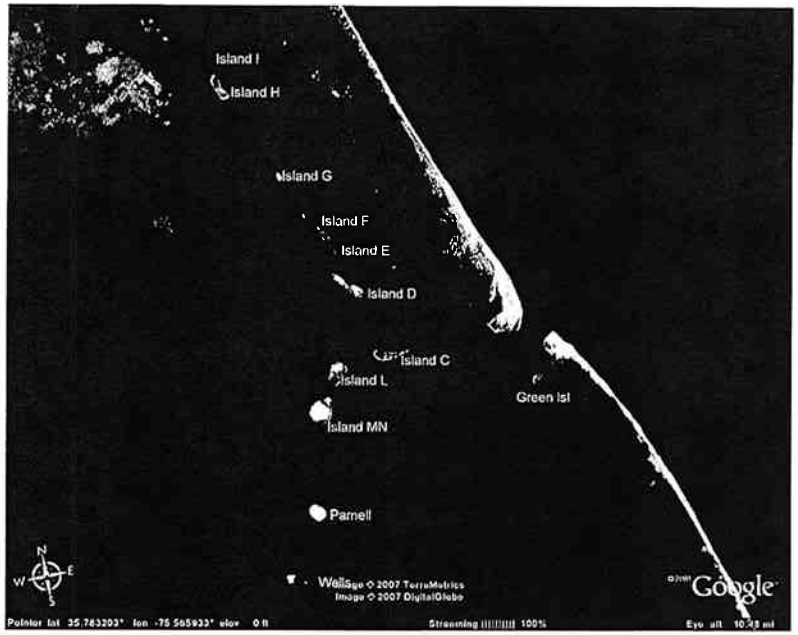
Figure 1.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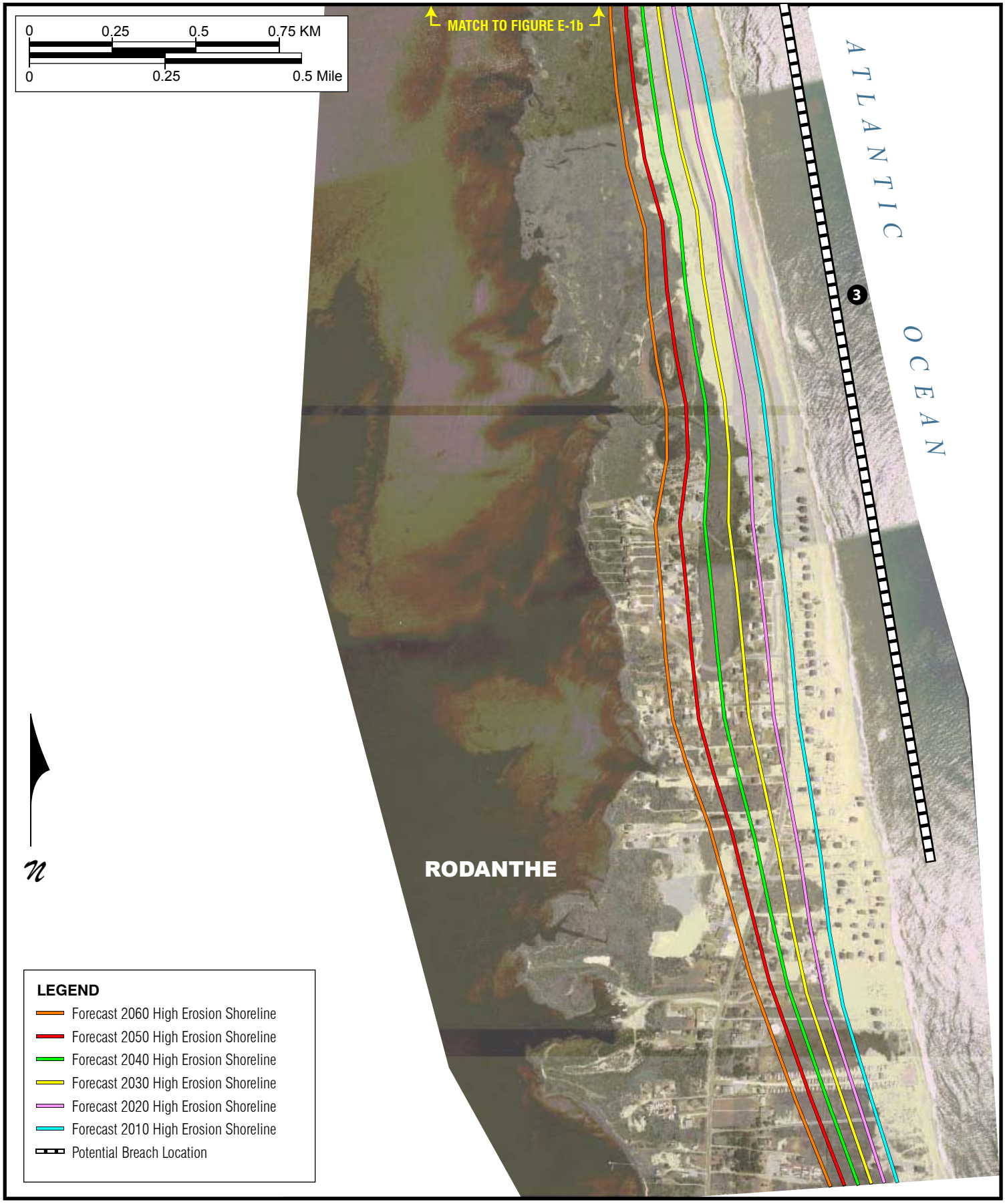

FORECAST 2010 TO 2060 HIGH EROSION SHORELINE LOCATIONS

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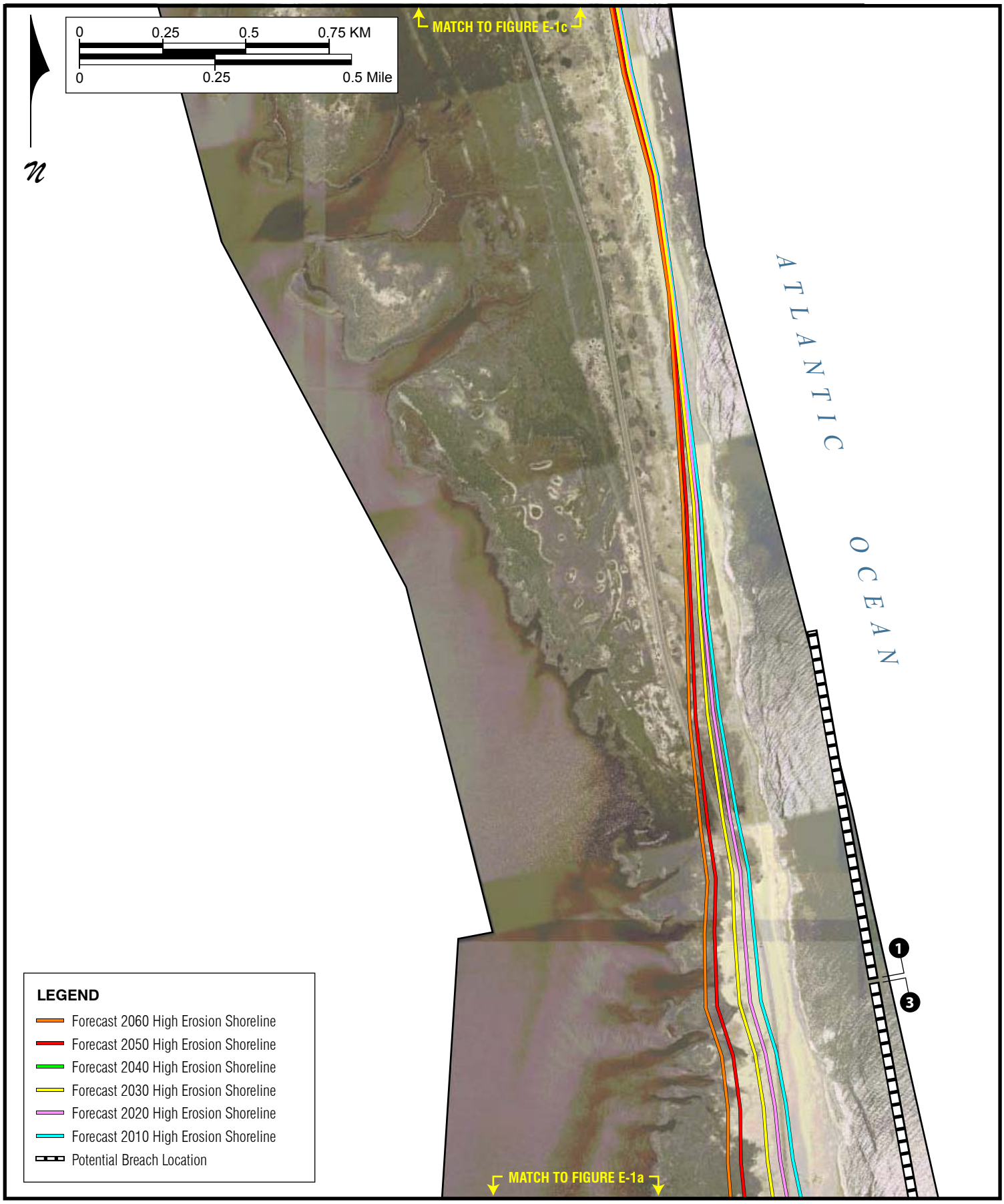

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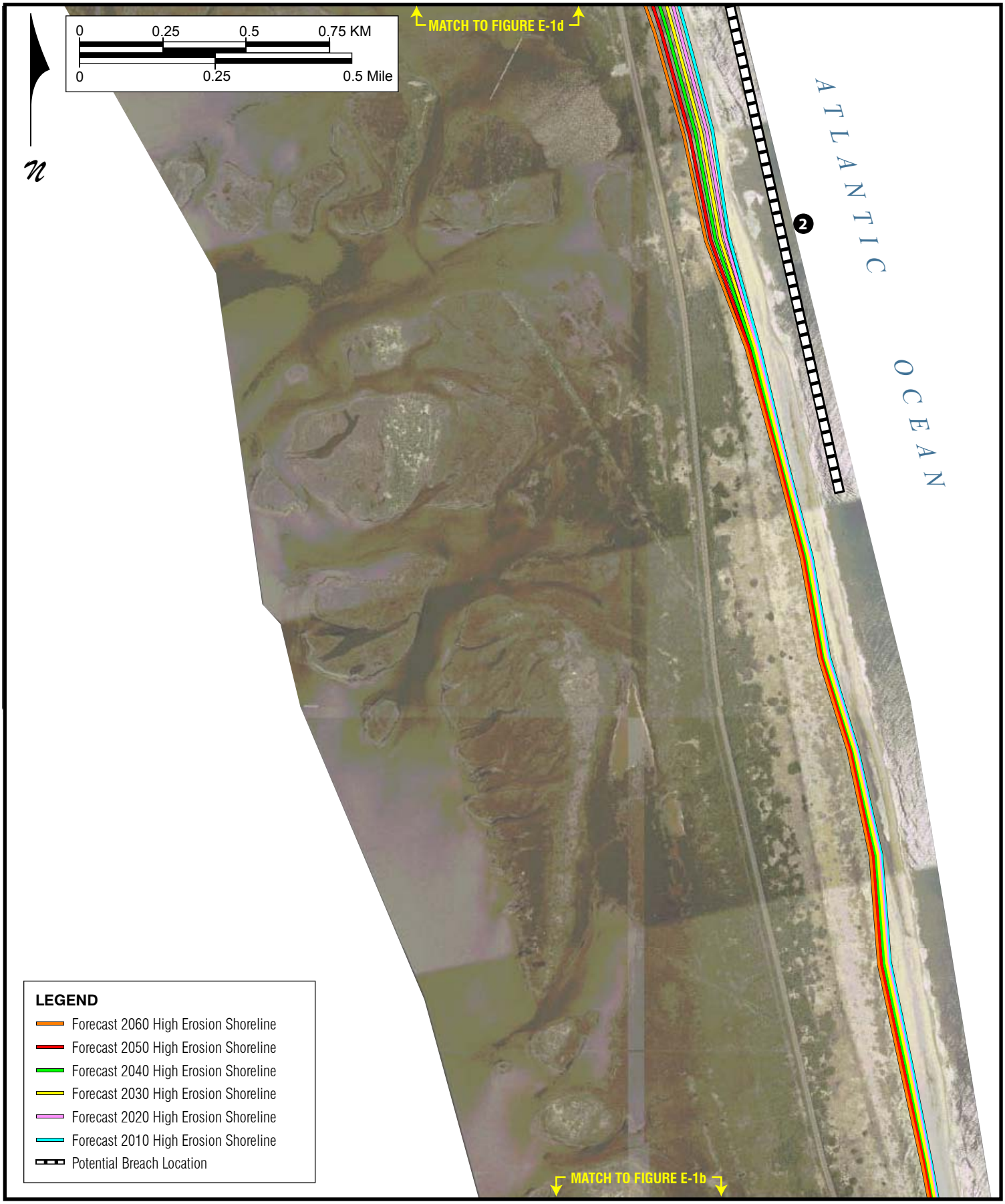

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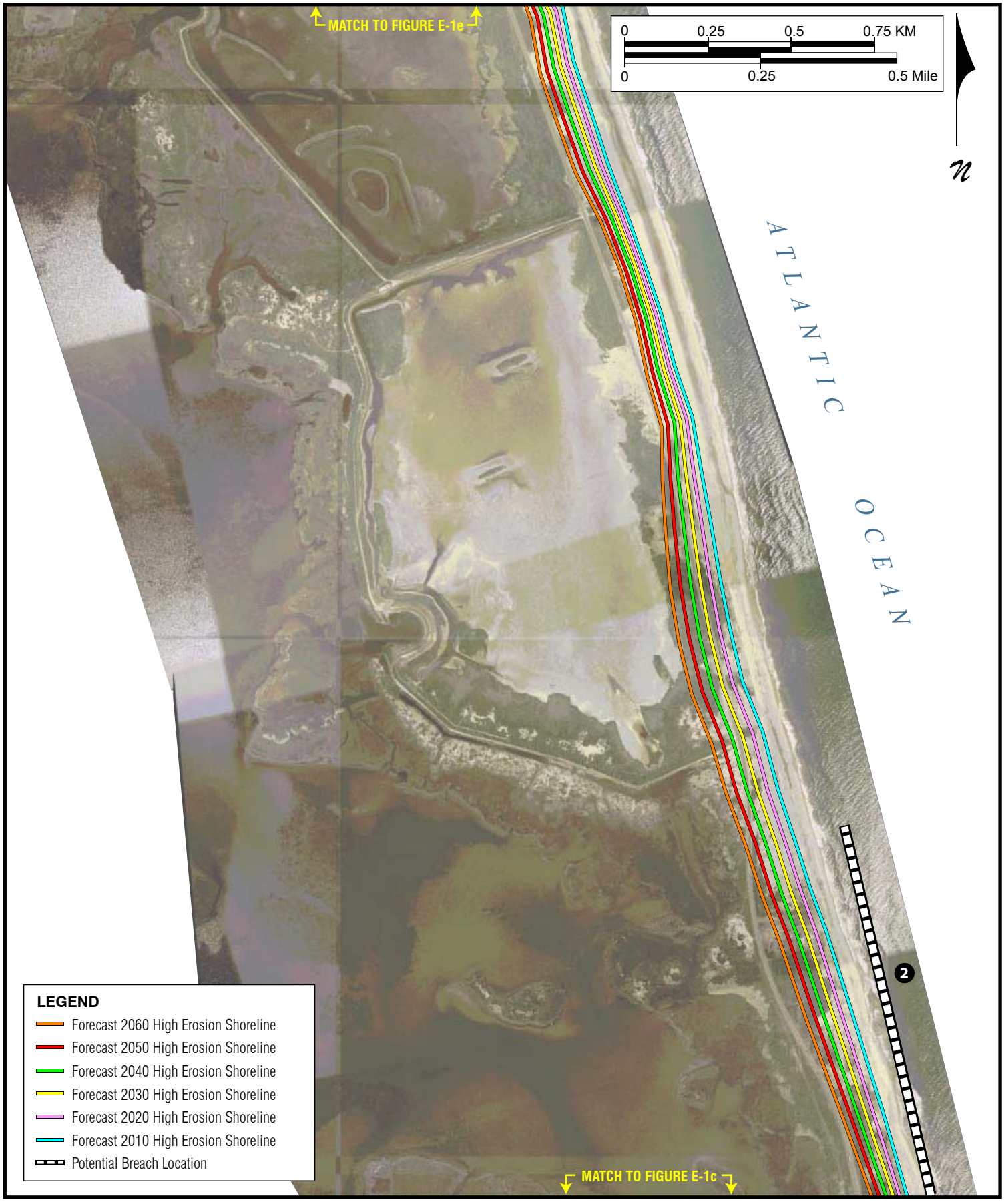

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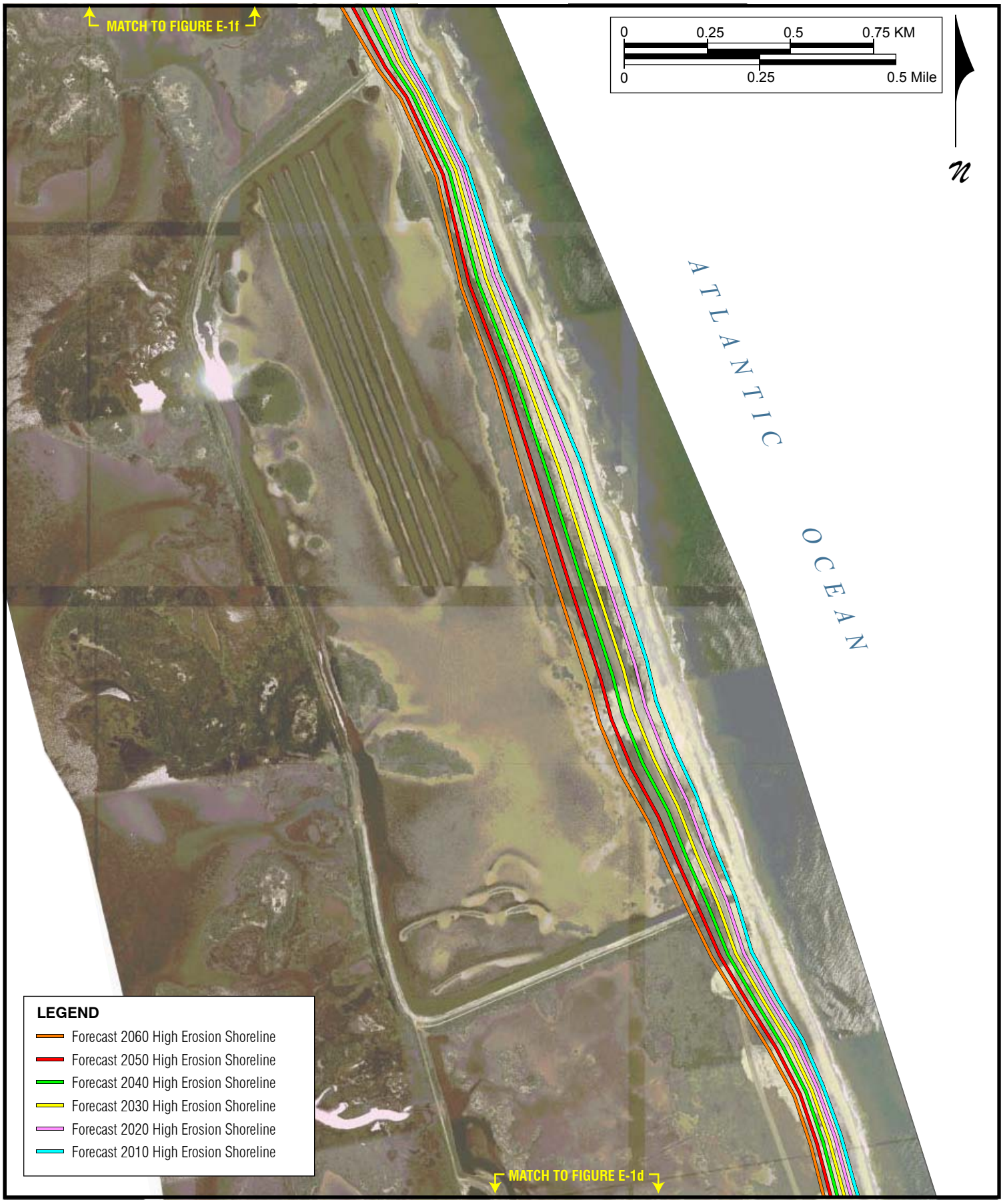

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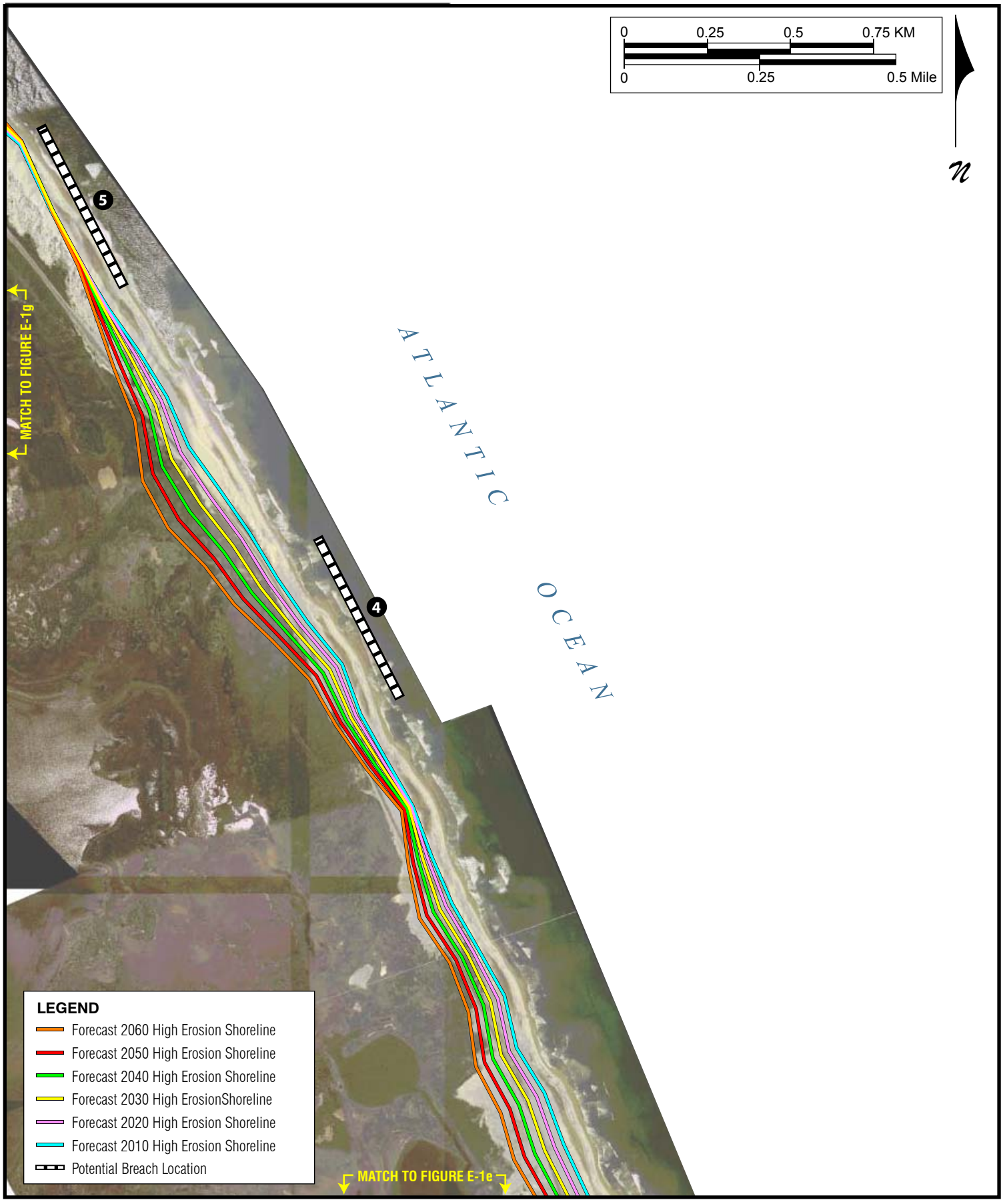

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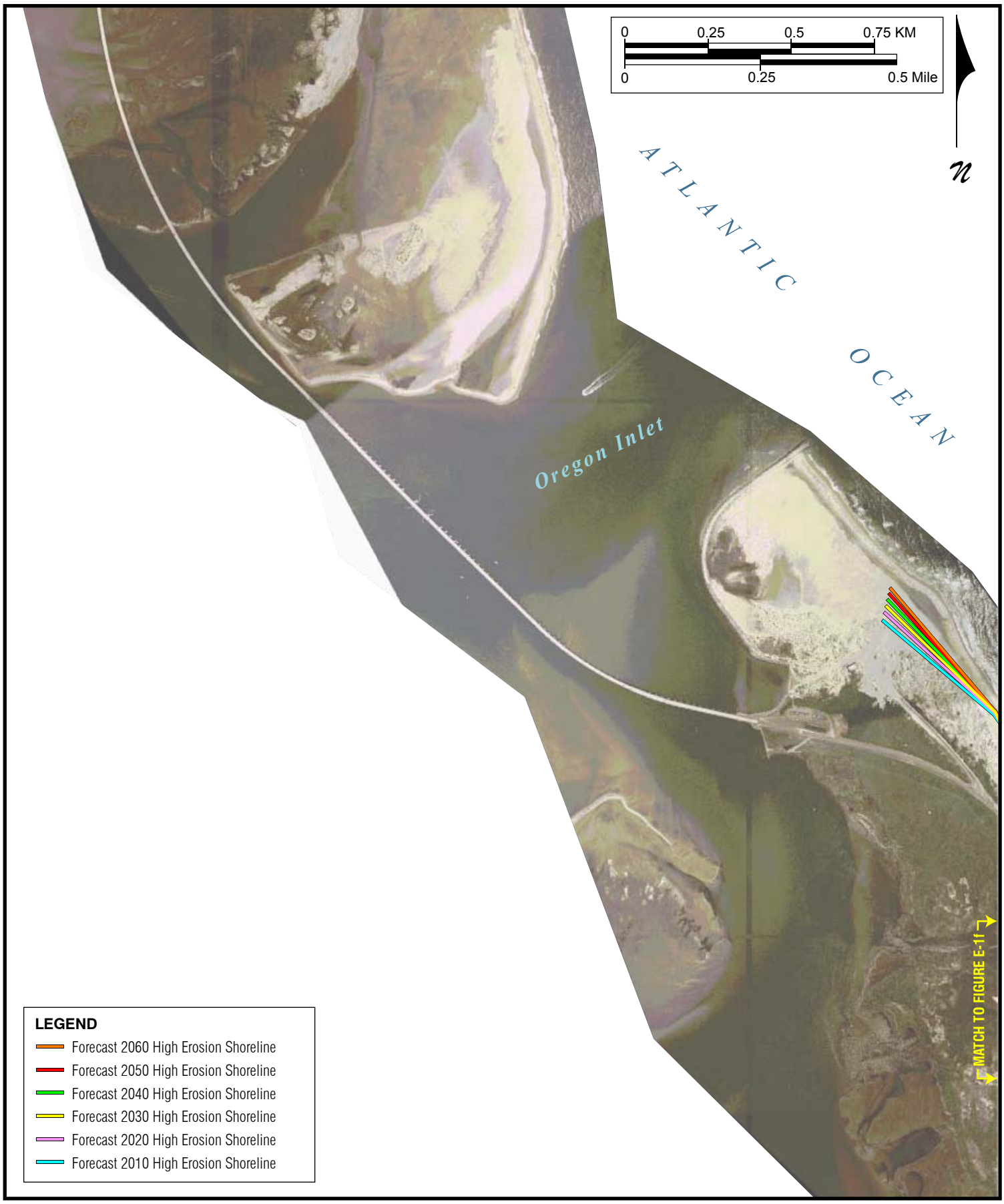

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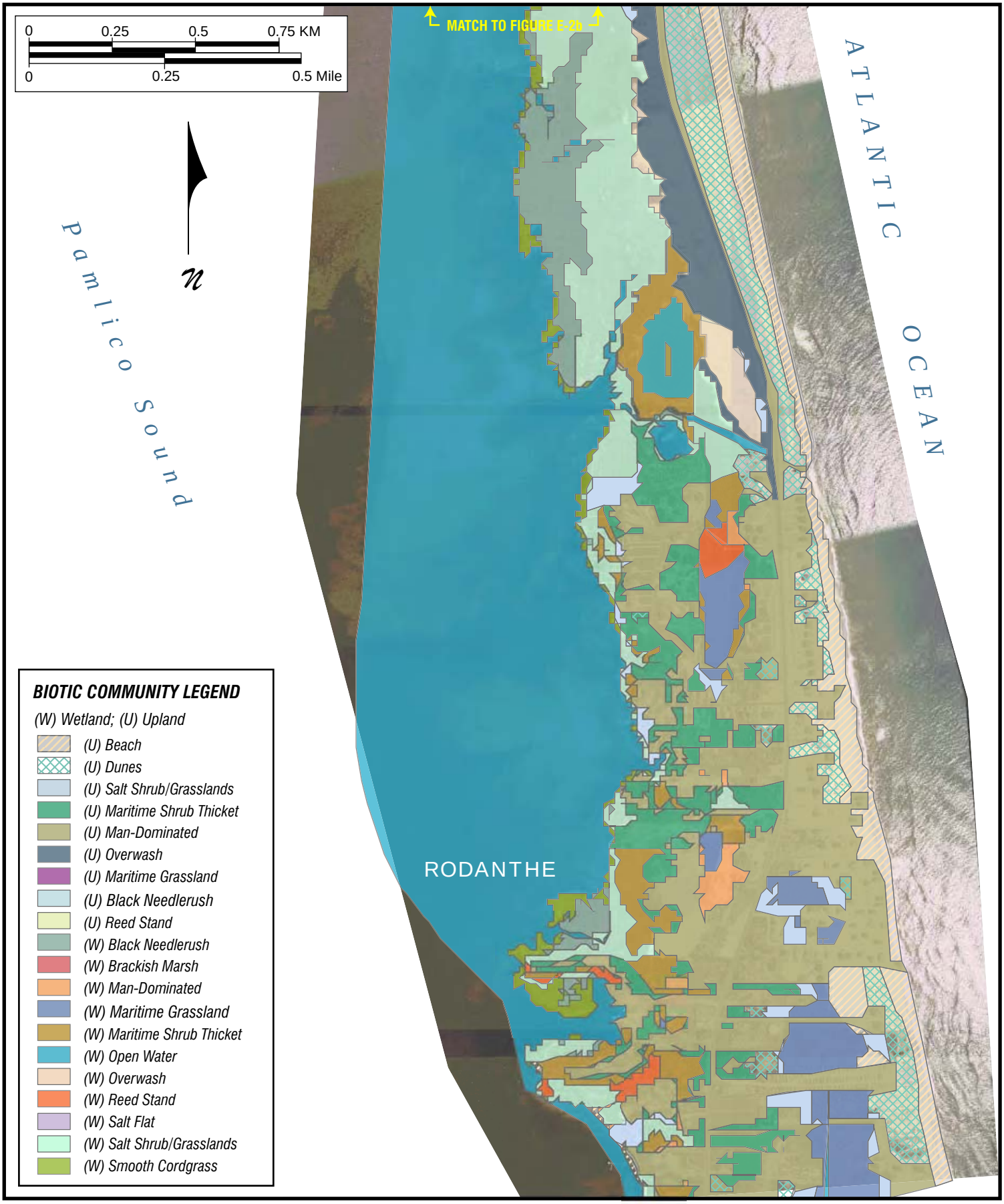

BIOTIC COMMUNITIES

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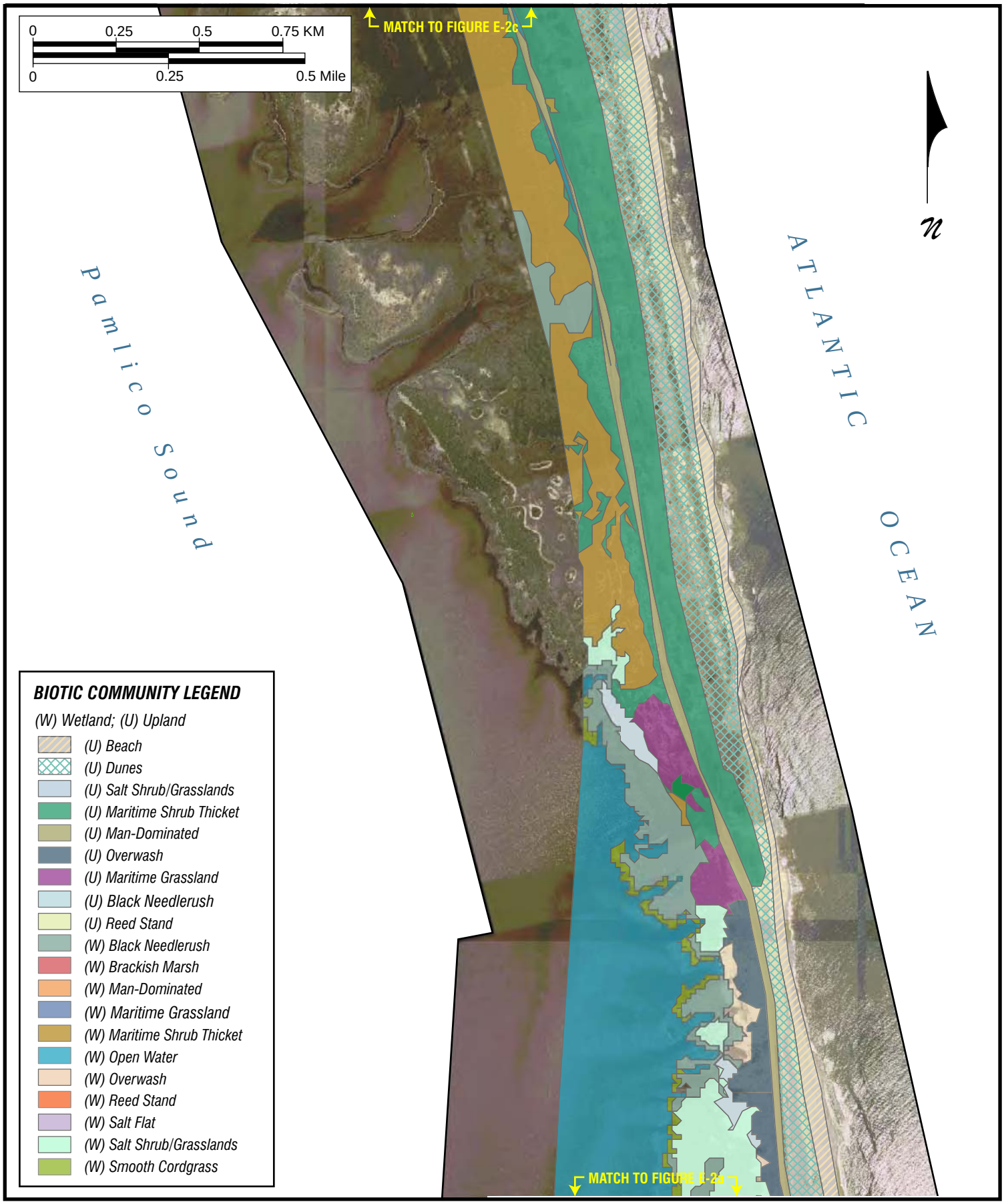

BIOTIC COMMUNITIES

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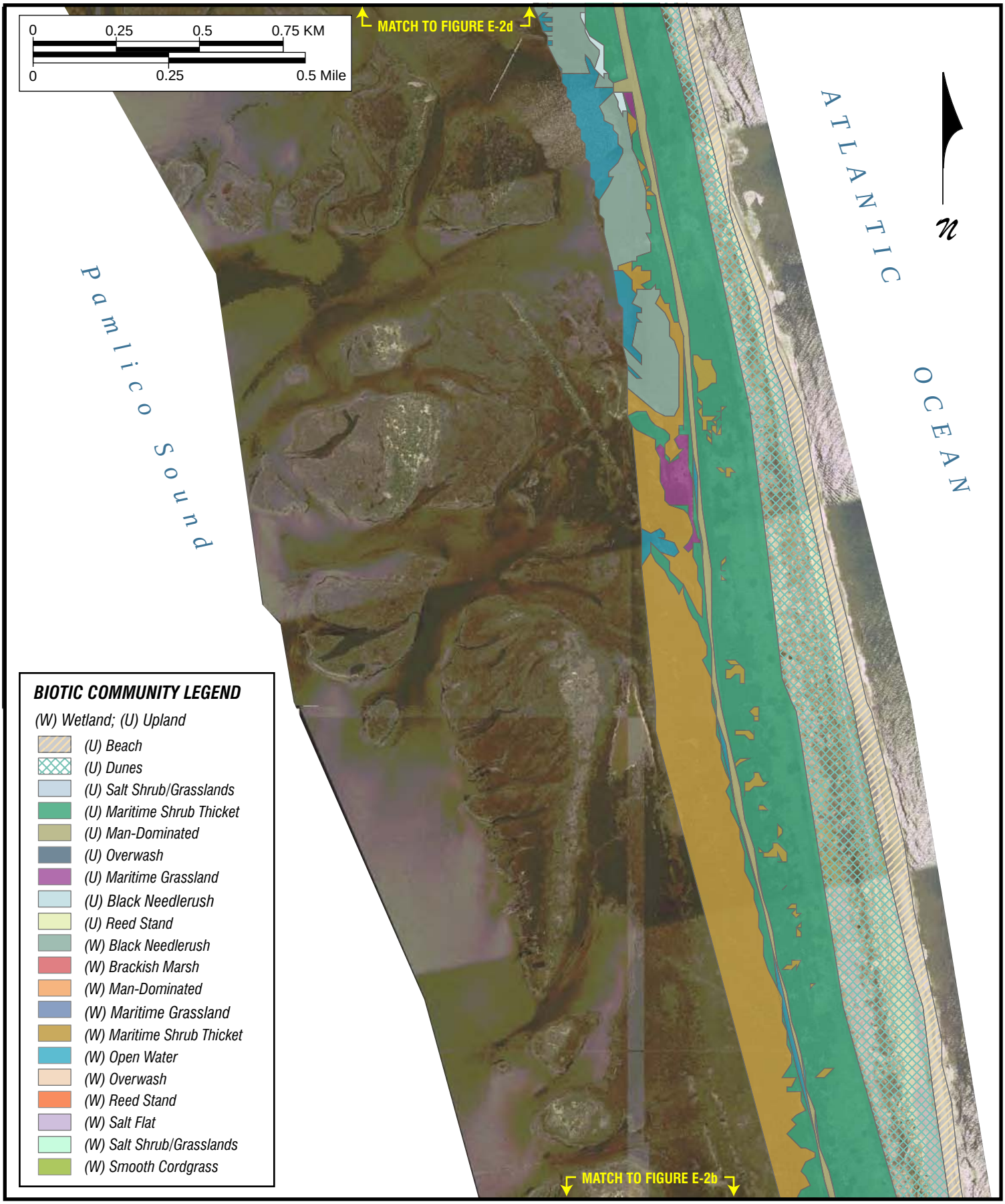

BIOTIC COMMUNITIES

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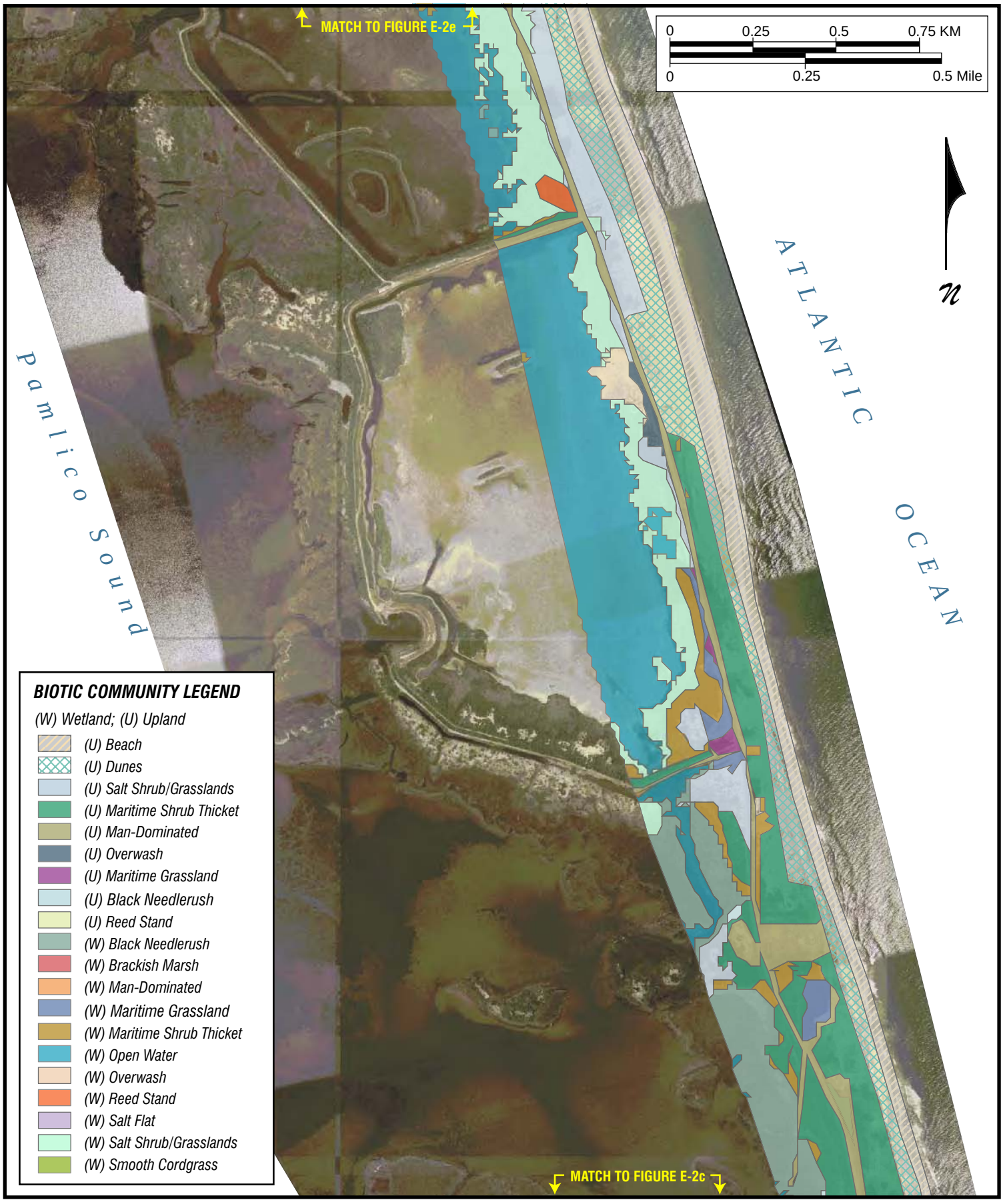

BIOTIC COMMUNITIES

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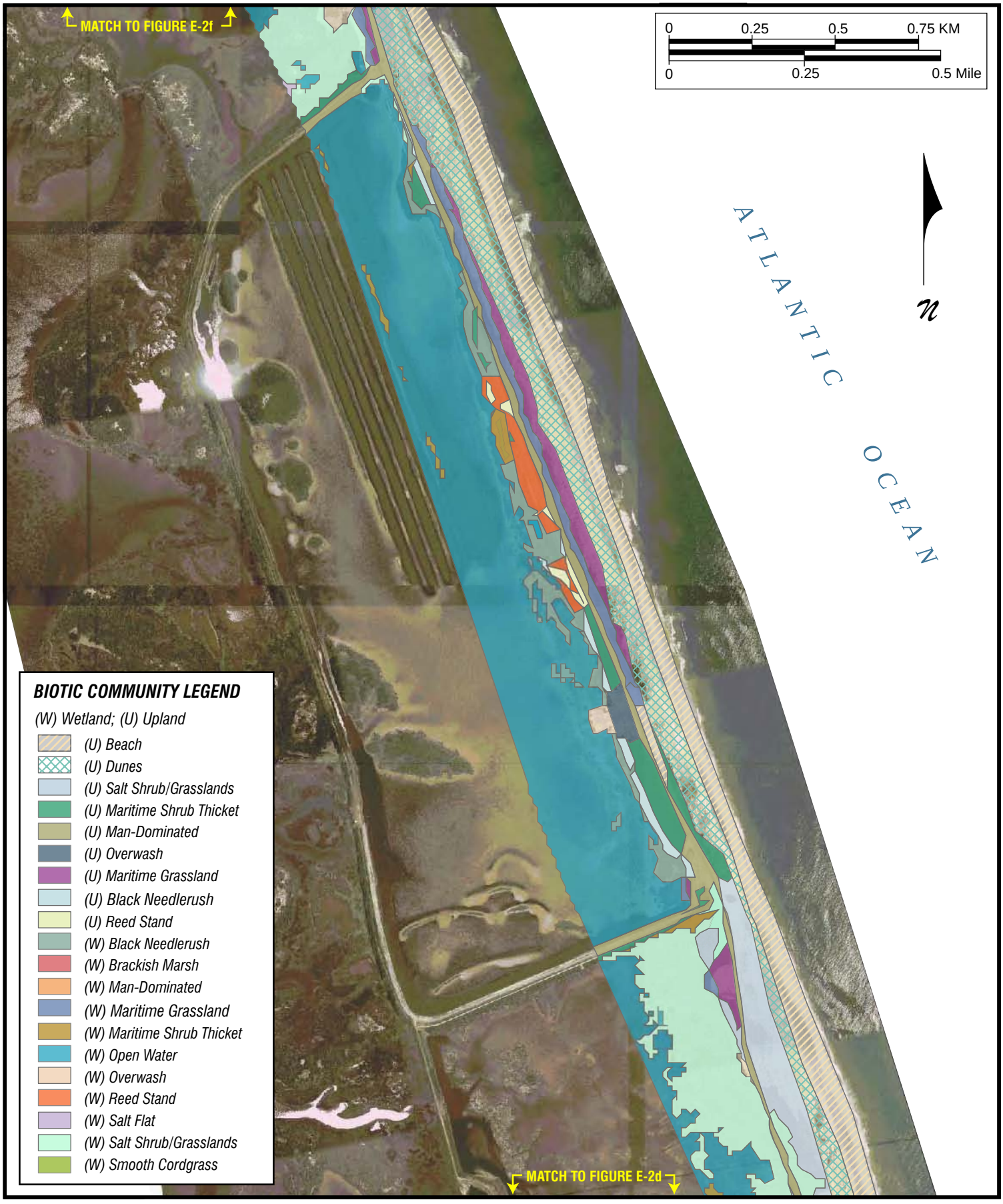

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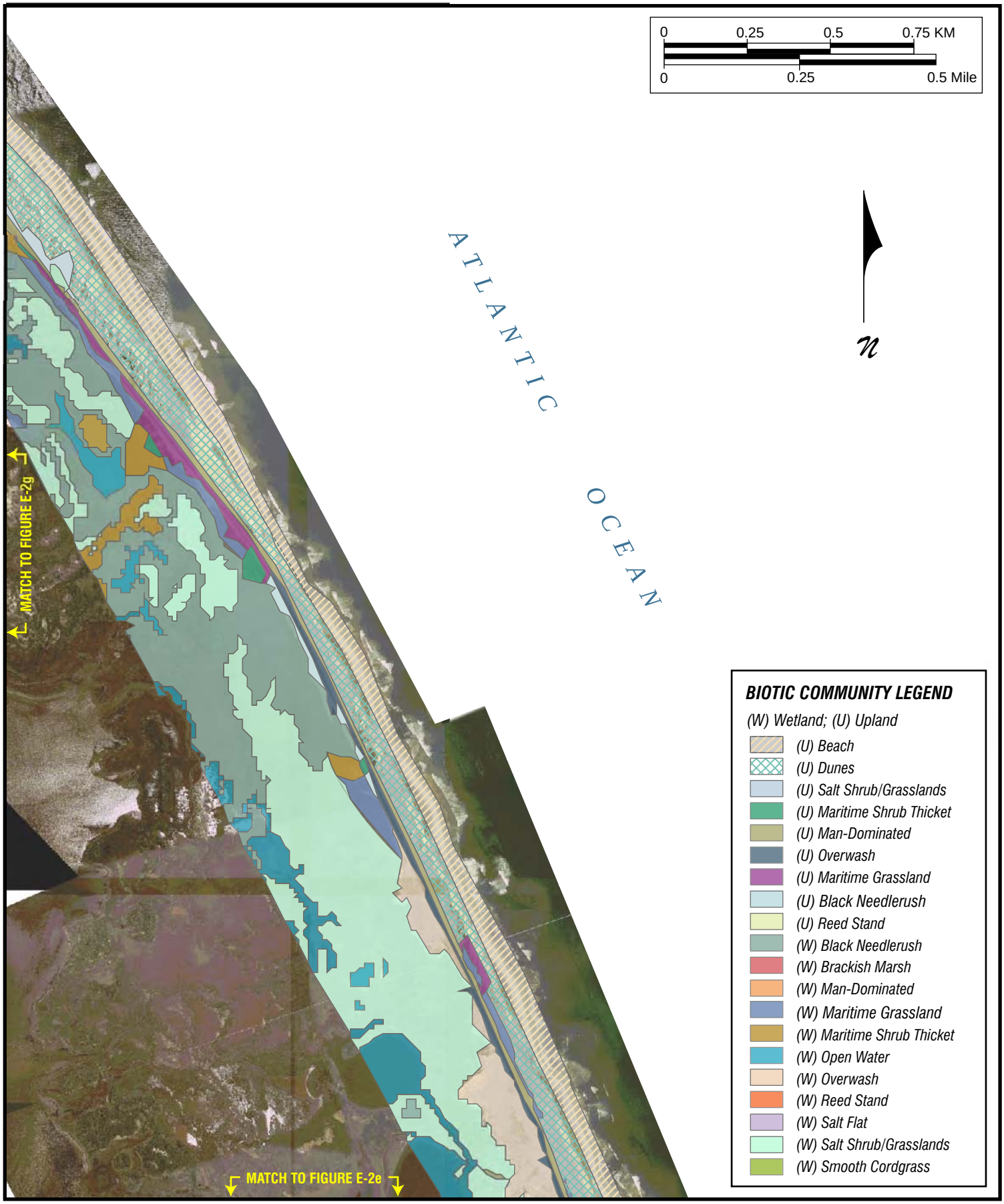

BIOTIC COMMUNITIES

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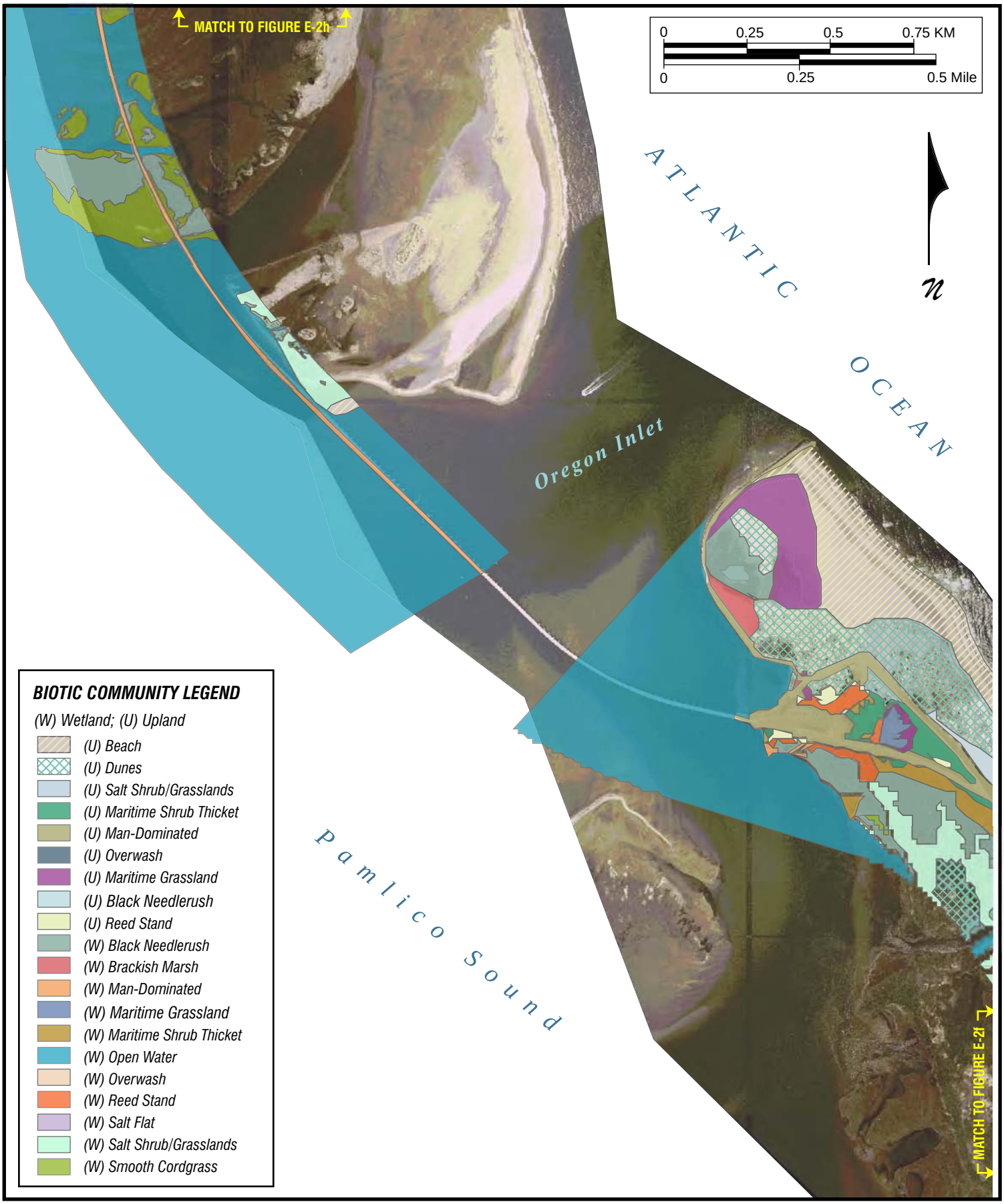

BIOTIC COMMUNITIES

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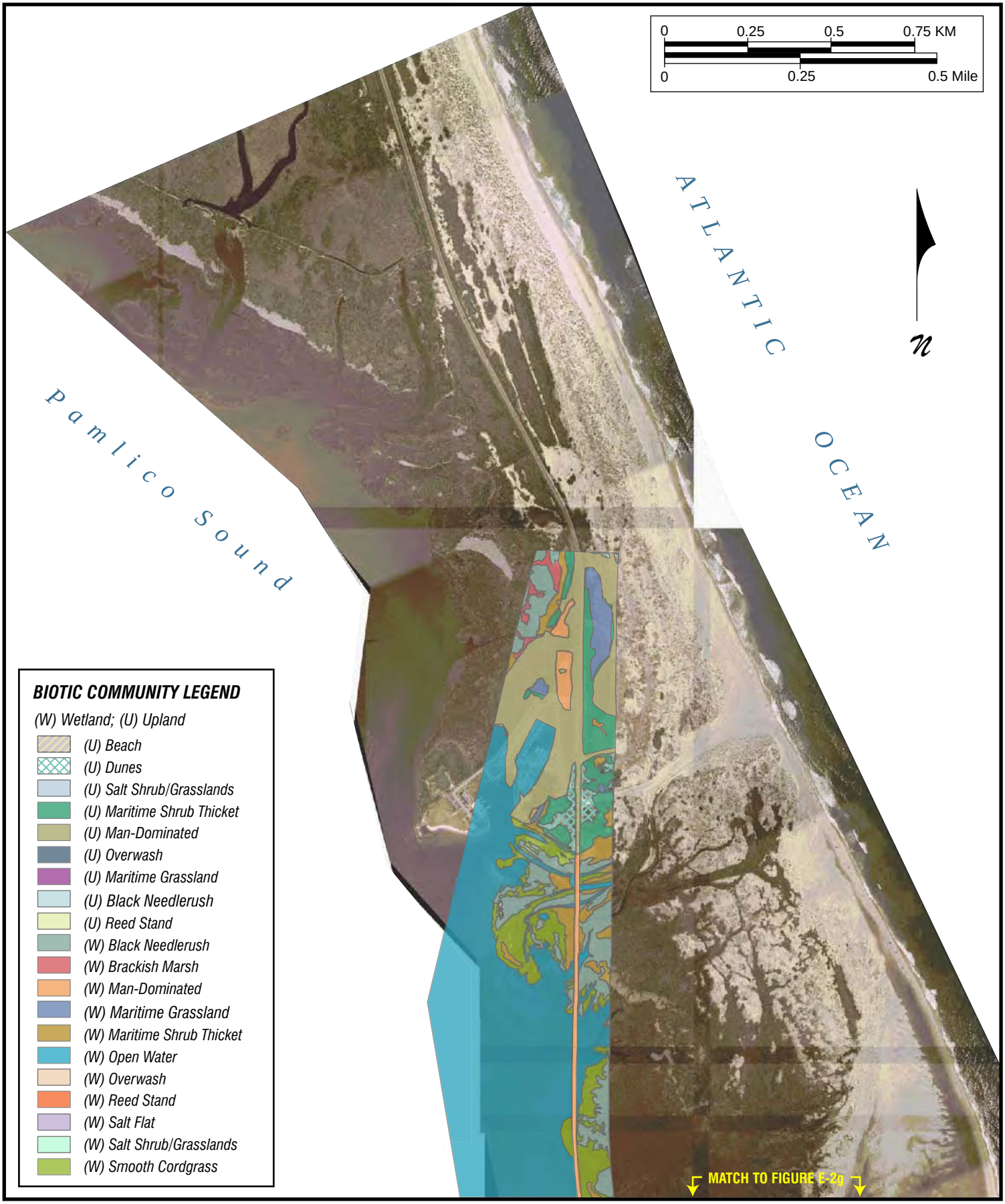

BIOTIC COMMUNITIES

Figure
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Appendix F

List of References

F. List of References

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Appendix G

List of Acronyms and Abbreviations

G. List of Acronyms and Abbreviations

AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
ACTT	Accelerated Construction Technology Transfer
ADA	Americans with Disabilities Act
AEC	Area of Environmental Concern
AICP	American Institute of Certified Planners
AMS	Ambient Monitoring System
APE	Area of Potential Effects
AST	Above Ground Storage Tank
BEA	Bureau of Economic Analysis
BGPA	Bald and Golden Eagle Protection Act
BI	Biotic Integrity
BMAN	Benthic Macroinvertebrate Ambient Network
BMP	Best Management Practice
BOD	Biological Oxygen Demand
BSC	Bridge Stormwater Controls
CAAA	Clean Air Act Amendments
CAL3QHC	Air quality dispersion model for estimating pollutant concentrations near roadway intersections
CALINE3	California Line Source Model (model for predicting episodic concentration of carbon monoxide)
CAMA	Coastal Area Management Act
CBBT	Chesapeake Bay Bridge – Tunnel
CBRA	Coastal Barrier Resources Act

CBRS	Coastal Barrier Resources System
CCC	Civilian Conservation Corps
CCP	Comprehensive Conservation Plan
CCTV	Closed Circuit Television
CE	Categorical Exclusion
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response and Liability Act
CFR	Code of Federal Regulations
CGIA	Center for Geographic Information and Analysis
CHAC	Cape Hatteras Anglers Club
CHBC	Cape Hatteras Bird Club
CHPP	Coastal Habitat Protection Plan
CO	Carbon Monoxide
COD	Chemical Oxygen Demand
Cu	Copper
CWA	Clean Water Act
CWRS	Coastal Wildlife Refuge Society
CZMA	Coastal Zone Management Act
D–B	Design Build
dB	Decibels
dBA	A-weighted Sound Level in Decibels
DCM	Division of Coastal Management
DE	Diesel Exhaust
DEIS	Draft Environmental Impact Statement
DMF	Division of Marine Fisheries
DOC	(United States) Department of Commerce

DOI	(United States) Department of the Interior
DPM + DEOG	Diesel Particulate Matter and Diesel Exhaust Organic Gases
DWQ	Division of Water Quality
E	Endangered
EBI	Estuarine Biotic Index
EEP	Ecosystem Enhancement Program
EFH	Essential Fish Habitat
ELR	Environmental Law Regulation
EMS	Emergency Medical Services
ESA	Eastern Surfing Association
ESA	Endangered Species Act
EXP	Experimental
FEIS	Final Environmental Impact Statement
FESWMS-FST2DH	Finite Element Surface Water Modeling Software- Depth-averaged Flow and Sediment Transport Model
FFY	Federal Fiscal Year
FHWA	Federal Highway Administration
FMP	Fisheries Management Plan
FR	Federal Register
FRF	Field Research Facility
FSC	Federal Species of Concern
FY	Fiscal Year
GARVEE	Grant Anticipation Revenue Vehicles
GIS	Geographic Information System
GPS	Global Positioning System
GS	General Statute

HAPC	Habitat Area of Particular Concern
HAR	Highway Advisory Radio
HCM	Highway Capacity Manual
HEC	Hydraulic Engineering Circular
HUC	High Unit Cost Grant Program
HQW	High Quality Waters
Hz	Hertz
ICI	Indirect and Cumulative Impacts
IRIS	Integrated Risk Information System
ITS	Intelligent Transportation System
Leq	Average A-weighted Noise Level
LEDPA	Least Environmentally Damaging Practicable Alternative
LOS	Level of Service
LRFD	Load and Resistance Factor Design
M2US2	Marine, Intertidal, Unconsolidated Shore, Sand
MAFMC	Mid-Atlantic Fisheries Management Council
MMPA	Marine Mammal Protection Act
MFC	Marine Fisheries Commission
MHW	Mean High Water
MLW	Mean Low Water
MN	Minimal to none
MOA	Memorandum of Agreement
MOBILE 5B	Mobile source emission factor model current at the time the SDEIS was prepared
MOBILE 6.2	Current version of mobile source emission factor model
MOU	Memorandum of Understanding

MSAT	Mobile Source Air Toxic
MVM	Million Vehicle Miles
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NATA	National Air Toxics Assessment
NAVD	North American Vertical Datum
NC-CREWS	North Carolina Coastal Region Evaluation of Wetland Significance
NCAC	North Carolina Administrative Code
NCBBA	North Carolina Beach Buggy Association
NCCMP	North Carolina Coastal Management Program
NCCRC	North Carolina Coastal Resources Commission
NCDENR	North Carolina Department of Environment and Natural Resources
NCDOT	North Carolina Department of Transportation
NCGS	North Carolina Geodetic Survey
NCHRP	National Cooperative Highway Research Program
NCNHP	North Carolina Natural Heritage Program
NCSU	North Carolina State University
NCTA	NC Turnpike Authority
NCWRC	North Carolina Wildlife Resources Commission
NEPA	National Environmental Policy Act
NGO	Non-Governmental Organization
NLEV	National Low Emission Vehicle
NMFS	National Marine Fisheries Service
NO_2	Nitrogen Dioxide
NOAA	National Oceanic and Atmospheric Administration

NOx	Nitrate and Nitrite Nitrogen
NPS	National Park Service
NRCS	Natural Resource Conservation Service
NWI	National Wetland Inventory
NWRS	National Wildlife Refuge System
O & M	Operations and Maintenance
O_3	Ozone
OBTF	Outer Banks Task Force
OCRM	Office of Coastal Resource Management
OP	Ortho-phosphorous
ORV	Off-Road Vehicle
OSHA	Occupational Safety and Health Administration
Pb	Lead
PBA	Potential Borrow Area
PBC	Parallel Bridge Corridor
PCB	Polychlorinated Biphenyl
P.E.	Professional Engineer
PINWR	Pea Island National Wildlife Refuge
PM	Particulate Matter
ppm	parts per million
PSA	Preliminary Site Assessment
PSBC	Pamlico Sound Bridge Corridor
RCRA	Resource Conservation and Recovery Act
RFG	Reformulated Gasoline
RHA	Register of Heritage Areas
RIMS	Regional Input-Output Modeling System

ROC	Region of Comparison
ROD	Record of Decision
RWIS	Roadway Weather Information System
RWS	Rodanthe-Waves-Salvo
S/A	Similarity of Appearance
SAFMC	South Atlantic Fisheries Management Council
SARA	Superfund Amendment and Reauthorization Act
SAV	Submerged Aquatic Vegetation
SBEACH	A shoreline and dune erosion model used to estimate the volume of sand appropriate for protective dunes
SC	Special Concern
SDEIS	Supplemental Draft Environmental Impact Statement
SHC	Strategic Highway Corridor
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SLR	Sea Level Rise
SNHA	Significant Natural Heritage Area
SO_2	Sulfur Dioxide
SR	Significantly Rare
SR-L	Significantly Rare-Limited
SR-T	Significantly Rare-Throughout Range
SSDEIS	Supplement to the Supplemental Draft Environmental Impact Statement
T	Threatened
TIA	Travel Industry Association of America
TIP	Transportation Improvement Program
TMDL	Total Maximum Daily Loads

TN	Total Nitrogen
TNM	Traffic Noise Model
TP	Total Phosphorous
TSM	Transportation Systems Management
TSS	Total Suspended Solids
TRB	Transportation Research Board
UNC	University of North Carolina
USACE	United States Army Corps of Engineers
USC	United States Code
USCG	United States Coast Guard
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geologic Survey
UST	Underground Storage Tank
VHT	Vehicle Hours Travelled
VKT	Vehicle Kilometers Traveled
VMS	Variable Message Sign
VMT	Vehicle Miles Traveled
VPD	Vehicles per Day
VPH	Vehicles per Hour
WRC	Wildlife Resources Commission
WTP	Water Treatment Plant
Zn	Zinc