

APPENDIX C

DEIS COMMENT / REPONSE DOCUMENT

APPENDIX C

DEIS COMMENT / RESPONSE DOCUMENT

Responses to Comments Received on the Draft St. Lucie County South Beach and Dune Restoration Project Environmental Impact Statement

Overview of Comments and Responses

In June 2011, the U.S. Army Corps of Engineers (USACE) published the Draft St. Lucie County South Beach and Dune Restoration Project Environmental Impact Statement (Draft EIS). National Environmental Policy Act (NEPA) regulations mandate a minimum 45-day public comment period after publication of a draft EIS to provide an opportunity for the public and other stakeholders to comment on the EIS analysis and results. In this case, the USACE also considered comments received after the official comment period. The public comment period began on June 3, 2011, and ended on July 18, 2011.

During this period, the USACE and its contractor, Taylor Engineering, held a public meeting in Ft. Pierce, FL to receive oral and written comments on the Draft EIS. In addition, the public was encouraged to submit comments via U.S. mail or e-mail.

Comments received during the comment period and afterward divided into several general groups:

- Comments that simply stated either support or opposition to the proposed beach and dune restoration project.
- Comments that agreed with information provided in the Draft EIS.
- Comments that took issue with information included in the Draft EIS or presented new information for consideration in the FEIS,

Comments that took issue with information presented in the Draft EIS or that presented new information for consideration in the FEIS were evaluated and categorized into different areas of concern. The following sections respond to those comments. Comments are shown in plain face. Responses are labeled and shown in *italics*.

General Comments Concerning the EIS Process

Comment 1 All final comments on the DEIS from the public, and governmental agencies, especially the National Marine Fisheries Service (NMFS), FDEP, and the Florida Fish and Wildlife Conservation Commission (FWC), should be addressed and resolved prior to issuance of the Final EIS. If recommended for approval, the USACE Dredge and Fill Individual Permit and the FDEP Joint Coastal Permit (both now under review by the federal and state agencies and their commenting agency partners) should include the necessary general and specific conditions that St. Lucie County must follow to help minimize and avoid environmental impacts.

Response 1

The USACE considers and responds to all comments from other federal agencies and other stakeholders such as state agencies and the public (see FEIS Appendix C for summaries of comments from stakeholders during this EIS process). The USACE agrees that permits required for the proposed project should include the standards necessary to avoid environmental impacts as much as possible and to minimize unavoidable impacts. The EIS process remains separate from the federal and state permitting processes. The EIS informs, but does not necessarily specify, U.S. Department of the Army permit conditions. The EIS process does not include negotiations with state regulatory agencies concerning permit conditions

Comment 2

I am confused by what appears to be two processes going on. Is the current DEIS for the 404 permit? How does that EIS process match-up with the EIS process for Feasibility Study for the project itself. In the notice you sent, it says that the Corps has determined that a state programmatic biological assessment (April 19, 2011) is sufficient for the anticipated effect on nesting sea turtles and their nesting habitat. Does that mean the Corps does not intend to enter into Section 7 consultation on this precise project. How about for the 404 permit? Has the FWS agreed to this? If so, who at the FWS?

Response 2

The current EIS for the SLC Beach and Dune Project is being prepared by the USACE Regulatory Division for authorization under Section 404 of the CWA and Section 10 of the Rivers and Harbors Act of 1899. The applicant will fund the project. The USACE Planning Division is preparing the SLC Feasibility Study, and it is federally funded. The outcome of the feasibility study may result in the St Lucie County Beach and Dune restoration project becoming eligible for federal funding. In this instance, the Jacksonville District's Planning Division may utilize the Regulatory EIS as the supporting documentation for their NEPA process in lieu of preparing a separate EIS for the same segment of beach. The USACE requested by letter dated September 21, 2011, formal Section 7 consultation with the FWS. The FWS responded by letter dated December 14, 2011, concurring with the USACE determination the Project complies with the Statewide Programmatic Biological Opinion for nesting sea turtles, provides concurrence with the USACE effect determinations for other federally listed species, and the project complies with Section 7 of the ESA. The FWS letter is signed by the South Florida Ecological Services Office Field Supervisor, Larry Williams. The letter can be found in the correspondence section of the appendices.

Comment 3

Why does the Corps believe that the SPBO substitutes for Section 7 consultation under the Endangered Species Act on this project? The August 22, 2011 letter to Colonel Pantano specifically states "Proposed projects that "may affect" the piping plover or

occur within piping plover critical habitat are not included in this SPBO and will be consulted with individually". Has the FWS been provided the Biological Assessment to see if it agrees with the determinations therein?

The same letter from the FWS also states, "The Corps shall consult on all projects that are in areas where the piping plover has been observed...". According to the DEIS, Hutchinson Island is wintering ground for the piping plover and it has been observed there. So why does the Corps believe that it does not have to consult? Also, the DEIS refers to a FWS letter that says that "the beaches of St. Lucie County support the fifth highest density of sea turtles in Florida. Would it be important to consult with FWS on impact to a beach that supports such a high density of sea turtles? Finally, the document also says that the Service shall be contacted for coordination on a project by project basis if sand placement is needed on public conservation land. The EIS says that there are County beachfront parks in the project area. Don't these qualify as public conservation land? Have you coordinated with the FWS? Can you provide me with the name of the action officer for the FWS? I am especially confused because the May 2011 DEIS states, "therefore the USACE will initiate formal consultation under Section of the USACE with NMFS and FWS". Now, it appears that the Corps will rely on this SPBO rather than initiating Section 7 consultation with the FWS. Why? As I am new to beach issues, I would appreciate any insights that you can give me.

Response 3

The USACE formally consulted with the FWS for nesting sea turtles, and informally for piping plover. The FWS letter concurs with the USACE determination the project may affect but is unlikely to adversely affect the piping plover and West Indian manatee. Additionally, the USACE initiated formal consultation with NMFS for the effects of the loss of swimming sea turtle foraging habitat associated with nearshore hardbottom resources.

Comment 4

I could not find any mention of a Corps public meeting (other than scoping) after the DEIS was released. Did the Corps hold one on Hutchinson Island in the project area? If so, when and how was it noticed? If not, why not? Also why was the applicant not required to send notice of the 404 permit application and/or the DEIS to all residents, including me, in the project area?

Also, I see on the web that it says a public meeting was held on June 29, 2011. You did send me a June 29, 2011 notice of the permit application when I first contacted you a few weeks ago, but I would still like to get some information on where and when the public meeting was held and how it was noticed. The July 29, 2011 notice that you sent me, which looks like a background sheet, does not mention a public meeting. I would also still like to know why each property owner was not individually mailed notice of the permit application by the applicant.

Response 4

The project was published in the federal register during the scoping process and the Notice of Availability of the DEIS. Additionally, the project was posted in local newspapers, public libraries, and the applicant's preferred alternative was available by public notice distribution for a 30-day comment period. The public notice was sent to all stakeholders and adjacent property owners. For condominiums, the public notice was sent to the condominium association's representative for distribution among the condominium tenants. The public involvement section includes discussion of the efforts the USACE undertook to involve the public. A compact disc and a hardcopy with appendices was sent to any requesting stakeholder.

*All the DEIS documents have been available online at the following location:
<http://www.saj.usace.army.mil/Divisions/Regulatory/interest.htm>*

Comment 5

A letter, dated August 20, 2011, from the National Marine Fisheries Service (NMFS) had already raised concerns about the hardbottom impacts identified in the Corps' public notice to the Jacksonville Regulatory Office of the Corps. The letter states: "NMFS recommended that the Department of the Army not authorize the project as proposed. This determination is based on our conclusion that the work would directly and permanently eliminate a substantial amount of hardbottom and sandy shoal habitat. Significant indirect and cumulative adverse impacts are also likely in connection with the proposed construction activities." Since this letter references the Corps' 29, 2011 public notice, which also contained the underestimated impact of 1.08 acres, it is hard to know what the NMFS thinks about what appears to be a significant increase in acreage that will be impacted. Finally, since this increase in acreage was not included in the DEIS, the public had no opportunity to comment on it.

Finally, in addition to the significant new information about the increase in impacts to nearshore hardbottom, which is very relevant to environmental concerns, the NMFS stated in its July 25, 2011 letter to the Corps that, "we have determined that the proposed project may result in substantial and unacceptable impacts to ARNI (aquatic resources of national importance)." How much significant new information relevant to environmental concerns will it take before the Corps determines that an SEIS is warranted?

Response 5

The FEIS includes the most current impact assessment associated with each alternative, see chapter 2 of the FEIS. The impacts were determined utilizing the most current data from the 2010 benthic resource impact assessment submitted by the applicant. The direct impacts have decreased to 0.57 acres, and approximately 1.0 acres of temporary construction impacts associated with turbidity. The USACE circulated a supplemental public notice identifying the additional impacts based on the most current and the effects associated with the County's preferred alternative. The

USACE included all received comments and continues to coordinate with stakeholders who requested involvement with the project.

Design Alternatives

Comment 6

Concerning Section 2.1.7 South Segment Beach and Dune Restoration: North Segment Dune Restoration Only (North Segment Dune Restoration Only (pg. 23-24). It appears through modeling that this alternative meets the project purpose while limiting hardbottom impacts to 0.07 acres. Therefore, EPA requests this alternative receive further evaluation in the Final EIS because the preferred alternative would impact 1.08 acres of nearshore hardbottom.

Response 6

The 0.07 acre provided in the DEIS table was an inadvertent error. The correct impact value at that time was 0.69 acre. In addition, since development of the DEIS the applicant has made available more current (2010) hardbottom coverage data and thus changed the impact estimates for each alternative. Alternative 3, the applicant's preferred alternative at the time of the DEIS was anticipated to impact 2.73 acres. By letter dated January 5, 2012, the applicant revised its preference to construct Alternative 5, but with no beach or dune restoration in the northern segment. The revision was proposed by the applicant to avoid adverse environmental effects. The applicant's preferred alternative, based on the January 5, 2012 letter is best described as alternative 5, "South Segment Beach and Dune Restoration: North Segment Dune Restoration Only" which is currently anticipated to directly impact 0.57 acres of hardbottom, and temporarily impact during construction approximately 1.0 acres due to turbidity (FEIS Section 2.1.7).

Comment 7

Please include the life expectancy of each alternative in this section.

Response 7

The FEIS includes a calculated or estimated life expectancy of each of the alternatives evaluation in detail (see list on FEIS Section 2.1 page 19.). The lifespan information considers the project intent to create and maintain the 1972 beach and dune profile.

Comment 8

The draft EIS evaluates seven alternatives, including "Beach Fill to Restore the 1972 Dune with a 35-ft Berm", which is the preferred alternative; and the no action alternative. The draft EIS also presents 13 other alternatives that were eliminated from further consideration. Much of the discussion in the draft EIS, EFH assessment, and public notice pertains to the preferred alternative. Overall, the analysis of alternatives seems narrow. Additionally, the analysis presented for "Alternatives Eliminated From Detailed

Evaluation (Section 2.4)”, are described in more detail than many of the “Alternatives Evaluated in Detail (Section 2.1)”. NMFS recommends the District evaluate least damaging practical alternatives, including alternatives that minimize the amount of fill placed below the mean high water line, thereby minimizing the amount of material to be dredge offshore and reducing nearshore hardbottom impacts (see EFH conservation recommendation #2). We specifically recommend further examination of the following three alternatives: Beach Fill with No Impact to Existing Hardbottom; Beach Fill to Restore the 1972 Beach and Dune; and South Segment Beach and Dune Restoration – North Segment Dune Restoration Only. This would also address our recommendation provided in our letter dated, June 21, 2010, regarding the need to evaluate designs that avoid and minimize impacts to hardbottom throughout all phases of the project.

Response 8

The DEIS identified “Beach Fill to Restore the 1972 Dune with a 35-ft Berm” as the applicant’s preferred alternative. The applicant presented this preference in its permit application SAJ-2009-03448 (IP-GGL). The applicant requested by letter dated January 5, 2012 to revise their preferred plan to eliminate the north segment of the proposed project. The USACE is evaluating all reasonable alternatives which achieve the project purpose. The USACE will only authorize the least environmentally damaging practicable alternative.

Comment 9

If the “North Segment Dune Restoration Only” alternative is implemented:

- (a) The economic feasibility of the project may be jeopardized – as described above. As identified in Section 2.1.7 of the Draft EIS, “DNRBS modeling results predict that over time, the north segment beach width increases due to dispersion of sand from the south segment of the project. The gradual increase in beach width over time provides an increasing level of protection along the north segment.” However, contrary to the subsequent text in Section 2.1.7 of the Draft EIS, “by the tenth year, the north segment beach width approaches” an added beach width of about 10 feet – only about 1/4 of “the beach width of the south segment”, which is expected to re-nourished by the tenth year.
- (b) The upland property owners within the north segment will likely seek permits for armoring structures to protect their property from damage by erosion – as allowed by Florida law.
- (c) Construction of armoring structures and continued-unabated-erosion would jeopardize environmental habitat for nesting sea turtles, nearshore beach benthic communities, and shorebirds - directly contrary to the project purpose to “restore/maintain habitat for marine turtle nesting, marine life and shore birds”.

Response 9

The applicant has revised its preferred plan to eliminate the north project segment (see Appendix F Pertinent Correspondence, letter January 5, 2012).

Sand Source Alternatives

Comment 10

A hopper dredge would be used to excavate the sand from the offshore borrow sites. The material would be transported to locations just offshore from the fill areas and then pumped to the beach. Details of how this would occur do not appear in the draft EIS, however, the drawings in the public notice depict one pipeline for the northern segment and five pipelines for the southern segment.

Response 10

The FEIS provides detailed descriptions of hopper dredge operation and transfer of sand from the hopper dredge to the beach along the project length (see FEIS Section 2.1.1).

Comment 11

The DEIS states that "The upland sand source alternative did not receive detailed evaluation for this project." The impacts to the sand borrow areas and their associated macro-invertebrate communities from the dredging operation may be more extensive and long-term than has been suggested in assessment for previous beach nourishment projects (USACE 1987, 1994, and 1996). These studies have concluded that perturbations within borrow areas are negligible due to rapid reestablishment of the infaunal communities. However, re-examination of the data from the borrow and reference areas of 4 beach renourishment projects on the southeast coast of Florida found that changes to the infaunal community structure may persist for 2-3 years or more (Wilbur and Stern 1992). Other studies have shown a decrease in diversity and abundance of the infaunal community in borrow areas several years following the dredging (Turbeville and Marsh 1982; Goldberg 1989). The impact that such projects have on macro-invertebrate communities should be considered as significant, because they are either directly, or indirectly, a major portion of the diet for many fish and macrocrustaceans (Baird and Ulanowicz 1989). The State of Florida and the Florida Keys National Marine Sanctuary have prohibited the collection of "live sand" (i.e. sand material, typically containing a high diversity of algal, bacterial and macroinvertebrate species, used in the aquarium industry) within the Sanctuary, stating that the sand substrate is an important habitat for grazers and detritivores and the removal of this habitat was determined to adversely impact marine productivity, fisheries, wildlife habitat, and water quality (FDEP 1998). In view of the adverse effects this project may have on Essential Fish Habitat, EPA requests that the use of an upland sand source alternative for this project be re-evaluated.

Response 11

Information related to this comment may be found in the FEIS Section 2.1.9. Sand source alternatives, or Section 4.5 Disturbance of Sand Bottom Habitats. Also, FEIS Appendix Q includes an evaluation of macroinvertebrates found in the borrow area and in adjacent sampling areas.

Comment 12

The draft EIS describes that seismic and core boring investigations in the borrow area indicate that it contains about 1.3 million cy of beach quality sand. The draft EIS depicts an extension of the shoal located in federal waters that would be dredged to obtain material to last the life of the project proposed by St. Lucie County (Figure 2.2-1 on page 31). The District's draft EIS for the nearby, federal Martin County Florida Hurricane and Storm Reduction Project (USACE 2010) identifies the portion of this feature in federal waters as "borrow area C1-C." Based on Hammer et al. (2005), USACE (2010) states that borrow area C1-C was eliminated from future analysis in part due to wave refraction modeling results that indicate unacceptable impacts to the wave climate and changes to shoreline sediment transport processes would occur from dredging these two areas. NMFS believes that similar unacceptable impacts would occur from dredging the portion of this shoal in state waters and recommends that a similar analysis be conducted for the state waters portion of the borrow area (see EFH conservation recommendation #1). Until this analysis has been completed and results are coordinated with NMFS and other agencies, we do not recommend moving forward with the other project elements provided below.

Response 12

The applicant has described a conceptual 50-year plan for shoal dredging that provides one means of obtaining sand for the project. The EIS also includes discussion of other sand sources that would likely remain available over the 50-year project life. The applicant has provided analyses similar to those of Kelley et al. (2004) demonstrating that the proposed dredging for the project would not significantly alter the wave climate in the nearshore area (FEIS Appendix R).

USACE (2010) assumed the shoal was dredged to remove the entire shoal (complete deflation of the shoal). That is one of the reasons why it did not select the site for its proposed project (Paul DeMarco personal communication September 2011).

Hammer et al. (2005) modeled "the significance of changes to longshore transport along the modeled shoreline from dredging proposed borrow sites to their maximum design depths" (page 239). This entailed modeling a scenario dredging 14.6 million cubic meters (18.3 million cubic yards) of sand and reduction of the shoal elevation from between -5.4 m and -7.6 m (-17.8 ft and -24.9 ft) to an elevation of -12 m (-39.4 ft) in other words complete deflation of the shoal to surrounding elevations). The modeled dredging caused unacceptable changes in wave climate along the shoreline. Referring to acceptable levels of dredging, Hammer et al. (2005) concluded that "the most likely change would be a reduction in maximum dredging depth to reduce site impacts" (page

240). The “reduction in maximum dredging depth” refers to the final elevation of the shoal. However, the Hammer et al. modeled dredging removed almost 25 times the amount of sand proposed by the applicant. In addition, the applicant’s proposed dredging will not reduce the maximum elevation of the shoal. The applicant has demonstrated that the wave climate changes caused by the project do not include significant impacts on nearshore wave climate and sand transport.

Similarly, Kelley et al. (2004) modeled the removal of an estimated 24 million cubic meters (31.4 million cy) with an excavation depth of 4.6 meters (15 ft - all of St. Lucie Shoal in federal waters). After determining that this dredging would cause unacceptable effects on the wave climate, they determined that the shoal — if reduced in elevation by less than 2.3 meters (7.5 ft) — would yield 12 million cubic meters (15.7 million cy) of sand without causing significant impacts on longshore sediment transport. Again, the USACE notes that the applicant’s proposed project maintains the shoal height and extracts about 5% of the volume Kelley et al. identified as safe to extract considering nearshore wave climate.

Dibajnia and Nairn (2011) formulated and recommended “offshore dredging guidelines to protect and maintain the morphologic integrity of the ridge and shoal features found on the Outer Continental Shelf (OCS) which are being targeted as sand borrow sites for beach nourishment and coastal restoration efforts”. Using historic survey data and model analysis of the effects of eleven dredging scenarios for 10-15 year periods, they concluded, “There was no indication that there exists a critical threshold for dredging that once crossed, ridge and shoal features may deflate, losing their morphologic integrity”. The ftp site includes a copy of the report.

The ROD will include identification of the USACE’s preferred sand sources based on the results of the applicant’s wave climate modeling (FEIS Appendix R) and the position of the NMFS HCD stated in this comment and Conservation Recommendation #1.

Impact, Mitigation, and Monitoring

Comment 13

St. Lucie County has appropriately proposed measures to avoid and minimize impacts, and to mitigate for unavoidable impacts associated with obtaining offshore beach fill material and nourishing the project beach. Based on UMAM calculations prepared by the Applicant, mitigation for impacts of the Applicant’s preferred plan to nearshore hardbottom will require that the Applicant construct 0.98 acres of nearshore artificial reef at one or more sites located along the project shoreline. The Final EIS should include copies of all UMAM score/data sheets.

Response 13

The USACE includes the UMAM score/data sheets in the final EIS as Appendix P. Please note that the EIS includes a hardbottom habitat assessment based on winter 2010 aerial photography. This assessment identified greater hardbottom habitat area

than the 2008 based assessment provided in the DEIS. The FEIS includes revised impact and mitigation quantities. Note that as indicated in the FEIS, the applicant has decided to revise its preferred plan to eliminate the north project segment. This results in a much lower impact than originally estimated. These lesser impacts will require a smaller mitigation area. Please review Section 2.1 for a description of the applicant's initially and currently preferred plans, and Table 2.6-2 (Impact and Mitigation acres) to fully understand the impact and mitigation changes as a result of the new hardbottom assessment and alternation of the applicant's preferred plan. Appendix G provides the applicant's draft mitigation plan.

Comment 14

St. Lucie County has appropriately identified potential locations for artificial reef placement in the general project area approximately 15 feet (ft) of water and up to about 1,000 ft offshore. EPA recommends that before the Final EIS is issued, the Applicant and FDEP should resolve the final level of impacts and the level of mitigation required to offset all impacts identified by the state, and the Corps should then consider these as these findings become available.

Response 14

The FDEP and the applicant continue to negotiate the means of impact assessment required by the State of Florida and the amount of impact. The USACE is accepting the applicants 2010 hardbottom assessment based on aerial interpretation coupled with diver verified transects identifying the landward and seaward hardbottom edges to identify the impacts for the alternatives described in the FEIS. The assessment is based on the best available information including recent aerial photography (from winter 2010) made available after DEIS completion. Please note that the applicant revised its preferred plan to eliminate the north segment of the project. Discussion in Section 2.1 reflects those changes. The revised impacts of the several alternatives (Table 2.6-1) and UMAM calculations (Appendix P) and the mitigation plan for resolving unavoidable impacts (Appendix G) complete key components of the EIS for understanding the impacts identified by USACE and the mitigation proposed to offset those impacts.

Comment 15

EPA believes that a biological monitoring plan should be used to assess success of the mitigation reef and direct, secondary, and long-term effects to nearshore hardbottom habitat associated with the proposed project. EPA continues to recommend that a sedimentation and turbidity monitoring plan be implemented to assess, avoid, and/or minimize impacts to reef communities adjacent to the proposed borrow areas during project construction.

Response 15

The applicant has provided a biological mitigation plan, FEIS Appendix G, to evaluate mitigation reef performance. During construction, turbidity monitoring will provide the data necessary to evaluate compliance with permit turbidity conditions. The State JCP

permit would be required to specify a set of required actions should turbidity exceed permitted levels. The applicant proposes physical and biological monitoring plans (Appendices H and I) to gather data necessary to identify any direct, indirect, and cumulative impacts resulting from the project.

Comment 16

Concerning FEIS Section 2.6.1.2 Nearshore Hardbottom (DEIS pg-53). The DEIS states 2008 aerial photographs were used to estimate the total amount of hardbottom impacts and in 2010 hardbottom community types were field identified. EPA questions whether the field survey conducted in 2010 reconfirmed the 2008 total amount of hardbottom resources located with the project area. If so, please report in FEIS. If not, please use other resources to identify the total amount of hardbottom located in the project area. EPA is aware that ocean dynamics have the ability to cover and uncover nearshore hardbottom and a review of 2008 aerial photographs may or may not identify the true impacts proposed by this project.

Response 16

Analysis of aerial photographs taken August 1, 2008, identified 10.4 acres of nearshore hardbottom in the project area. Analysis of aerial photographs taken October 21, 2010, identified 12.97 acres of nearshore hardbottom in the project area. That the photos identify conditions during different months (August versus October) may explain some of the differences between them, as later summer/fall storms often erode project area beaches and may thus expose additional nearshore rock underlying the sand. The USACE requires use of the most recently acquired, sufficiently clear aerial photographs to assess hardbottom habitat for regulatory purposes. Hardbottom maps based on October 2010 aerial photography, made available to the USACE after completion of the DEIS, will provide the basis for impact and mitigation in the FEIS. The 2010 field survey, determining conditions along transects within the project area, provided ground-truth information for the 2010 aerial photograph assessment of hardbottom habitat in the project area. Appendix N includes figures showing the project plan view superimposed on 2008 and on 2010 aerial photographs. Table 2.6.2 provides impact and mitigation acres for each alternative based on 2010-estimated hardbottom cover.

Comment 17

Concerning DEIS Section 2.6.2.3 Nearshore Hardbottom (pg. 60) The DEIS states, "The applicant is proposing a three-year monitoring period for nearshore hardbottom." EPA requests the standard monitoring period of 5-years be used for mitigation purposes.

Response 17

The FEIS provides discussion on the purpose and benefits of biological monitoring to minimize impacts on the aquatic environment. If necessary to address uncertainty associated with the modeling conclusions, the USACE may require biological monitoring for a period of time sufficient to demonstrate no unanticipated adverse effects occur.

The ROD will provide the USACE monitoring period recommendation. Please see Appendices G, H, and I for the applicants proposed mitigation plan, physical monitoring plan, and biological monitoring plan.

Comment 18

Concerning DEIS Appendix D (pg. 16) The DEIS states, "Using the estimated maximum potential hardbottom impacts described in section 3.1, a UMAM analysis was conducted (Appendix C). EPA was not able to locate the UMAM data sheets anywhere within the DEIS or Appendices for review and comment.

Response 18

The FEIS includes the UMAM data sheets in Appendix P.

Comment 19

The draft EIS states that 1.08 acres of nearshore hardbottom would be directly buried as a result of the preferred alternative. An explanation of how hardbottom impacts are quantified is missing from the draft EIS and EFH assessment. Digitized aerials from 2008 are provided as figures in the public notice and these figures depict the exposed hardbottoms between the shoreline and 600 feet eastward of the shoreline. Given the shifting nature of sand in nearshore areas, NMFS does not believe that one year of analysis is sufficient to quantify the amount of hardbottom habitat within the equilibrium toe of fill (ETOF). We recommend maps be based on at least three time periods, including a more recent survey (see EFH conservation recommendation #3).

Response 19

The FEIS contains a clear explanation of the quantification of hardbottom impacts and the means by which the applicant characterized the different hardbottom community types (Appendix J). The applicant has also provided analysis of hardbottom habitat and impacts based on 2010 aerial photographs (Appendix N provides maps of the Applicant's initial preferred plan overlain on 2008 and 2010 hardbottom maps). USACE will use the impact assessment based on the most recent and best available hardbottom data from the winter 2010 assessment.

Comment 20

The draft EIS describes two types of hardbottom habitat in the project area, referred to Community 1 and Community 2. These habitat types are qualitatively described and differentiated in terms of relief and the presence of worm rock and other functional groups (sponges and macroalgae), with Community 1 providing higher ecological services (and a higher mitigation requirement). Within the preferred alternative impact area, approximately 0.39 acres of Community 1 and 0.69 acres of Community 2 would be filled. The locations of these habitats and the survey information that fed into the habitat characterizations is not provided. Further, information is not provided regarding the presence of these habitat types with respect to the planned pipeline installation and

if nearshore hardbottom habitat impacts would occur from this activity. In addition, the EFH assessment does not provide detail on the different benthic functional groups that are present in the project area. For example, corals are not mentioned in the EFH assessment; however, the biological monitoring plan (appendix F) describes evaluation of metrics associated with corals (see EFH conservation recommendation #3). We acknowledge that the draft EIS refers to CSA 2010a, *Baseline Nearshore Hardbottom Characterization Survey for the St. Lucie County South Beach Project* (report not provided to NMFS). It is possible that more information from this report may need to be incorporated into the EFH assessment or additional biological resource surveys may be needed.

Response 20

Revisions to the EFH Assessment (Appendix O) and FEIS Section 2.6.1.2, Section 3.4, Appendix J, Appendix N, and Appendix Q provide methods used in fieldwork to assess the benthic communities, locations of the community types, planned pipeline installation locations, all benthic functional groups present in the project area, and a description of the surveys performed.

The applicant's survey methods to characterize benthic community types included data collection along twenty-two permanent transects that will be resurveyed post construction as part of long-term monitoring efforts. The biologists collected both quadrat and video data while recording observed species. Each transect extended from the landward edge of exposed nearshore hardbottom to the easternmost extent of exposed hardbottom along the transect, not exceeding 150 meters (492 ft) in total length. In addition, the survey included mapping of the nearshore edge of hardbottom. The fieldwork included both hardbottom and sand infaunal communities. No scleractinian corals were observed in any quantitative or qualitative video transects. One octocoral was observed during the point count analysis of one transect (R-78.7). Note that this transect falls outside the project equilibrium toe of fill.

Comment 21

NMFS recommends that a biological monitoring plan be provided to us that reflects the outcomes of EFH conservation recommendations #2 and #3. This plan should be coordinated for our review and approval prior to the finalization of the EIS. Generally, the plan should include monitoring hardbottom habitat within the area of the ETOF and 1,000-foot buffer. The monitoring schedule should include a minimum of one pre-construction event, one event immediately after construction, one event 6 months after construction, and annually for three years post-construction (see EFH conservation recommendation #4).

Response 21

The applicant has provided a biological monitoring plan that includes consistent baseline and post-construction transect locations and distances (FEIS Appendix I). The monitoring plan includes pre-construction and immediate post-construction efforts, and annual events for a total monitoring period of five years. Modeling of the ETOF provides

some level of certainty of where the impact area will occur. If necessary to address uncertainty associated with the modeling conclusions, the USACE may require biological monitoring for a period of time sufficient to demonstrate no unanticipated adverse effects occur. Monitoring may be required in areas of hardbottom outside the ETOF, but would not likely exceed 500 feet since the modeling level of accuracy is generally fairly accurate, and would not be expected to exceed 100 feet. The ROD will provide the USACE monitoring period requirements and duration of monitoring.

Comment 22

The draft EIS generally describes how material will be transported to the beach and the public notice drawings depict that six pipeline corridors are proposed. However as noted above, a habitat characterizations of the pipeline routes are not provided in the draft EIS. There is no mention of the pipeline in the EFH assessment. A survey of the pipeline corridors will be needed to complete the EFH consultation (see EFH conservation recommendation #3).

Response 22

The applicant has provided a summary of the pipeline corridor surveys in Appendix J: Baseline Nearshore Hard Bottom Characterization Survey for the St. Lucie County South Beach Project January 2010. Six proposed pipeline corridors — diver-surveyed in 2009 (R-89.5, R-100, R-101, R-104, R-108, and R-114) — dives resulted in the elimination of the proposed corridor at R-101 due to a 62m (203 ft) extent of hardbottom in the nearshore region of that proposed pipeline corridor. Based on the diver survey results, pipeline corridors selected at that time avoided almost all hardbottom impacts, the resulting impacts from pipelines is anticipated to be 0.02 acres for Alternative 6.

Please note that after completion of the DEIS comment period the applicant submitted a revised preferred plan eliminating the north project segment. This results in the applicants preferred plan avoiding the northernmost pipeline corridor and includes total impacts equivalent to those shown in Table 2.6.2 for the South Segment Beach & Dune Restoration; North Segment Dune Restoration Only alternative. The alternative assumes no dune restoration would occur or the dune sand would be delivered via truck haul.

Comment 23

Additionally, NMFS requests the District require monitoring the pipelines for leaks at least twice each day. NMFS requests that the District develop a pipeline monitoring plan and provide the plan to us for review and approval prior to construction. The plan should clearly identify measures for corrective actions, should a leak be detected (see EFH conservation recommendation #5).

Response 23

The FEIS includes a proposed pipeline monitoring plan (Appendix L) including daily inspection of the pipeline to verify that the pipeline remains in the desired location and

to identify any impacts outside the 50 ft corridor. Pipeline monitoring would be required only in areas of hardbottom resources, or immediately adjacent hardbottom. The ROD will include a recommended means and frequency of pipeline monitoring. If necessary to address uncertainty associated with the pipeline placement, the USACE may require biological monitoring for a period of time sufficient to demonstrate no unanticipated adverse effects occur. The ROD will provide for any necessary pipeline monitoring period conditions. Please note that due to the construction method (hopper dredge) the pipeline use is anticipated to occur several times daily rather than continuous operation (See FEIS Section 2.1.1 for construction methods description)

Comment 24

The draft EIS concludes that given the short temporal duration of the preferred alternative and relatively rapid recovery of the soft bottom infaunal invertebrate assemblage, short duration impacts to soft bottom assemblages within the borrow site are expected. *The potential impacts from the modification to the shoal are considered minor and, therefore, unlikely to adversely affect the benthic community for extended periods. However, NMFS is concerned that systematic dredging of shoals, such as the proposed project and the dredging described in USACE (2010), may result in unanticipated changes in habitat quality. Although opportunistic invertebrate communities may repopulate these areas after the dredging, benthic populations may not recover to pre-project levels. Dredging will also resuspend any fine material in the borrow area which can result in clogged gills in young, less mobile fish and invertebrates and thereby increase their mortality rate. The extent of negative effect is dependent on the life history stages of the species present and the duration of the event. The St. Lucie shoal complex is a long-established seascape feature that provides valuable habitat for fishery resources that utilize estuaries and offshore waters as a part of their life cycle. Minimizing mining sand from these shoals would ensure that these important areas would not be altered to the point that they no longer provide valuable habitat (see EFH conservation recommendations #1, 2, and 7).*

Response 24

FEIS focuses on the sand source alternatives for a single project that requires over 596,000 cubic yards of sand. In the cumulative impact assessment, the FEIS considers the availability of sand for a 50-year project horizon and includes consideration of all other such possible projects over a 50-year horizon. (See Chapter 2). The single project considered in this EIS does not represent “systematic dredging of the shoals” and will not result in the loss of shoal features. The project proposes extraction of a small fraction (550,000 cubic yards) of the more than 24 million cubic yards of sand that make up St. Lucie Shoal. The dredging design takes into account numerous best management practices (Section 2.1.1.1) including maintaining a refuge patch in the area with the highest elevation, dredging at elevations above rather than below the surrounding substrate regional ocean bottom elevation, avoiding dredging across the shoal, and monitoring turbidity. Thus the dredging template and profile has been designed to implement the inclusion of refuge patches, avoidance of dredge hole creation, and the proposal to remove only a relatively thin layer of sand. The effects

associated with upland sources of sand for beach and dune restoration is discussed in the FEIS Section 2.1).

The USACE is unaware of any reports or studies specifically concluding one time dredging projects requiring approximately 550,000 cubic yards from offshore shoals may adversely affect, directly or indirectly, any federally managed fish species. The project area represents a small portion of the St. Lucie Shoal, which represents only a small fraction of the entire offshore shoal habitats along Florida offshore coastal shelf (OCS).

Comment 25

To fully evaluate the proposed mining of the shoals for sand, NMFS requires additional information regarding the rates at which borrow areas are expected to fill and measures the District may require the applicant to take to limit dredging to portions of the shoal expected to fill in most rapidly. NMFS also recommends monitoring of the shoal's infauna communities be required to quantify whether the actual impacts to EFH are within acceptable limits. A physical and biological monitoring plan for the offshore borrow areas shall be provided to NMFS for review and approval before a permit is issued. The objectives of the monitoring shall be to document the rate at which the offshore borrow areas fill and grain-size distribution of the material that fills the dredge holes (see EFH conservation recommendation #6).

Response 25

The monitoring plans proposed by the applicant (FEIS Appendices H and I) include measurements of pre- and post-construction physical and biological conditions at the borrow site. Thus, the applicant has committed to collect data necessary to assess infilling rates and changes in infaunal communities requested by NMFS. Note that the FEIS includes results of a pre-construction bathymetric survey as part of the borrow area description and dredging design. See DEIS Figure 2.1-1 for borrow area survey results. The FEIS includes results of baseline benthic macroinvertebrate sampling performed in 2010 (Appendix Q). Please note the large between-site variability in the benthic community data. This variability is characteristic of benthic communities. Benthic communities in these habitat types typically substantially re-colonize after three years. If necessary to address uncertainty associated with the biological conditions of the dredge site, the USACE may require in-faunal/biological monitoring for a period sufficient to demonstrate no unanticipated adverse effects occur. The ROD will provide the USACE monitoring period requirement.

Comment 26

The draft EIS and EFH assessment refer to adherence of best management practices, however a comprehensive list of those BMPs is not provided. The implementation of best management practices to minimize the adverse effects from dredging the shoal is warranted. For example, limiting the dredging to the prevailing downdrift flanks of the shoals and limiting the depths of the dredge cuts to 3 to 6 feet may be good practices.

In addition, dredging within the offshore borrow area should be limited to the portions of the shoal expected to fill in most quickly once dredging has stopped. The District should provide a list of best management practices to NMFS for review and approval prior to finalizing the EIS (see EFH conservation recommendation #7).

Response 26

FEIS Section 2.1.1.1 and EFH Assessment (FEIS Appendix O) include consideration of best management practices (BMPs).

BMPs applied in the proposed project may include those listed in the FEIS. Many contractors include them as standard operating practices for offshore hopper dredging operations.

Note that Kelley et al. (2004) also identify the practices that NMFS HCD provides as examples but Kelley et al indicate that the practices are site and project specific. Note also that the project design incorporates a limited depth of cut as recommended by Hammer et al. (2010) recommended limiting depth of dredge cuts. The proposed project has incorporated the highest elevations into a refuge area specifically to avoid altering those elevations as recommended in Kelley et al. The 50-year conceptual dredging plan uses the same logic in describing conceptual borrow area locations.

Comment 27

The EIS describes the construction of 0.98 acres of artificial mitigation reef to offset the loss of 1.08 acres of nearshore hardbottom. However the mitigation plan (appendix D), describes that up to 6.22 acres of mitigation would be needed (1.19 acres of Community 1 and 5.03 acres of Community 2). It is unclear how either mitigation amount was determined. The draft EIS and mitigation plan refer to the completion of a Unified Mitigation Assessment Method (UMAM) as appendix C to the mitigation plan, however the appendix is not contained within the document.

Similar to our comments on the nearshore hardbottom biological monitoring plan, we feel it is premature to provide detailed recommendations on this plan until sufficient information to characterize and quantify nearshore hardbottom impacts is provided (EFH conservation recommendation #3). Specifically, we will not be able to complete our review of the plan until we have a better understanding of what functional groups are present in fill areas and the depths of habitats within fill areas.

NMFS recommends that a compensatory mitigation plan be provided to us that reflects the outcomes of EFH conservation recommendations #2 and #3. This plan should be coordinated for our review and approval prior to the finalization of the EIS. This plan should include performance standards, monitoring protocols and schedule, and a functional assessment (e.g., UMAM) that demonstrates how mitigation amounts offset the resource impacts (see EFH conservation recommendation #8).

Response 27

The FEIS includes a description of hardbottom communities (Section 2.6.1.2) and a report characterizing the nearshore hardbottom and hardbottom fish communities (Appendix J). Community types are based on a combination of physical (water depth, distance from shore, hardbottom relief) and compositional (dominant floral and faunal species) characteristics. Appendix N provides hardbottom community locations superimposed on 2010 aerial photography of hardbottom habitat.

The FEIS includes completed UMAM qualitative and quantitative analyses in Appendix P. Their omission in the DEIS was unintentional.

The USACE has defined impacts using UMAM calculations. FEIS Table 2.6-2.

The applicant has proposed a mitigation plan, provided in FEIS Appendix G.

This EIS has considered the design of the mitigation plan and concluded that the applicant's proposed approach includes sufficient detail and flexibility to allow development of a specific design once the impacts and required mitigation area are finally resolved through the permit application process. The monitoring plans provided in the FEIS are likewise sufficient to conclude that the applicant can define a specific mitigation monitoring plan scaled to the mitigation area defined during the permit application process. The ROD will include any appropriate recommendations for compliance monitoring.

Comment 28

NMFS believes the information provided in the draft EIS is not consistent with existing Council on Environmental Quality (CEQ) guidelines and Army regulations regarding mitigation and mitigation monitoring. Final guidance recently released by CEQ regarding mitigation and monitoring (CEQ 2011) cites Army regulations which state that "consistent with existing CEQ guidelines, the Army's NEPA implementing regulations place significant emphasis on the planning and implementation of mitigation throughout the environmental analysis process. The first step of mitigation planning is to seek to avoid or minimize harm" [40 CFR 1508.2]. In the absence of habitat mapping and biological survey information that quantifies in the draft EIS the extent of potential damage to hardbottom, NMFS is unable to determine that impacts to EFH have been avoided to the extent practicable. In addition, the guidance states that "when the analysis proceeds to an EA or EIS, however, the Army regulation requires that any mitigation measures be 'clearly assessed and those selected for implementation will be identified in the FONSI or the ROD' and that 'the proponent must implement those identified mitigations, because they are commitments made as part of the Army decision' [32 CFR 651.15(b)]." The draft EIS does not sufficiently discuss mitigation and monitoring plans and implementation programs as required by these regulations.

Response 28

The EIS has considered avoidance and minimization. The FEIS includes habitat maps and survey information. The FEIS provides summaries of the information and reports detailing those hardbottom communities sustaining unavoidable impacts. The FEIS includes a mitigation plan for those impacts, and a description of the monitoring effort that the applicant proposes to undertake to assess the effectiveness of the mitigation. The FEIS provides detailed descriptions of habitat mapping efforts in Appendix J.

Comment 29

NMFS believes the information provided in the draft EIS does not meet the requirements of the EFH provisions of the Magnuson-Stevens Act. The Jacksonville District chose to integrate the required components of an EFH assessment, as appendix H, based on our review, NMFS does not agree that all components of an EFH assessment are present or provided in sufficient detail (50 CFR 600.920(e)(2)) to adequately analyze the effects on EFH. Based on the nature of the proposed action and the potential adverse effects on EFH and EFH-HAPCs, NMFS provides the following assessment of the mandatory and additional information requirements found at 50 CFR 600.920(e)(3) and (4) that should be included in the Final EIS:

Mandatory Components of an EFH Assessment:

(italics are shown as displayed in the comment letter)

1. Description of the action. Provided.
2. *Analysis of the potential adverse effects of the action on EFH and the managed species.* This analysis is not complete in the EIS. Information describing the quantity and quality of hardbottoms within nearshore fill areas and pipeline corridors is needed for NMFS to make a determination regarding the level of effect to NOAA trust resources. Additional information regarding dredging best management practices is needed to complete this component as well. See EFH conservation recommendations #3 and #7.
3. *Federal agency's conclusions regarding the effects of the action on EFH.* Provided, however it is unclear how the District came to the initial determination based on the lack of available information on the quantity and quality of hardbottoms in nearshore areas that would be adversely affected by the project. In addition, portions of the EIS and EFH assessment seem to clearly acknowledge that dredging the offshore shoal would result in an adverse effect to EFH. The analysis does not support the conclusion and clarification is needed.
4. *Proposed mitigation, if applicable.* NMFS believes compensatory mitigation should be required. Upon receipt of responses to EFH recommendation #2 and #3 we should be able to provide more informed recommendations on the plan. See EFH conservation recommendation #8.

Additional Information:

1. *Results of an on-site inspection to evaluate the habitat and the site-specific effects of the project.* Deficiencies are noted above for both pipeline corridors,

hardbottoms near within and near the toe-of-fill. See EFH conservation recommendations #3.

2. *Views of recognized experts on the habitat or species that may be affected.* Provided.
3. *Review of pertinent literature and related information.* Provided
4. *An analysis of alternatives to the proposed action.* Least environmentally damaging practical alternatives should be evaluated, including alternatives minimizing the amount of fill placed below the mean high water line, thereby minimizing the amount of material to be dredge offshore and reducing nearshore hardbottom impacts. See EFH conservation recommendation #2.

Response 29

The revised EFH assessment will provide additional detail in the areas identified by the NMFS as follows:

1. *Comment noted*
2. *The DEIS provided characterization of the hardbottom communities in the nearshore area. The FEIS provides (Section 2.6.1.2 and elsewhere in the main text, and Appendices J and Q) the detail necessary to understand the means by which the applicant distinguished the different hardbottom communities. Documents detailing the requested information are available on the Taylor Engineering ftp site and in this response document.*
3. *The applicant has identified the locations of pipeline corridors as approximate based on selection of the locations that best avoid impacts. The responses to other comments provide additional detail on pipeline construction methods. The FEIS includes discussion of best management practices as detailed in another response within this document.*
4. *The applicant has considered a range of project and alternatives. The compensatory mitigation plan provided in the DEIS and FEIS provides mitigation appropriate to the type and level of impacts. The plan is sufficiently flexible to account for any additional impacts that may occur during construction of the project, if approved and authorized.*

Additional Information

The FEIS includes results of field surveys characterizing the hardbottom community in the nearshore area. The FEIS includes these data and data describing the sand benthic community in the offshore shoal area (main text, Appendices J and Q). The USACE has evaluated “least environmentally damaging practical alternatives (LEDPA)”, including the no action and no impact alternatives. The ROD will describe the LEDPA, specifically that alternative judged the least impactful among those that meet the minimum necessary criterion — protection of upland property and infrastructure against a 25-year storm. This frequency storm, St. Lucie County’s minimum practical protection standard, occurs relatively often.

5. *The FEIS Appendix G provides a mitigation plan including the design of low – medium relief artificial reef, the means of locating such reefs for sustainability in*

the soft sand habitat, and monitoring plans for evaluation of artificial reef development using compliance criteria.

Additional information Responses

1. *The FEIS includes results of field surveys that provide detailed data on nearshore hardbottom communities, including those impacted by the project (FEIS section 26.1.2 and Appendix J). The FEIS includes descriptions of the means by which the applicant distinguished hardbottom communities during aerial photograph mapping efforts (Appendix J). The aerial maps provided the location of and amount (planar coverage of) the hardbottom communities. See Appendix N to view the mapped hardbottom communities in 2008 and 2010 aerial photographs.*
2. *Comment noted*
3. *Comment noted*

The DEIS considered and the FEIS considers a range of alternatives including those with no impact to the nearshore hardbottom habitats.

Comment 30

Although additional information is needed to complete the EFH consultation, based on the information provided thus far NMFS concludes the project will likely adversely affect EFH, including over one acre of hardbottom that supports worm reef and, potentially, coral. Significant indirect and cumulative adverse impacts are also likely in connection with construction activities and the subsequent loss of marine habitats and their associated functions. These indirect and cumulative impacts include increased turbidity, sedimentation from dredging and the placement of fill in the aquatic environment, and loss of food production and other functions that coral, coral reef, and hardbottom habitats that contribute to fishery productivity. Section 305(b)(4)(A) of the Magnuson-Stevens Act requires NMFS to provide EFH conservation recommendations when an activity is expected to adversely impact EFH. Based on this requirement, NMFS provides the following:

As stated above, until the analysis identified in EFH conservation recommendation #1 has been completed and results are coordinated with NMFS and other agencies, we do not recommend moving forward with the other project elements described below.

Conservation Recommendation No. 1

The shoal proposed for excavation shall be eliminated from the project design due to the potential for unacceptable impacts to the wave climate and shoreline sediment transport. Alternatively, NMFS will re-consider this recommendation based on receipt of additional analysis performed similar to Kelley et al. (2004).

Response 30

The FEIS discusses Hammer et al (2005) and Kelley et al. 2004. The dredging events used for modeling purposes were many times the volume proposed for this project and the conclusions those articles provided concerning dredging of the shoal are not appropriate to apply to this project.

As requested, FEIS Appendix R provides a wave climate analysis. That analysis indicates an insignificant change in nearshore wave climate as a result of the proposed project dredging of 550,000 cy from the proposed location. If future projects propose dredging other areas of St. Lucie Shoal, an examination would be conducted of the effects of the proposed dredging activity to assess impacts on the shoal. If, unlike this proposed project, a future plan proposes lowering the shoal elevation, modeling will be used to assess the effects of the proposed cuts and expected reformation of topographic gradients of the shoal on longshore sediment transport and the wave climate, respectively.

The ROD will include identification of any authorized sand sources considering the results of the applicant's modeling, and the position of the NMFS HCD stated in Comment No. 18 above and Conservation Recommendation No. 1.

Comment 31 Conservation Recommendation No. 2

The District shall evaluate least damaging practical alternatives, including alternatives that minimize the amount of fill placed below the mean high water line, thereby minimizing the amount of material to be dredge offshore and reducing nearshore hardbottom impacts. Specifically, we recommend further examination of the following three alternatives: Beach Fill with No Impact to Existing Hardbottom; Beach Fill to Restore the 1972 Beach and Dune; and South Segment Beach and Dune Restoration – North Segment Dune Restoration Only.

Response 31

The USACE has evaluated the least damaging practical alternatives, including alternatives that avoid any fill below mean high water or minimize the amount of fill placed below the mean high water line. These alternatives minimize offshore dredge volumes offshore and reduce nearshore hardbottom impacts. The ROD will report the LEDPA and the reasons for that preference.

The applicant has revised its preferred plan to eliminate the project north segment. The project thus revised has hardbottom impacts equivalent to the "North Segment Dune Only" alternative.

Comment 32 Conservation Recommendation No. 3

Results from a biological resource and nearshore habitat mapping survey within the ETOF with 1,000-foot buffer and the pipeline corridor with a 100-foot buffer shall be provided to NMFS. The biological survey report should map, quantify, and characterize hardbottom within 100 feet of the pipeline corridor and hardbottom within 1,000 feet

from the ETOF. The method for determining the amount of hardbottom present should be described and based on historical and recent data. In addition, the survey report should identify survey dates and include full characterizations of each habitat depicted in the maps. These characterizations should focus on the following taxonomical groups: stony corals, octocorals, sponges, worm reef, and macroalgae. For stony corals, species, density, size distribution (colony diameter and height), and condition (bleaching and disease) should be documented. For octocorals, species, density, and size distribution (colony height) should be documented.

Response 32

The USACE uses the most current aerial photography as the basis for assessment of impacts Appendix N provides . Maps of the 2008 and 2010 hardbottom habitat overlain by the applicant's preferred plan as expressed in the initial permit application package. The FEIS includes results of nearshore hardbottom habitat mapping (including project fill and pipeline areas) and characterization of those habitats (Appendix J). The applicant has revised its preferred plan (see letter of January 5, 2012 in Appendix F Pertinent Correspondence) to eliminate the project north segment. The anticipated project hardbottom impacts are equivalent to the "North Segment Dune Only" alternative and will result in 0.57 acres of impact to hardbottom habitat. The remaining pipelines should avoid all but 0.02 acre of hardbottom habitat. The applicant will make daily inspection of the pipeline in areas of hardbottom or immediately adjacent hardbottom during pumping operations that will occur intermittently for a few hours at a time.

The applicant has fully characterized the hardbottom and soft sediment habitats and methodologies in Appendix J Hardbottom and Fish Community Characterization and Appendix K Beach and Borrow Area Sampling Report.

Comment 33 Conservation Recommendation No. 4

A biological monitoring plan shall be provided to us that reflects the outcomes of EFH conservation recommendations #2 and #3. This plan should be coordinated for our review and approval prior to the finalization of the EIS.

Response 33

The USACE notes the recommendation and refers the NMFS to FEIS Appendices H and I. The FEIS includes a report characterizing the benthic communities of the borrow site and surrounding area (Appendix J). If necessary to address uncertainty associated with the modeling conclusions, the USACE may require biological monitoring for a period of time sufficient to demonstrate no unanticipated adverse effects occur. The ROD will provide the USACE monitoring period recommendation.

Comment 34 Conservation Recommendation No. 5

A plan for monitoring the pipeline for leaks at least twice per day and response actions to any leaks detected shall be provided to NMFS for review and approval prior to finalizing the EIS.

Response 34

The applicant has recently revised its preferred plan to eliminate the northern project segment, including the use of the pipeline, which would impact high quality habitat in that area (R-87.7 – R-90.3),. The remaining project would impact 0.02 acres of Hardbottom Habitat 2. At the locations where the pipeline will be placed on or near hardbottom, the applicant will make daily inspection of the pipeline from the hopper dredge to the beach during pumping operations. These operations will occur intermittently for a few hours at a time, because the hopper dredge will require only an hour or two to unload the hold of the dredged sand, after which it will travel back to the dredging location for more sand. The applicant has proposed a pipeline monitoring plan (FEIS Appendix L) that the USACE is considering and the ROD will identify the recommended monitoring interval.

Comment 35 Conservation Recommendation No. 6

A physical and biological monitoring plan for the offshore borrow areas shall be provided to NMFS for review and approval before a permit is issued. The objectives of the monitoring shall be to document the rate at which infaunal communities recover from dredging and the fill and grain-size distribution of the material that fills the dredge holes.

Response 35

FEIS Appendices H and I include physical and biological monitoring plans provided by the applicant. Those plans include monitoring of offshore borrow area activities.

Comment 36 Conservation Recommendation No. 7

Best management practices (BMP) to minimize the adverse impacts associated with mining the shoals shall be developed and integrated into the project design. For example, limiting the dredging to the prevailing downdrift flanks of the shoals and limiting the depths of the dredge cuts to 3 to 6 feet may be good practices. Please provide a list of BMPs to NMFS for review and approval prior to finalizing the EIS.

Response 36

The applicant's proposed plan for dredging follows FEIS best management practices for dredging described in the FEIS Section 2.1.1. Note that rather than cutting 3 to 6 feet from the shoal elevation, the applicant proposes to avoid any dredging the maximum shoal elevation at all. Note also that the cut is on the downdrift side of the shoal and only cuts to the general elevation of the surrounding benthic plain.

Comment 37 Conservation Recommendation No. 8

A compensatory mitigation plan that describes how unavoidable impacts to hardbottom habitat shall be offset from construction activities and the ETOF. This plan should include performance standards, monitoring protocols and schedule, and a functional

assessment (e.g., Unified Mitigation Assessment Method) that demonstrates how mitigation amounts offset the resource impacts.

Response 37

FEIS Appendices G provides a compensatory mitigation plan that describes how unavoidable impacts to hardbottom habitat shall be offset from construction activities and the ETOF, Appendices H, and I provide physical and biological, monitoring protocols, and monitoring schedules. The FEIS includes UMAM assessments (Appendix P), inadvertently excluded from the DEIS.

Comment 38

In general, the Draft EIS

- does not appear to adequately reflect the basis by which the County formulated the proposed project ("applicant's preferred alternative") to specifically meet the project purpose, and
- should more thoroughly and accurately reflect the project formulation in concert with the characterization of alternatives considered and assessed by the County.

Response 38

The applicant has provided statements clearly describing the basis for the applicant's preferred project, The DEIS and FEIS reflect the statements provided by the applicant.