



# United States Department of the Interior

FISH AND WILDLIFE SERVICE

Washington, D.C. 20240



In Reply Refer To:  
FWS/R4/051853

JUL 09 2012

The Honorable Jo-Ellen Darcy  
Assistant Secretary of the Army (Civil Works)  
108 Army Pentagon  
Washington, D.C. 20310-0108

Re: Savannah Harbor Expansion Project -- Department of the Interior Record of Decision

Dear Assistant Secretary Darcy:

Please accept this letter as the Department of the Interior's (Department) final review of planning documents for the U.S. Army Corps of Engineers' (Corps) Savannah Harbor Expansion Project (SHEP). Since 1999, the U.S. Fish and Wildlife Service (Service), U.S. Geological Survey (USGS), and National Park Service (NPS) have actively participated in the planning for SHEP. The Service and the Corps have completed consultation under the Endangered Species Act. The Service has provided Fish and Wildlife Coordination Act Reports, USGS has provided hydrology and wetlands monitoring technical assistance, and NPS has worked with the Corps to ensure that the project would not affect the Cockspur Island Lighthouse. The Department has coordinated bureau comments during all phases of SHEP compliance with the National Environmental Policy Act. We have reviewed the Final General Re-Evaluation Report (FGRR) and Final Environmental Impact Statement (FEIS) dated April 2012. Authorizing language for SHEP in the Water Resources Development Act of 1999 (P. L. 106-53, Sec. 101(b)(9)) 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 delegated to me, the Service's Director, the Department's responsibility for this approval and determination. This letter is my record of decision.

1. The FGRR and FEIS incrementally evaluate various structural and non-structural alternatives, including alternative terminal locations, to address navigational problems and inefficiencies in Savannah Harbor. The Corps' recommended plan is the National Economic Development plan, which deepens the inner harbor to 47 feet below mean lower low water (MLLW). Navigational features of the plan include:
  - (a) Extending the existing entrance channel 7.1 miles from Station -60+000B to Station -97+680B and deepening to -49 feet MLLW from the new ocean terminus to Station -14+000B, then deepening to -47 feet MLLW from Station -14+000B to Station 0+000, and deepening the inner harbor to -47 feet MLLW from Station 0+000 to Station 103+000;

- (b) widening bends on the entrance channel at one location (Stations -23+000B to -14+000B) and in the inner harbor channel at two locations (Stations 27+700 to 31+500, and Stations 52+250 to 55+000);
  - (c) constructing two meeting areas – one at Stations 14+000 to 22+000 and one at Stations 55+000 to 59+000;
  - (d) deepening and enlarging the Kings Island Turning Basin to a width of 1,600 feet; and
  - (e) replacing dredged material storage capacity in existing dredged material containment areas.
2. The FGRR and FEIS include data and describe models of the Savannah River estuary that were used to examine the potential effects of alternative channel depths and mitigation measures. Predicted changes to the estuary include salinity increases, loss of tidal freshwater marsh, reduced striped bass reproduction and recruitment, adverse effects to habitat for shortnose sturgeon, reduced dissolved oxygen, and potential wildlife exposure to cadmium in dredged sediments. Mitigation features associated with the Corps' recommended plan include:
- (a) Constructing a fish bypass around the New Savannah Bluff Lock and Dam in Augusta, Georgia;
  - (b) a series of flow re-routing features in the estuary that involve (1) constructing a diversion structure, rock berm, and submerged sill; (2) closing two existing cuts; (3) removing a tide gate structure; and (4) dredging sections of Upper Middle River and Little Back River;
  - (c) acquiring 2,245 wetland acres for transfer to the Service to become part of the Savannah National Wildlife Refuge (NWR);
  - (d) restoring 40.3 acres of tidal brackish marsh at disposal site 1S (28.8 acres for SHEP impacts plus 11.5 acres as advance mitigation for future Savannah Harbor mitigation needs);
  - (e) installing an oxygen injection system;
  - (f) constructing a raw-water storage pond for transfer to the City of Savannah that will supply its industrial and domestic water treatment facility during periods when chloride levels are elevated at the existing intake on Abercorn Creek;
  - (g) constructing a boat ramp for transfer to Chatham County;
  - (h) funding for the striped bass stocking program of the Georgia Department of Natural Resources;
  - (i) recovering, documenting and curating items of historic significance from a Civil War ironclad;
  - (j) procedures for disposal of cadmium-laden dredged material and associated monitoring for wildlife exposure;
  - (k) monitoring to determine whether the mitigation features limit the impacts to levels described in the FEIS; and
  - (l) adaptive management to modify the mitigation features as necessary to ensure that impacts described in the FEIS are not exceeded.

The Corps will assume responsibility for continuing operation and maintenance of the mitigation features except for those transferred to other agencies (c, f, and g, above; see paragraph 7 below regarding feature h, funding for striped bass stocking).

3. Previous channel deepening projects have reduced freshwater tidal wetlands within the Savannah River estuary from about 12,000 acres to about 3,300 acres, and the majority of the remaining acres occur on Savannah NWR. The flow-re-routing mitigation features (2(b) above) are predicted to limit the net loss of freshwater tidal wetlands associated Corps' recommended plan depth (47 feet) to 223 acres. Subject to possible modifications under the monitoring and adaptive management programs (2(k) and 2(l) above), I find that the land acquisition proposed for the Savannah NWR (2(c) above) will adequately compensate for the unavoidable impacts to freshwater tidal wetlands associated with the recommended plan.
4. In the Draft Environmental Impact Statement (DEIS), the Corps proposed to reassess the effects of sea level rise after 50 years and to use any over-compensation for wetland impacts (i.e., additions to the Savannah NWR under 2(c) above) as advance mitigation credits for use with future actions. The Department objected to this proposal, because sea level rise would have a negligible impact on the upper estuary if not for the cumulative effects of previous harbor deepening. The Corps has removed this proposal from the FEIS, which satisfies our objection. Further, the Corps has requested and received from your office a waiver from the policy to base mitigation on a project's average annual impacts. SHEP's average annual impacts are less severe than the impacts predicted immediately following construction due to the anticipated impacts of sea level rise over the next 50 years. The mitigation proposed under 2(c) above is based on the level of impacts predicted for the year after SHEP construction is completed, which I support.
5. The monitoring and adaptive management plan in the DEIS proposed to monitor various resources and adjust key mitigation features as necessary for five years following SHEP construction. The Savannah estuary is a dynamic and complex system. Predicting how this system may respond to substantial physical alterations (channel deepening, flow diversions, cut closures, etc.) is fraught with uncertainties, which were acknowledged in the DEIS. The Department recommended 10 years of post-construction monitoring in order to increase the likelihood that the full range of potential SHEP impacts are observed, some of which may take more than five years to manifest due to highly variable river flows and other factors. The Corps has largely adopted our recommendation for 10 years of post-construction monitoring in the FEIS. I find that the types and duration of monitoring now proposed, including at least two years of monitoring following any adaptive management modifications to the mitigation features, should provide a sufficient basis for determining whether the mitigation features are limiting impacts to the levels predicted in the FEIS.
6. Due to the relatively high level of risk and uncertainty associated with SHEP impacts, the Department's comments on the DEIS expressed concern about responding to impacts that may substantially exceed predictions, and we requested assurances for an adequately funded adaptive management program. The Corps proposes in the FGRR/FEIS to treat adaptive management as a construction cost, and to keep the project in construction status until all post-construction monitoring is completed, including any monitoring of necessary modifications to the mitigation features. The non-federal project sponsor commits to placing its full share of funds for adaptive management in an escrow account during project construction. The total budget for adaptive management of about \$20 million is estimated as 5 to 10 percent of the construction costs for key mitigation features.

It is not possible to predict the timing, number, or types of modifications to the mitigation features that may become necessary; therefore, the ideal arrangement would make the entire adaptive management budget available at any time during post-construction monitoring in order to respond fully and promptly to a substantial failure of one or more mitigation features. I recognize that the Corps' limited authority to carry over funds between fiscal years renders this arrangement infeasible. Instead, the Corps proposes to include approximately \$2 million for adaptive management in the SHEP construction budget request each year for the duration of the 10-year post-construction monitoring period. During these 10 years, if currently available funding is not sufficient to implement warranted modifications to the mitigation features, the Corps would seek excess funds from other projects for reprogramming to SHEP (FEIS Appendix D pg. 43). I request the Corps commit to the goal of full funding for the adaptive management program, as allowed by law, and strongly recommend the Corps also work with the non-Federal Sponsor on language in the SHEP Project Partnership Agreement (PPA) that would allow withdrawals from the non-Federal sponsor's adaptive management escrow account for needs that exceed available construction and reprogrammed funds. Considering all funding options available in order to address impacts as soon as identified will enable mitigation measures to be most effective and least costly.

7. The Corps proposes to compensate for SHEP impacts to habitat for striped bass by funding the State of Georgia's striped bass stocking program (mitigation feature 2(h) above). The FEIS includes habitat conditions for striped bass among the resources for post-construction monitoring; however, the proposed budget for the adaptive management program does not include possible funding for additional striped bass stocking or other measures should impacts exceed the predicted levels. The Corps has agreed to include striped bass habitat in the adaptive management program, i.e., to determine appropriate additional mitigation if predicted impacts are exceeded, which may or may not include actions related to the stocking program; therefore, I accept the Corps' expectation that this mitigation feature is a one-time payment.
8. The Department provided comments on the DEIS about dealing with cadmium in materials dredged from, or exposed in, the channel during project construction that could pose a hazard to wildlife. We found the treatment of this issue in the DEIS unclear. We recommended specific clarifications, and also a program of monitoring bird activity in disposal areas and cadmium levels in bird tissues in addition to, and independent of, the proposed criteria for capping cadmium-laden materials in the dredged material containment areas. The recommended plan described in the FEIS has adequately addressed our concerns by clarifying procedures and by largely adopting our recommendations for monitoring both bird activity in the containment areas and cadmium levels in bird tissues.
9. The Corps' recommended plan has several components that will directly involve the Service's Savannah NWR:
  - (a) Acquiring Savannah NWR land for enlarging the Kings Island Turning Basin via an exchange for other land (navigation feature 1(d) above);
  - (b) purchase and transfer of land to the Savannah NWR as mitigation for unavoidable wetland impacts (mitigation feature 2(c) above); and

- (c) special use permits to construct, operate, and maintain some of the flow re-routing measures (mitigation feature 2(b) above), and to restore wetlands at disposal site 1S (mitigation feature 2(d) above).

Savannah NWR personnel have coordinated with the Corps on these project components, and most recently, the Department provided comments to correct and clarify details included in the Real Estate section of the FGRR and the Mitigation Planning section (Appendix C) of the FEIS (letter dated May 11, 2012, from W.R. Taylor, Office of Environmental Policy and Compliance, to T.A. Brown, Corps Headquarters). Our comments noted that the Service will accept land only in fee-title ownership (not as easements), and that acquiring Savannah NWR land for enlarging the turning basin will occur as a value-for-value land exchange based on appraisals meeting federal standards at the time of the transaction. The Corps will need to work directly with Savannah NWR personnel to complete these real estate and land access arrangements as the SHEP is implemented, which I am confident will occur in full compliance with applicable Service and Departmental policies and regulations.

10. Based on the foregoing review of the Corps' treatment of issues in the FGRR and FEIS that the Department has raised during the course of SHEP planning, and provided there are no changes to the project as described in the FGRR, FEIS, and the Corps' ROD after the date of this letter, I approve the Corps' selected plan for harbor improvements. With the request to achieve a fully funded adaptive management plan, I find that the associated mitigation plan adequately addresses the potential environmental impacts applicable to the jurisdiction and special expertise of the Department.

Sincerely,



DIRECTOR



**THE DEPUTY SECRETARY OF COMMERCE**  
Washington, D.C. 20230

July 5, 2012

The Honorable Jo-Ellen Darcy  
Assistant Secretary of the Army, Civil Works  
108 Army Pentagon  
Washington DC 20310

Dear Assistant Secretary Darcy:

The National Oceanic Atmospheric Administration, on behalf of the Department of Commerce, has reviewed the Final Environmental Impact Statement (EIS) for the Savannah Harbor Expansion Project, the Final General Re-evaluation Report (GRR), and the draft Report of the Chief of Engineers. Under the Water Resources Development Act of 1999, the Secretary of Commerce must approve the selected project plan and determine that the associated mitigation plan adequately addresses the potential environmental impacts of the project. On March 2, 2012, the authority to approve and make this determination was delegated to the Deputy Secretary.

The Department of Commerce finds the U.S. Army Corps of Engineers (Corps) has responded to or addressed all the comments we provided on the November 2010 Draft GRR and EIS and has incorporated additional suggestions we have provided since that time. We believe the Final EIS reasonably identifies the environmental impacts expected from the various project alternatives, and the mitigation plans reasonably reduce those impacts to acceptable levels.

Based on that review, the Department of Commerce approves the selected plan as outlined in the Final GRR, the Final EIS, and the draft Chief's Report, and determines the associated mitigation plan adequately addresses the potential environmental impacts of the project. We approve the Savannah Harbor Expansion Project with the understanding that if there are changes to the GRR, the EIS, or the mitigation plan before the Record of Decision is signed, the Corps will request that the Department of Commerce review and reapprove the final plan.

Sincerely,

A handwritten signature in black ink that reads "Rebecca M. Blank". The signature is written in a cursive style.

Rebecca M. Blank



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA, GEORGIA 30303-8960

July 11, 2012

The Honorable Jo-Ellen Darcy  
Assistant Secretary of the Army, Civil Works  
108 Army Pentagon  
Washington, DC 20310

**SUBJ: United States Environmental Protection Agency Review of the  
Selected Plan and the Associated Mitigation Plan for the  
Savannah Harbor Expansion Project, Georgia**

Dear Assistant Secretary Darcy:

In Section 101(b)(9) of the Water Resources Development Act of 1999 (WRDA 1999), Congress conditionally authorized funds for the Savannah Harbor Expansion Project. The authorization provided that the project may be carried out only after two specific sets of actions are completed. First, 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 for the project that includes (I) an analysis of the impacts of project depth alternatives ranging from 42 feet through 48 feet and (II) a selected plan for navigation and an associated mitigation plan as required under 906(a) of the Water Resources Development Act of 1986 (33 U.S.C. 2283(a)). Second, the Secretary of the Interior, the Secretary of Commerce, the Administrator of the Environmental Protection Agency and the Secretary approve the selected plan and determine that the associated mitigation plan adequately addresses the potential environmental impacts of the project. Further, WRDA 1999 required that the mitigation plan be implemented before or concurrently with construction of the project. On April 18, 2012, the Administrator of the United States Environmental Protection Agency, Ms. Lisa P. Jackson, formally delegated her authority to me. In accordance with this authorization, the EPA has reviewed both the selected plan and the associated mitigation plan. As further discussed below, the EPA is approving both the selected plan and associated mitigation plan provided there are no material changes to the Final General Re-Evaluation Report (FGRR), Final Environmental Impact Statement (FEIS), the final draft Chief's Report (July 10, 2012) and the Corps' draft Record of Decision after the date of this letter, effective upon execution of the Chief's Report and Record of Decision.

This project is proposed by the Georgia Ports Authority (GPA) of the Georgia Department of Transportation, as the non-federal project sponsor (sponsor). "The Final Environmental Impact Statement (FEIS) for the Savannah Harbor Expansion Project, Chatham County, Georgia and Jasper County, South Carolina, January 2012," identified the selected plan as the 47-foot depth alternative and indicates that choice is the National Economic Development (NED) Plan, which is "the plan that maximizes net economic benefits to the Nation and fully complies with Army policy (Section 3.05, page 3-22)." Additionally, the FEIS identified the mitigation plan in Appendices C and D.

Based upon the assessment contained in the enclosure to this letter and under the authority delegated to me by the Administrator of the United States Environmental Protection Agency, I approve the selected

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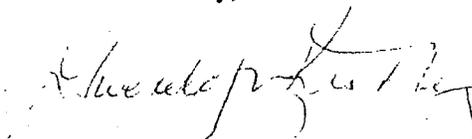
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plan and the associated mitigation plan (FEIS, Appendices C and D) for the Savannah Harbor Expansion Project, Savannah, Georgia. The EPA has received a copy of the final draft Chief's Report and the final draft Record of Decision (ROD), and we understand that these documents together reflect the Corps' determination on the project and include all items to implement the project. The EPA finds that these documents appropriately include the EPA's requested commitments (see Enclosure Section VI). At this time the Chief's Report and the ROD are final draft documents that the EPA understands will be submitted to Army headquarters for execution. Given that these documents are final drafts, the date of the EPA's approval action is effective once the Chief of Engineers has signed the Chief's Report, and the Assistant Secretary of the Army signs the ROD, and provided the Chief's Report and the ROD are signed with no material changes after the date of this letter.

The EPA appreciates the Corps and GPA's effort to address environmental justice issues. We note GPA's willingness to establish, with the EPA's assistance, a community advisory group that will meet periodically to identify and address community concerns or recommendations that may arise associated with ongoing port activities and conduct air studies. Finally, the EPA appreciates the extensive opportunities for collaboration with the COE during the development of the FEIS, and we also appreciate the ability to work closely with the Cooperating Agencies, and many other stakeholders in order to develop innovative environmental solutions for a range of Savannah Harbor Expansion issues.

Should you have questions regarding our approval, please contact A. Stanley Meiburg, Deputy Regional Administrator, or Heinz Mueller, Chief of the NEPA Program Office, at 404-562-9611 or [mueller.heinz@epa.gov](mailto:mueller.heinz@epa.gov).

Sincerely,



Gwendolyn Keyes Fleming  
Regional Administrator

Enclosure:

Project Assessment Document

cc: Lieutenant General Thomas P. Bostick, P.E., U.S. Army Chief of Engineers  
Major General Todd Semonite, P.E., U.S. Army Deputy Chief of Engineers  
Colonel Jeffrey M. Hall, U.S. Army Savannah District Engineer

**Savannah Harbor Expansion Project (SHEP)**  
**EPA Assessment Document**  
**(Pursuant to Water Resources Development Act of 1999-Section 102(b)(9))**

**I. Executive Summary:** In Section 101(b)(9) of the Water Resources Development Act of 1999 (WRDA 1999), Congress conditionally authorized the Savannah Harbor Expansion Project. The authorization provided that the project may be carried out only after, among other requirements, the Administrator of the EPA approves the selected plan and determines that the associated mitigation plan adequately addresses the potential environmental impacts of the project. This authority was delegated to the Regional Administrator for EPA Region 4. This Assessment Document summarizes the basis for the Regional Administrator's determination.

The selected plan and the associated mitigation plan are set out in the FEIS document in the Executive Summary and Appendix C and D, respectively. The EPA has reviewed the selected plan and associated mitigation plan relative to its statutory and regulatory authorities, including the Federal Water Pollution Control Act (Clean Water Act) (33 U.S.C. § 1251 et seq.), the Clean Air Act (42 U.S.C. § 7401 et seq.) and the Marine, Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. §.1401 et seq.).

**II. Project Background:**

**A. Project Description:** This project is proposed by the Georgia Ports Authority (GPA) of the Georgia Department of Transportation, as the non-federal project sponsor (sponsor) and involves proposed deepening of the inner harbor and entrance navigation channel to alternative incremental depths up to 48-ft with an additional allowable over depth of dredging and 6-ft advance maintenance dredging (depending on the location). The Savannah Harbor was last deepened in 1994 to 42-ft depth. In 1999, the Water Resources Development Act (WRDA) authorized the Corps to dredge Savannah Harbor to a maximum depth of 48-ft, which is 6-ft deeper than the existing condition. As a condition of approval, WRDA 1999 required the EPA Administrator and Secretaries of the U.S. Departments of Commerce (DOC), the Department of Interior (DOI) and the Army approve the selected plan and associated mitigation plans.

On January 22, 2002, the Corps released a Notice of Intent (NOI) to conduct a Tier 2 Environmental Impact Statement for Savannah Harbor Expansion Project. The 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), and the Department of the Interior (acting through the US Fish and Wildlife Service). The Draft Environmental Impact Statement (DEIS) was released to the public for comment on November 26, 2011 and EPA provided comments in a letter dated Jan 28, 2011. The Final Environmental Impact Statement (FEIS) was released to the public for comment on April 11, 2012 and EPA provided comments in a letter dated June 5, 2012.

**B. Preferred Alternative:** In both the DEIS and FEIS, the Corps identified the preferred alternative as the 47-ft depth alternative, the National Economic Development (NED) Plan, which is identified as "the plan that maximizes net economic benefits to the Nation and fully complies with Army policy." (FEIS, Executive Summary)

**C. NEPA Review:** EPA conducted reviews of the DEIS and FEIS. Listed below is a timeline of these reviews.

NEPA Review History:

- Copy of DEIS transmitted to EPA – **November 15, 2010**
- DEIS Comments Provided to Corps – **January 28, 2011**
- Copy of FEIS transmitted to EPA – **April 17, 2012**
- FEIS Comments Provided to Corps – **June 5, 2012**

**III. EPA Analysis:** EPA has requested that the Corps commit to include specific set of conditions in the final Chief's Report). These conditions commit the Corps to implement certain activities to address uncertainties inherent with this type of project. These conditions relate to Adaptive Management, wetlands and Dissolved Oxygen (DO) mitigation, financial assurances, environmental justice, and the Marine Protection, Research, and Sanctuaries Act (MPRSA) Section 103 process. These conditions are specified at the end of this attachment (See Section VI - EPA Conditions). EPA has reviewed the final draft Chief's Report and the Corps has included specific commitments at EPA's request that address these issues. EPA's action today approving the selected plan and mitigation plan reflects inclusion of these conditions.

**A. Wetlands:**

**1. Description of Issue:** 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). 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 Corps proposes to mitigate the indirect impacts through the preservation of 2,245 acres of wetlands (consisting of bottom land hardwoods and upland buffer to be added the SNWR).

The proposed mitigation for this project has resulted from a culmination of guidance and direction of the Wetland Interagency Coordination Team (ICT). The Corps created the ICT in 2003 to gather multi-agency comments and recommendations on wetland impact evaluations and proposed mitigation. The ICT held five meetings from 2003 – 2009. EPA expressed concerns relating to wetlands mitigation during these ICT meetings (see Appendix N of FEIS) and in NEPA comments on the DEIS.

During the ICT meetings and in our preceding comments on the DEIS, EPA expressed concerns about the Corps' emphasis on preservation of freshwater wetlands. In addition, EPA expressed concerns that the proposed mitigation was not consistent with Section 404(b)(1) Guidelines and the 2008 Mitigation Rule with respect to replacement of in-type and function of both the freshwater and saltwater wetlands being impacted by the project. EPA also expressed concerns with regards to the application of the Corps' SOP for Wetland Mitigation and the proposed mitigation monitoring plan. Specifically, we provided recommendations in our January 28, 2011 DEIS Comment Letter that the wetland mitigation monitoring plan should evaluate wetland functional changes throughout the harbor and that the monitoring plan extend at least seven years after construction of SHEP.

Between the issuance of the DEIS and the release of the FEIS, the Corps and EPA held a meeting (June 1, 2011) to discuss EPA concerns listed in EPA's DEIS comment letter. During the June 1, 2011 meeting the Corps provided results of its analysis in which the Corps' Agency Technical Review (ATR) Team validated the use of the Corps' SOP for Wetland Mitigation (Appendix U of FEIS). Also during the June 1, 2011 meeting, the Corps provided a justification for the how the SHEP proposed mitigation complied with the 2008 Mitigation Rule and was consistent with the 2001 EPA Region 4 Mitigation Policy (Policy). The Corps also contended in the meeting that the 2008 Mitigation Rule did not apply to SHEP because it was a civil works project that predated the 2008 Mitigation Rule (See Appendix C of FEIS). In response to our concerns regarding the mitigation and monitoring plan, the Corps provided a revised monitoring and adaptive management program outline in Appendix D in the FEIS. The Savannah estuary is a very dynamic and complex system. Predicting how this system may respond to substantial physical alterations (channel deepening, flow diversions, cut closures, etc.) remains somewhat scientifically uncertain, which is acknowledged in the DEIS. Due to these uncertainties and the related uncertainty associated with the mitigation, the Corps 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 will be made available to purchase additional lands for preservation as noted in the Monitoring and Adaptive Management Plan (Appendix D in the FEIS). Adaptive management of the mitigation features is anticipated to require approximately \$2 million per year during the 10 year post construction monitoring period. The Corps estimates that the total cost for adaptive management is about 5 to 10 percent of the construction costs for key mitigation features. The non-Federal project sponsor has indicated its intent to place its full share of funds for adaptive management in an escrow account during project construction.

**2. Resolution Summary:** The development of a monitoring and adaptive management plan is an important step in satisfying our concerns with the proposed wetland mitigation outlined over the course of the development of the SHEP. After carefully weighing of all the interests of the Cooperating Agencies, a decision was made by EPA to accept the mitigation package as proposed by the Corps with certain conditions. This decision best balances the interests of all parties and allows for adequate monitoring and follow-on adaptive management as identified in Appendices C and D of the FEIS. EPA requested that the Corps commit to implementing the monitoring and adaptive management referenced in the FEIS (see Section VI - EPA Conditions). EPA has reviewed the final draft Chief's Report and the Corps has included specific commitments that address this issue.

## **B. Water Quality/Dissolved Oxygen:**

**1. Description of Issue:** EPA has expressed concern regarding DO early in the NEPA process (FEIS, Appendix N). Savannah Harbor is impaired for DO 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. 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 its 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. Our major concern expressed during the Tier II NEPA process related to the mitigation of the project's DO impacts. In our DEIS comment letter, EPA found that the Speece Cones would adequately restore and distribute DO throughout the Savannah Harbor River system to mitigate the predicted deficiencies of DO in the affected reaches to pre-project levels under normal flow conditions. However, EPA remained concerned that the DO mitigation might not be sufficient under drought conditions. In the letter, EPA requested the Corps assess and document in the FEIS the August 1999 low-flow conditions similar to the August 1997 normal-flow data analysis provided in the DEIS. Additionally, EPA notes that, "To achieve success in project DO mitigation, EPA expects three assurances from the Corps and/or GPA sponsor. These are: 1) post-construction field monitoring of DO levels to ensure the above-described level of DO restoration, 2) guaranteed mitigation throughout the life of the project, and 3) installation and operation of the Speece Cones before dredging begins to ensure that the project's predicted impacts to DO are minimized and mitigated from the outset in order to avoid any potential temporary impacts on the aquatic community while dredging occurs."

**2. Resolution Summary:** EPA's FEIS Comment letter includes the following, "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. Additionally, SCDHEC made the operation and maintenance of the oxygenation system (Speece Cone) a term and condition of the Corps and GPA Section 401 Certification, dated November 15, 2011. 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. 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." This commitment of financial assurance provides greater certainty that operations and maintenance costs will be covered through the life of the project." The FEIS includes a copy of the certification (Appendix Z). EPA requested that the Corps commit, in conjunction with GPA, to implement the DO system and associated monitoring and adaptive management (See Section VI - EPA Conditions). EPA has reviewed the final draft Chief's Report and the Corps has included specific commitments that address this issue.

### **C. Dredge Material Disposal Issues:**

**1. Description of Issue:** The MPRSA, also known as the Ocean Dumping Act or ODA governs disposal of dredged material in ocean waters along with EPA's regulations and criteria

established at 40 CFR Parts 220-229. In EPA's DEIS comment letter, EPA identified issues with disposing portions of the dredged material in disposal sites 11 and 12, which would be utilized as experimental fish habitat mounds. EPA stated that generally the Agency is supportive of fish habitat enhancements, but expressed concerns that the proposed fish enhancements may not be consistent with MPRSA. EPA recommended the Corps evaluate other alternative sites for disposal. As a result of EPA's DEIS comments, the Corps revised the near shore placement plan, i.e., deleting Sites 11 and 12. These sediments are proposed for placement in the Ocean Dredged Material Disposal Site (ODMDS), and testing protocols for offshore disposal will be used to evaluate these sediments. Also identified in EPA's DEIS Comment Letter were concerns regarding the extension of the existing channel offshore for over seven miles. The Corps determined the channel extension was needed since the ocean depths in these areas could not support post-Panamax vessels under all tide and cargo conditions. The amount of dredged material was estimated to increase by 4.6 mcy due to the extension. EPA also identified concerns relating to the characterization of the dredged material and emphasized this in the DEIS Comment Letter by stating, "Specifically, the FEIS should address the multiple factors outlined in the Enclosure, including full characterization of the dredged material, identification and analysis of disposal options, potential evaluation of the Savannah ODMDS capacity in relation to any material that would be disposed in the ODMDS, precise identification of the proposed channel route and alternative routes, and discuss findings. EPA's full understanding of the ocean channel extension component is essential to the overall NEPA analysis and Agency approval of the SHEP." EPA further reiterated the characterization of dredge material in the FEIS Comment Letter, stating:

*"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 CORPS provided to EPA Region 4 on May 25, 2012, accompanied by a request that EPA concurs with the Corps's determination regarding the suitable disposal of the dredging sediments from Stations +4+000 to -97+680B."*

**2. Resolution Status:** The review of the Site Management and Monitoring Plan (SMMP) and MPRSA 103 evaluation is currently underway and will be completed on a separate schedule from the WRDA approval. The process will need to be completed and concurrence obtained before ocean disposal of dredged material can take place. It is expected that the full evaluation, including capacity and disposal modeling, will be completed within one year and EPA will be in a position to certify the project, which will allow the project to begin. Also, as required under MPRSA, the certification will also have to be reissued every three years for implementation of the project to continue. The Corps in coordination with EPA has committed to completing the SMMP for the Savannah ODMDS before the Corps will dispose of material from SHEP into the Savannah ODMDS and they have agreed to place material not meeting the Ocean Dumping Criteria into a Confined Disposal Facility (CDF) (See Section VI - EPA

Conditions). EPA has reviewed the final draft Chief's Report and the Corps has included specific commitments that address this issue. EPA will continue to work with the Corps to complete the 103 process.

**D. Air:**

**1. Description of Issues:**

**General Air Quality:** In EPA's DEIS Comment Letter, EPA listed concerns relating to general air quality and air toxics. Specifically, EPA expressed that the DEIS did not appear to demonstrate that the project would not interfere with the area's attainment and maintenance of the national ambient air quality standards (NAAQS) for either the No Action Alternative or the Tentatively Recommended Plan. EPA also commented that the current emissions inventory of the DEIS (Appendix K) did not appear to provide a future emissions analysis for comparison against the current conditions data provided for the selected criteria pollutants and other parameters measured, or a dispersion analysis. In the DEIS, EPA questioned the Corps's assumption that emissions will decrease in the future with the expansion because future larger vessels (Panamax and post-Panamax) are anticipated to have lower emissions than the existing smaller fleet. EPA stated that the FEIS should compare the fuel efficiency/emissions of larger versus smaller vessels using an "emissions per Twenty-foot equivalent unit (TEU) metric" as the basis of comparison. Finally, EPA recommended specific air improvement strategies and requested that the Corps include these strategies in the decision document to ensure the sustainability of the project.

**Air Toxics:** In EPA's DEIS Comment Letter, EPA raised comments regarding the importance of identifying specific air toxic emission increases associated with the different options and selected plan, and considering whether actions could be taken to reduce any anticipated increases in air toxics. EPA also noted that the Corps compared air toxics emissions from the proposed projects with those from the entirety of Chatham County, as opposed to comparing between different project options. Based on its comparison of port-related air toxics emissions versus county-wide emissions (which predictably would find that emissions from the small port area would be a small portion of the entire county's air toxics emissions), the Corps concluded that the Port is not a major contributor to the overall county emissions and that additional analyses were not warranted. To resolve these issues, EPA requested that the Corps conduct specific analysis to be included within the FEIS to include: 1) preparation of a screening level risk assessment to evaluate the potential impacts associated with emissions of air toxics related to the harbor deepening and its operation; 2) extension of the inventory for air toxics be provided for both current and future emissions data (specifically EPA requested that the future condition analysis for air toxics (and NAAQS) be extended beyond 2032 to encompass the entire 50-year life of the project (2065); 3) requested dispersion modeling for criteria pollutants be expanded to include air toxics emissions; and 4) the Corps should include an emissions density map, population density map, and a map identifying locations of sensitive populations which would be informative for the reader. (EPA requested that the modeling results should be used in the requested screening level risk assessment to help determine effects on landside sensitive receptors such as potential EJ areas located along road/rail corridors and determine any areas of localized higher concentrations.)

## **2. Resolution Summary:**

**General Air Quality:** Through stakeholder and other meetings with the Corps, as well as written comments EPA raised its air-related comments. In addition, EPA met with representatives from the Georgia Ports Authority regarding previous and ongoing efforts to perform emissions inventories at Georgia Ports. The Corps addressed most of EPA's significant comments listed in the DEIS. The Corps conducted a more detailed air quality assessment in 2010 and 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. The Corps provided EPA with summary emissions data.

**Air Toxics:** As a part the GPA's and Corps 2010 Air Quality Assessment, estimates of "air toxics" emitted at the Port were calculated. To address EPA's comments and suggestions 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." In written comments provided to the GPA in April 2011 concerning the workplan that Georgia Tech would pursue in this study, EPA suggested using a detailed emissions inventory and dispersion modeling at a fine scale (100 meter grid at most) to estimate local concentrations and hot spots. EPA also suggested additional analyses regarding emissions inventory and risk assessment.

**Resolution Summary of General Air Quality and Air Toxics Issues:** EPA encourages GPA to continue to support the Georgia Tech air study. EPA requested that GPA, in consultation with EPA Region 4 and Georgia EPD commit to conduct an air monitoring study and pursuing electrification of port infrastructure, reducing idling at distribution centers, and fleet upgrades under the SmartWay Port Drayage Truck program, (See Section VI - EPA Conditions). EPA has reviewed the final draft Chief's Report and a GPA Commitment Letter dated July 10, 2012 that address this issue.

## **E. Environmental Justice (EJ) and Children's Health Considerations**

**1. Description of Impacts:** Most of the communities surrounding the project have elevated levels of minority and low-income populations (i.e., 45 percent of the population of Chatham County, Georgia, is comprised of minorities). Therefore, it was appropriate that project effects on potential EJ communities and children's health were considered in the DEIS (consistent with NEPA and relevant Executive Orders - EO 12898 and EO 13045). EPA indicated in our FEIS comment letter that the EJ analyses be expanded to include potential landside emission effects on nearby populations, public concerns offered by the Stakeholder Engagement Group (SEG) and other meetings and their follow-up outcomes, specific EJ outreach activities and the degree to which representatives from potential EJ communities were involved or EJ concerns were discussed and addressed, and disclosure of the demographics of children under age 18 within the project area. EPA recommended the FEIS indicate whether the

Port has a mechanism or long-term program designed to update surrounding communities on port expansion/changes and for receiving regular feedback or concerns from area residents.

**2. Resolution Summary:** The Corps conducted an examination of the potential impact on minority populations, low-income populations, and children from the proposed Savannah Harbor Expansion Project, including demographics, proposed road improvements, and potential impacts on air quality, traffic, noise, and lighting. The DEIS and FEIS described efforts that are currently underway or projected to minimize some of the projects impacts on surrounding communities. During the DEIS public comment period, stakeholder groups including the *Citizens for Environmental Justice* and the Keck School of Medicine expressed concerns related to EJ that the Corps has responded to in the Appendix A. The FEIS indicated that the Corps disagreed with the stakeholders' assessment that the neighboring communities will experience disproportionate impacts from activities related to the Port and port expansion efforts.

Nevertheless, given the relatively high percentage of residents with environmental justice concerns in the community, the level of growth anticipated by the Port, the environmental and public health concerns raised by local EJ organizations, and other uncertainties that remain, EPA recommended that the ROD or Chief's Report include a requirement for 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 as a result of ongoing port activities. The CAG should be provided with independent technical assistance or support help explain scientific or technological data, findings or studies related to the proposed project and ongoing port-related activities. To assure community residents living in close proximity to the 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 (see air section). Any air quality studies commissioned by the GPA should evaluate impacts to vulnerable populations including children living in the vicinity of the project.

EPA requested that the Corps commit to establishing a CAG, providing independent technical assistance on study results to the community, pursuing electrification of port infrastructure, reduced idling at distribution centers, fleet upgrades under the SmartWay Port Drayage Truck program, and conducting air monitoring study not exceeding 1 year post construction (See Section VI - EPA Conditions). EPA has reviewed the final draft Chief's Report and a GPA Commitment Letter dated July 10, 2012 in which the Corps and GPA include specific commitments that address this issue.

#### **IV. EPA's Assessment of the Selected Plan:**

**A. The Selected Plan:** Per the FEIS, the 47-ft depth alternative is the Selected Plan, which is also the NED Plan. The central feature of the selected plan includes deepening of the existing channel from the ocean bar to the Port of Savannah. The total length of improvements is approximately 38 miles (from an upstream river limit Station 103+000 to end of the ocean bar channel -97+680B). The proposed five foot deepening (-47 feet MLW) of the Federal navigation channel would require the removal of approximately 23.6 million cubic yards of new work sediment. The Selected Plan provides for an ocean bar navigation channel of -49-feet MLW deep and 564-feet wide (Station -97+680B) from the Atlantic Ocean to the channel between the

jetties (Station -14+000B). The ocean bar channel would continue at -47-foot MLW and 464-foot wide from the jetties to the harbor entrance just north of Tybee Island (Stations -14+000B to 0+000). From the harbor entrance (Station 0+000) to the upstream limit of the improvements (Station 103+000) the navigation channel would continue at -47-foot MLW and 464-foot wide. The existing Kings Island Turning Basin, the eight berths at Garden City Terminal (Berths 2, 3, 4, 5, 6, 7, 8, and 9), three channel bend wideners and two meeting areas would also be deepened to -47 feet MLW. The recommended improvements end at the Garden City Terminal (Station 103+000), but the Savannah Harbor Federal Navigation Project extends to Station 112+500. Channel side slopes from the ocean ward end of the bar channel would be 5H:1V. Side slopes for the remaining project (including Kings Island Turning Basin, the eight berths at Garden City Terminal (Berths 2, 3, 4, 5, 6, 7, 8, and 9), three channel bend wideners and two meeting areas would be 3H:1V. Because the side slopes of the navigation channel do not change, the estimated average annual maintenance dredging is about 7.1 million cubic yards. Two feet of allowable overdepth and up to 6 feet of advance maintenance in selected areas (see Table 3-2, above) would also be included for the proposed action.

**B. Rationale for Selected Plan Presented in FEIS:** The Corps developed and evaluated five channel deepening alternatives, in addition to the No Action Alternative. Each channel deepening alternative contains mitigation features to address adverse environmental impacts that they would otherwise produce. The 47-ft depth alternative, the NED, is the plan that maximizes net economic benefits to the Nation (See GRR). Under current Federal planning policy, the NED plan would be recommended for implementation unless there are overriding considerations that favor recommendation of another plan. Benefits that would accrue from the deepening of Savannah Harbor include reductions in light loading of vessels and vessel delays waiting for appropriate tidal cycles. Shippers will also be able to use larger, more efficient vessels. The economic benefits increase with each additional increment of channel deepening. Environmental impacts associated with a shallower depth would be less than those associated with the NED plan, but the lesser impacts of the 44-foot depth, 45-foot depth, and 46-foot depth alternatives are not considered sufficient to justify recommendation of these alternatives instead of the NED Plan. Prior to release of the Draft GRR and EIS for agency and public comment, the State of Georgia asked the Corps to consider the 48-foot depth alternative as the Locally Preferred Plan. As a result of comments received and subsequent discussions with the sponsor, the Corps declined to select the 48-foot alternative as the NED, subsequently GPA selected the 47-ft depth alternative as the locally preferred alternative.

**C. Process of Assessment:** As noted above, EPA reviewed the selected plan and associated mitigation plan pursuant to WRDA and relative to EPA's statutory and regulatory authorities, including the Federal Water Pollution Control Act (Clean Water Act) (33 U.S.C. § 1251 et seq), the Clean Air Act (42 U.S.C. §7401 et seq) and the MPRSA of 1972 (33 U.S.C. §1401 et seq).

As background, EPA has extensively participated in the NEPA process to ensure the Agency was represented and our concerns were expressed throughout the development of the NEPA document. Over the course of nearly ten years, EPA has participated in numerous interagency coordination teams (Wetlands Interagency Coordination Team, Water Quality Interagency Team, etc.), reviewed over 40 different technical documents and models, participated in numerous executive management meetings. EPA reviewed the DEIS and FEIS and provided comments to the Corps as required by Section 309 of the CAA and Section 102(2)(C) of NEPA. To the extent

possible, EPA also reviewed the public comments on the DEIS and FEIS, and the Corps' responses to those comments, to ensure EPA's relevant issues related to the Agency's statutory and regulatory authorities were considered. The NEPA review in combination with the sufficiency review provides the foundation for EPA's assessment under WRDA.

**V. EPA's Assessment of the Mitigation Plan:** As noted above, EPA requested and the Corps agreed to include in the final draft of the Chief's Report a number of conditions to address EPA's remaining concerns (See Section VI - EPA Conditions). Several of our comments relate to the proposed mitigation plans described in the FEIS. These include an adaptive management and monitoring program to ensure the wetlands mitigation as well as the DO mitigation function as expected. This is linked with a financial commitment based on federal appropriations backed up by the Georgia Ports Authority commitment for the DO system operation and maintenance; and for monitoring and adaptive management. Below is a summary of our assessment of the mitigation plans described in the FEIS and our FEIS issues related to the proposed plans.

**A. Mitigation Plan (FEIS, Appendix C, May 2012):**

**1. Dissolved Oxygen:** As noted above, in 2006 and in cooperation with the states of Georgia and South Carolina, EPA implemented a "no discharge" TMDL for DO due to long standing drought conditions and in April 2010, EPA published a revised Draft TMDL for DO. Early on the resource agencies raised concerns that the project would adversely impact the DO water quality standard. The Corps contracted with MACTEC to conduct a study to determine different methods to improve the DO levels within Savannah Harbor. In 2005, MACTEC completed the report, which included the examination of 25 methods of DO improvement (FEIS, Appendix C, page 39). MACTEC concluded that oxygen injection was the most cost effective method to increase DO levels within the harbor. In 2006, the Corps developed preliminary designs and discussed with both the resource agencies and the public. From this input, the Corps considered various locations (with depths of 44-ft, 45-ft, 46-ft and 48-ft) to place oxygen injection systems. After flow alteration locations were identified and modeled with the hydrodynamic and water quality models, the Corps used this information to identify locations for the oxygen injection systems (described in the report titled "Final Report, Design of Dissolved Oxygen Improvement Systems in Savannah Harbor, April 24, 2008"). To determine the effectiveness of the oxygen improvement system, in 2007, the Corps conducted a full-scale demonstration project. Overall, MACTAC found that the oxygen injection system was successful and would improve the DO levels within the Savannah harbor ("Savannah Harbor ReOxygenation Demonstration Project Report").

EPA concurred with the Corps findings that the oxygen injection system would increase DO levels to offset the projects impacts to DO (See EPA DEIS Comment Letter). However, EPA expressed concern about the Corps' lack of financial commitment over the project lifespan to ensure adequate DO monitoring as well as maintenance of the oxygen injection system (See EPA DEIS Comment Letter). The SCDHEC Final Agency Decision relative to the 401 certification included wording indicating that GPA agreed to provide financial assurance for 50 years should federal funding be insufficient in any year. Based on these requirements, EPA concluded in our FEIS Comment Letter that, "This level of financial assurance provides greater certainty that operations and maintenance costs will be covered through the life of the project."

**2. Wetlands:** Adverse impacts to wetlands would be mitigated through three types of actions: (1) flow altering features, (2) acquisition and preservation of 2,245 acres of existing bottomland hardwoods, and (3) restoration of former Disposal Area 1S. The flow-altering features include the following for the preferred alternative (47-ft deepening): a) Diversion Structure at McCoys Cut b) Close western arm at McCoys Cut c) Close Rifle Cut d) Remove Tidegate e) Sill and Broad Berm in Sediment Basin and f) Deepening at McCoys Cut.

In our DEIS comment letter, EPA expressed concerns regarding the following primary areas associated with the proposed wetland mitigation for SHEP: 1) assigning higher "value" to wetland functions to one wetland type (brackish) over another (saltmarsh), 2) the uncertainties around revegetation at the Disposal Area 1S and that the proposed mitigation will generate "excess" credits, 3) the complexities and uncertainties associated with the salinity models, 4) application of the Savannah District's SOP in calculating compensatory mitigation, and 5) the general disagreement with the Corps over the level of adverse impacts to wetlands. After carefully weighing of all the interests of the Cooperating Agencies, a decision was made by EPA to accept the mitigation package as proposed by the Corps with certain conditions. This decision best balance the interests of all parties and allows for adequate monitoring and follow-on adaptive management as identified in Appendices C and D of the FEIS.

**B. Monitoring and Adaptive Management Plan (FEIS Appendix D, May 2012):** The Corps followed the 2003 CEQ NEPA Task Force Report on Modernizing NEPA Implementation as a framework to establish its monitoring and adaptive management plan. Using the framework outlined by the Task Force, the Corps adopted the "Predict", "Mitigate", "Implement", "Monitor" and "Adapt". According to the FEIS Appendix D (page 1), the Corps defines adaptive management as, "evaluating the accuracy of the predicted environmental impacts, assessing the effectiveness of the mitigation features, and modifying the project as needed to ensure the levels of environmental effects predicted in the Environmental Impact Statement (EIS) are not exceeded."

**1. Monitoring:** The Corps proposes to conduct monitoring at various stages throughout the life of SHEP. The purpose of the monitoring is to establish a baseline and acceptable environmental performance parameters. Performance parameters will be established for conductance, salinity, flow, and concentrations of DO. According to the FEIS, the Corps intends to do so by conducting pre-construction monitoring, monitoring during construction, and post-construction monitoring. The Corps proposes establishing a publically available website to post monitoring reports and studies throughout all phases of the project (pre-construction through post-construction monitoring). The Corps also proposes publishing annual reports discussing the construction progress, monitoring/study results and proposed adaptive management modifications. The Corps also proposes sharing this report with cooperating agencies and soliciting feedback and recommendations as to the best options regarding the report.

**2. Adaptive Management:** The Corps has outlined a comprehensive adaptive management plan (FEIS, Appendix D). In the FEIS, Appendix D (page 38), the Corps discusses its process in making adaptive management decisions. The Corps proposes to maintain close coordination with the Cooperating Agencies during the pre-construction and active construction stages. Should monitoring identify impacts outside the range expected, then the Corps states that they would coordinate with the Cooperating Agencies. The Corps also states that monitoring

assessments could also modify proposed construction activities so as to ensure fewer impacts. After construction, the Corps envisions the adaptive management decision process would become more focused on long term mitigation features. During the pre-construction and active construction stages, the Corps envisions coordinating with the Cooperating Agencies when the monitoring indicates a parameter exceeding expected conditions or should monitoring from a mitigation feature not be within expected values. The Corps has outlined a process in which the Cooperating Agencies can provide feedback to the Corps regarding the performance of mitigation features and monitoring results of SHEP. The Corps also has outlined a process that mitigation features can be modified, which requires the concurrence of the Cooperating Agencies. Should two of the Cooperating Agencies non-concur with the proposed modification, then the Corps proposes elevating the decision to the Washington DC level.

**C. Funding of Adaptive Management:** Once the proposed adaptive management measure has been approved by the various Agencies, then the Corps would request those funds through the Corps budgetary process. The Corps also states that adaptive management funds would come from the construction funds until the post construction monitoring is complete (which will continue for 10 years after construction (FEIS, Appendix D, page 42)). The Corps will develop an adaptive management funding plan along with annual construction funding. If the funding plan exceeds the funding plan estimates, the Corps will request additional funds through the normal budgetary process. The Corps states, "Adaptive management funds currently estimated at \$2 million per year will be sought for the entire duration of the monitoring period and for an action needed based on the monitoring (FEIS, Appendix D)." Upon approval of the project, the GPA has agreed to set aside, in advance, their portion of the monitoring and adaptive management funds in an escrow account. The Corps also states that these funds would be expended if the modifications are deemed necessary by the Federal Lead and Cooperating Agencies. Because of the importance of strong financial assurances, EPA is recommending that the Corps commit to the monitoring and adaptive management (Appendix C and D) funding with language in the final draft Chief's Report that specifically commits the funding levels outlined in the FEIS.

**VI. EPA Conditions:** Below are EPA's conditions related to the WRDA approval of the selected plan and associated mitigation. As stated above, EPA has reviewed the final draft Chief's Report and the Corps has included the following specific commitments that address issues outlined above.

**A. Dissolved Oxygen and Wetlands:** EPA requests the following language be added to the Chief's Report, "In accordance with the FEIS, establish an Adaptive Management Team, with the active participation of the cooperating agencies, for the purpose of effectively implementing the monitoring and adaptive management plan related to dissolved oxygen levels in the system and wetlands mitigation, and to ensure that the wetlands mitigation requirements and DO levels are met in the system."

**B. Adaptive Management/Monitoring:**

1. EPA requests the following language be amended in the Chief's Report to state, "Monitoring to ensure that (1) the impacts described in the FEIS are not exceeded, and (2) the

dissolved oxygen and wetland mitigation features function as intended. Monitoring will occur pre-construction, during construction, and up to 10 years post-construction; and

2. EPA requests following language be added to the Chief's Report, "Adaptive management be implemented as outlined in the FEIS to 1) review the results of DO monitoring as well as the success of wetlands mitigation, 2) modify features if necessary

**C. Financial Assurance:**

1. In order to ensure there will be adequate funding for the duration of this project, EPA requests the following language be added to the Chief's Report, "To the extent appropriated by Congress, implement monitoring and adaptive management that includes the Corps commitments for the dissolved oxygen mitigation system and wetlands mitigation as outlined in the FEIS."

2. EPA requests the conditions listed in the SCDHEC 401 certification be referenced in the Chief's Report (i.e., "As to operation and maintenance of dissolved oxygen mitigation system, include language referencing the commitment by GPA to establish financial assurance sufficient to fund operation and maintenance of the system, in any year that sufficient federal funds for that purpose are not available, throughout the life of the project"). The Chief's Report should indicate that GPA intends to place its full share of funds for adaptive management in an escrow account during project construction, as reflected in the 401 certification package.

**D. MPRSA- Section 103:** Given that the MPRSA Section 103 process is not complete, EPA requests the following language be added to the Chief's Report, "The required Site Management and Monitoring Plan for the Savannah ODMDS must be completed and signed by the EPA and the Corps before the EPA can issue a concurrence for disposal of material from the SHEP into the Savannah ODMDS. Any portion of this material that does not 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 does not meet the Ocean Dumping Criteria."

**E. Environmental Justice:** EPA supports the Corps' compliance in the Savannah Harbor Expansion Project with Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, dated February 11, 1994.

EPA requests following language be added to the Chief's Report

"By letter dated July 10, 2012, the Georgia Ports Authority has indicated that it intends to establish, with the assistance of the Environmental Protection Agency, a community advisory group that meets periodically to identify and address community concerns or recommendations that may arise associated with ongoing port activities. GPA will also facilitate sustainability by pursuing electrification of port infrastructure, reduced idling at distribution centers, and fleet upgrades under the SmartWay Port Drayage Truck program. In addition, in consultation with EPA Region 4 and Georgia EPD, the GPA intends to conduct an air monitoring study not to exceed one year at no more than four monitoring sites, to evaluate any potential impacts on surrounding communities. This study would occur once the project is complete and GPA is serving Post-Panamax ships in normal operations."

The Corps will also provide technical assistance to the community to help explain scientific data or findings related to ongoing port activities and studies.