



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
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June 5, 2012

Colonel Jeffrey M. Hall
District Engineer
U.S. Army Corps of Engineers
Savannah District
100 West Oglethorpe Avenue
Savannah District, Georgia 31401-3640

ATTN: Mr. Bill Bailey, Chief of the Planning Division

**SUBJ: EPA Review of COE's "Savannah Harbor Expansion Project" (January 2012);
Final Environmental Impact Statement (FEIS); Chatham County, Georgia and
Jasper County, South Carolina; CEQ No. 20120103; ERP No. COE-E32083-00**

Dear Colonel Hall:

Pursuant to Section 102(2)(C) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act (CAA), the U.S. Environmental Protection Agency (EPA) Region 4 has reviewed the subject U.S. Army Corps of Engineers (COE), Savannah District, Final Environmental Impact Statement (FEIS) for the Savannah Harbor Expansion Project (SHEP), dated January 2012, which we received on April 12, 2012. The project is proposed by the Georgia Ports Authority (GPA) of the Georgia Department of Transportation, the non-federal project sponsor (sponsor). EPA notes that this FEIS was developed to disclose the economic and environmental impacts associated with deepening the inner harbor and entrance (ocean bar) navigation channel to alternative incremental depths of up to -48 feet (ft) Mean Low Water (MLW), with an additional 2 ft allowable over depth dredging and 6 ft advance maintenance dredging (depending upon the location). EPA also notes that the COE has identified the 47-foot depth alternative as the National Economic Development (NED) Plan – “the plan that maximizes net economic benefits to the Nation and fully complies with Army policy.” The responsible lead agency is the US Army Engineer District, Savannah, and the Cooperating Agencies are the Environmental Protection Agency (Region 4), the Department of Commerce (acting through the National Marine Fisheries Service), the Department of the Interior (acting through the US Fish and Wildlife Service).

The Savannah Harbor was last deepened in 1994 to -42 ft, and in 1999 the Water Resources Development Act (WRDA 1999) authorized the COE to dredge Savannah Harbor to a maximum depth of -48 ft (“Maximum Authorized Plan”), which is a -6 ft deepening of the existing conditions. WRDA 1999 requires that the authorized project may be carried out only after the Secretary of the Army, in consultation with affected Federal, State of Georgia,

State of South Carolina, regional, and local entities, reviews and approves an environmental impact statement (EIS) for the project that includes the following:

- an analysis of the impacts of project depth alternatives
- ranging from 42 feet through 48 feet; and
- a selected plan for navigation and an associated mitigation plan as required under section 906(a) of the Water Resources Development Act of 1986 (33 U.S.C. 2283(a));

WRDA 1999 also requires that the Secretary of the Interior, the Secretary of Commerce, the Administrator of the EPA, and the Secretary of the Army approve the selected plan and determine that the associated mitigation plan adequately addresses the potential environmental impacts of the project.

The NEPA process for SHEP has been extensive, and includes a number of earlier studies and technical reports. Initial NEPA efforts included the development by the Savannah District of a “Tier I” EIS (1998), which drew heavily upon a previous GPA feasibility study. While the Tier I EIS provided information analyzing the impacts of a proposed harbor deepening, it did not address all of the concerns and issues raised by the resource agencies. This led to the Savannah District initiating the development of the more detailed “Tier II” EIS and GRR (in early 2002), including the holding of public scoping meetings. Approximately ten years of technical field studies, economic and environmental modeling, and scientific and engineering analyses have been conducted since 2002 as part of the Tier II EIS process, involving the study of water quality (including dissolved oxygen and salinity), wetlands and aquatic ecosystems, sediments, fisheries, drinking water supplies, cultural and archeological resources, hydrology, hydraulics, air quality and other important factors affected by the proposed harbor deepening. As part of the EIS process, numerous detailed studies (over 40 different reports including many computer models) have been developed. EPA has also participated in many of the different types of stakeholder and collaborative EIS development team meetings that have occurred during this 10 year period. Some of these groups have held numerous meetings, such as the Stakeholders Evaluation Group (the “SEG”).

The FEIS has been developed from response to comments received on the DEIS, including comments from EPA and the other Cooperating Agencies, as well as the public review, the COE Headquarters Policy Review, the COE Agency Technical Review, and an Independent External Peer Review by the Battelle Memorial Institute. EPA notes the following changes between the DEIS and the FEIS, many of which relate to issues raised in response to previous comments from EPA and the other Cooperating Agencies.

- Incorporating a larger fish passage design at the New Savannah Bluff Lock and Dam near Augusta, Georgia, as mitigation for impacts to habitat of the endangered Shortnose sturgeon.
- Removal from the project of the construction of an underwater sill in the Lower Middle River.
- Increasing Post-Construction Monitoring from 5 to 10 years for several elements.
- Adding two Speece cones to the Dissolved Oxygen Injection System.

- Completing an additional evaluation of chloride impacts on the City of Savannah's Abercorn Creek intake and adding mitigation for those impacts.
- Removing nearshore placement of new work dredged sediments near Tybee Island, Georgia from the project.
- Adding real estate to address additional fish passage and chloride mitigation needs.
- Increasing construction management costs to address additional fish passage and chloride mitigation needs.
- Increasing the amount of Planning, Engineering and Design costs across all project features and to address additional fish passage and chloride mitigation needs.
- Updating costs from October 2010 to October 2011 price levels.
- The economic analysis in the draft report depended on data and information from vessel operations and forecasts up through 2007 and 2008. The FEIS incorporates vessel operations information and forecasts available through 2010. Key elements incorporated include establishing a new baseline for forecasting commodity flow and traffic, updating the world fleet and Savannah vessel call information, including vessel operating costs, and inclusion of Post-Panamax Generation 2 vessels in the "without-project" condition.
- Changes made to the Final GRR and DEIS that did not affect project costs or benefits include updating the air quality evaluation, incorporating the conditions from the National Marine Fisheries Service Final Biological Opinion, conducting additional dissolved oxygen modeling in shallow areas, and documenting interagency coordination from November 2010 to the present.

The following summarizes EPA's major technical areas of concern and summarizes EPA's remaining comments on the FEIS. Additional suggestions and recommendations are provided for implementation of the project in an environmentally protective and sustainable manner.

EPA's FEIS Comments and Recommendations

1. Water Quality, Dissolved Oxygen (DO), and Modeling Issues

The Harbor is impaired for dissolved oxygen due to historical deepening projects and a large number of dischargers of biological oxygen demanding substances into the Harbor, which cause the dissolved oxygen levels in the Harbor to drop to very low levels in the summer months. As part of the NEPA process, the COE has intensively investigated measures to address additional impacts to dissolved oxygen levels in the harbor that will result from the proposed additional harbor deepening. Based on the existing dissolved oxygen impairment, EPA developed and finalized a Total Maximum Daily Load (TMDL) based on Georgia's then-applicable water quality standard (WQS) for dissolved oxygen in 2006. The TMDL requires a "zero discharge" of biological oxygen demanding substances into and upstream of the Harbor. In April 2010, Georgia revised their WQS for dissolved oxygen to be consistent with South Carolina's approved WQS. Since that time, EPA has been working closely with Georgia and South Carolina to develop a new TMDL consistent with the revised WQS. As reflected in a revised draft TMDL issued by EPA for public comment in May 2010, Georgia's new WQS will allow for some loadings of oxygen demanding

substances into the harbor, but the existing harbor dischargers will still be required to considerably reduce their existing permitted loads. EPA is continuing to work with South Carolina and Georgia to determine the best approach to revise the 2006 TMDL and address the continued impairment of the new WQS. The findings of studies conducted for the Savannah Harbor Ecosystem Restoration Study were incorporated into analysis of the harbor deepening project, which included examining 25 different methods of improving DO levels in Savannah Harbor.

After significant engineering analysis, computer modeling, and a full scale demonstration project, the COE, in collaboration with EPA, the states, and other federal agencies, has concluded that oxygen injection, using "Speece Cones" with supporting equipment, is the most cost-effective method for raising DO levels in the harbor during the summer months. The COE has proposed placing these oxygen injection systems on the land at up to four locations. Given that the additional deepening of the Harbor will create a permanent additional impact to dissolved oxygen levels in the Harbor, EPA has requested strong financial assurances to ensure the operation of these systems throughout the life of the project (identified in the FEIS as 50 years).

In response to EPA's comments on the issue of funding of operation and maintenance of speece cones for the life of the project, COE stated that it agreed to operate and maintain the mitigation features as described in the FEIS throughout the project's life. For example, as part of the conditions placed upon the project by SCDHEC through the State's Section 401 Certification, dated November 15, 2011, the GPA has agreed to provide financial assurance in the event that federal funding for the oxygenation system is insufficient in any year. Specifically, South Carolina's 401 Certification provides that "[t]he GPA will provide financial assurance, in a manner acceptable to DHEC, that it will fund operation and maintenance of the Dissolved Oxygen system in any year that sufficient federal funds for the operation and maintenance of the system are not made available. This obligation extends for the life of the project (50 years). Such financial assurance may be achieved through a Standby Trust Fund, Surety Bond, Letter of Credit, Insurance, or other means deemed acceptable to DHEC. The GPA will provide the financial assurance before any dredging begins. For purposes of the COE, this offer and commitment by GPA to provide financial assurance does not constitute an item of local cooperation or cost-shared feature." This level of financial assurance provides greater certainty that operations and maintenance costs will be covered through the life of the project.

2. Aquatic Issues

For the 47-ft deepening alternative supported by the sponsor, direct impacts to wetlands include 15.68 acres of brackish marsh wetlands by excavation and 223 acres of indirect impacts to freshwater wetlands due to salinity changes (as noted in the FEIS Appendix C). To mitigate for the direct impacts, the Savannah District's Standard Operating Procedure for Compensatory Mitigation (SOP) indicated that approximately 28.8 acres of restored saltmarsh would be required. The Corps intends to restore approximately 40.3 acres of brackish marsh at Disposal Area 1S, which is located within the boundaries of the Savannah National Wildlife Refuge (SNWR). The Savannah District proposes to mitigate the

indirect impacts through the preservation of 2,245 acres of wetlands (consisting of bottom land hardwoods and upland buffer in SNWR).

EPA's primary concerns expressed in our DEIS comments were related to the District's proposed mitigation approach (use of the Savannah District Mitigation SOP), the adequacy of the mitigation, and the proposed mitigation monitoring and adaptive management plans. In response to concerns expressed by EPA over the use of the SOP for large scale projects, the Savannah District conducted consultations with the COE's Center of Expertise for Ecosystem Restoration (Center) to analyze the use of the SOP as an appropriate method of determining the amount of acres that would need to acquire and preserve in order to compensate for adverse impacts to wetlands from SHEP. In response to concerns expressed regarding the adequacy of the mitigation proposed, the Savannah District provided an analysis (Consideration of USEPA/USACE Final Mitigation Rule) and determined that the mitigation-to-impacts ratio to be approximately 10:1 which would be consistent with the 2008 Mitigation Rule. The District also points out that these wetlands would still provide some of the ecological functions associated with emergent wetland systems. The Savannah District acknowledged that there was uncertainty about the degree to which conversion will ultimately occur, pointing to the need for monitoring and adaptive management for this project. Therefore the District provided a monitoring and adaptive management plan in the FEIS (Appendix D). EPA also believes that the development of a monitoring and adaptive management plan is an important step in satisfying our concerns outlined in our DEIS comments regarding wetland and water quality mitigation. To ensure that the adaptive management and monitoring plan is fully implemented, EPA supports the establishment of an Interagency Adaptive Management Team. EPA also recommends specific time frames for receiving and reviewing monitoring data, and developing an implementation strategy to be carried out by the COE in the event adaptive management actions are required.

In summary, while EPA expressed concerns in our comment letter on the DEIS concerning the COE's wetlands analysis and overall proposed mitigation plan, our concerns with the planned mitigation are addressed when considered in association with monitoring and adaptive management to address the uncertainty over conversion. Due to the unique nature of SHEP's impacts (potential vegetative conversion), and the uncertainty associated with the mitigation, the COE has developed an extensive monitoring program to quantify the magnitude of the marsh conversion that does occur. If impacts to tidal freshwater marsh exceed those expected, funds would be made available to purchase additional lands for preservation as noted in the Monitoring and Adaptive Management Plan.

3. Section 103 (Sediment) Issues

The FEIS includes information related to the Marine Protection, Research and Sanctuaries Act of 1972 (MPRSA, also known as the Ocean Dumping Act or ODA). MPRSA governs disposal of dredged material in ocean waters along with EPA's regulations and criteria established at 40 CFR Parts 220-229. If determined to meet EPA's Ocean Dumping Criteria, the FEIS proposes disposal of sediments dredged from Stations +4+000 to -97+680B into the Savannah Ocean Dredged Material Disposal Site (ODMDS). The COE proposes that the ODMDS receive both new work and maintenance sediments from the entrance channel,

and the COE is currently working with EPA on remaining Section 103 issues, including a determination as to whether the sediments meet EPA's Ocean Dumping Criteria for placement into the Savannah ODMDS. It is EPA's position that the proposed dredged material does not meet any of the exclusionary criteria and therefore must undergo testing and evaluation in accordance with the 40 CFR Parts 220-229. Samples of bottom sediments from the excavation area in the existing entrance channel have recently been tested to evaluate contaminants which may be present in new work sediment materials. Additional sampling and testing (bioaccumulation studies) for the existing channel and extension of the harbor entrance channel have been completed to evaluate whether the new work material complies with the Ocean Dumping Criteria and is suitable for placement in the Savannah ODMDS. The results of these analyses were used to prepare a Section 103 Evaluation for SHEP, which the COE provided to EPA Region 4 on May 25, 2012, accompanied by a request that EPA concurs with the COE's determination regarding the suitable disposal of the dredging sediments from Stations +4+000 to -97+680B.

4. Air Emissions Inventory and Air Toxics Issues

As part of the NEPA process for evaluating the potential environmental impacts resulting from SHEP, the Savannah District completed an air quality analysis in 2006 and a more detailed assessment in 2010. The 2006 report described the air emissions associated with container vessels that were utilizing GPA's Garden City and Ocean Terminals in Savannah Harbor. Emission estimates for those operations were presented in the report for the period 2004 through 2050, both with and without implementation of the proposed harbor deepening project. The 2010 assessment expanded the Corps 2006 air quality analysis to the entire harbor to more completely assess air quality impacts from the proposed harbor deepening. This more detailed assessment evaluated the air emissions from all cargo-carrying vessels and landside cargo handling equipment at both the GPA and privately-operated terminals at the port. In accordance with the requirements of NEPA, it also compared emissions for both the "with" and "without project" (No Action) alternatives.

In addition to EPA's recommended criteria pollutants, estimates of "air toxics" emitted at the port were also calculated. In the 2006 and 2010 studies, port related annualized emissions were estimated for current and future years, and in with respect to future years, compared with asynchronous estimated annualized emissions in Chatham County as a whole. And while the 2010 report was expanded in scope and more detailed in nature than the 2006 report, EPA noted that it was prepared using a "mid tier" approach to an emissions inventory in which average vessel, vehicle, and other equipment characteristics and usage were used to compile the inventory. To address EPA's remaining concerns regarding an effective emissions inventory for SHEP and to supplement the 2006 and 2010 studies, GPA commissioned (2011) and is currently funding the Georgia Institute of Technology (Georgia Tech) to conduct a \$250,000 follow-up study to the FEIS known as "Detailed Criteria and Hazardous Air Pollutant Emission Inventories for the Ports of Savannah and the Savannah Metropolitan Area." EPA still prefers that this emission inventory be used to conduct a screening level air toxic assessment consistent with our previous comments.

EPA also notes that there may be specific air quality improvement strategies that although they may not be cost effective at present, merit consideration by GPA in the future. EPA recommends that the following Special Conditions be included in the SHEP ROD to facilitate a more environmentally sustainable project:

- When electrifying Ship-to-Shore (STS) gantry cranes, GPA should ensure that the power supply and related hardware is adequate to install shore power at a future date if warranted by the dwell time of the vessels.
- GPA should work to provide non-monetary incentives to the drayage truck fleet that is part of the "SmartWay" Drayage program.
- GPA should work with companies when designing the distribution center to ensure that idling is minimized through installation of shore power, signage, and/or providing a designated room for drivers, so the drivers can wait in this room while waiting to pick up containers, rather than idling in their trucks.

Finally, as an outgrowth of the studies completed by the COE and the work underway by GPA, EPA Region 4, in collaboration with the EPA Office of Research and Development (including both the National Risk Management Laboratory and the National Exposure Research Laboratory), is currently developing several collaborative research projects that are very relevant to SHEP, with a goal of ultimately developing strategies for improving air quality for sensitive populations near the port. The projects being considered include an evaluation of local-scale air quality impacts from port-related emissions, as well as implementing a low cost, continuous measurement of air pollution in local environmental justice (EJ) communities around the port.

5. Community Outreach Issues

As required under NEPA, over the last 15 years the COE has made substantial efforts both to inform the public as well as receive public comments, while working closely with the SEG, local communities, and State and Federal resource agencies regarding many complex issues associated with the proposed harbor deepening. EPA notes that these efforts have incorporated the use of the latest technology and social media, including use of large E-mail distribution lists, Twitter messaging, Youtube videos, a website dedicated to the project, and PowerPoint presentations and reports available on the web for download. As previously mentioned in this letter, since 1999 the Corps has met with the SEG approximately 70 times to discuss SHEP. In addition to the NEPA required public scoping meeting on February 21, 2002 and the scoping meeting on April 12, 2002, a number of other meetings with the public and agencies have discussed critical project issues including "salinity, Dissolved Oxygen (DO) levels, conversion of freshwater to brackish marsh, nekton, benthos, contaminated sediments, economics, and other impacts related to the proposed harbor deepening." EPA notes that a NEPA public information meeting was held 30 days after release of the DEIS to provide opportunity for public and agency input.

EPA FEIS Conclusions

EPA notes that the FEIS substantially addresses most of our technical concerns over SHEP's impacts and provides important additional information that we requested, including a recommendation that an interagency team be created to work with the COE and GPA. Therefore, EPA requests that the COE address these following issues and comments, and document the results in the ROD:

- **Monitoring:** Pre-Construction Monitoring should be used to establish the baseline data bank for the Savannah Harbor estuary to assist with impact assessment during the Construction Monitoring and Post-Construction Monitoring phases of the project. The Monitoring should establish ranges of acceptable performance parameters for the Savannah Harbor estuary.
- **Adaptive Management:** This program should have three components, each with their own goal. The first component should consist of evaluating the accuracy of the predicted environmental impacts. The corresponding goal is to improve the predictive capability of the models used to identify and quantify project-induced impacts. The second component should consist of assessing the effectiveness of the mitigation features. The final component should include modifying the project as needed to ensure the levels of environmental effects predicted in the EIS are not exceeded.
- **Financial Assurance:** The adequacy of the financial assurance to ensure continued operation of the oxygenation system throughout the life of the project is critical to protecting the water quality of the Harbor, and ensuring that the additional deepening does not further contribute to the ongoing dissolved oxygen impairment. EPA wants to ensure that appropriate documentation of the financial assurance being put forth on the project is available from all related entities. EPA also requests a role in the review and approval of the adequacy of the specific financial assurance mechanism(s) proposed by GPA prior to the initiation of any dredging.
- **Completion of the 103 Process:** EPA will review the submitted Section 103 Evaluation for completeness, conduct an evaluation of the results and make an independent determination of compliance with the Ocean Dumping Criteria. Additionally, the required Site Management and Monitoring Plan for the Savannah ODMDS must be completed and signed by EPA and COE before EPA can issue a concurrence for disposal of material from the SHEP into the Savannah ODMDS. Any portions of this material that fail to meet the Ocean Dumping Criteria must be placed within an upland Confined Disposal Facility (CDF) that has sufficient capacity for the volume of proposed dredged material that fails to meet the Ocean Dumping Criteria.
- **Air Issues:** EPA appreciates GPA commissioning the current Georgia Tech study, which builds upon the previous air quality impact assessments by developing a detailed spatial, temporal, and chemically speciated emission inventory for the Savannah Harbor, including all activities related to GPA's Garden City and Ocean Terminals, and the other privately-owned terminals in the Port of Savannah. Additionally, contemporaneous inventories are also being developed for the Savannah metro area so that harbor emissions may be more readily and directly evaluated in the larger air quality context. EPA recommends that the current air study being conducted by Georgia Tech continue as a way to build upon the previous studies and provide a

basis for understanding the Savannah Harbor emissions within the context of the larger metro area.

- **Environmental Justice:** The FEIS indicates that no significant adverse impacts to communities with EJ concerns are anticipated with the port expansion project and ongoing port activities. EPA's recommended strategies include the formation of a formal community advisory group (CAG) with neighboring communities that meets periodically to identify and address community concerns or recommendations that may arise associated with ongoing port activities. To assure community residents living in close proximity to port and transportation corridor that the port's future growth and expansion efforts will not result in substantive localized impacts (i.e., air, traffic), a monitoring program should also be established. Finally, EPA recommends that GPA develop strategies to support or establish local jobs training programs that are targeted at communities with EJ concerns, with a goal of creating opportunities for residents living in close proximity to the port to effectively compete for future port-related employment.

EPA appreciates the opportunity to review the FEIS and the extensive opportunities for collaboration with the COE. We also appreciate the ability to work closely with the USFWS, NMFS, GADNR, SCDNR, SCDHEC, and many other stakeholders and community organizations in order to develop innovative environmental solutions for a range of SHEP issues. Should you have questions regarding our comments or would like to discuss our sustainability recommendations, please contact me at 404-562-9611 or mueller.heinz@epa.gov.

Sincerely,



Heinz J. Mueller, Chief
NEPA Program Office



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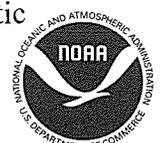
Colonel Jeffrey M. Hall, USA
District Commander
U.S. Army Engineer District, Savannah
ATTN: PD
Post Office Box 889
Savannah, Georgia 31402-0889

Dear Colonel Hall:

The NOAA Fisheries Service, Southeast Region (NMFS), has reviewed the Final Environmental Impact Statement (FEIS) for the Savannah Harbor Expansion Project, issued on April 11, 2012. We note all of the requested changes provided in our February 17, 2012, letter concerning the draft FEIS have been incorporated. We thank you for incorporating those changes. However, apart from our February 17 comments, we note a few discrepancies in the FEIS. While these discrepancies do not change the intent of the document, they could cause confusion to some of its readers. The enclosed comments describe these discrepancies between the DEIS and FEIS and suggest corrections meant to improve the FEIS. For the record, we request that these items be addressed by the Army Corps or at least duly noted. In addition, we provide one comment on the proposed Chief of Engineers Report, and use this opportunity to update the Corps on the status of our Endangered Species Act consultation on the Savannah Harbor Expansion Project.

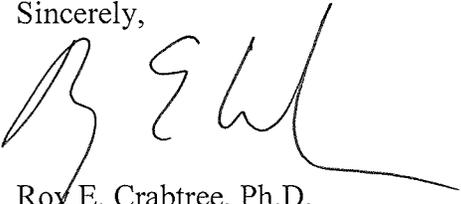
We have not previously provided comments on the proposed report of the Chief of Engineers. We request a modification of paragraph 5.e., to reflect our understanding of operation and maintenance funding for the project's mitigation features. Based on conversations over several regional Executive Steering Committee meetings for the project, we understood that operation and maintenance funds, which will be determined by future appropriations, will be prioritized to ensure proper functioning of required environmental mitigations (e.g., the Speece oxygen injection cones and the fish passage) over other navigation features (e.g., maintenance dredging). The final sentence of paragraph 5.e., states that operation and maintenance for the environmental mitigation features will be handled "in the same manner" as other navigation features. We request this language be modified to clarify that the Corps will first ensure the proper functioning of the environmental mitigations in applying future funding for project operation and maintenance.

In addition, we wish to take this opportunity to update the status of our Endangered Species Act consultation on the Savannah Harbor Expansion Project. For Atlantic sturgeon, we issued a conference opinion for the South Atlantic Distinct Population Segment (DPS), which was proposed to be listed as endangered. The final listing of the South Atlantic DPS of Atlantic



sturgeon as endangered subsequently became effective on April 6, 2012. Regulations at 50 CFR 402.10 (d) provide, "An opinion issued at the conclusion of the conference may be adopted as the biological opinion when the species is listed...but only if no significant new information is developed...and no significant changes to the Federal action are made that would alter the content of the opinion." Based on our review of the FEIS, these criteria have been satisfied. Therefore, NMFS is adopting the conference opinion for the South Atlantic DPS of Atlantic sturgeon as the biological opinion for that species. The incidental take statement provided for Atlantic sturgeon is also now in effect. We request the Record of Decision and final report from the Chief of Engineers also include specific mention of Atlantic sturgeon together with existing references to shortnose sturgeon.

Our primary contact for endangered species issues associated with the Savannah Harbor Expansion Project is Ms. Kay Davy. She may be reached by phone at (954) 356-6791 or by e-mail at Kay.Davy@noaa.gov. Questions regarding essential fish habitat issues may be addressed to Dr. Pace Wilber at (843) 762-8601 or by e-mail at Pace.Wilber@noaa.gov. Thank you for your continued cooperation in the conservation of listed species and habitats.

Sincerely,

Roy E. Crabtree, Ph.D.
Regional Administrator

Enclosures

cc: F/SER – Croom, Lugo, Keys
F/SER3 – Bernhart, Hoffman, Tortorici, Davy
F/SER4 – Fay, Wilber

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NMFS - Protected Resources Division supplemental review of the Savannah Harbor Expansion Project - Final Environment Impact Statement (FEIS)

The following additional comments are associated with our review of the FEIS for the Savannah Harbor Expansion Project (SHEP) issued on April 11, 2012. They are intended to supplement the comments we previously provided on the draft FEIS. Our comments on the draft FEIS, dated February 17, 2012, primarily pertained to the incorporation of all of the specific terms and conditions and conservation measures intended to assure that the impacts of the project do not threaten the continued existence of the endangered species under our purview.

- In the FEIS, all of the figures depicting the conceptual design for the off-channel rock ramp fish passage describe the steel sheet pile guide wall's top elevation above the channel bottom as being 4 inches; this should be corrected to 4 feet. The figures with the incorrect height appear in Appendix C (Mitigation Planning) on page 75 as Figure 26 and on page 130 as Figure 48, in Appendix L (Cumulative Impacts Analysis) on page 98 as Figure 11, in Section 5 on page 5-120 as Figure 5-52, in Appendix B (Biological Assessment) on page 177 as Figure 8-19, and on page 235 of the GRR Appendix C. Note: all of the figures in the draft FEIS had the top elevation of the guide wall at the correct height (4 feet), and not 4 inches.
- The reasonable order of magnitude cost estimate for the off-channel rock ramp fish passage was stated as \$26 million on pages 77 and 80 of Appendix C, but on page 97 of Appendix L the cost estimate is shown as \$32 million in Table 22. The \$32 million cost estimate also appears in Table 8-16 of Appendix B on page 176. The cost estimate in Appendix C should be corrected to \$32 million.
- The list of threatened and endangered species in Appendix B shows Atlantic sturgeon as a candidate species. The federal status should be changed to endangered, as the effective date of the listing was April 6, 2012, before the FEIS was issued.
- Our final comment concerns the significant change in the fish passage design that occurred between the completion of our biological opinion on November 4, 2011, and the issuance of the FEIS. We note that the conceptual design for the off-channel rock ramp in the FEIS has been modified from the design that was originally provided by the Corps in its May 11, 2011, *SHEP Information Paper*, and is included in our biological opinion. Using information about the Corps' proposed fish passage designs provided in the *SHEP Information Paper*, NMFS consulted (via a conference call on May 16, 2011) with sturgeon experts representing the United States Fish and Wildlife Service, South Carolina Department of Natural Resources, University of Georgia, and The Nature Conservancy. The consensus was that the group had many questions about the efficacy of the Corps' proposed fish passage design. On August 25, 2011, NMFS coordinated an interagency site visit to the New Savannah Bluff Lock and Dam where Dr. Luther Aadland (an expert on fish passage design for passing sturgeon) met with many of these sturgeon experts. Following the site visit, Dr. Aadland prepared a technical report for NMFS, dated September 12, 2011, that analyzed the Corps' proposed designs for fish passage at the New Savannah Bluff Lock and Dam. The report also provided recommendations for

modifications that would improve the Corps' preferred design. On page 27 of our biological opinion (the biological opinion is included in Appendix Z of the FEIS), we requested that the Corps review and incorporate the recommendations provided by Dr. Aadland in his technical report. We note that the new fish passage design provided in the FEIS shows the entrance to the lower ramp located closer to the dam, the steel sheet pile guide wall on the upstream side of the dam repositioned farther upriver, and the guide wall for the downriver portion of the ramp removed. These changes reflect the recommendations that were made by Dr. Aadland in his technical report, and we are pleased to see that his recommendations were incorporated into the proposed fish passage design.

NMFS - Habitat Conservation Division review of the Savannah Harbor Expansion Project - Final Environment Impact Statement (FEIS)

The following comments are provided on the Savannah Harbor Expansion Project (SHEP) FEIS issued April 11, 2012. They are intended to supplement the comments provided on the draft FEIS, dated February 17, 2012. Our comments on the draft FEIS focused on the response from the U.S. Army Corps of Engineers Savannah District (COE) to the essential fish habitat (EFH) conservation recommendations provided July 1, 2011. The February letter indicated the COE had adequately responded to the EFH conservation recommendations in accordance with Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act and its implementing regulation at 50 CFR Section 600.920(k). Please consider the following additional comments when preparing the Record of Decision and final report from the Chief of Engineers.

- As noted in past correspondence, NMFS is concerned that live/hardbottom habitat may be present within or adjacent to the proposed footprint of the Ocean Bar Channel extension. We appreciate the COE allowing us to contribute to the statement of work entitled, “Remote Sensing Survey for Cultural Resources and Hardbottom Habitat of a Proposed Bar Channel Extension with Diver Investigation of Anomalies/Targets in Offshore and Inner Harbor Areas, Savannah Harbor Expansion Project.” We also appreciate the COE acknowledges (in Appendix S) that they will work with NMFS to develop a course of action, including selection of appropriate mitigation options, should live/hardbottom habitat be found in these surveys. We request the Record of Decision and final report from the Chief of Engineers clearly acknowledge this commitment, given its importance for the Secretary of Commerce to determine whether the mitigation plan adequately addresses the potential environmental impacts of the project, as required under the Water Resources Development Act of 1999.
- The FEIS portrays disposal of dredged material in nearshore areas off Tybee Island as an option that may be investigated in the future. We opposed this practice in earlier correspondences, and we expect the COE to reinstate EFH consultation should the COE pursue this disposal option, regardless of whether live/hardbottom is present.
- To mitigate direct impacts to 15.7 acres of salt marsh, the COE intends to restore 42 acres of salt marsh at Disposal Area 1S. However, the COE is reserving 11.5 acres of this mitigation for future federal projects in the watershed, rather than applying the full mitigation acreage to the impacts from SHEP. As noted in past correspondence, We continue to oppose operating Disposal Area 1S as if it were a migration bank, unless it fully complies with the regulation *Compensatory Mitigation for Losses of Aquatic Resources*, promulgated by the COE (33 CFR Parts 325 and 332) and Environmental Protection Agency 40 CFR Part 230.



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240



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PEP/NRM



ER 12/268

Mr. Theodore A. Brown, P.E.
Chief, Planning and Policy Division
Directorate of Civil Works
Headquarters
U.S. Army Corps of Engineers
CECW-P (SA)
7701 Telegraph Road
Alexandria, VA 22315-3860

RE: Chief of Engineers and the Report of the District Engineer on the Savannah Harbor Expansion Project, Chatham County, GA and Jasper County, SC

Dear Mr. Brown:

The U.S. Department of the Interior (Department) has reviewed the U.S. Army Corps of Engineers (Corps), Chief of Engineers Report, including the General Re-evaluation Report (GRR) and Final Environmental Impact Statement (FEIS) for the Savannah Harbor Expansion Project (SHEP), Chatham County, GA and Jasper County, SC. We offer the following general and specific comments based upon the analysis, jurisdiction, and special expertise of our U.S. Fish and Wildlife Service (Service).

General Comments

The SHEP involves deepening the harbor from the current inner-harbor depth of 42 feet by as much as 6 feet to a maximum authorized depth of 48 feet. Authorizing language in the Water Resources Development Act of 1999 stipulates that the project may proceed only after the Secretary of the Interior, Secretary of Commerce, and Administrator of the Environmental Protection Agency approve the selected plan and determine that the associated mitigation plan adequately addresses its potential environmental impacts. The Secretary of the Interior has designated the Service's Director as the Department's representative for final plan approval.

The documents describe various models that were developed to predict changes to the environment resulting from alternative channel depths and mitigation measures. Predicted changes to the environment include: salinity increases, loss of tidal freshwater marsh, reduced striped bass reproduction and recruitment, negative impacts to Shortnose Sturgeon habitat, reduced dissolved oxygen, and potential exposure of wildlife to cadmium in dredged sediments.

The SHEP potentially affects several species listed under the Endangered Species Act (ESA). The Corps has coordinated with both the National Marine Fisheries Service (NMFS) and the Service. The NMFS provided a biological opinion concerning the proposed action for species under their purview. By letter dated April 28, 2011, the Service concurred with the findings of the Corps' biological assessment for the effects of the SHEP on species under our purview; however, the Corps has since modified the proposed action. Specifically, the Corps has removed from the project plans the use of Tybee Island near-shore sites for dredged material placement. The Biological Assessment for Threatened and Endangered Species (BATES), Appendix B of the FEIS, addresses this change. The Service has evaluated this information and concludes that it does not affect listed species or critical habitat under our purview in a manner or to an extent not previously considered. Therefore, our previous determination that the proposed action is not likely to adversely affect listed or proposed species or their critical habitat is still valid.

Specific Comments

General Reevaluation Report – Appendix B: Real Estate

Page 3 – Lines 26-29: The Real Estate Appendix describes the standard and non-standard estates to be acquired for the project. Item 'C' states that a Special Use Permit (SUP) from the Service is required for lands impacted within the refuge and a land exchange between the Non-Federal Sponsor (NFS) and the Service. This is incorrect, a SUP is needed only for the areas of the refuge that are involved with the flow modifications associated with the mitigation features of the project. A SUP is for permitting activities on refuge lands, not for the permanent exchange of land. The land exchange is a value-for-value exchange and will not require a SUP; therefore, we recommend separating the SUP from the land exchange in this list.

Page 5 – Lines 26-27: states that the cost of six acres of refuge land (for excavation as part of the channel widening) is estimated at \$70,500 (\$11,750 per acre). This estimate appears to be low. The land exchange necessary for the project to acquire these refuge lands is a value-for-value exchange. We request language be included in this section noting that the actual cost for the exchange will be based upon an approved real estate appraisal meeting Federal appraisal standards and conducted at the time of the transfer, and may differ from this estimate.

Page 6 – Lines 1-4: states that a SUP between the NFS and the Service is required covering 66 acres of refuge lands. This is incorrect, the SUP will cover approximately 48 acres of refuge lands that are involved with the project's flow-modification mitigation features and the restoration of wetlands at disposal site 1S.

Page 7 – Lines 33 – 37: states that a total of 7.2 acres of wetlands will be lost as a result of widening the turning basin. Because the Corps will not "assert the navigational servitude to a sister agency," the Corps includes these acres in its mitigation plan. The real estate section should clarify how the Corps will compensate the Service for the loss of these 7.2 acres of wetlands. The loss of these wetland acres need to be included as part of the land exchange

acreage, otherwise the Service cannot find this activity (enlarging the turning basin) compatible with the mission of the refuge.

Page 21 – Lines 5-8: addresses impacts to the refuge. In line 6, insert the words ‘and wetlands’ after “high ground.” The total acreage of refuge lands needed for enlarging the turning basin, including wetlands, must be included in the land exchange.

Page 34 - Government Owned Property: This section is unclear. It states that the NFS is required to pursue a land exchange for six acres (acres above the ordinary mean high water mark within and adjacent to the turning basin) with the Service; however, the turning basin also affects 7.2 acres of wetlands for which a land exchange is necessary in order to make the project compatible with the refuge mission and purpose. Line 42 states that “credits will be afforded for the 6 acres in easements by the NFS.” This is incorrect; the Service will only accept lands in fee title, not as easements.

Environmental Impact Statement - Section 4 – Affected Environment

Page 4-70 – The list of conservation areas should include Tybee National Wildlife Refuge. This list should also refer to the Savannah National Wildlife Refuge as “on site,” instead of “near project area,” since some portions of the Savannah National Wildlife Refuge are within the footprint of the project and its mitigation features.

Appendix C – Mitigation Planning

Page 174 - Figure 59 shows the Refuge acquisition boundary, with two parcels circled for acquisition: Mill Creek and Abercorn Island. Page 175 gives the size of the Mill Creek tract as 4,600 acres, which is incorrect. The Mill Creek tract is 1,184 acres. To avoid price inflation through land speculation, the Service has previously requested that the Corps not identify specific tracts for acquisition; therefore, we request that the Corps remove the circles from Figure 59 and adjust the corresponding text accordingly.

Page 175 – Please change the reference to the Service’s “Draft Comprehensive Plan” to the “2011 Final Comprehensive Conservation Plan.”

Page 178 – The Corps states that “preservation of the 2,245 acres will include a restrictive covenant and the recording of a conservation easement with conveyance of the property to the USFWS.” This statement is inconsistent with Service policies. The Service will accept only fee-title conveyance of lands for addition to the refuge, and we will not accept lands with restrictive covenants or conservation easements. We request the Corps revise this text accordingly.

Page 190 – The Corps states that “The Savannah National Wildlife Refuge (SNWR) is a conservation area of national importance with habitats that are important to many unique plant

and animal species, including threatened and endangered species. It is located in the vicinity of the SHEP project (i.e., “In basin”), but it is sufficiently removed from the project area so as not to be *directly* impacted by excavation and/or dredging activities.” We believe that this is a mischaracterization of project impacts, as portions of the refuge are directly affected by widening the turning basin, dredging, and construction of flow-modification structures. We request the Corps revise this text accordingly.

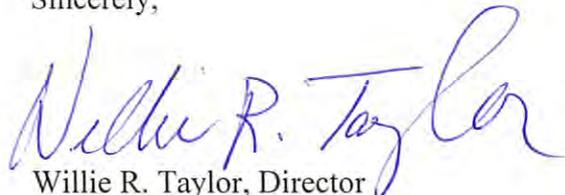
Appendix M – Cadmium Monitoring

Page 88 – In the second paragraph under “7.4.3.1.1 Wildlife and Avian Abundance Surveys” (lines 23-32); the paragraph should begin with a sentence indicating that it refers to cadmium concentration thresholds in plant tissues. We also recommend moving this paragraph to section “7.4.3.1.4 Potential Vegetation Tissue Monitoring.”

Page 91 – In the second paragraph under “7.4.3.1.4 Potential Vegetation Tissue Monitoring” (lines 24-30); the Service does not believe the marsh wren is an appropriate species for deriving plant tissue threshold concentrations, because it is insectivorous. The Service recommends either clarifying or deleting the exposure concentrations in this paragraph.

We appreciate the opportunity to comment on this project. If you have any questions regarding our comments please contact the following Service representatives: Mr. Jerry Ziewitz, Conservation Planning Assistance Coordinator, at 850-877-6513, jerry.Ziewitz@fws.gov, or Mr. Jack Arnold, Deputy Assistant Regional Director, Ecological Services, at (404) 679-7311.

Sincerely,



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

cc: FWS, Field Supervisor, Athens, GA
FWS, Refuge Manager, Savannah NWR

United States Department of Agriculture



Natural Resources Conservation Service
355 East Hancock Avenue
Athens, GA 30601

May 3, 2012

Theodore A. Brown, P. E.
Chief, Planning and Policy Division
Directorate of Civil Works
Headquarters
U. S. Army Corps of Engineers
CECW-P (SA)
7701 Telegraph Road
Alexandria, VA 22315 -3860

Re: Review of Chief of Engineers and District Engineer Report and Final Environmental Impact Statement for the Savannah Harbor Expansion Project, Chatham County, Georgia and Jasper County, South Carolina

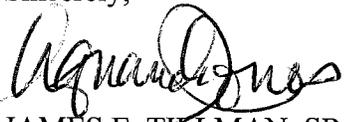
Dear Mr. Brown:

This letter is in response to your April 11 request for the Natural Resources Conservation Service (NRCS) review and comment on the subject reports.

The NRCS engineering staff has reviewed the reports and has no comments or recommendations regarding the subject reports at this time. Based on our review the project will not impact any area where the NRCS has jurisdiction by law.

Thank you for the opportunity to review the report.

Sincerely,


JAMES E. HILLMAN, SR.
State Conservationist

Acting for



Scerno, Deborah HQ

From: Bee, Patricia L HQ02
Sent: Tuesday, May 29, 2012 10:18 AM
To: Ware, Charles L HQ02; Scerno, Deborah HQ
Subject: FW: Savannah Harbor Expansion Project (UNCLASSIFIED)

Categories: Red Category

Classification: UNCLASSIFIED
Caveats: NONE

Coast Guard response.

-----Original Message-----

From: Joseph.B.Embres@uscg.mil [<mailto:Joseph.B.Embres@uscg.mil>]
Sent: Tuesday, May 29, 2012 9:55 AM
To: Bee, Patricia L HQ02
Cc: Haley, Andrew S LTJG
Subject: FW: Savannah Harbor Expansion Project (UNCLASSIFIED)

Sorry for the delay on this but we have already responded to ACOE Savannah District Office.

We again reviewed what you have sent us and provide the below.

For planning purposes, do you have any dates for the projects progress?

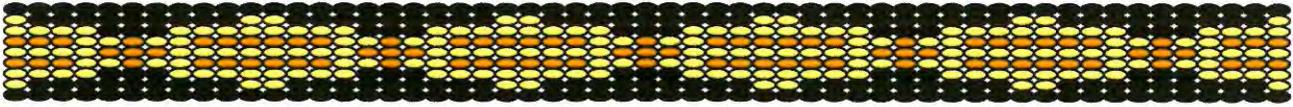
Thank you for allowing the Coast Guard to comment on the EIS and FRR for the Savannah Harbor Expansion. After reviewing the documents, it is clear that the Army Corps have incorporated the earlier Coast Gaur comments. The cost estimate for ATON has been increased from \$0.8M to \$5M. That should be sufficient to mark the channel and construct any new ranges. The Seventh District Waterways Management Office has no further comments concerning the EIS. Once again, thanks for the opportunity to comment.

v/r

Classification: UNCLASSIFIED
Caveats: NONE

Catawba Indian Nation
Tribal Historic Preservation Office
1536 Tom Steven Road
Rock Hill, South Carolina 29730

Office 803-328-2427
Fax 803-328-5791



May 4, 2012

Attention: William G. Bailey
Department of the Army
P. O. Box 889
Savannah, Georgia 31402-0889

Re. THPO #	TCNS#	Project Description
2012-46-1		Final EIS and Final GRR and continued maintenance of the existing Savannah Harbor Federal Navigation Project, Chatham Co., GA and Jasper Co., SC

Dear Mr. Bailey,

The Catawba have no immediate concerns with regard to traditional cultural properties, sacred sites or Native American archaeological sites within the boundaries of the proposed project areas. **However, the Catawba are to be notified if Native American artifacts and / or human remains are located during the ground disturbance phase of this project.**

If you have questions please contact Caitlin Totherow at 803-328-2427 ext. 226, or e-mail caitlinh@ccppcrafts.com.

Sincerely,

Wenonah G. Haire
Tribal Historic Preservation Officer

Keid 7/17



OFFICE OF PLANNING AND BUDGET

Nathan Deal
Governor

Debbie Dlugolenski Alford
Director

GEORGIA STATE CLEARINGHOUSE MEMORANDUM EXECUTIVE ORDER 12372 REVIEW PROCESS

TO: Headquarters
U. S. Army Corps of Engineers
CECW-P (SA)
7701 Telegraph Road
Alexandria, VA 22315-3860

FROM: Barbara Jackson *BJ*
Georgia State Clearinghouse

DATE: 5/11/2012

APPLICANT: Dept. of the Army - U.S. Army Corps of Engineers

PROJECT: Proposed Report of the Chief of Engineers; Final General Re-Evaluation Report and Environmental Impact Statement for Savannah Harbor Expansion Project (located in Chatham County, GA and Jasper County, SC)

STATE ID: GA120413004

The applicant/sponsor indicated that they already coordinated directly with the following reviewing agencies: DNR's Coastal Resources Division; DNR's Wildlife Resources Division; DNR's Environmental Protection Division; DNR's Historic Preservation Division; Georgia Ports Authority.

Provided that there is continued coordination on this project and any future issues and/or concerns are addressed satisfactorily, the State level review of the above-referenced proposal has been completed, and the proposal found to be consistent with those state or regional goals, policies, plans, fiscal resources, criteria for Developments of Regional Impact (DRI), environmental impacts, federal executive orders, acts and/or rules and regulations with which the state is concerned.

/bj
Enc.: CSMPC, May 11, 2012
Coastal RC of Georgia, May 4, 2012
GA DOT, Apr. 24, 2012

Form NCC
Oct. 2008

Barbara Jackson

From: Jackie Jackson Teel <jacksonj@thempc.org>
Sent: Friday, May 11, 2012 11:39 AM
To: Barbara Jackson; Tom Thomson
Subject: RE: GA120413004 project review comments

Ms. Jackson,
The MPC had no comments on this project, but thank you for checking.

Have a great weekend-
Jackie

Jackie Jackson Teel, LEED - AP BD+C
Director of Comprehensive Planning
Chatham County - Savannah
Metropolitan Planning Commission

www.MPCNaturalResources.org

Phone: (912) 651-1454/1440
Fax: (912) 651-1480

From: Barbara Jackson [mailto:Barbara.Jackson@opb.state.ga.us]
Sent: Friday, May 11, 2012 11:06 AM
To: Jackie Jackson Teel; Tom Thomson
Subject: GA120413004 project review comments

Hi:

The following project was sent to Mr. Thomson, but we have not received review comments. Would you please check status of this for me and fax?

State ID: GA120413004

Applicant: Dept. of the Army - U.S. Army Corps of Engineers

Project: Proposed Report of the Chief of Engineers; Final General Re-Evaluation Report and Environmental Impact Statement for Savannah Harbor Expansion Project (located in Chatham County, GA and Jasper County, SC)

Comments were due: 5/4/2012

Thank you,

Barbara J.

RECEIVED
MAY 11 2012
GEORGIA
STATE CLEARINGHOUSE

D 00 Remote ID: R page 01 of

**GEORGIA STATE CLEARINGHOUSE MEMORANDUM
EXECUTIVE ORDER 12372 REVIEW PROCESS**

TO: Barbara Jackson
Georgia State Clearinghouse
270 Washington Street, SW, Eighth Floor
Atlanta, Georgia 30334

FROM: MR. DAVID DANTZLER
COASTAL RC OF GEORGIA

APPLICANT: Dept. of the Army – U.S. Army Corps of Engineers

PROJECT: Proposed Report of the Chief of Engineers; Final General Re-Evaluation Report
and Environmental Impact Statement for the Savannah Harbor Expansion Project
(located in Chatham County, GA and Jasper County, SC)

STATE ID: GA120413004

FEDERAL ID:

DATE: 4/13/2012

X This notice is considered to be consistent with those state or regional goals, policies, plans, fiscal resources, criteria for developments of regional impact, environmental impacts, federal executive orders, acts and/or rules and regulations with which this organization is concerned.

Comment: Please see attached review.

This notice is not consistent with:

- The goals, plans, policies, or fiscal resources with which this organization is concerned. (Line through inappropriate word or words and prepare a statement that explains the rationale for the inconsistency. (Additional pages may be used for outlining the inconsistencies. Be sure to put the GA State ID number on all pages).
- The criteria for developments of regional impact, federal executive orders, acts and/or rules and regulations administered by this agency. Negative environmental impacts or provision for protection of the environment should be pointed out. (Additional pages may be used for outlining the inconsistencies). Be sure to put the GA State ID number on all pages).
- This notice does not impact upon the activities of the organization.

**NOTE: Should you decide to FAX
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originals to us. [770-344-3568]**

Form SC-3
Aug. 2010

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MAY 04 2012

**GEORGIA
STATE CLEARINGHOUSE**

**Coastal Regional Commission Clearinghouse Review of the Regional Plan for Coastal Georgia
Adopted June 9, 2010**

Dept. of the Army – U.S. Army Corps of Engineers

Proposed Report of the Chief of Engineers; Final General Re-Evaluation Report and Environmental Impact Statement for the Savannah Harbor Expansion Project (located in Chatham County, GA and Jasper County, SC)
Review By David Dantzler, May 4, 2012 (Faxed)

Project: Environmental Impact Statement on the proposed deepening of the Port of Savannah Ship Channel. 6 Alternatives reviewed and the NED Plan was selected with recommendations for dredging to -47 ft to support larger container ships in use or being constructed. This will provide the Port of Savannah the channel capacity equivalent to the modifications to the Panama Canal being completed in 2014. The EIS proposes mitigation measures for the identified impacts.

Regional Plan Compliance:

Future Development Pattern – Conservation and Developed (Savannah and Garden City)

ARSA – Areas of Significant Natural Resources, Areas of Significant Infill (South bank within the developed areas of Savannah and Garden City)

QCO – For Areas of Significant Natural Resources Green Infrastructure – existing shipping channel within the Savannah River (waterway) bordered by wetlands/marsh along much of the distance of the project within the River Channel). South bank within the cities of Savannah and Garden City exist opportunities for Infill.

Regional Plan Issues and Opportunities:

- IWW-3** Affect of salt water intrusion on the Upper Floridan Aquifer leading to withdrawal limits.
- IT-5** Impacts of port development on highway infrastructure and natural resources.
- NR-1** Loss of environmentally sensitive and ecologically valuable resources.
- O-ED-4** Promote proximity to the ports and regional transportation.
- O-ED-13** Attract businesses with airports, transit systems, and other regional transportation initiatives.

Implementation:

CR – PS1 - 5. Require mitigation to significant resources impacted by development.

NR - GP - 2. Continue the traditional use of land and water (such as farming, forestry, fishing, etc.) as feasible, provided that any significant impacts on resources can be prevented or effectively mitigated.

EDB&I – GP – 4. Coordinate with the Georgia Ports Authority (GPA) to identify their needs and identify mechanisms for the economic development industry to strengthen the GPA and its presence in logistics, distribution, and workforce development.

Comment:

Issues identified in the plan relating to the deepening of the Savannah Harbor include:

- Salt water intrusion into the area aquifers used as the primary water supply. The EIS addresses this concern stating that there is separation by depth and confining layers from the water supplying aquifers. There is the possibility of interconnection between the shallow and deeper aquifers within the Coastal Georgia Region.
- Impact of additional traffic related to the continued growth of the port on the Region's transportation infrastructure. While not directly related to the deepening project, the ability of the Port to handle increasing cargo related to the ability to accommodate larger ships will result in greater demands on the Region's transportation infrastructure. The Port of Savannah needs to continue to be a partner in the development and improvement of the transportation infrastructure in the Region.
- The impact on environmentally sensitive and ecologically valuable resources. The EIS does address identified environmental and cultural impacts and proposes mitigation measures to address these impacts. The proposed mitigation measures need to be flexible enough to adjust to actual impacts of the project.
- Economic value of the port to the Region. The Port of Savannah is a major economic engine for the Coastal Region. It is important for the Port to continue to be a partner in the development of the Region, as well as a Partner in the protection of the natural and cultural assets that make Coastal Georgia the desirable Region to live and work.

RECEIVED

Source: The Regional Plan of Coastal Georgia; Adopted June 9, 2010;
http://www.crc.ga.gov/planning/docs/Final_Agenda_Adopted_060910.pdf

MAY 04 2012

GEORGIA
STATE CLEARINGHOUSE

**GEORGIA STATE CLEARINGHOUSE MEMORANDUM
EXECUTIVE ORDER 12372 REVIEW PROCESS**

TO: Barbara Jackson
Georgia State Clearinghouse
270 Washington Street, SW, 8th Floor
Atlanta, Georgia 30334

FROM: MS. CAROL COMER
GA DOT OFC OF INTERMODAL PROGRAMS

APPLICANT: Dept. of the Army - U.S. Army Corps of Engineers

PROJECT: Proposed Report of the Chief of Engineers; Final General Re-Evaluation Report and Environmental Impact Statement for Savannah Harbor Expansion Project (located in Chatham County, GA and Jasper County, SC)

STATE ID: GA120413004

FEDERAL ID:

DATE: 4/18/12

This project is considered to be consistent with those state or regional goals, policies, plans, fiscal resources, criteria for developments of regional impact, environmental impacts, federal executive orders, acts and/or rules and regulations with which this organization is concerned.

This project is not consistent with:

The goals, plans, policies, or fiscal resources with which this organization is concerned. (Line through inappropriate word(s) and prepare a statement that explains the rationale for the inconsistency. (Additional pages may be used for outlining the inconsistencies. Be sure to put the GA State ID no. and any Federal ID no. on all pages).

The criteria for developments of regional impact, federal executive orders, acts and/or rules and regulations administered by your agency. Negative environmental impacts or provision for protection of the environment should be pointed out. (Additional pages may be used for outlining the inconsistencies. Be sure to put the GA State ID no. and any Federal ID no. on all pages).

This project does not impact upon the activities of the organization.

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Form SC-3
Mar. 2012



MARK WILLIAMS
COMMISSIONER

DAN FORSTER
DIRECTOR

June 4, 2012

Mr. William Bailey
US Army Corps of Engineers
Savannah District
100 West Oglethorpe Avenue
Savannah, Georgia 31401-3640

Subject: Comments on Final Environmental Impact Statement (EIS) and General Re-evaluation Report (GRR) for Savannah Harbor Expansion Project

Dear Mr. Bailey:

Thank you for the opportunity to review and provide comment on the final Environmental Impact Statement (EIS) and General Re-evaluation Report for the Savannah Harbor Expansion Project. The Georgia Department of Natural Resources, Wildlife Resources Division (WRD) has worked closely with you and your colleagues at the Corps of Engineers and other cooperating agencies on this project for many years. Through this process, our involvement has been primarily focused on the assessment of potential impacts on fishery resources, including the Savannah River striped bass fishery. This once thriving population nearly collapsed in the late 1980's due to changes in bathymetry and increased salinity levels in important spawning grounds in the Savannah Estuary. WRD has made a long term commitment to the recovery of the Savannah River striped bass population and has made tremendous strides toward recovering this fishery. Recovery efforts between state and federal agencies included closing new cut, removing tide gate operations, closing the fishery to harvest, and conducting an intense stocking and monitoring program. Recent signs of population recovery include increased numbers of adult striped bass and a measurable amount of natural recruitment. Since the mid 1990's the Savannah River striped bass fishery has become a popular sport fishery once more as stocked fish have grown in size and abundance. After nearly 17 years, the fishery was successfully re-opened to limited harvest in October 2005. We continue our commitment to the striped bass fishery through annual population monitoring and stocking.

The EIS identifies the predicted impacts at alternative project depths from 44 to 48 feet and predicts the effectiveness of mitigation features at each depth. The selected depth of the current project of 47 feet was identified by the Corps as the National Economic Development (NED) Plan. This depth predicts the loss of 26.9 percent of the remaining critical striped bass habitat in the Savannah River estuary after all proposed mitigation features are in place. The EIS acknowledges that this habitat loss warrants mitigation. Permanent loss of this critical habitat will likely preclude the restoration of a naturally self-sustaining population in the Savannah River and require annual stocking of 6 to 8 inch striped bass in perpetuity. The striped bass

Mr. William Bailey

June 4, 2012

Page 2

compensatory mitigation as outlined in the EIS is scheduled for the first year of construction. Monitoring efforts to evaluate project effects are scheduled to take place 2, 4, and 9 years post construction. If post construction monitoring show that more habitat was lost than predicted, then we would ask that the loss be calculated and mitigated using the same methodologies that were used to determine the initial 26.9 percent loss.

Impacts to shortnose sturgeon remain after mitigation features are included. To compensate for this loss, a fish passage structure at the New Savannah Bluff Lock and Dam (NSBLD) is proposed. The fish passage structure is intended to allow shortnose sturgeon to access historical spawning grounds above NSBLD. The Corps is planning a passage study during construction to ensure the structure performs as intended. A post-construction monitoring plan will be designed by cooperating agencies to continue to monitor shortnose sturgeon passage at the New Savannah Bluff Lock and Dam.

Moving forward, our focus will be assessing the impacts of the project on the fishery resources including striped bass and ensuring that the adaptive management plan will be used effectively to rectify unanticipated impacts. Thank you for the opportunity to provide additional input and review in this important process. We look forward to continuing our work together on this project.

Sincerely,



Dan Foster

DF/tab

cc: John Biagi



South Carolina Department of Natural Resources

Alvin A. Taylor
Director

June 4, 2012

Col. Jeffrey M. Hall
U.S. Army Corps of Engineers
Savannah District
100 West Oglethorpe Avenue
Savannah, Georgia 31401-3640

REFERENCE: Final General Re-Evaluation Report and Final Environmental Impact Statement for the Savannah Harbor Expansion Project Chatham County, Georgia and Jasper County, South Carolina

Dear Col. Hall,

Personnel with the South Carolina Department of Natural Resources (DNR) have reviewed the Final Environmental Impact Statement (FEIS) for the Savannah Harbor Expansion Project (SHEP or Project). Specific comments on the FEIS are attached to this letter. Many of these comments apply to the Final General Re-Evaluation Report (FGRR), as well, so a copy of this letter and attachment should be included in the administrative record for each of these documents.

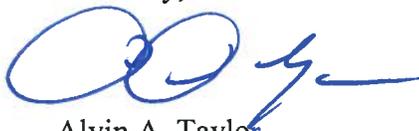
DNR submitted detailed comments on the Draft Environmental Impact Statement (DEIS) by letter dated January 25, 2011. The attached comments on the FEIS focus on the U.S. Army Corps of Engineers' (USACE) response to those comments, as well as on specific revisions made to the DEIS in response to federal and state agency concerns.

Based on the assessment of the environmental impacts as presented in the FEIS, and on the adequacy of the mitigation proposed, DNR has not changed its position that the only environmentally acceptable deepening alternatives are the 44-ft alternative or the 45-ft alternative, provided the proposed mitigation for each alternative proves to be successful. DNR continues to recommend that deepening of the Savannah Harbor navigation channel be limited to that depth necessary to alleviate draft restrictions on the existing fleet of vessels, but in no case greater than -45 ft MLW.

Col. Jeffrey M. Hall
FGRR and FEIS for SHEP
June 4, 2012
Page 2

If you have any questions regarding our comments, please contact Bob Perry of my staff.

Sincerely,



Alvin A. Taylor
Director

ec: Jay Herrington – FWS
Pace Wilber – NMFS
Heather Preston – DHEC-EQC
Rheta DiNovo – DHEC-OCRM
John P. Evans, Chairman DNR Board
Robert Boyles
Emily Cope
Ken Rentiers
Breck Carmichael
Bob Perry
Priscilla Wendt

**South Carolina Department of Natural Resources
Comments on the Final Environmental Impact Study
for the Savannah Harbor Expansion Project**

General Comment: The USACE's *response to comments* on the Draft Environmental Impact Study (DEIS) for the Savannah Harbor Expansion Project (SHEP) is included in Appendix A of the Final Environmental Impact Study (FEIS). Some changes were made to the DEIS in response to agency comments; however, the U. S. Army Corps of Engineers (USACE) still maintains that the 47-foot National Economic Development (NED) Plan adequately balances the national interest with environmental concerns. DNR disagrees with this conclusion and continues to recommend that the deepening project be limited to a maximum depth of -45 feet (MLW), in order to reduce the environmental impacts.

Adverse Impacts of the NED Plan: The FEIS acknowledges that the following adverse impacts would still occur with the selected 47-foot depth alternative, even with the proposed mitigation measures:

1. Loss of 15.68 acres of brackish marsh due to project excavation requirements.
2. Increase in chloride levels at the City of Savannah's water intake (municipal and industrial) during low flows and high tides.
3. Adverse impacts to striped bass (*Morone saxatilis*) habitat.
4. Adverse impacts to shortnose sturgeon (SNS) (*Acipenser brevirostrum*) foraging habitat for both juveniles and adults.
5. "Minor increase" in saltwater intrusion into the aquifer.
6. Temporary, localized dredging and disposal impacts on water quality and benthic communities during construction.
7. Conversion of 223 acres of tidal freshwater marsh to brackish marsh (assuming flow-altering mitigation is successful in limiting salinity intrusion).
8. Conversion of 740 acres of saltmarsh to brackish marsh (assuming flow-altering mitigation is successful in limiting salinity intrusion).
9. Adverse impacts to the remains of the *CSS Georgia*.

Selected Means to Mitigate Adverse Environmental Impacts: The FEIS includes the following mitigation measures:

1. Restoration of 40.3 acres of brackish marsh at Disposal Area 1S.
2. Construction of flow rerouting features at McCoy's Cut, Rifle Cut, Middle and Little Back rivers and the Sediment Basin.
3. Removal of the Tidegate.
4. Construction and operation of an oxygen injection system.
5. Construction of a freshwater storage impoundment to mitigate for increased chloride levels.

6. Restoration of access for SNS and other anadromous fish species to historic spawning areas at the Augusta Shoals through construction of a fish bypass at the New Savannah Bluff Lock and Dam (NSBL&D).
7. Increase in the number of striped bass fingerlings stocked in the estuary.
8. Recovery and preservation of the remains of the *CSS Georgia*.
9. Construction of a public boat ramp on Hutchinson Island.

Comparison of Draft and Final Environmental Impact Statements: Major changes to the DEIS and DNR's responses to those changes are as follows:

1. The FEIS includes a revised summary table of project-related impacts with mitigation (Table 3-8); however, no such revisions are made to the summary table of project-related impacts without mitigation (Table-3-7). Predicted changes in the acreage of freshwater wetlands and saltmarsh, as shown in the DEIS, were subdivided into categories representing direct impacts due to excavation (resulting in the complete loss of brackish marsh), and indirect impacts due to changes in the salinity regime (resulting in the conversion of freshwater wetlands, brackish marsh, and saltmarsh into different wetland types). In addition, Table 3-8 of the FEIS includes revised acreages of SNS habitat gained or lost. These revisions resulted from changing the salinity "habitat suitability" criterion for juvenile SNS in January from a maximum of 4.0 ppt to a maximum of 14.9 ppt, and from incorporating loadings from point source discharges in the calculation of dissolved oxygen requirements. No such revisions to wetland categories or suitable habitat for juvenile SNS were made to the summary table of project-related impacts without mitigation (Table 3-7). DNR believes it is inappropriate and misleading to present project-related impacts based on different criteria for the "with" and "without" mitigation scenarios. The FEIS should be revised to include summary tables of project-related impacts based on the same set of criteria for the "with" and "without" mitigation scenarios.
2. The FEIS incorporates a larger fish passage design at the NSBL&D near Augusta, Georgia, as mitigation for impacts to habitat of the endangered SNS. DNR continues to oppose this "out-of-kind" mitigation for loss of SNS foraging habitat, and recommends that impacts to SNS foraging habitat be minimized by limiting dredging to a maximum depth of -45 ft (MLW).
3. The FEIS eliminates the construction of an underwater sill that was intended to minimize salinity intrusion into the Middle River. Given the high cost, minimal benefit, and possibility of unintended consequences, DNR concurs with the elimination of this particular aspect of the project.
4. The FEIS increases Post-Construction Monitoring from 5 to 10 years for several elements of the project. DNR continues to support increasing the duration of post-construction monitoring, should the project be approved.

5. The FEIS adds 2 Speece cones to the Dissolved Oxygen (DO) Injection System. DNR has expressed serious concerns about the efficacy of the proposed DO injection system; the addition of 2 Speece cones does not allay those concerns.
6. The FEIS eliminates nearshore placement of new work dredged sediments near Tybee Island, Georgia from the project, because of the high percentage of fine grained sediments. DNR generally opposes open-water disposal of dredged sediments, except in an approved ODMDS or for the purpose of nourishing seriously eroding beaches with beach-compatible sands. Therefore, we concur with eliminating the nearshore placement of fine-grained sediments.
7. The FEIS includes additional real estate acquisition to accommodate the larger fish passage system and construction of a freshwater storage impoundment for the City of Savannah. DNR continues to oppose the construction of a fish passage system as mitigation for the loss of SNS foraging habitat, and does not support further encroachment of the proposed system into South Carolina, which is likely to only occur through condemnation of valuable recreational and agricultural lands.
8. The FEIS includes increased costs for planning, engineering and design of all Project features, and includes increased costs to construct, operate and maintain a larger fish bypass system. DNR continues to oppose the construction of a fish passage system as mitigation for the loss of SNS foraging habitat, and believes the cost increase from \$4.3 million to \$32 million for a system that may not even be effective in passing SNS is neither warranted nor advisable.

USACE Response to SCDNR Comments on the DEIS: In Appendix A of the FEIS (pp. 482 - 502), USACE responds to DNR's earlier comments on the DEIS. Some of those responses adequately address our concerns; however, the responses below do not, and are followed by DNR's replies to USACE responses. The page numbers refer to Appendix A of the FEIS.

1. Appendix A, p. 485

DNR Comment: Based on our assessment of the environmental impacts as presented in the DEIS and DGRR, and on the adequacy of the mitigation proposed, DNR has concluded that the only deepening alternatives that could be considered minimally environmentally acceptable are the 44-ft alternative or the 45-ft alternative, provided the proposed mitigation for each of these alternatives proves to be successful....

USACE Response: The position of the SC DNR that only the 44-foot project or the 45-foot project can be considered minimally environmentally acceptable provided the proposed mitigation proves successful is acknowledged.

DNR Reply to USACE Response: Acknowledgment of our position is not synonymous with concurrence. DNR urges USACE to reconsider its selection of the 47-ft alternative as the preferred alternative.

2. Appendix A, p. 487

DNR Comment: *In view of these concerns, DNR has concluded that a better alternative to consider is to conduct minimal deepening of the channel now and to a depth of -44 or -45 ft in order to alleviate draft restrictions on the existing fleet of vessels, and then to conduct additional studies and hydrodynamic modeling to evaluate the economic and environmental impacts of deepening to a greater depth only as far as the site of proposed Jasper Port Terminal. Since this site is several miles closer to the ocean than the Garden City Terminal, this alternative could potentially reduce the environmental impacts and cost of deepening, while increasing navigational safety and efficiency for the next generation of vessels predicted to call on the proposed Jasper Port Terminal. DNR recommends that this alternative be given serious consideration.*

USACE Response (excerpt): *...The proposed Jasper County Terminal was not included as a without or with project condition due to the high level of uncertainty concerning the proposed terminal. Much of the uncertainty centered around whether a terminal may be constructed in Jasper County, and if it is constructed, when will it be constructed and how would it operate. Although the proposed Jasper terminal was not considered in the detailed analyses, a series of sensitivity analyses were conducted to identify the potential impact that a Jasper County Terminal might have on the justification and recommendation of a proposed channel deepening to GPA's Garden City Terminal if the Jasper facility was constructed. ... Overall, this analysis showed that economic justification [emphasis added] for construction of the channel increment between a Jasper County Terminal and the Garden City Terminal is not particularly sensitive to the development of a terminal in Jasper County. In other words, if the Jasper County Terminal was already constructed, deepening the channel to GPA's Garden City Terminal would still be economically justified [emphasis added].*

DNR Reply to USACE Response: The sensitivity analysis cited above considered only economics, and did not include a comparative assessment of the relative environmental impacts of deepening the channel only as far as the proposed Jasper Ocean Terminal, or the relative cost of mitigating those impacts. Therefore, the economic justification presented in the sensitivity analysis is flawed. DNR recognizes that a full environmental impact assessment of the proposed alternative (i.e., constructing the proposed Jasper Ocean Terminal and deepening the channel only as far as the site of that terminal) may be beyond the scope of the SHEP FEIS. Nevertheless, DNR believes it would be prudent to limit the maximum depth of dredging for SHEP to -45 feet (MLW) in light of the significantly greater environmental impacts of the 47-ft alternative, and in anticipation of considering a wider range of alternatives as part of a full environmental impact assessment for the proposed Jasper Ocean Terminal.

3. Appendix A, p. 488

DNR Comment: *The NED Plan, the 47-ft alternative, would involve the initial excavation of about 28 million yd³ of dredged sediment, and would result in both direct and indirect impacts to natural resources. Direct impacts would result from the physical removal and disposal of sediments, while indirect impacts would result from increased salinity intrusion and reduced dissolved oxygen (DO) levels. Overall impacts include adverse effects on managed freshwater wetlands in the Savannah National Wildlife Refuge (SNWR), loss of tidal freshwater wetlands, impacts to public use of the estuarine/riverine system, loss of foraging and nursery habitat for the endangered shortnose sturgeon (*Acipenser brevirostrum*) (SNS), loss of salt and brackish marsh and loss of habitat for Striped bass (*Morone saxatilis*).*

USACE Response (excerpt): *The SHEP would not have adverse effects on the managed wetlands in the Savannah National Wildlife Refuge. Based on evaluations conducted during the SHEP, none of the five deepening alternatives with mitigation in place [emphasis added] would increase salinity levels at the Savannah National Wildlife Refuge diversion canal entrance. With the proposed mitigation, [emphasis added] salinity levels are projected to decrease in that portion of Back River...*

DNR Reply to USACE Response: While we recognize the hydrodynamic model predicts lower salinity in the Back River with the flow-altering mitigation features in place (therefore, presumably resulting in no adverse impacts on managed freshwater wetlands in the Savannah National Wildlife Refuge), DNR remains skeptical that the proposed mitigation features will function as predicted.

USACE Response (continued): *...Shortnose sturgeon spawning habitat is located well above Savannah Harbor. Thus, the SHEP would have no impacts on nursery habitat [emphasis added]. As discussed in the DEIS, there would be impacts to adult and juvenile Shortnose sturgeon habitat.*

DNR Reply to USACE Response (continued): By definition, nursery habitat is where juvenile fish tend to aggregate and mature. USACE is confusing spawning habitat with nursery habitat. The most intensively utilized nursery habitat for SNS in the Savannah River is near the freshwater/brackish water interface, which is well below the typical spawning habitat for this species and well within the area likely to be impacted by the proposed deepening project.

4. Appendix A, p. 500

DNR Comment (excerpt): *DNR recommends that Atlantic sturgeon (*Acipenser oxyrinchus*), recently proposed to be listed as an endangered species, and striped bass be added to the list of biological resources to be monitored. ...Development of a monitoring*

protocol for Atlantic sturgeon should be closely coordinated with federal and state natural resource agencies. The estimated cost of adding these monitoring components should be factored into the total monitoring cost of the project.

USACE Response: *As requested by the USDI, the Monitoring Plan has been modified to include an assessment of post-project impacts on the Striped bass. The monitoring data that is collected and the updated models would be used to evaluate impacts to the Striped bass during years 2, 4, and 9 of the Post-Construction Monitoring. The Atlantic sturgeon was not identified by the Interagency Coordination Team as a species of concern that should be included in the SHEP monitoring plan. If the Atlantic sturgeon becomes listed as an endangered species, the Corps would consider including this species in the monitoring plan [emphasis added].*

DNR Reply to USACE Response: The Atlantic sturgeon (ATS) was listed as an endangered species shortly before the release of the FEIS. The NMFS Biological Opinion (Bi-Op) determined that construction of the SHEP would “likely adversely affect” ATS. The impacts to juvenile and adult foraging habitat for ATS are predicted to be similar to those for SNS, and the proposed mitigation (providing fish passage to historic spawning habitat) is the same as that for SNS. The stated goal of the fish passage alternative is to achieve at least 75 percent upstream passage effectiveness for both SNS and ATS, at least 85 percent downstream passage effectiveness, and cause no serious injury to sturgeon that come into contact with the passage or dam structures. As stated on p. 5-158 of the FEIS:

The COE shall develop a Monitoring and Adaptive Management Plan specifically for the fish passage that will, to the maximum extent practicable, ensure the performance criteria will be achieved. The plan will also identify triggers for passage modification. Post-construction monitoring shall be designed and conducted to assess the effectiveness of the fish passage in safely passing sturgeon upstream and downstream.

DNR takes the same position on ATS as it has on SNS, i.e., constructing a fish passage structure to provide access to historic spawning habitat, even if successful, is not appropriate mitigation for the loss of foraging and nursery habitat. Leaving that position aside, however, DNR notes that there is no mention of ATS in the revised (January 2012) Monitoring and Adaptive Management Plan (Appendix D of the FEIS). This omission should be rectified by including a detailed plan to monitor the distribution and abundance of ATS in the Savannah River estuary before and after any further deepening is undertaken. Furthermore, if the deepening project is approved in some form, and fish passage is implemented (despite DNR’s objection to this mitigation feature), a plan to monitor the effectiveness of passing ATS, including triggers for passage modification or removal, should be included in the Monitoring and Adaptive Management Plan before the FEIS is approved.

8. New Comments on FEIS and GRR

Section 3.05, page 3-22, 1st paragraph identifies the agency's Selected Plan as the NED Plan. It is assumed that this is the Corps' "preferred alternative;" however, the FEIS should have clearly stated it as such. Additionally, the FEIS should have identified the "environmental preferable" alternative, which is not necessarily the "preferred alternative."

8.1. Cumulative Impact Analysis

CEQ Guidance on the preparation of Cumulative Impacts Analysis states that "the analyst's primary goal is to determine the magnitude and significance of the environmental consequences of the proposed action in the context of the cumulative effects of other past, present, and future actions. " Appendix L addresses seven major resources or issues of concern with regard to cumulative impacts. However, the analysis of each of the resources/issues lacks a statement of the magnitude and significance of the cumulative impact.

8.2. Wetlands

CEQ NEPA regulations (1502.24) requires that agencies "shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement." The SDC has failed to provide the methodology used to conduct the functional assessment of direct and indirect wetland impacts.

There is no clear accounting of the functions lost and gained by the project and the compensatory wetland mitigation, respectively. Typically for a project of this size a Functional Assessment would be conducted for each project alternative as well as the mitigation alternatives using an accepted protocol (i.e., WET, EMAP-Wetlands, HGM). This quantification or semi-quantitative analysis of the net impact on the wetland functions would be ranked and considered in the final selection of preferred alternative.

Based on the impacts and mitigation reported in the FIES and GRR, there is a significant net-loss when viewed based on wetland type. The SDC has proposed to mitigate for 32 acres of freshwater wetlands loss and 828 of salt marsh conversion to brackish marsh with a combination of salt marsh to brackish marsh conversion and bottomland hardwood forest preservation. Every wetland type has a particular set of functions and values unique to that particular wetland type. Without a functional assessment being conducted, therefore, there is no way to know if the mitigation plan provides at least as much



functional value as it impacts. And with the lack of in-kind mitigation presented in the plan it is very likely that functions will be lost.

Typically, a project of this size proposed by an applicant other than the SDC would be required by permit review agencies to conduct a thorough and quantitative functional assessment to ensure that there is not a loss of wetland function. Michele Gomez, biologist for Civil Project Development Branch of the Baltimore District Corps made several comments in the *Independent Technical Review (ITR) of the Use of the Regulatory SOP* suggesting that the SHEP needed to conduct a functional assessment.

Section 1502.8 of NEPA states "Environmental impact statements shall be written in plain language and may use appropriate graphics so that decision makers and the public can readily understand them."

The SDC identifies a scale, north arrow and several other items as necessary for them to review maps, a type of graphic in the SDC's Individual Permit Checklist. If a scale and north arrow is necessary for the Corps to evaluate a map or graphic, then it would be logical that the public would also need the same items in order to readily understand them. That being said, why then has the SDC not provided these critical elements necessary to understand a map, graphic or figure in the NEPA documents associated with the SHEP. A review of the main body of the FEIS and Appendix C of the FEIS has identified 45 and 37 figures respectively that did not have a north arrow and/or a scale.

To some this may seem to a small or trivial matter, but as required by Section 1502.8 of NEPA, language and graphics are to be readily understandable by the public. Without a north arrow and/or a scale, figures become less understandable or even meaningless.

It should be noted, that during the review of the SHEP DEIS, numerous comments were made about figures not having critical components that prevented the public from understanding or independently evaluating the figures. SDC in the response to comments stated that the critical components (north arrow and scale) had been added to the figures.

Figures from the FEIS that have insufficient information to allow the public to review includes: Figures 4-2, 4-6 through 4-14, 5-6 though 5-14, 5-18, 5-24, 5-25, 5-27, 5-29 through 5-48, 5-52, 5-57 and 5-59. Figures from Appendix C of the FEIS that have insufficient information to allow the public to review includes: Figures 2, 4 through 15, 22 25 through 28, 31 through 34, 36 through 43, 48, 50 through 52, 56, 57, and 60.

CEQ NEPA regulations (1502.24) requires that agencies "shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement." The SDC has failed to provide the explicit reference for conclusions in the statement. A review of the main body of the FEIS and Appendix C of the FEIS has identified 27 and 15 references not identified with the documents reference section. Not providing proper citations to each of these references, impedes the public review of the action as prohibited by Section 1502.21.



FEIS			Appendix C of the FEIS		
Citation	Paragraph	Page	Citation	Paragraph	Page
Anderson 1955	2	4-23	Aadland 2010	4	66
ANSI 2003	1	5-201	Burn & Honlala 1990	3	146
Bent 1923	3	4-55	Kitchens 2003	1	183
Bent 1923	3	4-55	Kossuth & Michele 1990	4	149
Bent 1926	1	4-53	Kucher 1964	1	142
Bent 1929	5	4-55	NRCS 1997	4	65
Blair et al 1990	2	5-141	Odum 1984	1	168
Bulter 1966	1	4-23	Outcalt	4	149
Carrier et al 1968	6	5-139	Schafale & Weakley 1990	2	149
Cushing 1988	2	5-140	Sharith and Mitsch 1993	1	143
Galtsoff 1964	1	4-23	USFWS 2007	3	172
Helmets 1992	4	4-59	Welch 2006	3	156
Howe 1989	7	4-52	Wharton 1978	3	146
Howe 1989	4	4-59	Wharton et al 1982	2	146
Kutkuhn 1966	2	4-23	WRDA 2000	3	65
Lantham 1994	3	5-30			
McLellan 1989	2	5-142			
Nicholos and Keney 1963	3	4-23			
NMFS March 23, 2006	1	5-157			
NMFS Nov. 4, 2011	6	5-159			
NOS 1999	Ft. Note	4-5			
P&G 1989	2	4-60			
Parasiewicz 1998	4	5-115			
Post & Gauthreaux 1989	5	4-54			
Van and Engel 1958	3	4-23			
Wallace 1996	1	4-23			
Wilbur 1974	2	4-52			

SDC used the SOP for determining the amount of mitigation to be provided. The SOP is unsuitable for a project of this magnitude. The SOP was developed for projects under 10 acres in size. However, the SOP has language allowing its use on large sites.

“...This SOP may be used as a guide in determining compensatory mitigation requirements for projects with impacts greater than the above wetland and stream limits...”

It also states that,



“...higher than calculated credit requirements would likely be applicable to larger impacts”.

It is not apparent that “higher than calculated credit requirements” were used in the application of the SOP for this project. Indeed, as illustrated lower than calculated credit requirements appears to have been used in cases.

Several of the weighting factors used in the SDC’s SOP calculations did not seem properly applied. All discrepancies in the weighting assigned by SDC worked towards reducing the total amount of mitigation required. Weighting factors believed not to be properly applied include:

Factor	SOP Worksheet
<i>Adverse Effects/Impact Factors</i>	
Dominant effect – Freshwater Marsh	Required Mitigation Credits
Dominant effect – Salt Marsh	Required Mitigation Credits
Preventability – Freshwater Marsh and Salt Marsh	Required Mitigation Credits
<i>Restoration, Enhancement Creation Factors</i>	
Net improvement Vegetation	Proposed Restoration / Enhancement
Net improvement Hydrology	Proposed Restoration / Enhancement
Kind	Proposed Restoration / Enhancement

Changing the weights to the more reasonable values would increase mitigation requirements.

There is not a comprehensive accounting of all impact associated with the proposed project that extends beyond the consideration for saltwater intrusion. Specifically, the project does not appear to have accounted for and mitigated for aquatic ecosystem impacts associated with: Intake, pipeline and freshwater storage lagoon to mitigate for chloride impacts to the City of Savannah surface water Municipal and Industrial water treatment plant. The SDC has not fully determined the need for these features yet; nor, has it quantified any of the impacts that would be associated with any alternatives. It states that if it decides to implement this chloride mitigation measure, it would quantify those impacts, identify the mitigation required using the Regulatory SOP, and mitigate for those impacts by acquiring the necessary credits from a USACE-approved mitigation bank. It also indicates that no matter which dredge alternative is selected; this measure will likely be required. Thus, it is difficult to accurately determined mitigation requirements if the impacts have not been fully quantified.



Figure 5-4 of the FEIS shows a channel being excavated within the preexisting mitigation site. If a channel is excavated within the preexisting mitigation site, wetlands will be lost. How will this loss of wetlands be mitigated?

8.3. Air Quality

FEIS, Section 5.06.1, Page 5-137

Comment: The national ambient air quality standards are shown in Table 5-47 on page 5-137. This table does not include many of the newer standards established by EPA and therefore should be updated to reflect the current standards. Table 5-47 should be revised as follows:

- For PM_{2.5}, include an annual standard of 15 µg/m³
- For NO₂, include a 1-hour standard of 100 ppb
- For SO₂, the annual and daily standards shown in the table are no longer in effect and there is now a 1-hour standard of 75 ppb
- For lead, the applicable standard is 0.15 µg/m³ (rolling 3-month average)
- For ozone, the applicable standard is 0.075 ppm

FEIS, Section 5.06.1, Page 5-137

Comment: In the paragraph following Table 5-47 on Page 5-137, ozone monitoring data for Savannah from 2006 is referenced. Since this data is now more than five years old, more recent ozone data should be used as the basis of the discussion.

FEIS, Section 5.06.1, Pages 5-138 and 5-139

Comment: There is no discussion or mention of the 1-hour NO_x and SO₂ ambient standards in this section. These new short-term federal standards have received significant attention on recent projects nationally as they can be substantially more difficult to meet in comparison with the daily and annual standards. Consideration of the harbor deepening project's expected impacts with respect to these new ambient air quality standards should be addressed.

8.4. Chlorides in Groundwater

Comment: While the overall conclusion that the impacts to groundwater are not expected to be significant appear reasonably well substantiated, quantifying the increased flow through the confining unit to 3-4% does not appear to be well substantiated given the uncertainty in leakance through this unit.



Comment: The groundwater analysis maintained groundwater withdrawals from the Floridan aquifer constant at 2000 levels, with the assumption that future use will decrease. Cited in the report was the GAEPD document entitled "Coastal Georgia Water and Waste Water Permitting Plan for Managing Salt-Water Intrusion" (2006) that indicated Georgia would reduce withdrawals from the Upper Floridan aquifer by 5 MGD by the end of 2008. It is not clear if the model assumption of decreasing groundwater use is valid:

- a. Has groundwater use in the Upper Floridan aquifer decreased in Georgia and South Carolina as assumed in the model and analysis?
- b. Did groundwater withdrawals from the Upper Floridan aquifer decrease by at least 5 MGD between 2006 and 2008 in Georgia?

Groundwater use trends and restrictions by GAEPD are discussed in various sections of the GRR and supporting appendices. There appears to be a lack of corresponding discussion on groundwater use and restrictions by SDHEC in South Carolina.

Comment: There has been a great deal of effort in characterizing the pore water for the Miocene confining unit and underlying Floridan aquifer. One key question evaluated in the DEIS is the rate of vertical movement through the clay, in particular the area near the mouth of the harbor where 1) the confining unit is thinnest; 2) surface water salinity is greatest; 3) paleochannels are abundant. Were any efforts made to age date the pore water and underlying groundwater from the Upper Floridan aquifer as a more direct measure of transport time?

Comment: One of six tasks to be completed related to the groundwater investigation was an *Aquitard Test Feasibility* that consisted of a "trial step-drawdown pumping test on two recently installed Upper Floridan wells located adjacent to river channel to determine feasibility of hydraulic testing of confining unit. If results indicate hydraulic testing of confining unit is feasible, estimate design parameters and assumptions for full aquitard testing." This test was not completed.

- c. The groundwater model was used in place of the step drawdown test. Given that the model is developed from available field data and assumptions on characteristics of the aquifers and confining units, it is not at all clear how the model replaces the field test.

It would seem more reasonable to use the model to design an adequate aquitard test that may or may not include pumping directly from the Floridan aquifer, rather than use the model to try and disprove the need to conduct a "trial step-drawing" test altogether.

Comment: Conceptual mitigation measures to address potential chloride impacts to the Floridan aquifer:

- a. Deposit channel sediments in nearshore areas where the groundwater aquifer is near the ocean floor.



- b. Acquire but not use a permit from the State to withdrawal fresh water from the Upper Floridan aquifer.
- c. Reduce pumping of groundwater by acquiring – but not using – permitted rights from industries to remove freshwater from the Upper Floridan aquifer.

These potential mitigation measures, in particular the last two, have significant ramifications on water use in the region by reducing overall water availability. The ability to acquire permitted rights in Georgia and presumably South Carolina, including existing permitted rights without replacing them with an alternate source raise significant questions regarding the viability of these conceptual mitigation alternatives.

