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January 25, 2011

VIA E-MAIL AND U.S. MAIL

Jeffrey M. Hall, Colonel
U.S. Army Corps of Engineers
100 West Oglethorpe Avenue
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Re: Notice of Availability of a Draft Tier II Environmental Impact Statement and Draft General Reevaluation Report for Savannah Harbor Federal Navigation Project, Chatham County, GA and Jasper County, SC; S.C. Coastal Conservation League et al. v. Westphal, C/A No. 9-00-0798-23 (D.S.C. 2001)

Dear Colonel Hall:

On November 15, 2010, the Savannah District of the U.S. Army Corps of Engineers (the "Corps" or "Savannah District") issued a Joint Public Notice (the "JPN") providing Notice of Availability of a Draft Tier II Environmental Impact Statement ("DEIS") and Draft General Reevaluation Report ("Draft GRR" or "GRR") pursuant to the authority provided by Section 102(b)(9) of the 1999 Water Resources Development Act for the Savannah Harbor Federal Navigation Project, Chatham County, Georgia and Jasper County, South Carolina (hereinafter referred to as the "Project," the "Proposal," or "SHEP").

On behalf of the South Carolina Coastal Conservation League, the South Carolina Wildlife Federation, the Center for a Sustainable Coast, the National Wildlife Federation, and the Savannah Riverkeeper (the "Conservation Groups"), the Southern Environmental Law Center ("SELC") submits this comment letter to express our substantial concerns about this proposed Project.[1] As described in more detail below, this proposal raises serious problems regarding compliance with the National Environmental Policy Act ("NEPA"), 42 U.S.C. §§ 4321 et seq. (2010); the federal Clean Water Act ("CWA"), 33 U.S.C. §§ 1251 et seq. (2010); the Coastal Zone Management Act ("CZMA"), 16 U.S.C. §§ 1531, et seq.; and the Endangered Species Act ("ESA"), 16 U.S.C. §§ 1531 et seq. (2010), among other applicable laws.

In particular, we are troubled by the central assumption underlying the DEIS and Draft GRR that the proposed deepening Project is unrelated to efforts by the Georgia Ports Authority ("GPA") to maintain or increase its business. Such an assumption not only strains credulity, but is also directly contradicted by the Corps' Tier I Environmental Impact Statement, statements by GPA officials, and GPA's willingness to pay a substantial sum of money for an extra foot's

[1] These comments are also submitted pursuant to South Carolina Coastal Conservation League et al. v. Westphal, C/A No. 9-00-0798-23 (D.S.C. 2001), in which United States District Judge Michael Patrick Duffy entered an order prescribing certain parameters of the Tier II studies being conducted by the Corps.

worth of depth. In making this dubious assumption, the Corps has undermined its economic analyses and skewed the environmental studies by failing to evaluate the indirect and cumulative effects associated with this proposal.

Even if one accepts for purposes of argument the assumption that this Proposal is not needed to increase Garden City Terminal ("GCT") throughput, the no-action alternative stands out as a clear winner since it would obviate the need to spend over $600 million in public money, protect natural resources of national significance, and yet have no effect on GCT's business.

In addition, substantial concerns have also been raised regarding the failure of the proposed channel as designed to safely accommodate fully-loaded Post-Panamax ships, further eroding the stated rationale for this Project, especially when weighed against the substantial economic cost and environmental impacts. And finally, the Corps has simply failed to consider, as NEPA and the CWA require, a sufficient range of alternatives for accommodating the anticipated larger class of containerships and instead has arbitrarily limited its review of alternatives to different depths in the Savannah River. Stated another way, the Corps has studiously avoided asking perhaps the most important question here in light of the limited availability of federal funds: whether the federal government could deepen a different port in the Southeast region for less money and with fewer impacts on the environment. For these and other reasons stated below, we respectfully request that the Corps remedy the significant flaws in the DEIS and Draft GRR before proceeding with a FEIS.[2]

The Proposed Project

As proposed in the JPN, the Corps has prepared the DEIS and GRR to incrementally evaluate deepening the Savannah Harbor Federal Navigation Project to a maximum authorized depth of -48 feet Mean Lower Low Water ("MLLW") as authorized by the Water Resources Development Act of 1999, Public Law 106-53, Section 102(b)(9). The current authorized depth is -42 feet MLLW. The studies purport to evaluate the engineering, environmental, and economic acceptability of various alternative Project depths (44, 45, 46, 47, and 48 feet) for the present and future harbor conditions over a 50-year analysis period. The maximum proposed Project length is approximately 38 miles, and the tentatively recommended plans include the 47-foot depth alternative (the National Economic Development Plan ("NED Plan")) and GPA's preferred 48-foot alternative (the Maximum Authorized depth alternative). JPN at 3. Recommended improvements also include channel deepening from the Atlantic Ocean through the Harbor Entrance Channel to the Garden City Terminal; channel widening to create meeting areas at Long Island and Oglethorpe Ranges; widening and deepening of the Kings Island Turning Basin; and channel widening at three bends. Id. The deepening proposal also includes a two foot allowable overdepth and up to six feet of advance maintenance. Id.

The SHEP proposal also involves the discharge of fill to construct and maintain submerged and nearshore berms, the continued discharge of effluent from confined disposal facilities, and the transportation of sediments dredged from the entrance channel to the Savannah Ocean Dredged Material Disposal Site. The proposal also contemplates the discharge of dredged

[2] This letter incorporates by reference our previous comment letters on this Project.

material for several aspects of the mitigation plan, including closing Rifle Cut; construction of a flow diversion structure and other modifications at McCoys Cut; deepening the upper portions of Middle and Back Rivers; removing the Tidegate and its abutments; and constructing additional features including a submerged sill and berm at the mouth of Back River, a submerged sill at the mouth of Middle River, three dissolved oxygen injection systems, a fish passage structure at the New Savannah Bluff Lock and Dam, a boat ramp on Hutchinson Island, and a restoration project at Disposal Area 1S. Id. at 2.

Environmental Impacts

This Proposal would involve substantial adverse impacts to resources of national significance and of great value to the states of South Carolina and Georgia. Over time, repeated deepenings and operation of the Tidegate have caused saltwater from the Atlantic Ocean to intrude up the Savannah River, seriously altering the area's natural intermixture of saltwater and freshwater. This saltwater intrusion has resulted in a number of significant problems, including severe losses of the tidal freshwater marshes, which the U.S. Fish and Wildlife Service ("FWS"), has identified as the single most critical natural resource in the harbor. DEIS at 5-8. After decades of saltwater encroachment, the area's once extensive tidal freshwater marsh is now largely contained within the Savannah National Wildlife Refuge (the "Refuge"). Tidal freshwater marsh within the Savannah River estuary have already been reduced from approximately 12,000 acres to about 3,300 acres due to previous deepenings, and the majority of remaining freshwater tidal marsh is found within the Refuge. This Proposal would cause direct impacts to as many as 14.08 acres of wetlands and indirect impacts to as many as 1,212 acres of freshwater tidal wetlands (the Corps estimates this number will be reduced to 337 acres as a result of proposed flow-altering modifications). DEIS at 5-10; JPN at 4.

Successive deepenings of the Savannah River have also contributed to the reduction of dissolved oxygen ("DO") levels to critically low levels on the River's bottom. Dissolved oxygen declines imperil aquatic species while channel maintenance and deepenings directly destroy and disrupt wildlife habitat through dredging and the emplacement of millions of cubic yards of dredged spoil. This proposal also threatens to contaminate groundwater supplies by increasing salinity and reducing the thickness of the confining layer separating the bottom of the Savannah River and the Upper Floridan aquifer thereby facilitating saltwater intrusion into the aquifer under the navigation channel. Similar concerns have been lodged regarding increased levels of chlorides at the City of Savannah's Municipal and Industrial intake on Abercorn Creek, a tributary of the River.

Other natural resources threatened by the Project include shortnose sturgeon (*Acipenser brevirostrum*), Atlantic sturgeon (*Acipenser oxyrincus oxyrincus*), and striped bass (*Morone saxatilis*). The shortnose sturgeon, which occurs in large coastal rivers of eastern North America, was recognized as federally endangered in 1967. Of particular concern here are the ways in which this proposed Project will impact Savannah River's population of federally-endangered shortnose sturgeon and Atlantic sturgeon (which has recently been proposed for listing as endangered by the National Marine Fisheries Service ("NMFS")) by decreasing dissolved oxygen levels and increasing salinities in their core habitat. The federal Final Recovery Plan for shortnose sturgeon states that because populations from different river

systems are reproductively isolated, the loss of a single river system's shortnose sturgeon population "risk[s] the permanent loss of unique genetic information critical to the survival and recovery of the species [as a whole]." Final Recovery Plan for the Shortnose Sturgeon at 7 (Dec. 1998). In addition, the Project threatens to harm other federally-listed species, such as North Atlantic right whales, sea turtles, and manatees.

History of the Project

GPA, acting under Section 203 of WRDA of 1986, 33 U.S.C. § 2231, prepared a draft feasibility study and environmental impact statement for this Project and submitted that study to the Corps, which published the DFS/EIS for public comment on May 10, 1998. Faced with overwhelmingly negative comments regarding the adequacy of the study, GPA announced it would prepare a "Supplemental Impact Statement" to address, among other things, "all the environmental concerns raised" by the DFS/EIS.

GPA, however, was racing to obtain congressional authorization for the Project as part of the Water Resources Development Act of 1998. Faced with a narrowing time window for the WRDA of 1998 bill, GPA decided to submit a "finalized" version of the DFS/EIS to the Corps for transmittal to Congress before supplemental studies had been completed. The repackaged draft, titled the Savannah Harbor Expansion Feasibility Study and Environmental Impact Statement (collectively, the "Tier I EIS"), stated that the channel expansion was economically feasible, cost effective, technically possible, and environmentally acceptable.

In 2000, the South Carolina Coastal Conservation League, the South Carolina Wildlife Federation, the Center for a Sustainable Coast, and the National Wildlife Federation filed suit in the United States District Court for the District of South Carolina against the Corps, challenging the Tier I EIS prepared for the Savannah Harbor Expansion Project.

That case was resolved by an order issued February 28, 2001.[3] In dismissing the plaintiffs' claims as unripe, the Court made it clear that it was doing so on the understanding that issues raised by the plaintiffs with regard to the Tier I EIS could be raised in the Tier II phase of the SHEP studies. The Court explained:

> Defendants' counsel stated during a hearing conducted by this court on February 15, 2001 that Plaintiffs will not be precluded from participating in the Tier II process and that even such broad concerns as site selection may be evaluated in that process. Therefore, the Defendants' [*i.e.*, the Corps of Engineers] are judicially estopped from later claiming that such issues cannot be raised during the Tier II process. . . .[4]

In WRDA 1999 (Section 101(b)(9)), Congress conditionally authorized deepening the channel to a maximum depth of 48 feet Mean Low Water (MLW). According to WRDA 1999, the Project may be carried out only after the Secretary of the Interior, the Secretary of

[3] South Carolina Coastal Conservation League et al. v. Westphal, C/A No. 9-00-0798-23 (D.S.C. 2001).

[4] Id., Feb. 28, 2001 Order, at 9.

Commerce, the Administrator of the Environmental Protection Agency, 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. As a result, the Corps has now released its Tier II DEIS and Draft GRR.

Overview of Regulatory Requirements

Although the Corps does not process and issue permits for its own activities, it "authorizes" its own discharges, applying all applicable substantive requirements, including the Section 404(b)(1) Guidelines. 33 CFR § 336.1; 40 C.F.R. § 230.2(a)(2); see also Regulatory Guidance Letter ("RGL") 88-09 (July 21, 1998, expired Dec. 31, 1990) (describing Corps' duty to comply with same substantive legal requirements applicable to Section 404 permittees); RGL 05-06 (Dec. 7, 2005) (explaining that RGLs remain valid post-expiration unless superseded by regulation or subsequent RGL).

Given the scale of this Project and the environmental impacts that would result, the Corps has prepared and released the Tier II DEIS. Pursuant to NEPA, the EIS must explore a reasonable range of potential alternatives to meet the primary objective of the Project. In fact, the primary purpose of the DEIS is to carefully explore a reasonable range of locational and functional alternatives that meet some or all of the primary project purposes, including a "no-action" alternative, and compare their overall relative direct and indirect environmental impacts. 40 C.F.R. §§ 1502.14(d), 1508.25(b). The Project's harm to the environment and the relative degree to which each alternative would meet the Project purpose over time, including foreseeable induced development as a result of the Project, must be considered as part of this study. 40 C.F.R. §§ 1502.14(d), 1508.8.

An evaluation under Section 404(b)(1) Guidelines of the Clean Water Act is required for the proposed discharges of dredged or fill material and their effluent into waters of the United States. Corps projects, such as this, can only be authorized if they represent the least damaging "practicable alternative" that will meet the basic purpose and need for the project. 40 C.F.R. § 230.10(a). The Section 404(b)(1) Guidelines further prohibit discharges of dredged or fill material if it "[c]auses or contributes . . . to violations of any applicable State water quality standard." Id. § 230.10(b)(1). Additionally, the Corps' criteria for evaluating a permit application under Section 404 of the CWA are set forth at 33 C.F.R. § 320.4. Pursuant to these regulations, the "[d]ecision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest." See 33 C.F.R. § 320.4(a) (listing relevant factors to be considered).

Closely related to the Section 404(b)(1) Guidelines is the CWA Section 401 certification process. Pursuant to this process, the South Carolina Department of Health and Environmental Control ("DHEC") and the Georgia Environmental Protection Division ("GAEPD") must certify that the Project will not harm water quality, taking into account feasible alternatives, wildlife habitat in the area, and other factors. See 33 U.S.C. § 1341. Section 401 water quality certification is a prerequisite to the issuance of a Section 404 permit, and may be denied when the project will have unacceptably high adverse impacts on aquatic resources. S.C. Code Regs. 61-101(F)(5); see also S.C. Code Regs. 61-101(F)(3)(c). The Corps has also requested coastal

zone consistency determinations from both South Carolina and Georgia.

Careful study and consultation with NMFS and FWS is required pursuant to Endangered Species Act (ESA) in connection with the Project given the presence of the endangered shortnose sturgeon, North Atlantic right whales, sea turtles, manatees, wood storks, and other imperiled wildlife. Section 7 of the ESA requires that each federal agency "shall insure that any action authorized, funded or carried out by such agency . . . is not likely to jeopardize the continued existence of any" listed species. 16 U.S.C. § 1536(a)(2). Further coordination with FWS is required by the Fish and Wildlife Coordination Act, 16 U.S.C. §§ 661 to 667e, which provides the basic authority for the FWS's involvement in evaluating impacts to fish and wildlife from proposed water resource development projects**.** The Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C. §§ 1801 et seq., also requires the Corps to consult with NMFS on projects affecting Essential Fish Habitat. 16 U.S.C. § 1855(b)(2); 50 CFR § 600.920(a).

Legal Issues

Although NEPA dictates procedures, not outcomes, it is nevertheless an "action-forcing" statute that aims to improve the quality of agency decisions and protect the environment. See Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 348 (1989). The NEPA process is designed to "bring pressure to bear on agencies" and is "almost certain to affect the agency's substantive decision." Id. at 349 (internal quotation marks omitted). Under NEPA, an agency must "make[] its decision to proceed with the action after taking a 'hard look at environmental consequences.'" Sabine River Authority v. Department of Interior, 951 F.2d 669, 676 (5th Cir. 1992) (citation omitted).

NEPA's environmental impact statement requirement has a dual purpose in achieving these goals. First, it requires federal agencies to thoroughly and objectively investigate, evaluate, and disclose environmental consequences associated with any major federal action. Requiring an EIS ensures that agencies "will have available, and will carefully consider, detailed information concerning significant environmental impacts," Robertson, 490 U.S. at 349, and thereby "fosters informed decision-making." Oregon Natural Desert Ass'n v. BLM, 625 F.3d 1092, 1122 (9th Cir. 2010). Second, it serves as an "environmental full disclosure law so that the public can weigh a project's benefits against its environmental costs." Nat'l Audubon Society v. Hoffman, 132 F.3d 7, 12 (2d Cir. 1997).

In an attempt to fulfill these purposes, the Corps has prepared a DEIS for the proposed SHEP. To satisfy NEPA, the DEIS must describe the purpose and need for the proposed action and must consider all reasonably foreseeable, significant, adverse impacts of the proposed action. 40 C.F.R. § 1502.13, 16. The DEIS must consider the cumulative and indirect impacts of the proposed action, including reasonably foreseeable expansions in the scope of the proposed action. Id. § 1502.16. The DEIS must also consider all reasonable alternatives to the proposed action. 42 U.S.C. § 4332(C)(iii), (E); 40 C.F.R. § 1502.1.

I. The DEIS and GRR Violate NEPA.

A. The Corps has Violated its Duty under NEPA by Failing to Provide Sufficient Information to Allow the Public a Meaningful Opportunity to Comment.

In order to attain its goals of encouraging a "productive and enjoyable harmony between man and his environment" and promoting "efforts which will prevent or eliminate damage to the environment," 42 U.S.C. § 4321, NEPA imposes procedural safeguards that must be carefully adhered to. See, e.g., Robertson, 490 U.S. at 351; Hodges v. Abraham, 300 F.3d 432, 445-46 (4th Cir. 2002); Nat'l Audubon Soc'y v. Dep't of the Navy, 422 F.3d 174, 184 (4th Cir. 2005). Although NEPA does not contain specific public comment and review procedures, federal courts have consistently found that public involvement lies at the center of NEPA's procedural requirements. See, e.g., California v. Block, 690 F.2d 753, 770-771 (9th Cir. 1982); Hodges, 300 F.3d at 438; Nat'l Audubon, 422 F.3d at 184; Sierra Nevada Forest Protection Campaign v. Weingart, 376 F. Supp. 2d 984, 990 (E.D. Cal. 2005) (saying NEPA's goal is "informed agency decision-making through informed public participation").

Federal regulations implementing NEPA recognize that "public participation [is] essential," 40 C.F.R. § 1500.1 (the "CEQ Guidelines"), and direct agencies to "involve . . . the public, to the extent practicable, in preparing [environmental] assessments." See 40 C.F.R. § 1501.4. The Corps' "NEPA procedures must insure that environmental information is available to public officials and citizens *before* decisions are made and *before* actions are taken." 40 C.F.R. § 1500.1(b) (emphasis added); see also Ohio Valley Envtl Coalition v. U.S. Army Corps of Eng'rs, 674 F. Supp. 2d 783, 808-09 (S.D. W.Va. 2009) (same); Sierra Nevada, 376 F. Supp. 2d at 990 (NEPA regulations "require that an agency give environmental information to the public and then provide an opportunity for informed comments to the agency"). According to the CEQ Guidelines, such procedures are necessary because "public scrutiny [is] essential to implementing NEPA." 40 C.F.R. § 1500.1(b).

Here, the Corps has failed to make available sufficient information to provide for meaningful public comment. Both the DEIS and GRR rely heavily on the use of various models by the Corps. For example, models utilized by the Corps include an Environmental Fluid Dynamics Computer Code ("EFDC") model, which is a three-dimensional surface water modeling system for hydrodynamic and reactive transport simulations of rivers and other water bodies; and the Water Quality Analysis Simulation Program ("WASP"), which is a dynamic compartment-modeling program for aquatic systems. The EFDC model provides ocean flow and tidal dynamics, upstream flow, and other data that is then incorporated into the WASP model through a hydrodynamic linkage file. GRR, App'x C at 102-03. The hydrodynamic and water quality models were modified and calibrated by the agencies and their consultants specifically for this project to evaluate a range of significant issues, including impacts to wetlands, fishery habitat, water quality, and dissolved oxygen. GRR, App'x C at 103, 105. Despite heavy reliance by the Corps on these models to evaluate critical aspects of the Project, neither the DEIS nor the draft GRR include sufficient information to allow the public to scrutinize the results derived from the modeling exercises.

Another example is the SHE groundwater model that was designed to simulate the intrusion of salt water from the Savannah Harbor. The Corps has not disclosed information

needed to assess the results of these modeling efforts. For example, the Corps' use of the DYNSYSTEM groundwater modeling codes, which are proprietary and unavailable to the public, render meaningless any effort by the public to intelligibly understand how the Corps has reached its conclusions. Furthermore, the Corps did not provide with the DEIS or GRR model file archives of the SHE model, which are needed to evaluate the legitimacy of the Corps' modeling efforts. Without access to these proprietary codes and model file archives, a third-party review of the groundwater modeling for the Project is not possible.

Simply put, without the requested information, a rigorous review of the modeling undertaken for major components of the DEIS and GRR, including fundamental issues related to wetland impacts, lowering of dissolved oxygen, salinity intrusion, groundwater contamination, and habitat analyses for fisheries, to name a few, is impossible. The failure to include this information with the DEIS and GRR and the decision to withhold such information until the comment period has nearly expired effectively takes away from the Conservation Organizations (and other interested members of the public) the opportunity to meaningfully review the DEIS and GRR. As such, the Corps' has frustrated NEPA's goal of informed agency decision-making through informed public participation.

On October 22, 2010, we submitted a FOIA request to the Corps requesting specific information related to the use of these models in order to allow for meaningful review. After initially saying that it would be unable to turn over the requested information until March (after the close of the comment period), the Corps sent a CD to counsel for the Conservation Organizations, which arrived on January 19, 2011 – three full business days prior to the close of the official comment period. The Conservation Organizations are in the process of determining whether the Corps has turned over all of the requested information. Once it is determined that the necessary information has been provided by the Corps, the Conservation Organizations intend to review the modeling analyses conducted in support of the DEIS and GRR and supplement this initial comment letter.

B. The DEIS and GRR Lack Needed Information.

The Corps' failure to include current data in the DEIS and GRR is unreasonable and arbitrary. Although an agency's obligation to perform research and experiments necessary to gather new data is governed by NEPA's "rule of reason," the agency must not disregard current data which is already in existence. Atchison, Topeka & Santa Fe Ry. v. Alexander, 480 F. Supp. 980, 992 (D.D.C. 1979), aff'd in part, rev'd in part on other grounds sub nom., Izaak Walton League of Am. v. Marsh, 655 F.2d 346 (D.C.Cir.1981). As the D.C. Circuit has explained, an agency may not "shut its eyes to the events of the recent past" and rely on outdated information. Id. (quoting Seatrain International, S.A. v. FMC, 598 F.2d 289, 293 (D.C. Cir. 1979)).

For purposes of its economic analyses, the Corps relies on baseline commodity forecasts completed in 2004. The trade forecast used by the Corps appears to seriously overstate the Project's benefits because more recent data from the Bureau of Census shows that imports fell 21 percent between 2008 and 2009, while exports fell by 13 percent.[5] These same statistics

[5] U.S. Census Trade Data is available at http://data.usatradeonline.gov/View/dispview.aspx. Percentage drops are based on containerized vessel tonnage only. The 2010 data is available only through November. While year to date

(available through November 2010) show that while there has been a rebound in 2010, this rebound is not likely to bring trade back to the 2008 level. Since lower traffic levels mean fewer project benefits, recent changes in the world economy could seriously alter the basic benefit-cost equation. The decision by the Corps to rely on pre-recession trade forecasts is arbitrary and capricious.

In addition to relying on old data, the Corps has also released its DEIS and GRR prior to completing its development of new information needed to evaluate the proposal. According to the GRR, the proposed harbor deepening would increase chloride levels at the City of Savannah's water intake during drought conditions. GRR at 168. The GRR states:

> In recognition of the concerns about the impact prediction tool, the Corps is presently obtaining additional data to enhance the capability and reliability of the predictive modeling tool. Those results should be available in the Final EIS.
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> If the proposed deepening project is found to produce sustained chloride concentrations that adversely affect [the] City of Savannah's Municipal and Industrial water intake on Abercorn Creek, then the USACE would construct this supplemental intake line at a cost of $35.9 million.

GRR at 169. By releasing its draft studies prior to evaluating additional data the Corps has determined it needs to refine its modeling, the Corps has taken away the public's opportunity to fully comment at this stage of the NEPA process. Moreover, if the Corps ultimately determines that a supplemental intake line is needed, such a determination will require revisions to the economic analyses, as well as additional federal and state permitting decisions. The decision to issue the DEIS without the data relating to the severity of impacts to the City's water supply violates NEPA.

C. The DEIS Violates NEPA because it Does not Properly Delineate the Purpose and Need of the Project.

The statement of purpose and need is a critical component of an Environmental Impact Statement. Pursuant to NEPA, an EIS shall "briefly specify the underlying *purpose and need* to which the agency is responding in proposing the alternatives including their proposed action." 40 C.F.R. § 1502.13; 33 C.F.R. § 325, App'x B(9)(b)(4) (emphasis added).

The Tier II DEIS is seriously flawed with respect to its purpose and need statement. At best, the Tier II DEIS violates NEPA by failing to set forth a clear statement of purpose and need. At worst, the DEIS presents a statement of purpose and need that is contrary to the previous articulation of project purpose found in the Tier I EIS. Such a conflicting statement

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exports through November are almost at 2008 levels, imports remain well below 2008. The estimated benefits for the project are primarily for imports.

would be arbitrary and capricious and would also violate NEPA.

1. The Purpose and Need Statement in the Tier II DEIS is, at Best, Impermissibly Vague and is, at Worst, in Conflict with the Tier I EIS.

The Tier I EIS prepared for this Project states that: "*[c]ontinued growth of the Port necessitates* that it remain efficient and cost competitive" and that "[b]ased on an evaluation of the study area and its needs, the objectives of the proposed project are as follows: (a) provide better passage for the existing fleet of larger vessels through the harbor at all tides, thus reducing shipping delays; and (b) provide for safe and efficient transit of larger vessels expected to call on Savannah Harbor in the future." Tier I EIS at 14 (emphasis added). In other words, the original statement of project purpose clearly acknowledges that GPA seeks to continue growing its business by deepening its channel for safe and efficient transit of larger ships.

The Tier I EIS' statement of project purpose is consistent with the many statements made GPA over the years, which leave no doubt as to GPA's overriding goal for this Project.

- "GPA considers increased channel depth to be vital to continued growth of port activities in Savannah." Georgia Ports Authority Press Release (July 13, 1998) (attached as Ex. A).

- "It is essential that we deepen the Savannah navigational channel in order that the port of Savannah remain competitive in the U.S. South Atlantic range" and "that Georgia's ports continue to act as a catalyst in helping to contribute to the economic growth and prosperity of the state." Ben Schmitt, Approval for River Deepening in Peril, Savannah Morning News (Oct. 8, 1998) (quoting Tom Swinson, spokesman for GPA) (attached as Ex. B).

- "Georgia's ports have long played an important role as a catalyst in the economic growth and prosperity of our state. Today, that role and the state's ability to aggressively attract cargo, create more jobs and promote industrial development stand to be greatly diminished if plans to deepen the Savannah Harbor fail." Doug J. Marchand, Deepening Harbor Will Keep Port Competitive, Savannah Morning News (July 6, 1998) (attached as Ex. C).

- "As the world market continues to grow, so must the size of container vessels and the ability of the modern port to handle critical vessel requirements if it is to retain its customers." Id.

The current Tier II DEIS is far less forthcoming regarding GPA's principal goal for this Project. Although it is difficult to tease out a statement of project purpose from the main body of the Tier II DEIS itself, the DEIS does offer that: "The primary problems identified—and the need for the project—relate to the inefficient operation of containerships in the Federal navigation channel at Savannah Harbor, which affect the Nation's international trade transportation costs." DEIS at 3-1.

At best, it is unclear if the DEIS even includes a statement of purpose and need and

whether the above-quoted statement was intended as such a statement. At worst, this language is intended to be a statement of project purpose, which indicates that the Corps is attempting to walk away from its earlier stated purpose in the Tier I DEIS. If the Corps in its Tier II DEIS has shifted the project purpose, then the Tier II DEIS is arbitrary and capricious and is in violation of NEPA. Under NEPA, tiering affords an agency the choice of supplementing an earlier EIS with a "subsequent statement or analysis at a later stage . . . ." 40 C.F.R. § 1508.28(b). Among other reasons, tiering may help an agency "to focus on issues which are ripe for decision and exclude from consideration issues already decided or not yet ripe." Id. Tiering does not, however, allow for changing the purpose of a project, as this could nullify or otherwise undermine analyses in a prior EIS on which the later tier is based. The Corps must at the very least explain its abandonment of the Tier I statement of purpose in the final Tier II EIS.

2. The Corps Must Devise a Statement of Purpose and Need that Reflects the Activity's Underlying Purpose and Need from a Public Interest Perspective.

Even if the Tier II DEIS's statement of project purpose could be made to be consistent with the Tier I EIS, such a statement would be unduly narrow. In order to comply with NEPA, the Corps must devise a new statement of project purpose that reflects the Project's underlying purpose and need from a public interest perspective.

Courts regularly have held that the statement of purpose and need should be defined to reflect the objective, general need for the proposed activity rather than the specific, narrow course of action preferred by the applicant. The rule as articulated by one federal appellate court is representative: "[T]he evaluation of 'alternatives' mandated by NEPA is to be an evaluation of the alternative means to accomplish the *general goal* of an action; it is not an evaluation of the alternative means by which a particular applicant can reach his goals." Van Abbema v. Fornell, 807 F.2d 633, 638 (7th Cir. 1986) (emphasis added). In addition, the Corps' regulations expressly warn against a restricted statement of purpose:

> Normally, the applicant should be encouraged to provide a statement of his proposed activity's purpose and need from his perspective (for example, "to construct an electric generating plant"). However, whenever the NEPA document's scope of analysis renders it appropriate, the Corps also should consider and express that activity's underlying purpose and need from a public interest perspective (to use that same example, "to meet the public's need for electric energy").

33 C.F.R. § 325, App'x B(9)(b)(4); see also Simmons v. U.S. Army Corps of Eng'rs, 120 F.3d 664, 666 (7th Cir. 1997) (saying "[o]ne obvious way for an agency to slip past the strictures of NEPA is to contrive a purpose so slender as to define competing 'reasonable alternatives' out of consideration (and even out of existence"); Envtl Defense Fund v. United States Corps of Eng'rs, 492 F.2d 1123, 1135 (5th Cir. 1974) (explaining NEPA requires a "thorough consideration of all appropriate methods of accomplishing the aim of the action"). Furthermore, it is imperative that "the Corps, will in all cases, exercise independent judgment in defining the purpose and need for the project from both the applicant's and the public's perspective." 33 C.F.R. § 325, App'x

B(9)(b)(4).

Here, the Corps must "consider and express th[e] activity's underlying purpose and need from a public interest perspective . . . ." Id. By concluding that this Project is needed for the "[c]ontinued growth of the Port," Tier I EIS at 14, the Corps would be artificially restricting its analysis to alternatives that benefit GPA to the exclusion of other reasonable alternatives beyond the Garden City Terminal for accommodating the larger class of container ships. Such an approach would violate NEPA and would frustrate a true alternatives analysis, which must include an evaluation of whether another port or ports in the Southeast could accommodate the larger class of container ships with a higher cost benefit ratio and fewer impacts on the environment. In other words, a general objective of the Project might be to accommodate the larger class of Post-Panamax vessels in the Southeast as opposed to simply evaluating alternative depths of deepening the Savannah Harbor. Without a clear purpose and need statement and a true "Multi-Port Analysis" that evaluates the relative costs and benefits of achieving the general objective of the Project from a public interest perspective, the Corps, as further discussed below, will be unable to comply with NEPA.

D. The National Economic Development Analysis ("NED") and the National Environmental Policy Act Analysis Are Defective Because They Are Based on the False Assumption That Container Traffic at the Port Is Unrelated to Whether the River Is Deepened.

Just as the Corps has attempted to increase its chances of obtaining approval for the Project by contorting the project purpose, the Corps attempts to do the same by relying on an economic assumption that deepening the port will not increase business at the port. As part of its civil works planning process, the Corps must evaluate all federal civil works projects to determine whether the projects have positive benefit-cost ratios. See U.S. Army Corps of Engineers, Planning Guidance Notebook, ER 1105-2-100 (April 2000). If a project has a negative benefit-cost ratio, it cannot be constructed. Id. This NED analysis is integrally related to the NEPA analysis that the Corps must perform because both analyses are based on assumptions of what would occur if a project were constructed versus what would occur if the project were not constructed. These "with-project" and "without-project" assumptions establish critical benchmarks for the entire NED process and are key components of the NEPA process.

The Corps' Planning Guidance Notebook, which sets forth the NED process, describes these assumptions as follows:

> (1) The without-project condition is the *most likely* condition expected to exist in the future in the absence of a proposed water resources project. Proper definition and forecast of the future without-project condition are critical to the success of the planning process. The future without-project condition constitutes the benchmark against which plans are evaluated.
>
> (2) The with-project condition is the most likely condition expected to exist in the future with the implementation of a particular water resources development project. Comparison of conditions with the project to conditions without the

> project will be performed to identify the beneficial and adverse effects of the proposed plans. These with and without-project comparisons *provide the framework for the evaluation of alternative plans*.

Corps Planning Guidance Notebook at 2-8 to 2-9 (emphasis added). In short, to conduct a proper NED analysis, the Corps must make an accurate assessment of what it thinks will be the *most likely* future with-project and without-project conditions.

Similarly, NEPA requires that the Corps consider actions or events that are "reasonably foreseeable." 40 C.F.R. § 1508.7 to 1508.8. Under either analysis, the Corps or any other federal agency cannot simply elect to adopt an assumption that is something other than the *most likely* future condition or a state of affairs that is reasonably foreseeable, but that is exactly what the Corps has done in this case.

In the recent Stakeholders Evaluation Group ("SEG") meeting on the Corps' economic analysis, Dr. Bernard Moseby, the Savannah District's economist, stated quite candidly that he did not even attempt to capture what is *most likely* going to happen to container traffic levels at the Port if the harbor is deepened. Instead, he simply assumed that they were going to grow at the same rate as they would without the deepening. Dr. Moseby stated in the meeting:

> In the evaluation, we're looking at Savannah port based on the projected growth for Savannah. And the *most conservative* thing to do is to use the same tonnage and growth rates in the without project condition as with with project [sic] condition.
>
> But the *most conservative*, defensible position was to assume that the same traffic would be used in the without project condition, 42 feet, and at each alternative depth.[6]

During this discussion, Dr. Moseby also admitted that he did not attempt any approach that could have yielded a more accurate assessment because he did not have a model that would allow him to make such an assessment. As he explained in the meeting:

> I didn't do a big picture analysis with all these ports and all the interactions between them. I don't think the Corps would – you've got to have a model that would to – that would do that. I don't.[7]

In an attempt to clarify this issue, Dr. Morgan Rees, GPA's consultant, offered the following:

> [I]f you do it the way the Corps has done it, you yield a pretty conservative estimate. And if you are thinking about maximizing the utility of spending a dollar of tax money, you're getting a good, solid, dependable, conservative answer because of the way the formulation process works. In other words, you're not going to be wasting the money. It may not – because of the complexity of the

[6] Transcript, SEG Meeting at 102-04 (Dec. 10, 2010).
[7] Id. at 103.

> system, it may not go precisely the way the Corps is predicting it will go in the report, but you can have a high level of assurance it's going to be well spent, whether you reach capacity in 2032, you reach capacity in 2038, whether the Panama Canal gets completed in 2014 [or] 2018.
>
> You're still going to get a good return on your dollar. *So given that you have a high level of confidence of getting a good return on the dollar, you've got to question pretty seriously how much detail and precision you ought to go to complete the report and make a recommendation*.[8]

Taken as a whole this discussion reveals that the Corps did not feel it had the time, resources, or desire to develop the *most likely* or *reasonably foreseeable* future with-project and without-project assumptions; instead, it decided to take a short cut and use the "conservative" assumption that container traffic levels would stay the same whether the harbor was deepened or not.

From the Corps' perspective, this approach may have had some benefits. By taking it, the Corps avoided devoting time and money to developing a multi-port model or include in NEPA's alternatives analysis other ports in the Southeast or making a robust inquiry into indirect impacts or cumulative affects under NEPA, or garnering broad political support if it had to admit that a deeper Savannah Harbor would take business away from neighboring ports.

1. The Corps' Position That Container Traffic Growth Is Unrelated to the Proposed Project Is at Odds with Virtually All Non-Corps Stakeholders.

By adopting an unacceptably conservative assumption, the Corps violated another tenet of its civil works planning process—the common sense requirement. The Planning Guidance Notebook clearly states that "the planning process must reflect reason and *common sense* . . . ." Corps Planning Guidance Notebook at 1-1. To conclude that a deeper, wider, and more efficient harbor is not going to attract more commerce is counterintuitive at the least. It is not surprising that, without exception, those in the Savannah Harbor community have been quick to point out that a deeper, wider, and more efficient harbor will in fact be good for business.

The GPA, which has already pledged $182 million towards the Project,[9] has made it very clear that it sees the Project as an essential component of the future growth of the Port. As described above, the GPA's position has been consistent from the outset of this Project—that the deepening is "vital to continued growth of port activities in Savannah." GPA Press Release (July 13, 1998) (attached as Ex. A). And that's why the Tier I EIS stated that the "*[c]ontinued growth of the Port necessitates* that it remain efficient and cost competitive." Tier I DEIS at 14 (emphasis added). More recently, Curtis Foltz, the new executive director of the GPA, stated in

[8] Id. at 128-29 (emphasis added).

[9] See Aaron G. Sheinin & James Salzer, Deal Warns of Cuts, Promises Progress in First State of the State, Atlanta Journal-Constitution, (Jan. 12, 2011) available at http://www.ajc.com/news/georgia-politics-elections/deal-warns-of-cuts-802278.html (last visited Jan. 24, 2011); Mary Carr Mayle, Kingston: Harbor Deepening Still Very Much Alive, Savannah Morning News (Oct. 2, 2010), available at http://savannahnow.com/news/2010-10-03/kingston-harbor-deepening-still-very-much-alive (last visited Jan. 24, 2011).

a speech to the House and Senate appropriations committees: "The ships and jobs will only come to Savannah if the harbor is deepened."[10] This statement is directly at odds with the Corps' assumption that the container traffic at the Port will follow the same trajectory regardless of whether the harbor is deepened or not. Mr. Foltz has also said that, "The Savannah harbor deepening project is critically important to continued economic growth in the southeastern United States."[11] But based on the Corps' assumption, container traffic is not going to diverge from its current trend line.

Expanding still further, Mr. Foltz commented recently that, "expanding the Port of Savannah is a linchpin to the continued competitiveness of Georgia, the Southeast — and indeed the United States in the global economy."[12] Again, the Corps' projection portends of no faster container growth with or without the Project.

In fact, the GPA is so convinced that deepening the harbor is going to have a dramatic impact on container traffic that it is opting to spend and extra $20.4 million to have the Corps dredge the harbor to 48 feet instead of the 47 feet that the Corps supports.[13]

GPA is not alone in its conviction that the harbor deepening is essential to the welfare of the Port. Mark Holifield, the Home Depot executive in charge of logistics, is quick to point out that, "It is critical to maintain the competitive advantage that Savannah provides to Georgia and the region," because "if trade (advantages) shift, we would have to re-evaluate our investments" by considering other ports.[14] As Mr. Holifield implies, Home Depot might start to ship through another port that can accommodate larger ships if the Savannah Port cannot.

Politicians have jumped on the faster-harbor-growth band wagon as well. U.S. Representative Lynn Westmoreland recently said the following:

> This expansion will increase the freight capacity of the port of Savannah by 20 percent, all the while creating 10,800 new jobs and $242 million in additional income for employees. Some federal investment in this project would provide a significant return for the American taxpayer while bringing one of our country's top ports into the next generation of ocean commerce.[15]

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[10] Walter C. Jones, Georgia Ports' New Boss Makes Case for Harbor Deepening, Savannah Morning News, (Jan. 20, 2010), available at http://savannahnow.com/latest-news/2010-01-20/georgia-ports-new-boss-makes-case-harbor-deepening (last visited Jan. 24, 2010).

[11] Mayle, supra note 10.

[12] Curtis J. Foltz & Mark Holifield, Expanded Port Means More Jobs, Atlanta Business Chronicle, (Nov. 19, 2010) available at, http://bizjournals.com/atlanta/print-edition/2010/11/19/expanded-port-means-more-jobs.html (last visited Jan. 24, 2011).

[13] Mary Carr Mayle, Harbor Deepening Gets Big Boost, Savannah Morning News, (July 16, 2010), available at http://savannahnow.com/news/2010-07-17/harbor-deepening-gets-big-boost (last visited Jan. 24, 2011).

[14] Id.

[15] Lynn Westmoreland, Westmoreland: Obama—Support Harbor Deepening, Savannah Morning News, (Oct. 29,

Based on the Corps' "Multiport Analysis," however, even if the deepening were to create a 20 percent increase in freight capacity thus allowing larger ships to enter the Harbor, that extra capacity would go unused – at least in the short term – because, according to the Corps, associated land transportation costs would make it uneconomical for shipping lines to divert containers from other ports to Savannah Harbor.[16]

Agreeing with Rep. Westmoreland, rather than the Corps, Georgia's U.S. Senators have also made their position clear. U.S. Senators Johnny Isakson, R-Georgia, and Saxby Chambliss, R-Georgia, have requested $105 million in federal funds to continue the deepening Project. Both have submitted requests to the Senate Appropriations Committee to include the funding for SHEP in the fiscal year 2011 Energy and Water Appropriations bill. Chambliss justified the request by stating that, "The Savannah harbor must be deepened to keep up with the expansion of the Panama Canal. This project will provide tremendous benefit to Georgia, the Southeast and our nation as a whole."[17]

Both the outgoing and the incoming Governors of Georgia concur that the harbor deepening Project is worth the investment of state funds. Former Governor Perdue recently stated that "[Savannah Harbor's growth] won't last forever if we make no progress toward the deepening . . . So we don't want to inconvenience them or their customers and encourage them to go elsewhere."[18] In other words, Perdue appears to feel that if the harbor is not deepened, the big ships will not come. Governor Nathan Deal seems to agree, because he just announced Georgia's willingness to add another $32 million dollars to the $150 million that Georgia has already committed to the Project.[19]

Based on the stakeholders quoted above, it would seem that only the Corps believes that a 48-foot deep harbor would be no more of a draw for foreign and domestic shipping lines than a 42-foot deep harbor. This conclusion, of course, is contrary to the Tier I DEIS and the conventional wisdom of the stakeholders most likely to benefit from a deeper Savannah Harbor. To say that the Corps' assumption is the "most likely" or the "reasonably foreseeable" outcome of the harbor deepening is deepening is arbitrary and capricious.

2010), available at http://savannahnow.com/column/2010-10-30/westmoreland-obama-support-harbor-deepening (last visited Jan. 24, 2011).

[16] U.S. Army Corps of Engineers Savannah Harbor Expansion Project, Economics Appendix, at 173 (Nov. 5, 2010) (hereinafter Economics Appendix).

[17] Senators want $105M for Savannah Harbor, Atlanta Business Chronicle, (Apr. 5, 2010), available at http://www.bizjournals.com/atlanta/stories/2010/04/05/daily13.html (last visited Jan. 24, 2011).

[18] Larry Peterson, Kingston: It'll Be Tough to Deepen Savannah Harbor in Time to Float Big New Ships Due in 2014, Savannah Morning News, (Sept. 27, 2010), available at http://savannahnow.com/news/2010-09-28/kingston-itll-be-tough-deepen-savannah-harbor-time-float-big-new-ships-due-2014 (last visited Jan. 24, 2011).

[19] Sheinin & Salzer, supra note 10.

2. Even Corps Statements in the GRR and DEIS Belie the Corps' Assumption that the Proposed Harbor Deepening and the Container Traffic Are Unrelated.

In the Tier I EIS's statement of purpose the Corps expressed that "*[c]ontinued growth of the Port necessitates* that it remain efficient and cost competitive." Tier I DEIS at 14 (emphasis added). The Corps' "conservative assumption" taken in the Tier II DEIS and GRR is directly at odds with its position in the Tier I EIS; however, as evidence that it is not entirely comfortable with its "conservative assumption," there are several passages in the GRR and DEIS where the Corps returns to its prior position and expresses, albeit fleetingly, "common sense." In a telling passage in the GRR, the Corps admits that delays at the current 42 foot Savannah Harbor caused one shipping line to offload its containers at Charleston, which has a 45 foot harbor, instead of at Savannah. GRR at 56-57. This suggests that if Savannah Harbor is not deepened, other shipping lines may make a similar choice. This, of course, is directly at odds with the Corps' assumption that the same growth rate of container traffic at Savannah Harbor will occur with or without the proposed Project.

In other passages in the GRR, the Corps states that the harbor deepening will allow ships to reach their assigned berths on a more reliable schedule. This, in turn, is expected to encourage carriers to assign more of their large vessels to routes including the Savannah Harbor. GRR at 126. Similarly, the Corps predicts that the channel deepening will "encourage[] the deployment of larger vessels to Savannah." Id. at 127. All of these statements imply that a deeper Savannah Harbor will be more attractive to foreign shipping lines.

Like the GRR, the DEIS also includes passages that directly contradict the fundamental assumption that the Corps uses in its economic analysis. For example, in one of these passages, the Corps emphatically states that: "Harbor deepening would increase the amount of goods brought into the Savannah port." DEIS, App'x L at 34. A deeper port would mean bigger ships, fewer ships, shorter queues, and less waiting on the tide. Why wouldn't that translate into more business for Savannah Harbor? Savannah Harbor has grown so rapidly over the past decade because its landside operation has become a state-of-the-art facility. Why wouldn't a deeper more efficient portside operation yield similar benefits? Judging from the Corps' inconsistent analysis of this critical issue, the Corps does not appear to be entirely sure.

Until the Corps clears up the ambiguity of its position, it is difficult to judge the validity of the Corps' conclusions. Dr. Robert Stearns, whom SELC retained to review the economic components of the DEIS and GRR, concurs. As he provides in his attached report:

> In light of the divergent views between the Corps' economic models and the shipping community's assessment of the effect the project would have on container traffic, the Corps has not adequately explained why its assumption is valid and the shipping community's assessment is invalid. The answer to this question is paramount because:
>
> - if the Corps is correct, then there is no need to deepen the channel to keep Savannah Harbor functional and competitive; or

- if the shipping community is correct, then the Corps' economics analysis is fundamentally flawed because the Corps' NED analysis rests on its assumption that the with and without project scenarios would produce the same amount of container traffic.

Expert Report of Robert N. Stearns, Ph.D., at 6 (attached hereto as Ex. D) (hereinafter referred to as the "Stearns Report"). Furthermore, this ambiguity makes the Corps' GRR and DEIS legally deficient.

For instance, NEPA requires that the Corps consider all indirect effects of the harbor deepening. 40 C.F.R. §§ 1502.16(b), 1508.8(b). More container traffic would mean more distribution space would ultimately be required. The Corps highlights this issue in the DEIS where it states the following:

> Harbor development remains the most likely action to adversely affect the salt and brackish marshes remaining in the Savannah River estuary. *Harbor deepening would increase the amount of goods brought into the Savannah port. This could trigger the need for additional distribution centers and other support facilities or the expansion of exi[s]ting ones.* These new or expanded support facilities could impact wetlands. In-kind mitigation would be required where wetland impacts are unavoidable.

DEIS, App'x L at 34 (emphasis added).

As the above quote foretells, more distribution space in coastal Georgia may well mean the filling in of wetlands, as well as other environmental harm. Yet the Corps conveniently sidesteps such an analysis by relying on its assumption that container traffic at the port is going to grow at the same rate with or without the proposed deepening; therefore, there is no need for the Corps to examine any indirect impacts of the Project because, under the Corps' approach, there will be no additional indirect effects – that is, the same number of distribution centers will be required with or without the Project. While convenient for the Corps, this approach is divorced from reality. The question of indirect effects is discussed further in Section I.E. below.

3. <u>Since the Corps's Positive Benefit-Cost Ratio Is Based Solely on Greater Port Efficiencies, the Corps Should Discuss Who the Likely Beneficiaries of These Cost Savings Will Be.</u>

Another shortcoming of the Corps' economic analysis is that it does not address who is going to benefit from the harbor deepening. As the Corps explains at great length in the GRR and DEIS, a deeper Savannah Port will, according to the Corps, mean that bigger ships will be able to dock at the Garden City Terminal. As a result, the Corps contends, fewer ships will have to travel up and down the harbor channel. Also, ships will not be dependent on the tides to reach their berths. All in all, there will be cost savings, according to the Corps. But who will benefit from these alleged cost savings? Will these cost savings be passed on to the American consumer in the form of lower consumer prices or will they be pocketed by foreign manufacturers or

foreign shipping lines? The answer to this question is critical because, as Dr. Stearns points out in his analysis, if foreign interests are going to be the beneficiaries of the harbor deepening, all the United States will be doing by deepening the harbor is increasing our foreign trade deficit. More specifically, he asserts that:

> Foreign manufacturers and shipping lines may keep the savings of shipping through Savannah for themselves and pass none of these savings to U.S. consumers. Under such circumstances, the U.S. taxpayer would be asked to foot the bill to pay for a project that generates greater profits or lower prices for producers and consumers in other countries.

Stearns Report at 14. In short, by deepening our harbors, the United States could be making it less expensive for foreign countries to sell their goods in America. The Corps' economic analysis will not be complete until it addresses this fundamental question.

4. The Corps Must Explore More Thoroughly the Constraints Associated with Savannah Harbor.

As the Corps contends throughout the GRR and DEIS, shipping lines are building larger and larger ships, because these vessels can transport cargo more efficiently. Yet the design ship for the SHEP is a Post-Panamax Generation Two ship that was built in 1997. GRR at 121. Already ships that are significantly larger than the design ship are being built, yet the Corps does little to explain why it does not anticipate that these Post-Panamax Generation Three ships will call on Savannah Harbor.

While the GRR does contain information that states there are no air draft issues for the design ship, it acknowledges that it will be very difficult for Post-Panamax Generation Three ships to pass under the Talmadge Bridge. GRR, Econ. App'x at 51. Although the GRR does explain that two ships in the design-ship class will be able to pass at certain areas within the channel, it does not explain whether two Post-Panamax Generation Three ships would be able to pass in the channel. The Corps avoids these questions by simply stating that Generation Three ships will probably not call on Savannah Harbor, which is a counterintuitive position. If bigger ships mean greater efficiencies for Savannah Harbor, why does that principle not extend to Generation Three ships? As the GPA's Curtis Foltz has remarked, "Ships aren't getting any smaller. They're only getting bigger."[20]

The reason that this issue is so critical now, is that if it is in Savannah Harbor's long-term interests to have Generation Three ships call on it, then any additional work that would be necessary to allow their entry should be included in the current proposal. If, for instance, the Talmadge Bridge must be raised or the channel passing lanes must be further widened, then the economic and environmental costs associated with that work must be included in the current economic and environmental analysis. As Dr. Stearns explains in his attached report:

[20] Dan Chapman, Atlanta Leaders Push for Deeper Savannah Port, Atlanta Journal-Constitution, (Dec. 1, 2010), available at http://www.ajc.com/business/atlanta-leaders-push-for-762157.html (last visited Jan. 24, 2011).

> If a major bridge alteration were part of SHEP, there is a real possibility that the high cost of this related work would mean that SHEP would not generate any net economic benefits as traditionally defined by the Corps. The analytical assumption that Generation Three ships will not call at Savannah Harbor is a convenient way to dismiss this potential problem. If the Corps' baseline vessel forecast is right, there is a strong probability that the largest ships would be calling at some ports on the Southeast Atlantic Coast. Given the shipping lines' business practice of multiple ports of call, GPA may soon want to accommodate these larger ships at Savannah Harbor. The height of the Talmadge Bridge will become an increasingly contentious issue.

Stearns Report at 12 (citation omitted). The same would be true if the channel or passing lanes had to be enlarged to accommodate Generation Three ships. If the economic costs associated with such additional work are not factored into the current NED analysis, then the NED analysis will be skewed. And, as Dr. Stearns suggests above, if these costs were not factored in to the NED analysis, then a positive benefit/cost ratio would not result.

Irrespective of whether Post-Panamax Generation Three ships ever call on the Port, GPA may quickly decide that it needs a larger channel. On January 11, 2011, the Savannah River Maritime Commission ("SRMC") met to discuss the DEIS and GRR for the deepening Project. At this meeting, which was open to the public, consultants retained by the SRMC gave presentations regarding their preliminary evaluation of this Project. One of the consultants for the SRMC focused many of his comments on the navigational and safety aspects of the Project. In sum, the SRMC has cast a substantial level of doubt on whether the designed channel will be able to handle Post-Panamax shipping. Of particular concern are the following issues which we summarize here:

- According to the SRMC, the proposed channel is shallower than applicable design standards for fully loaded Post-Panamax ships, resulting in lower margins of safety. For example, the Navigation Study for Savannah Harbor Channel Improvements (Sept. 2004) determined that ships with a draft of 47.5 feet would hit the bottom in normal conditions in a channel with a depth of 52 feet. See Navigation Study at 34, Table 1. Since the currently proposed offshore channel is shallower, the SRMC predicts that a ship drawing 43 feet would be perilously close to running aground.

- Of further concern as it relates to draft is the SRMC's suggestion that the GRR misstates the applicable tide. Although it is true that there is a seven to eight foot tidal range at GCT, tidal range is closer to six feet at Fort Pulaski and four feet in the offshore channel. Overstating the extent of the tidal ranges raises additional concerns regarding the designed channel's capacity for handling fully loaded Post-Panamax ships, even on high tide.

- The offshore channel, as designed, would be about 570 feet wide. Post-Panamax ships have a beam of 160 feet (or, 28 percent of the offshore channel), and these ships can begin to veer off course due to wind and currents. If such a ship turns 10 degrees, the ship will take up to 56 percent of the channel width. In light of the proposed channel

design and the increasing size of ships expected, this presents a safety issue that needs to be studied more closely. Further, the designed proposed channel width will be even narrower than the current width, limiting further the size of ship that can utilize the post-project harbor.

- The GRR predicts that the GCT will ultimately have a demand of over 6,000 ships per year (or, 16 per day) however, SRMC's analysis suggests that the Port can only accommodate 12 ships per day due to the fact that as designed SHEP is essentially a one-way channel. The Corps or the local sponsor should conduct a traffic study to support its claim that GCT will be able to handle 6,000 ships per year.

- The Vertical Ship Motion Study for Savannah, GA, GRR, App'x 1.1.16, indicates that there will only be 120 days per year when wave conditions would be calm enough for a ship travelling at a speed of 6 knots and at a draft of 46 feet to transit the expanded channel without grounding. However, given the configuration of the proposed ocean channel, which is narrow and involves a sharp curve, consultants for SRMC have raised concerns that 6 knots is a dangerously slow speed for a container vessel to pass through the proposed ocean channel. In fact, consultants for SRMC have indicated that ships off the southeast coast often have to travel at 14 knots to stay in a narrow channel, such as the proposed SHEP channel; however a ship with a draft of 46 feet in the proposed channel will clearly hit the bottom at that speed. Further study is necessary to determine whether Post-Panamax ships can successfully navigate the ocean channel.

- Moreover, if the narrow design of the ocean channel requires ships to navigate at 14 knots, we are concerned that such a rate of speed would be in excess of NOAA's ship speed rule. See 73 Fed. Reg. 60,173 (Oct. 10, 2008) (requiring all vessels 65 feet or longer travel at *10 knots or less* in certain locations (SMAs), including off Savannah, along the east coast of the U.S. Atlantic seaboard at certain times of the year to reduce the threat of ship collisions with critically endangered North Atlantic right whales).

For these reasons, the concerns raised by the SRMC relating to the navigational capacity of the proposed expanded channel deserve serious consideration by the Corps. Accordingly, we recommend that the Corps require the additional studies recommended by the SRMC. If these studies find that additional dredging must be performed to make the channel larger, then it will be necessary for the Corps to incorporate these costs into the NED analysis and to incorporate any additional environmental impacts into the DEIS.

5. The Corps May Be Poised to Violate NEPA's Ban on Segmentation.

If the costs associated with raising the Talmadge Bridge and widening and deepening the shipping channel for Post-Panamax Generation Three ships—and possibly other Post-Panamax ships as described above—need to be included as components of the Project, then a DEIS that does not include consideration of their environmental impacts runs afoul of NEPA's bar against segmentation. It is well-settled that breaking a project "into small component parts" to avoid reviewing them together, "is to engage in illegal 'segmentation." New River Valley Greens v.

U.S. Dep't of Transp., No. 97-1978, 1998 U.S. App. LEXIS 22127, at *8 (4th Cir. Sep. 10, 1998) (quoting 40 C.F.R. § 1508.27(b)(7)).

A hallmark of segmentation is an initial proposed action involving "such a large and irretrievable commitment of resources that it may virtually force a larger or related project to go forward notwithstanding the environmental consequences." New River Valley Greens, 1998 U.S. App. LEXIS 22127, at *9. This conclusion is based in the regulations implementing NEPA, which provide that "proposals which are related to each other closely enough to be, in effect, a single course of action shall be evaluated in a single impact statement," including actions that "are interdependent parts of a larger action" and actions that "automatically trigger" other actions. 40 C.F.R. §§ 1502.4(a), 1508.25(a).

For our purposes, the question is whether the GPA is going to be content with a harbor that purportedly has an upper limit of Generation Two ships, or is going continue to seek to make the harbor larger and larger to capture the associated efficiencies of bigger ships. The Corps cannot wear blinders and ignore the latter situation and then pull them off five years from now when the GPA insists that to remain competitive it must raise the bridge and widen and deepen the channel.

E. The DEIS Relies on the Corps' Unreasonable Economic Assumptions to Dodge Analysis and Disclosure of Environmental Impacts.

As courts have recognized "[i]naccurate economic information may defeat the purpose of an EIS by 'impairing the agency's consideration of adverse environmental effects' and by 'skewing the public's evaluation' of the proposed agency action." NRDC v. U.S. Forest Serv., 421 F.3d 797, 811 (9th Cir. 2005) (quoting Hughes River Watershed Conservancy v. Glickman, 81 F.3d 437, 446 (4th Cir. 1996). The Corps' DEIS is a prime example. Despite NEPA's requirement that the Corps assess SHEP's indirect effects, the Corps in the GRR states: "It is important to note that the total cargo handled at Garden City Terminal is not projected to change due to implementation of the project. Therefore, secondary impacts associated with additional cargo traffic are not anticipated." GRR at 141. The Corps relied on this arbitrary and unreasonable assumption throughout the DEIS, thereby avoiding analysis and disclosure of many significant environmental impacts resulting from the Project.

1. Impacts to Air Quality.

The DEIS dismisses the Project's adverse impacts to air quality based on the unsubstantiated and implausible assumptions in its economic analysis, claiming, in sharp contrast to discussion in the Tier I EIS and numerous statements by GPA that the Project will not expand the Port's business. See DEIS at 5-108 (claiming that increased cargo movement through Savannah Harbor "would be the result of increasing demand for goods which move through the port and not a result of a harbor deepening").

Adding insult to injury, the DEIS's cursory discussion of air quality impacts makes inconsistent, competing claims regarding the manner in which the increased cargo would be transported. At times, the DEIS states that deepening the harbor from -42 to -48 feet will not

affect choices made by shippers or trade routes of ships calling on the Savannah Port, and will therefore have no impact on air quality. See, e.g., DEIS, App'x K at 66 (stating that because "a change in harbor depth in Savannah of up to 6 feet would not provide sufficient rationale for vessel lines to alter their trade routes or place larger (more efficient) vessels on those routes, the vessel fleets expected to occur With and Without the proposed harbor deepening would remain the same"); id., App'x K at 100 (stating that "no changes to air quality would occur as a result of the project").

In other instances the Corps is even more ambitious in its optimism, claiming that the Project will improve air quality by changing the behavior of shippers who, instead of making more trips with smaller ships, would upgrade to larger vessels and make fewer calls on Savannah. See, e.g., DEIS at 5-107 (stating that "[i]t is apparent from the Corps' Fleet Forecast . . . that the numbers of vessels calling on the Port of Savannah for years 2015, 2020, 2025, 2030, 2032 and 2065 will be significantly greater for the existing depth of -42 feet than the maximum proposed depth of -48 feet"); id. at 5-108 (asserting that reductions in air emissions would result "if larger container vessels were allowed to regularly call at the port"). The Corps does not include any supporting studies or analysis to even attempt to substantiate either of its conflicting conclusions. For the same reasons previously discussed in Sections I.C.2., I.D., supra, NEPA requires the Corps to complete a realistic analysis of the Project's impacts on the Port's growth and to incorporate the results into a full and complete analysis of the Project's impacts to air quality.

The DEIS further misleads the public concerning the Project's likely air pollution impacts by asserting that "maritime industries are not major air emitters" and "[t]he air quality in the harbor area is generally good." DEIS at 5-105. In fact, marine shipping operations constitute a major source of harmful air pollutants. Ocean-going vessels, land-side equipment, and secondary emissions from port development have significant impacts to air quality. For that reason, EPA recently produced an Evaluation Report, addressing these emissions. See EPA Needs to Improve Its Efforts to Reduce Air Emissions at U.S. Ports, Report No. 09-P-0125 (Mar. 23, 2009), available at http://www.epa.gov/oig/reports/2009/20090323-09-P-0125.pdf (last visited Jan. 25, 2011). The report explains that air pollution from port activities "impact[s] communities surrounding port areas" and has "significant environmental and human health impacts, such as cancer and asthma." Id. at 1-2. Emissions of greatest concern include nitrogen oxides (NOx), particulate matter (PM), sulfur oxide (SOx), carbon monoxide (CO), hydrocarbons (HC), and air toxics, especially diesel exhaust. Id. at 2.

The Report goes on to explain that "[d]iesel and other emissions from port activities" harm onshore communities through "increased cancer rates, asthma, other respiratory and cardiovascular diseases, and premature death." Id. at 3. EPA has recognized that impacts of diesel emissions from ports extend beyond local communities to "contribute significantly to regional air pollution." Id. at 2, 3. Similarly, a 2008 study by the National Oceanic and Atmospheric Administration found that commercial shipping results in "a significant impact on air quality and health on both local and regional scales." Id. at 3.

In addition, the DEIS acknowledges that the Air Emission Inventory prepared for the Project "does not include a detailed dispersion modeling assessment" of air toxics or a "risk-

based assessment of the health impacts" attributable to the Project. DEIS at 5-106. The DEIS must include detailed dispersion modeling to accurately assess and disclose impacts to local communities and to account for the fact that those nearest the source face the greatest threat from air toxics, as well as the potential for "hot spots" of aggravated effects to occur. Similarly, given the wide and growing recognition of the significant harm port-generated air pollution can do to human health, the Corps must include a risk-based health impact study. A legally sound EIS cannot ignore these impacts on the environment and surrounding communities, much less downplay their significance, as the DEIS has done here. Moreover, NEPA requires the Corps to consider environmental justice in its EIS. The Corps appears to have ignored this obligation in declining to consider which communities will be most impacted by air pollution.

Finally, the DEIS does not assess the Project's impacts to the affected areas' status under the Clean Air Act ("CAA"), 42 U.S.C. §§ 7401-7671q (2010). The DEIS states only that the affected areas are presently in attainment for the all National Ambient Air Quality Standards ("NAAQS") and claims the Project is therefore compliant with the CAA because this present status means the Corps need not prepare a conformity determination pursuant to CAA Section 176. The DEIS fails, however, to analyze and disclose whether the Project would push the impacted areas into non-attainment or maintenance status and what the Project's incremental impacts on compliance, or lack thereof, with applicable NAAQS will be. This omission is significant because the Project might have the potential to bring the affected area into non-attainment with the applicable standards for PM. The DEIS references an earlier EPA report indicating increases in PM 2.5 concentrations from 2000 to 2006, resulting in measurements exceeding the allowable daily range in 14% of the measurements taken for the study. DEIS, App'x K at 100. Similarly, EPA has proposed more stringent standards for ground-level ozone and has also predicted counties with ports might have difficulty meeting the standard. Report No. 09-P-0125, at 5. Failure to meet PM and ozone standards threatens not only regional public health, but could also lead to far-reaching planning requirements, emissions controls, and potential penalties under the CAA.

2. Sea Level Rise and Greenhouse Gas Emissions.

On February 18, 2010, Nancy H. Sutley, Chair of the Council on Environmental Quality, issued Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions to the heads of federal departments and agencies. One purpose of the guidance was to recommend ways in which Federal agencies could improve their consideration of the effects of greenhouse gas emissions and climate change in their evaluation of proposals for Federal actions under NEPA. See Draft Guidance at 1. In addition, the Corps has issued Engineering Circular 1165-2-211 Water Resource Policies and Authorities Incorporating Sea-Level Change Considerations in Civil Works Programs. The Corps' guidance states that "[p]otential relative sea-level change must be considered in every USACE coastal activity as far inland as the extent of estimated tidal influence." Engineering Circular 1165-2-211 at 1. We have the following comments relating to how the Corps has addressed sea level rise considerations in connection with SHEP.

- The DEIS and GRR should include a section explaining how Engineering Circular 1165-2-211 was applied to this Project and what were the results of its application.

- It is unclear from the DEIS and GRR to what extent the Corps has considered issues related to climate change in evaluating the dissolved oxygen injection system. In exchange for exacerbating already present, unnaturally low levels of dissolved oxygen in the water column, the Corps is proposing, as mitigation, to inject dissolved oxygen into the Savannah River. Pursuant to the proposal, this system would have to be run continuously during the summer months in perpetuity. As discussed previously, we question the soundness of a decision to place a river on a permanent respirator of sorts. We are further troubled by a decision to implement a mitigation strategy that requires such a significant source of energy in perpetuity in light of climate change considerations. Perhaps the Corps should evaluate ways in which to mitigate for the new energy consumption created by its mitigation proposal.

- The DEIS and GRR should address the extent to which the Corps factored different sea level rise scenarios into its analysis with respect to air draft issues. To the extent the Corps did consider this issue, how did sea level rise inform the Corps' air draft analysis?

- In the GRR, the Corps explains some of the ways in which the agency expects sea level rise to impact the Savannah River estuary. For example, the Corps suggests that sea level rise could reduce tidal freshwater marshes by approximately 370 acres in light of the historic rate of rise and also acknowledges that impacts could be far more extensive under other scenarios. GRR at 93. The Corps anticipates sea level rise would also affect other natural resources due to increased salinity levels. Anticipated impacts include those to fisheries and increased chlorides at the City of Savannah's water intake. GRR at 93. Under NEPA, the Corps cannot take the position that it need not provide full mitigation for impacts resulting from SHEP because some of these same resources will be affected as a result of climate change. The Corps must fully mitigate for the earlier impacts from SHEP now, especially since impacts from the SHEP will occur in the short-term whereas climate change related impacts will occur gradually over many years.

3. Additional Indirect Environmental Impacts

NEPA regulations define indirect effects as:

> Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

40 C.F.R. § 1508.8(b). Among other effects, NEPA "requires agencies to consider the significance of growth induced by the federal action." Georgia River Network v. United States Army Corps of Eng'rs, 334 F. Supp. 2d 1329, 1344 (N.D. Ga. 2003). Here, the Corps declined to do so, even though the DEIS itself contains statements contradicting its claim that the Project has no bearing on the port's growth. In particular, the DEIS states that:

> Harbor development remains the most likely action to adversely affect the salt and brackish marshes remaining in the Savannah River estuary. *Harbor deepening would increase the amount of goods brought into the Savannah port. This could trigger the need for additional distribution centers and other support facilities or the expansion of exi[s]ting ones.* These new or expanded support facilities could impact wetlands. In-kind mitigation would be required where wetland impacts are unavoidable.

DEIS, App'x L at 34 (emphasis added). It adds that, as port development has increased on the Savannah River, "the Savannah District Corps of Engineers Regulatory Office has observed an increase in Section 404 permits for facilities (warehouses, distribution centers, etc.) which support port operations." DEIS, App'x L at 33. It follows that the largest port project in the history of the Savannah Harbor will undoubtedly induce and require further development — including port infrastructure expansion, road and freight rail construction, increased traffic, additional warehouse facilities, and other changes in land use patterns. This induced development would invariably have negative environmental effects.

The Corps' assumption that the Project is unrelated to GPA's business skews the DEIS in other ways too. For example, the DEIS, on the one hand, acknowledges that the introduction of non-native or invasive species can have "detrimental affects on an ecosystem." DEIS at 5-156. "Invasive species have been introduced into new areas through the discharge of ballast water from deep-draft vessels. Increasing the amount of ballast water exchange within the port is the primary avenue through which the proposed harbor deepening could have an adverse effect on this issue." DEIS at 5-156. However, the DEIS then concludes:

> The proposed harbor deepening is not expected to increase the number of vessels that call at the port of Savannah. The economic analysis forecasts a decrease in the number of vessels with a deeper channel over that which would have been necessary to move the same volume of cargo through the port using a smaller fleet of vessels. *Since there is no increase in the number of vessels expected to call as a result of the proposed deepening, there would be no additional risk from invasive species through ballast water*.

Id. (emphasis added). In these ways and others, the Corps assessment of indirect impacts is based on a flawed economic assumption that SHEP will result in no increase of cargo going through the Port.

F. Failure to Consider Cumulative Effects Associated with the Project.

Under NEPA, the Corps is required to thoroughly assess the cumulative effects of the proposed SHEP. 40 C.F.R. § 1508.7 & 1508.25. NEPA's implementing regulations define cumulative effects as "impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions." 40 C.F.R. § 1508.7. The cumulative impact analysis "must be more than perfunctory; it must provide a useful analysis of the cumulative impacts of past, present, and future projects. . . . [A] cumulative impact

analysis must be timely. It is not appropriate to defer consideration of cumulative impacts to a future date when meaningful consideration can be given now." Kern v. U.S. BLM, 284 F.3d 1062, 1075 (9th Cir. 2002) (citation and internal quotation marks omitted). The Corps has failed to consider adequately SHEP's cumulative impacts.

1. The Cumulative Impacts of Garden City Terminal's Improvements and Other Future Port-Associated Projects.

The GRR states that the "Panama Canal Expansion Project will be fully operational by 2014, which will allow the passage for vessels with up to 50 feet of draft. The Georgia Ports Authority has planned and funded improvements at Garden City Terminal [("GCT")] to coincide with the Panama Canal Expansion Project." GRR at 14. GCT has planned to invest at least $130 million dollars of improvements in the next ten years "to coincide with the Panama Canal Expansion Project." GRR at 14; see also DEIS, App'x O at 21 (discussing GCT-related projects). Some of the proposed GCT improvements and GCT-associated projects are described below:

- "If the harbor is deepened, [GPA] plans to double the amount of cargo Savannah can handle by 2020. It also expects to spend another $1.1 billion on cranes and rail yards to accommodate twice as many containers."[21]

- In 2010, the State of Georgia approved $120 million in bond revenue to use toward completing the Jimmy DeLoach Highway from Interstate 95 to the Garden City Terminal. DEIS at 5-150.

- Long-term highway plans include "the Brampton Road Connector which will provide direct access from the Garden City Terminal to Interstate 516 and connections to Interstate 16." DEIS at 5-150.

- "Other actions to increase terminal capacity would entail incorporation of adjacent GPA properties into container operations." DEIS, App'x O at 22.

- Measures to augment the container capacity of GCT include "off-site storage of long-dwell empties." DEIS, App'x O at 23.

Importantly, the DEIS states that the "[h]arbor deepening would increase the amount of goods brought into the Savannah port. This could trigger the need for additional distribution centers and other support facilities or the expansion of exi[s]ting ones. These new or expanded support facilities could impact wetlands." DEIS, App'x L at 34. Given these significant planned improvements at GCT as well as related, planned highway projects, the Corps must consider and evaluate any potential environmental impacts of the GCT expansion projects with those of SHEP. Similarly, the DEIS should consider other reasonably foreseeable improvements at other facilities, both public and private, along the Savannah River, especially improvements associated with increased cargo from the SHEP.

[21] Chapman, supra note 21.

2. The Cumulative Impacts of Future Savannah Harbor Projects.

A cumulative impact analysis must not examine a project in isolation, "without considering the 'net' impact that all projects in the area may have on the environment." LaFlamme v. FERC, 852 F.2d 389, 402 (9th Cir. 1988). The Corps' analysis of cumulative impacts is flawed — focusing narrowly on the "short-term" nature of the potential adverse environmental impacts and ignoring cumulative impacts that "can result from individually minor but collectively significant actions taking place over a period of time," 40 C.F.R. § 1508.07, as well as the potential for other individually significant actions. The DEIS fails to include in its cumulative impacts analysis reasonably foreseeable alterations to the Savannah River.

Since 1927, there have been four extensive harbor deepenings and numerous other projects, such as the Sediment Control Works Project and berth deepenings, with serious environmental impacts. DEIS, App'x L at 10. Given the history of deepening projects in the harbor, it is reasonably foreseeable that as technology advances and container ships become larger, there will be more deepening projects. The DEIS states that "due to ongoing ship-building trends, the size of the vessels calling at ports along the US east coast is expected to increase." DEIS at 3-4. The foreseeability of these projects is bolstered by GPA's strong desire to remain a competitive international port as evidence by GPA's willingness to pay millions for an additional foot more than the NED depth of 47 feet. Thus, the DEIS should consider and evaluate not just deepening to 48 feet, but future deepening to greater depths.

Similarly, as discussed in detail in Section I.D.4., supra, the widening of the harbor and the raising of the Talmadge Bridge are "reasonably foreseeable" projects that will allow the harbor to accommodate the Generation Three ships and other larger vessels. Pilots familiar with the harbor have expressed that SHEP would not support two-way traffic. In the interests of safety and in order to accommodate the world's largest ships in the future, it is likely that the GPA will widen the harbor. Also, the DEIS does not consider the potential elevation of the Talmadge Bridge so that the harbor may accommodate Generation Three ships. Given the continuing enlargement of container ships and GPA's strong desire to remain competitive, the raising of Talmadge Bridge is reasonably foreseeable under NEPA. The DEIS's failure to examine foreseeable future harbor projects does not satisfy NEPA's requirement that the Corps examine "past, present and reasonably foreseeable future actions." 40 C.F.R. § 1508.7.

3. The Cumulative Impacts of SHEP and the Jasper Terminal.

The cumulative impacts analysis requirement is based on the notion that "even a slight increase in adverse conditions that form the existing environmental context may threaten significant harm . . . ." Ga. River Network, 334 F. Supp. 2d at 1338. The DEIS' failure to examine a foreseeable Jasper Terminal, which would more than slightly alter the environmental context on the Savannah River does not satisfy NEPA's requirement that the Corps examine "past, present and reasonably foreseeable future actions." 40 C.F.R. § 1508.7. It is imperative that the proposed Jasper Terminal and its environmental impacts are analyzed in combination with SHEP, given that the construction of both projects would occur in close vicinity on the Savannah River and would impact the same coastal resources. Indeed, it is quite possible that certain environmental impacts on the Savannah River estuary caused by SHEP – such as the

destruction or alteration of wetlands and marshes – could be exacerbated by the construction of the Jasper Terminal. Similarly, construction of the SHEP could exacerbate the impacts of Jasper. For example, if the Jasper Terminal proceeds as planned, its location would be at least partially on one of SHEP's confined dredge material disposal facilities (CDFs), Site 14A/B. The DEIS states that "the lost dredged material disposal capacity would need to be replaced elsewhere . . . . Replacement of that capacity through the expansion of the CDFs to the north into existing salt marsh would result in extensive secondary wetlands impacts which would need to be mitigated." DEIS, App'x O at 75. This could result in additional environmental impacts given that construction of CDFs in area has resulted in the loss of over 6,000 acres of wetlands. DEIS, App'x L at 33. Indeed, it is possible that the severity of the cumulative impacts would preclude construction of the Jasper terminal if SHEP is allowed to proceed first, without consideration of Jasper.

The Corps virtually ignores the Jasper Terminal in its cumulative impacts analysis. The two major port projects, however, are closely connected, as evinced by the DEIS's numerous discussions of the Jasper Terminal in the DEIS and the Corps' own consideration of the Jasper Terminal in relation to Garden City Terminal's operations. See, e.g., GRR at 223-226; see also DEIS at 5-120 (stating that the deposition of dredged sediments from SHEP would "raise the elevation of the property, resulting in less fill being required in the future to raise the site to an elevation for [Jasper] terminal operations"). Where the DEIS does recognize the environmental impacts of the Jasper Terminal, its consideration of such impacts is woefully inadequate. Specifically, the DEIS states that "[d]eepening the existing navigation channel to River Mile 5 [i.e. the Jasper Terminal] would be expected to have only minimal impacts on the salinity and dissolved regimes in Savannah Harbor. Detailed impacts to fishery habitat cannot be predicted until detailed plans become available." DEIS, App'x at L at 46. First, NEPA prohibits conclusory findings of no adverse environmental impact without sufficient evidence to support these assertions. See Sierra Club v. Marsh, 769 F.2d 868, 881 (1st Cir. 1985). Second, the DEIS's assertion of a lack of information on the Jasper Terminal's impact on fisheries goes directly against NEPA's regulation concerning "incomplete or unavailable information." 40 C.F.R. § 1502.22. If, during an agency's evaluation of environmental effects, there is incomplete or unavailable information, the agency "shall always make clear that such information is lacking." Id. § 1502.22(b). Moreover, if the incomplete or unavailable information can be obtained and the "overall costs of obtaining it are not exorbitant," the agency must include the information in the EIS. Id.

Furthermore, the failure to consider the Jasper Terminal belies GPA's own statements on the subject. For example, as recently as December 2010, GPA Executive Director Curtis Foltz discussed the reasonably foreseeable Jasper Terminal:

> The Jasper port is a very solid project . . . . They are currently doing commercial viability studies to help support the long-term need for the project. Initial engineering designs have been completed. It's all moving forward, as it was expected to, on its current timeline. I think it is recognized, certainly by the Georgia [Congressional] delegation, that long term, a port in that region helps to

support that area of the country's demographic growth.[22]

Yet, when the GPA and the Corps had the opportunity to discuss the two projects in a coordinated fashion, they chose not to.

It is well established that NEPA "does not limit the inquiry to the cumulative impacts that can be expected from proposed projects; rather, the inquiry extends to the efforts that can be anticipated from 'reasonably foreseeable future actions.'" Fritiofson v. Alexander, 772 F.2d 1225, 1243 (5th Cir. 1985); see also City of Davis v. Coleman, 521 F.2d 661, 676 (9th Cir. 1975) ("Reasonable forecasting and speculation is thus implicit in NEPA . . . ."). The DEIS's inadequate cumulative impact analysis directly conflicts with the purpose of the cumulative impacts requirement, which "is to provide readers with a complete understanding of the environmental effects a proposed action will cause." N.C. Alliance for Transp. Reform v. U.S. Dep't of Transp., 151 F. Supp. 2d 661, 698 (M.D.N.C. 2001). The Corps' failure to examine cumulative impacts of SHEP and the Jasper Terminal renders the DEIS incomplete and in violation of NEPA.

4. In Assessing the Project's Impacts for Both NEPA and CWA Purposes, the Corps Cannot Ignore EPA's Proposed Revisions to the Total Maximum Daily Load ("TMDL") for DO in the Estuary.

The Savannah River estuary, which will be "directly affected" by the Project, DEIS at 5-37, suffers from critically low DO levels in the summer months. DO is "a critical resource in the harbor." Id. And, because the stretch of the Savannah River through the harbor and into the estuary fails to meet Georgia's water quality standards for DO, this river segment is currently listed on Georgia's CWA Section 303(d) list as impaired for DO. DEIS at 5-37; see 33 U.S.C. § 1313(d) (requiring states to implement total maximum daily loads ("TMDLs") to reduce pollution in impaired waterways). In 2006, EPA promulgated a TMDL for DO in the Savannah Harbor. See EPA, Final TMDL for DO in Savannah Harbor (Oct. 2006) (hereinafter "2006 TMDL"), available at http://www.georgiaepd.org/Files_PDF/techguide/wpb/TMDL/Savannah/EPA_SavannahHarbor_DO_TMDL_2006.pdf. The TMDL provides that "[t]he Savannah Harbor cannot accept any discharges of oxygen-demanding substances and still attain the applicable [DO] criterion." TMDL at 10.

In explaining this conclusion, EPA stated that Georgia and South Carolina would work cooperatively to "assess options for developing and adopting appropriate criteria for this waterbody" and that the existing Savannah Harbor Project would factor into this analysis. Id. at 11. Specifically, EPA recognized that "[s]ince the existing Harbor deepening and control structures have depressed the dissolved oxygen in the River, the biological impacts of this depressed dissolved oxygen regime and the ability to mitigate its impacts will be factors in the development of an appropriate dissolved oxygen criterion for the Savannah Harbor." Id.

[22] Ed Lightsey, All About Business: Georgia Ports: Georgia's Ports Have Accounted for 10,000 New Jobs Throughout the State in the Last Two Years, Georgia Trend(Dec. 2010), available at http://www.georgiatrend.com/features-business-industry/12_10_ports.shtml.

EPA has since proposed a revised TMDL. EPA, Draft Revised TMDL for DO in Savannah Harbor (Apr. 2010) (hereinafter "Draft Revised TMDL"), available at http://www.epa.gov/region4/water/tmdl/georgia/savannah_harbor_tmdl_draft_201056.pdf.pdf (last visited Jan. 24, 2011). The proposed revised TMDL, in contrast to the existing "no discharge" TMDL, would require an aggregate reduction in point source discharges of oxygen depleting substances of approximately 85 percent. See id. It does not, however, take into account impacts to DO from the proposed Project, nor does the Corps consider the impacts of its actions on dischargers affected by the TMDL. The Corps' failure to take into account cumulative impacts of the revised TMDL and the impacts of its Project on point source dischargers violates NEPA and impermissibly skews its review under the Section 404(b) Guidelines. Particularly given the substantial uncertainty surrounding its proposed DO mitigation, the Corps must consider the Project's potential impacts to dischargers and relationship to the TMDL.

The Project is a factor in implementation of the TMDL, as EPA previously acknowledged in explaining the relationship of previous deepenings to the 2006 TMDL, and the Corps must analyze it as such. The Corps must consider, for example, whether water quality trading in which SHEP proponents fund reductions in point source discharges affecting DO levels would better serve water quality and the objectives of both Section 303(d) and Section 404. The Corps' failure to do so also further skews its economic analysis. The available information suggests that foreign shippers, not domestic interests, would receive the lion's share of the s benefits from the SHEP, which would likely exacerbate the existing DO impairment in the harbor. In effect, the Project would subsidize these foreign interests not only at the taxpayer expense associated with the Project, but at the expense of local point-source dischargers, who would be required to achieve even greater discharge reductions to compensate for the added impacts of the SHEP.

G. To Comply with NEPA, the Corps Must Prepare a Programmatic EIS.

Under NEPA, where "several proposals for [projects] that will have cumulative or synergistic environmental impact upon a region are pending concurrently before an agency, their environmental consequences must be considered together." Kleppe, 427 U.S. at 410. Accordingly, a comprehensive or programmatic EIS "is appropriate . . . where the proposal itself is regional or systemic in scope, or where the proposal is one of a series of interrelated proposals that will produce cumulative systemwide [sic] effects that can be meaningfully evaluated together." Georgia River Network, 334 F. Supp. 2d at 1342 (quoting Izaak Walton League of America, 655 F.2d at 374).

In other words, NEPA requires that where "foreseeable similar projects in a geographical region have a cumulative impact, they should be evaluated in a single" programmatic EIS. City of Tenakee Springs v. Clough, 915 F.2d 1308, 1312 (9th Cir. 1990); see also 40 C.F.R. § 1508.7. Currently, there are multiple planned or proposed port deepening projects in the Southeast. GRR at 70. If constructed, these projects would have cumulative and synergistic environmental impacts that should be examined in a programmatic EIS. The Corps' failure to prepare a programmatic EIS for SHEP and related port projects is a violation of NEPA.

The Corps states that the "expected future growth of container cargo along the East Coast

[will] require expansion in the capacity of several deepwater container terminals" and "expansion of any existing container terminal or creation of a new terminal would cause environmental impacts." DEIS at 3-6. In the south Atlantic region, at least four port projects are planned or proposed—including Savannah, Jacksonville, Charleston, and Norfolk. GRR at 70. Each deepening project includes the expenditure of substantial federal funds, each project requires numerous federal permits, and each project presents significant environmental impacts on federally controlled coastal resources. Each project, when combined with others, could cause cumulative and synergistic impacts on the nation's environment, including its major rivers and estuarine and marine systems. The Corps "must give a realistic evaluation of the total impacts and cannot isolate a proposed project, viewing it in a vacuum." Grand Canyon Trust v. Federal Aviation Admin, 290 F.3d 339, 342 (D.C. Cir. 2002). . The Corps' review of these projects in isolation undermines two of NEPA's keystone objectives: informed public participation and informed agency decision-making. See Citizens for a Better Henderson v. Hodel, 768 F.2d 1051, 1056 (9th Cir. 1985).

The potential cumulative and synergistic environmental effects of the port expansion projects demand a programmatic analysis. The projects in the south Atlantic together present heightened risks to endangered species such as the right whale and shortnose sturgeon. Additionally, these projects are proposed in multiple rivers and marine systems on the East Coast and would cumulatively alter and destroy rare tidal areas including wetlands and marshes of national importance. The projects would also degrade estuarine wildlife values, fisheries, and disrupt coastal sediment flows. Considering the potential adverse impacts the projects would have on coastal resources and marine life, it is imperative that the Corps analyze the adverse impacts of SHEP in conjunction with the impacts of the other proposed port projects in the south Atlantic.

A programmatic analysis of environmental impacts is especially appropriate here where multiple ports are competing against others for the growing container business and the capability to accommodate Post-Panamax ships. To prepare for the Panama Canal port expansion, port authorities along the east coast are proposing deepening projects. Because each project is being pursued and examined separately, there is a possibility that the combined impact would result in more harm than good. For example, without a comprehensive analysis of the proposed projects, the country could end up with port expansions that provide marginal benefits while resulting in significant destructive impacts on the environment. Under NEPA, the regulations require that the Corps analyze proposed actions in the same EIS when it is the "best way to assess adequately the combined impacts of similar actions." 40 C.F.R. § 1508.25(a)(3). In examining the impacts of SHEP separately from other projects, the Corps has ignored that the crucial aspect of a programmatic EIS—the determination of "whether the various agency actions, when combined, have an effect on the environment that might be overlooked if examined separately . . . ." Sierra Club v. Watkins, 808 F. Supp. 852, 863 (D.D.C. 1991).

While the Corps' Multiport Analysis considers whether SHEP would have an economic affect on other ports in the Southeast, it has not considered the cumulative environmental impacts of the projects. A programmatic EIS is necessary in this case because it would (1) ensure that the Corps considers alternative means of meeting the demands of a new class of containerships, and (2) potentially reveal that the federally funded expansion of multiple port

facilities is not in the public interest. It is only through a "comprehensive consideration of pending proposals [that] the [Corps can] evaluate different courses of action." Kleppe, 427 U.S. at 410. Until the Corps prepares a programmatic EIS examining the ports that are now vying for the Post-Panamax ships, it will not be in compliance with NEPA.

H. The DEIS Violates NEPA Because it Does not Contain an Adequate Alternatives Analysis.

The alternatives analysis is "the heart of the environmental impact statement. 40 C.F. R. § 1502.14. It requires federal agencies to "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." 42 U.S.C. § 4332(E). And in conducting this analysis, the agencies must "rigorously explore and objectively evaluate all reasonable alternatives." 40 CFR § 1502.14(a). The level of scrutiny required by NEPA in the alternatives analysis is proportional to the scope of the proposed project and the nature of the environmental impacts associated with it. See Brooks v. Volpe, 350 F. Supp. 269, 275-76 (W.D. Wash. 1972).

Here, the Project is enormous. To complete the Project, the Corps would have to dredge a 36 mile channel along the ocean floor and up the Savannah River; re-plumb the estuary; eliminate rare tidal freshwater wetlands and saltwater marsh; and displace endangered fish from their habitat. A project of this magnitude, in an ecosystem which is both exceptionally complex and suffering from the cumulative impacts of a long series of previous dredging and flow management projects, requires the most detailed scrutiny before a preferred alternative is selected. So far, the Corps has not taken the "hard look" that NEPA requires.

1. Because the DEIS Does not Consider Other Ports in the Region as Possible Alternatives, the DEIS does not Comply With NEPA.

Although the Corps does examine other ports in the Southeast to determine whether their container throughputs would be impacted if Savannah Harbor were deepened, the Corps does not examine whether the Corps should undertake harbor expansion projects at one or more of these other ports instead of at Savannah Harbor. The DEIS does not explain whether or not, for example, the Jacksonville or Charleston harbors could be deepened and improved to the same extent as Savannah Harbor for a lesser amount of money and fewer environmental impacts. This is critical in determining whether the DEIS is sufficient, because, as the Ninth Circuit Court of Appeals held in Citizens for a Better Henderson, a "viable but unexamined alternative renders [the] environmental impact statement inadequate." 768 F.2d at 1057.

2. The Failure to Adequately Evaluate Jasper as an Alternative Violates NEPA.

The DEIS's consideration of the Jasper Terminal falls far short of NEPA's requirement that the DEIS "rigorously explore and objectively evaluate" alternatives to the proposed action. 40 C.F.R. § 1502.14(a). Unlike all other alternatives considered by the Corps, the Jasper Terminal will likely be constructed. Even GPA's executive director, Curtis Foltz, recognizes the future Jasper Terminal, recently stating that the "Jasper port is a very solid project" and that the

project is "moving forward, as it was expected to, on its current timeline."[23] Thus, the Jasper Terminal is not simply a Corps-defined hypothetical alternative, but a viable alternative that could have dramatically less environmental impacts than deepening to the Garden City Terminal. The Corps' failure to conduct a fair and balanced consideration of the Jasper Terminal renders its alternatives analysis inadequate under NEPA.

The DEIS inconsistently treats the planned upgrades at GCT and the land-side construction costs of alternatives, especially those of the Jasper Terminal. This inconsistency offends NEPA's requirement that alternatives are treated consistently and fairly. On one hand, the DEIS excludes from the preferred alternative at least $130 million of improvements at GCT planned in anticipation of the expanded Panama Canal on the basis that these upgrades would occur with or without the expansion of the Canal. Yet the DEIS treats the construction of the Jasper Terminal as part of that alternative's costs even though the DEIS acknowledges that the Jasper Terminal would occur with or without the expansion of the Canal. See, e.g., DEIS, App'x O at 34 (The Jasper Terminal "would supplement container handling capacity [at Garden City] to help meet the growth in future demand."). This inconsistent treatment precludes any meaningful analysis of the Jasper Terminal as an alternative because the purported $357 million of construction costs for the Jasper Terminal alone present GCT as the least expensive alternative. DEIS, App'x O at 35, Table 6. The actual dredging and mitigation of the Jasper Terminal, however, are almost two-thirds less expensive than they are for the preferred deepening project to GCT. See id.

In addition, the Jasper Terminal would result in a reduction of demand for services provided by GPA at GCT and therefore some of GPA's proposed spending for improvements at the terminal and associated facilities may become unnecessary. In other words, Jasper Terminal would allow GPA to avoid significant expenditures at GCT and certain sunk costs could be recovered. For example, properties currently owned by GPA that are intended for future utilization could be sold, rather than developed for additional throughput. See DEIS, App'x O at 21. The DEIS improperly excludes these costs savings despite GPA's informing the Corps that it will implement GTC upgrades as needed. See DEIS, App'x O at 25. An adequate assessment of Jasper Terminal as an alternative to SHEP must include the cost savings for GPA that would result from the Jasper Terminal and these must be quantified and used to offset the construction cost of the Jasper Terminal (if they are to be included). At the same time, the SRMC has expressed concern that the design of the Project's channel may make it practically impossible to develop the Jasper Terminal given the fact that the proposed channel, as designed, will not be able to accommodate two-way traffic. Thus, the Jasper Terminal should be considered now as an alternative to ensure that the current Proposal will not unintentionally undermine the prospects for developing the Jasper Terminal.

3. The Alternatives Analysis is Flawed Because it Does not Consider all the Components of the Various Alternatives in a Consistent Manner.

As described above, in order for an alternatives analysis to be lawful, the agency conducting the analysis must include all aspects of each alternative and do so in a consistent

[23] Lightsey, supra note 23.

manner. The Corps did not accomplish this with its analysis of the Project. Specifically, the Corps' preferred alternative does not include the landside improvements to the Garden City Terminal that have been performed and will be performed to ready the terminal for Post-Panamax ships. See DEIS, App. O at 36. It goes on to explain that GPA has planned these improvements "to coincide with the Panama Canal Expansion Project." GRR at 14. In the DEIS, however, the costs of upgrades at the Garden City Terminal are entirely disconnected from the Project and therefore are not included in the project costs. In contrast, the Corps does include these costs in the "without project alternative," as well as all of the other alternatives to deepening to the Garden City Terminal. DEIS, App. O at 35-36. This, of course, skews the entire alternatives analysis. If the GPA landside improvements were undertaken with a deeper port in mind, they should be factored into the alternatives analysis in a consistent manner. The Corps should not be permitted to ignore these costs for some alternatives, while considering them for others.

II. The Proposed Project would Violate the Clean Water Act ("CWA")

Although the Corps, as a matter of policy, does not issue itself permits for its own activities, it "authorizes" its own discharges, applying all applicable substantive requirements, including the Section 404 Guidelines found at 40 C.F.R. § 230.10. 33 C.F.R. § 336.1(a) (2011); 33 C.F.R. § 337.6 (2011); 40 C.F.R. § 230.2(a)(2) (2011); see also Regulatory Guidance Letter ("RGL") 88-09 (July 21, 1998, expired Dec. 31, 1990); RGL 05-06 (Dec. 7, 2005). As explained below, this proposal violates the CWA in the following respects.

A. The Proposal Fails to Satisfy the CWA and the 404(b)(1) Guidelines and Must Therefore Be Denied.

1. The Corps failed to set forth a proper statement of purpose and need and has not adequately considered alternatives.

Section 404(b)(1) of the CWA, 33 U.S.C. § 1344(b)(1) (2010), directs the EPA to issue Guidelines that define the circumstances under which dredged or fill material may be discharged into wetlands or other waters. Importantly, the Guidelines provide that the Corps shall not grant a Section 404 permit "if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences." 40 C.F.R. § 230.10(a) (2011). An alternative to discharge to a wetland "is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes." 40 C.F.R. § 230.10(a)(2). Where a discharge is proposed for a wetland or other special aquatic site, all practicable alternatives to the proposed discharge that do not involve a discharge to the wetland "are presumed to have less adverse impact on the aquatic ecosystem, unless clearly demonstrated otherwise." 40 C.F.R. § 230.10(a)(3). In addition, if the activity associated with a discharge to a wetland does not require access or proximity to or siting in a wetland (i.e., is not "water dependent"), practicable alternatives that do not involve wetland sites "are presumed to be available, unless clearly demonstrated otherwise." 40 C.F.R. § 230.10(a)(3).[24]

[24] The Guidelines "couple a general presumption against all discharges into aquatic ecosystems with a specific presumption that practicable alternatives to the fill of wetlands exist." Hough v. Marsh, 557 F. Supp. 74, 82 (D.

To implement the Guidelines (and NEPA, as discussed above), the Corps must first present a correct statement of a project's "basic purpose." See 40 C.F.R. § 230.10(a)(3). After the Corps defines the basic purpose of the project, it must then determine whether that basic purpose is "water dependent." See id. An activity is "water dependent" if it requires access or proximity within a wetland to fulfill its basic purpose. Id.

As discussed above in Section I.C.1., the Tier I EIS stated that: *"[c]ontinued growth of the Port necessitates* that it remain efficient and cost competitive" and that [b]ased on an evaluation of the study area and its needs, the objectives of the proposed project are as follows: (a) provide better passage for the existing fleet of larger vessels through the harbor at all tides, thus reducing shipping delays; and (b) provide for safe and efficient transit of larger vessels expected to call on Savannah Harbor in the future." Tier I EIS at 14 (emphasis added). In other words, the original statement of project purpose clearly acknowledged the connection between deepening and GPA's business goals.

The current DEIS is far less forthcoming regarding GPA's overriding goal for this Project. For example, the Corps devotes all of Appendix H of the DEIS to complying with the requirements of the Section 404(b)(1) Guidelines, yet nowhere does Appendix H provide the basic and overall purpose for the proposed Project. Although it is difficult to tease out a statement of project purpose from the main body of the Tier II DEIS itself, the DEIS does offer that: "The primary problems identified—and the need for the project—relate to the inefficient operation of containerships in the Federal navigation channel at Savannah Harbor, affect the Nation's international trade transportation costs." DEIS at 3-1. If this statement is intended to be a statement of project purpose, it shows that the Corps is attempting to walk away from its earlier statement in the Tier I DEIS, which makes clear that this Project is, in fact, directly related to GPA's intent to maintain or grow its business. And, despite the effort in the Tier II DEIS to ignore the plain relationship between deepening and GPA's business, many public statements from GPA over the years leave little doubt as to the overriding goal of GPA with this Project. See, e.g., Georgia Ports Authority Press Release (July 13, 1998) (attached hereto as Ex. A) ("GPA considers increased channel depth to be vital to continued growth of port activities in Savannah."); see generally Section I.C., supra.

In order to comply with the 404(b)(1) Guidelines and NEPA, the Corps must clarify its statement of project purpose and need. Without such a statement, compliance with the 404(b)(1) Guidelines is not possible.[25] In reformulating its statement of project purpose, the Corps should remain mindful that, as in the NEPA context, it must not "contrive a purpose so slender as to define competing 'reasonable alternatives' out of consideration (and even out of existence)."

Mass. 1982). "[A]n applicant . . . must rebut both of these presumptions in order to obtain a permit." Bersani v. Robichaud, 850 F.2d 36, 39 (2d Cir. 1988).

[25] Further, without a clearly delineated statement of project purpose and need, it is also not possible to conclude whether this is a water dependent project. Perhaps it is obvious to the Corps that this is a water dependent project because the Corps and GPA intend to deepen the harbor involves the deepening of a harbor. If, however, the project purpose is to create transportation efficiencies that are in the national interest, or even to maintain or increase GPA's bottom line, then it is not so clear that the overall project purpose is water related.

Simmons v. U.S. Army Corps of Eng'rs, 120 F. 3d 664, 666 (7th Cir. 1997).

2. Section 404(b)(1) Bars Approval of Projects that Cause or Contribute to Violation of Water Quality Standards.

The Section 404(b)(1) Guidelines prohibit authorization of a discharge of dredged or fill material that "[c]auses or contributes . . . to violations of any applicable State water quality standard." 40 C.F.R. § 230.10(b)(1). The DEIS shows that the Project would contribute to existing violations of numeric water-quality standards in the Savannah Harbor, which is already impaired by inadequate dissolved oxygen DO levels. The DEIS further shows that the Project would cause or contribute to violations of narrative water quality and antidegradation standards by damaging the aquatic ecosystem and eliminating or impairing existing uses. In addition, the DEIS fails to adequately analyze and disclose impacts to water quality and the level of uncertainty in the analysis conducted, suggesting that additional or greater violations may also result.

a). The Project will Contribute Violations of DO Standards in a Waterway Listed on Georgia's CWA Section 303(D) List as Impaired for DO.

As the DEIS explains, the greatest area of concern for DO is the Savannah River estuary, which will be "directly affected" by the Project. DEIS at 5-37. The stretch of the Savannah River through the harbor and in the estuary already suffers from critically low DO levels in the summer months. Due to the waters' failure to meet the applicable numeric standards, this river segment is currently listed on Georgia's CWA Section 303(d) (33 U.S.C. § 1313(d)) list as impaired for DO. DEIS at 5-37.

The DEIS admits that the Project will contribute to the existing violations of DO standards by exacerbating this impairment. Specifically, the DEIS admits that the proposed Project will have additional adverse impacts to DO levels. See, e.g., DEIS at 5-48 (stating that "[d]eepening the navigation channel would adversely impact dissolved oxygen levels in the harbor"); id. at App'x S p. 51 (same). And, in Table 5-19, it sets forth modeling results and a narrative that describes the Table as showing "a substantial decrease in dissolved oxygen levels" in "critical cells." DEIS at 5-43; see also App'x S p. 48 (same).[26] Moreover, the DEIS predicts 1-2 percent increases in the percentage of the harbor's waters violating DO standards. DEIS at 5-42. Because the Project will admittedly contribute to and cause further violations of DO standards in an already impaired waterway, approval of this Project is prohibited by Section 404(b)(1) of the CWA.

b). The Project would Violate the Applicable Narrative Water Quality Standards.

Water quality standards contain both numeric and narrative criteria for protecting existing and classified uses. See S.C. Code Ann. Regs. § 61-68(A)(1) (2009) (explaining that South

[26] Predictions of substantial adverse effects to DO levels are also supported by past experience. The DEIS acknowledges that creation and maintenance of the existing (42-foot) channel has adversely affected the DO regime in the harbor by lowering DO concentration by 1 mg/l. DEIS at 5-37.

Carolina's "water quality standards include the uses of the waters, the numeric and narrative criteria, and the antidegradation rules contained in [Regulation 61-68]"); 40 C.F.R. §§ 131.2 & 131.6 (describing purpose and required content of state water quality standards).

Consistent with the CWA, South Carolina has set a goal of "maintain[ing] and improv[ing] all surface waters to a level to provide for the survival and propagation of a balanced indigenous aquatic community of flora and fauna and to provide for recreation in and on the water." S.C. Code Ann Regs § 61-68(A)(4). To that end, the state's water quality standards require that "[u]ses in all waters shall be protected, wherever attainable, regardless of flow." Id. § 61-68(C)(3). And, the standards applicable to the waters affected by the Project specifically require that they be suitable for "fishing" (with exceptions concerning the commercial harvesting of clams, mussels, or oysters in two of the three affected river segments) and for "survival and propagation of a balanced indigenous aquatic community" of flora and fauna. Id. § 61-68(G)(10)-(12). Regulation 61-68 defines a "[b]alanced indigenous aquatic community" as "a natural, diverse biotic community characterized by the capacity to sustain itself through cyclic seasonal changes, presence of necessary food chain species and by a lack of domination by pollutant tolerant species." Id. § 61-68(B)(11).

The Project would violate these standards by impairing existing and classified uses and eliminating conditions necessary for the survival of a balanced indigenous aquatic community. In particular, the Project will cause deterioration of DO levels and saltwater intrusion. The decline in DO concentrations represents "a major concern for all fish and aquatic organisms." See Expert Report of Shawn P. Young, Ph.D. at 6 (attached hereto as Ex. E) (hereinafter referred to as the "Young Report"). Increased salinity impacts "the aquatic community as a whole, including freshwater marshes," and affects shortnose-sturgeon and striped-bass habitat. Id. at 9. It may also change the presence and abundance of benthic invertebrate and forage fish species. Id. at 4-5, 7, and 9. The Project's adverse impacts, especially with respect to DO and salinity, threaten to violate water quality standards by precluding the survival and propagation of the "natural, diverse biotic community" indigenous to these waters. S.C. Code Ann Regs § 61-68(B)(11), (G)(10)-(12). Most notably, the Project could "preclude" striped bass restoration in the Savannah River and possibly destroy the fishery, which has been described as a nationally important resource. Tier I FEIS at H-62 & H-205 (comments of U.S. Fish and Wildlife Service and Georgia Department of Natural Resources on Tier I DEIS); SELC, Comments on Tier I FEIS (Oct. 19, 1998). "[H]istorically, the Savannah River was Georgia's most important striped bass fishery," DEIS at 4-21, but it suffered a dramatic decline after the Corps grossly underestimated impacts of its previous activities, Young Report at 3, 15. And, while the Corps proposes a striped-bass stocking program as mitigation, even assuming the program were fully funded and implemented, under the CWA and applicable water quality standards, such a program could not adequately compensate for the adverse impacts and resulting violations. The CWA and state standards require preservation of the chemical, physical, and biological integrity necessary to support a "self sustaining" indigenous aquatic community; S.C. Code Ann Regs § 61-68(B)(11); 33 U.S.C. § 1313(d) (requiring states implement additional measures where existing discharge restrictions do not adequately protect the "protection *and propagation*" of a "balanced, *indigenous* population of shellfish, fish, and wildlife" (emphasis added)).

Additionally, NMFS has previously explained that the importance of the lower Savannah

fisheries "cannot be overemphasized." Tier I FEIS at H-188. In addition to the striped-bass fishery, the river presently supports American shad, "the most valuable commercial anadromous fish in the southeast," and other important game and/or commercial fish. DEIS at 4-20. It also contains endangered species, such as the shortnose sturgeon, and the Atlantic sturgeon, which NMFS has proposed for listing as endangered. As discussed in Section VI below, this proposal will directly reduce the likelihood of both the survival and recovery of shortnose and Atlantic sturgeon by reducing the reproductive fitness, numbers and distribution of each species. Young Report at 17. The changes in the character of the channel and quality of the water brought about by the Project would adversely impact these and other species, yet the analyses in the DEIS and GRR do not fully consider these impacts, Young Report at 16, and thus fail to provide reasonable assurance that other violations of narrative standards will not also occur.

Similarly, Georgia's water quality standards mandate that "existing instream water uses and the level of water quality necessary to protect the existing uses *shall be maintained and protected*." Ga. Comp. R. & Regs. r. 391-3-6-.03(2)(b)(i) (emphasis added). For the same reasons just described, the proposed Project violates Georgia's water quality standards as well.

c). The Project would Violate Antidegradation Standards and Section 404(b)(3).

Antidegradation standards stem from the CWA's goal of "restor[ing] and maintain[ing] the chemical, physical, and biological integrity of the Nation's waters," 33 U.S.C. § 1251(a), and are promulgated as part of the state water quality standards required under CWA Section 303(c). See PUD No. 1 of Jefferson County v. Washington Dept. of Ecology, 511 U.S. 700, 705 (1994).

EPA regulations require state water quality standards to incorporate an "antidegradation policy" sufficiently protective to ensure that, at a bare minimum, "[e]xisting instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected" in all waters. 40 C.F.R. § 131.12(a)(1) (2011); see also 33 U.S.C. § 1313 (dictating required content of state water quality standards). "EPA has explained that under its antidegradation regulation, 'no activity is allowable . . . which could partially or completely eliminate any existing use.'" PUD No. 1 of Jefferson County, 511 U.S. at 718 (alteration in original) (citing EPA, Questions and Answers on Antidegradation 3 (Aug. 1985)). EPA has further explained that "[w]ater quality should be such that it results in no mortality and no significant growth or reproductive impairment of resident species," and "[a]ny lowering of water quality beyond this full level is not allowed." EPA, Questions and Answers on Antidegradation 7 (Aug. 1985), available at http://www.epa.gov/waterscience/standards/library/antidegqa.pdf (last visited Jan. 24, 2011).

Accordingly, South Carolina's and Georgia's water quality standards contain antidegradation rules intended to preserve the integrity of the state's waterways. As relevant here, South Carolina's antidegradation rules mandate that "[e]xisting water uses and the level of water quality necessary to protect these existing uses shall be maintained and protected regardless of the water classification," id. at § 61-68(D)(1), as well as that "[w]here surface water quality exceeds levels necessary to support propagation of fish, shellfish, and wildlife, . . . that quality shall be maintained and protected unless [DHEC] finds, after intergovernmental

coordination and public participation, that allowing lower water quality is necessary to important economic or social development in the areas where the waters are located," id. § 61-68(D)(2). Georgia's water quality standards contain analogous requirements. See, e.g., Ga. Comp. R. & Regs. r. 391-3-6-.03(2)(b)(ii) (providing that where "water quality exceed levels necessary to support propagation of fish, shellfish, and wildlife . . . that quality shall be maintained and protected . . . .").

As described above and in Sections II.A.2.(d). and VI, infra, the Project would significantly degrade water quality and threatens to eliminate the survival and propagation of self-sustaining populations of species present in and indigenous to the affected waters. It therefore violates the applicable South Carolina and Georgia antidegradation standards.

Moreover, the Corps' Section 404(b) Guidelines specifically prohibit authorization of discharges that would "cause or contribute to significant degradation of the waters of the United States." 40 C.F.R. 230.10(c). The Guidelines state that such effects include, among other things, significant adverse effects of the discharge on "life stages of aquatic life" and on "aquatic ecosystem diversity, productivity, and stability." Id. The same impacts giving rise to the violations of state water quality standards also violate the Section 404(b) Guidelines.

d). There is No Reasonable Assurance that the DO Injection System Will Remedy the Violations of Water Quality Standards.

Both the DEIS and GRR state that mitigation, through the use of Speece Cones to artificially inject oxygen into the water, will fully offset decreases in DO with incidental benefits. GRR at 192; DEIS at 5-51. More specifically, to mitigate the ways in which the deepening proposal will further exacerbate DO problems in the River, the Corps has "identified use of Speece cones as the specific technique to inject oxygen into the water . . . ." GRR, App'x B at 30. These systems would be land based, with water being withdrawn from the river through pipes, then treated and returned to the river. GRR, App'x B at 30. The water intake structure would include screens to reduce the intake of trash and other suspended solids. GRR, App'x B at 30. The intake and discharge would be located along the side of the river and not extend out into the navigation channel. GRR, App'x B at 30. For a number of reasons, the Corps cannot lawfully rely on this uncertain, unproven, and potentially unfunded mitigation plan in assessing the impact of the Project on DO levels.

According to the GRR, currently, the Savannah District annually receives approximately $13 million for operation and maintenance ("O&M") dredging and maintenance of the upland disposal areas. This does not include funds for dike raising, dike maintenance, and mosquito control. GRR at 220. The proposed sill to be constructed at the eastern edge of the sediment basin as part of the SHEP proposal will cause the basin to fill, resulting in an increase of O&M dredging and maintenance costs to over $24 million. GRR at 220. Against this backdrop, the "Dissolved Oxygen facilities will be constructed and maintained by the Corps." GRR, App'x B at 5. The costs for operating the dissolved oxygen injection systems are based on their continued operation for a period of 180 days per year. Included in the annual O&M costs are the replacement costs for the Speece cone and intake and discharge lines at 40 year intervals; and

replacement of the oxygen flow control, oxygen generator and side stream pump at 20 year intervals." GRR at 220. In sum, the annual operating costs for the Speece Cones are anticipated to be more than $1.3 million, and the Corps – and not GPA – will be responsible for this cost. It also does not appear that the Corps has provided any financial assurances that it will have the funding to operate and maintain the DO injection system for the length of the Project. Instead, it appears as if the Corps will have to rely on the annual appropriations process to fund this significant annual cost.

This feature of the mitigation plan conflicts with the new mitigation rules promulgated under the CWA.[27] Among other things, the Mitigation Rule was intended by the EPA and Corps to "improve[] the planning, implementation and management of compensatory mitigation projects by . . . requiring . . . *assurances of long-term protection of compensation sites, financial assurances*, and identification of the parties responsible for specific project tasks." 73 Fed. Reg. at 19,594. Under the Rule, mitigation plans must contain a long-term management plan, adaptive management plan, and financial assurances. Specifically, the Rule states that the "district engineer shall require sufficient financial assurances to ensure a high level of confidence that the compensatory mitigation project will be successfully completed, in accordance with applicable performance standards." Id. at 19,638 to 19,639; codified at 33 C.F.R. § 332.1(n)(1) (2011). Here, despite the importance of mitigating for further exacerbating the River's already severe dissolved oxygen problems and the exorbitant and ongoing cost of the technology selected to perform the mitigation, there is no reasonable assurance provided that the Corps will be able to successfully operate and maintain this element of the mitigation plan since it appears that it has been made subject to the annual appropriations process. As such, this mitigation measure fails to provide reasonable assurance (and similarly fails to comply with the Mitigation Rule).

In addition to the inadequacy of the purported mitigation, the Corps has not undertaken a sufficient analysis of the Project's impacts to DO. The Corps has not accounted for the full scope of the dredging required by the Project. In particular, it does not appear that the Corps considered the "[t]wo feet of allowable overdepth and up to 6 feet of advance maintenance in selected areas" that "would also be included for the proposed action." DEIS at 3-22. This added excavation and the potential for erosion in the loosened channel would further reduce DO. See DEIS at 5-37 (saying "as the channel depth increases, the ability of oxygen to reach the river bottom decreases, causing lower average levels of dissolved oxygen at the bottom . . . ."). It apparently means that the actual channel depth resulting from the proposed Project could be as much as 56 feet. But, the DEIS and DO modeling appear to ignore what this might mean in terms of further deterioration in DO levels. As a result, the modeling conducted could not actually predict impacts to DO and salinity, nor could the Corps accurately assess impacts to aquatic resources. Cite report. If the Corps ignored the full scope of the dredging and attendant impacts to DO, it necessarily underestimated the negative impacts and the amount of mitigation that would be necessary to compensate for the impacts. And, it is not entitled to rely on inaccurate models to support its conclusions. Cf. Native Ecosystems Council v. U.S. Forest

[27] On April 10, 2008 the EPA and the Corps issued a Final Rule on Compensatory Mitigation for Losses of Aquatic Resources under section 404 of the Clean Water Act. See 73 Fed. Reg. No. 70, 19,594-19,687 (Apr. 10, 2008) (codified at 40 C.F.R. pt. 230.91 and 33 C.F.R. pt. 325 and 332) (hereinafter referred to as the "Mitigation Rule").

Serv., 418 F.3d 953, 964 (9th Cir. 2005) ("An agency may not rely on incorrect assumptions or data in an EIS.").[28]

Moreover, it also appears that although the locations of the injection cones are now different than previously identified, the Corps has not studied mixing or dispersion of the injected oxygen at these locations. The DEIS neither analyzes nor frankly discloses this change of plans. The Corps must explain the basis for this deviation from its plans and assess impacts of the altered location. It likewise must account for the altered costs associated with the move. The DEIS recognizes that operational expense increases with distance from the areas needing increased DO. DEIS App'x C p. 43. In redoing its fundamentally flawed economic analysis, the Corps will need to factor in this cost.

More generally, the DEIS understates the uncertainty of and risks associated with both the projections of water quality impacts and the proposed mitigation. While the DEIS relies on a demonstration project in support of its conclusions, the results of that study were inconclusive. In fact, FWS has explained that, "There is a great deal of risk and uncertainty regarding impacts and the channel and flow modifications and dissolved oxygen mitigation plans. Based on the available information, there is a high degree of uncertainty as to how effective oxygen injection would be. See DEIS, App'x E (letter from Timothy N. Hall (FWS) to Colonel Edward J. Kertis, Jr. (Corps) dated Nov. 4, 2008). The Corps' failure to adequately analyze the Project's impacts to DO and the efficacy of the purported DO mitigation precludes reliance on the DO injection system as a mitigation technique.

Moreover, as with the mitigation proposed for striped bass, the mitigation proposed for DO, even if assumed to be fully funded and effective, could not replace what was lost. As the DEIS explains, the Project would adversely affect DO levels in three ways. First, the increased depth would decrease the ability of oxygen to reach the river bottom and thereby cause lower DO levels at the bottom of the river. DEIS at 5-37. Second, by enlarging the channel prism, the Project would move additional saltwater into the upper part of the harbor and into the estuary, which decreases those waters' capacity to accept oxygen from the air. Id. Third, as the channel prism enlarges, velocity decrease, reducing mixing through the water column. Id. Thus, the Project's effects reduce DO levels by reducing its "reaeration capacity." SEG DO/TMDL Issue Summary, at 2, available at http://sav-harbor.com/WP/DO_WP.pdf (last visited Jan. 24, 2011). Injecting air into the water from land-based Speece cones cannot restore the aeration capacity of the waterway. And, as discussed above, the CWA requires that the functions and values necessary to support a "self-sustaining," aquatic ecosystem, i.e. one not dependent on anthropogenic intervention.

Finally, the Corps must also take into account that the proposed mitigation would not be entirely benign. The DEIS recognizes that fish would become entrained in the oxygen injection system. And, although it states that approach velocities will be adjusted to "minimize" such impacts, it does not analyze or discuss what the impacts will be. DEIS at 5-48. The oxygen-injection system will also have noise impacts to the surrounding areas and greenhouse gas emissions, which the Corps must take into fully consider.

[28] Additionally, the DEIS fails to consider the potential of NOx emissions from the Project to add nitrogen to the waters, further depressing DO levels.

B. The Project Does Not Qualify for a Section 401 Water Quality Certification from South Carolina.

"The CWA requires the Corps to seek state water quality certification for discharges of dredged or fill material into waters of the U.S." 33 C.F.R. § 336.1(a)(1); see also 33 C.F.R. § 337.10 (2011); 33 C.F.R. § 338.2(c) (2011). To certify a project as consistent with its water quality standards, South Carolina must have "reasonable assurance" that the Project will not violate those standards. S.C. Code Ann. Regs. § 61-101(A)(4). "The water quality standards include the uses of the waters, the numeric and narrative criteria, and the antidegradation rules contained in [Regulation 61-68]." Id. § 61-68(A)(1). As explained above, the proposed Project would violate a number of these standards. See infra at Section II.A.2. And, more specific regulatory provisions addressing the state's review under Section 401 require that South Carolina deny the requested certification.

Consistent with the CWA's mandate, South Carolina's water quality standards emphasize a "preventative approach" that recognizes the difficulty of restoring water quality once degraded. S.C. Code Ann. Regs. § 61-68(A)(3). To that end, Section 401 certification must be denied if the "the proposed activity permanently alters the aquatic ecosystem in the vicinity of the project such that its functions and values are eliminated or impaired." S.C. Code Ann. Regs. § 61-101(F)(5)(a). As explained above, here, the proposed Project would result in severe and permanent adverse impacts to the affected waters. See infra at II.A.2.(d).

Similarly, if "there is a feasible alternative to the activity, which reduces adverse consequences on water quality and classified uses, "the proposed activity cannot receive certification. Id. 61-101(F)(5)(b). The availability of feasible alternatives to the proposed Project, discussed in detail in Section I.H. above, precludes issuance of a Section 401 water quality certification.

In addition, certification must be denied if "the proposed activity adversely impacts waters containing State or Federally recognized rare, threatened, or endangered species." S.C. Code Ann. Regs. § 61-101(F)(5)(c). Here, the DEIS and GRR acknowledge that the proposed Project will have significant adverse impacts on the federally endangered shortnose sturgeon. Indeed, the DEIS admits that "substantial adverse impacts" remain to shortnose sturgeon habitat even in the seemingly unlikely event that the proposed flow alterations and oxygen-injection system function as hoped and, in fact, benefit sturgeon. DEIS at 5-68; but see NRDC v. Kempthorne, 506 F. Supp. 2d 322, 355 (E.D. Cal. 2007) (stating, in ESA context, that "at a minimum, a mitigation strategy must have some form of measurable goals, action measures, and a certain implementation schedule"); Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv., 254 F. Supp. 2d 1196, 1211-12 (D. Or. 2003) (finding agency's reliance on mitigation measures that were not reasonably certain to occur to be arbitrary and capricious).

Finally, certification must be denied if: "the proposed activity adversely impacts special or unique habitats, such as National Wild and Scenic Rivers, National Estuarine Research Reserves, or National Ecological Preserves, or designated State Scenic Rivers." S.C. Code Ann. Regs. § 61-101(F)(5)(d). Here, the DEIS acknowledges that the proposed Project will severely impact the Savannah National Wildlife Refuge, most significantly through the destruction of

tidal freshwater marshes. See infra Section VIII.C.; DEIS at 5-117. For that reason as well, certification must be denied.

C. The Project is not entitled to a Section 401 Water Quality Certification from Georgia.

The proposed Project would violate the Georgia Water Quality Control Act, O.C.G.A. §§ 12-5-20 et seq. ("GWQCA"), and therefore the Georgia Environmental Protection Division ("Georgia EPD" or "EPD") should not issue a CWA Section 401 Water Quality Certification ("WQC") in connection with this Proposal.

As a threshold matter, we are concerned with Georgia's approach to granting a WQC for the Project. Given the size and scope of the Project and the Project's significant environmental impacts, the South Carolina Health and Environmental Control Department has determined its review may require the statutorily-provided time period of one year to consider the Corps' request for a WQC. In contrast, Georgia EPD has already assured the Corps that it will receive certification in the coming months while, at the same time, acknowledging the agency has not had time to complete its review.[29] EPD is apparently operating under the mistaken assumption that the Corps is entitled to a WQC. To the contrary, the currently proposed Project would violate water quality standards under Georgia law. Considering the Project's degradation on water quality, it is imperative that EPD approach its obligations under the CWA in a cautious and critical manner. Consistent with this approach, and in compliance with 33 U.S.C. § 1341(a)(1), EPD should afford the citizens of Georgia an opportunity to review and comment on a draft WQC prior to reaching a final decision in this matter.

The GWQCA's primary objective is to "enhance water quality and prevent pollution." See Ga. Comp. R. & Regs. r. 391-3-6-.03(2)(a). SHEP's expected water quality degradation flies in the face of Georgia's Anti-Degradation Policy, which states that "[e]xisting instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected." Id. at 391-3-6-.03(2)(b)(i) (emphasis added). The lower Savannah River that would be affected by the Project is already listed as impaired for dissolved oxygen under CWA Section 303(d). The Corps expressly recognizes that the Project "would adversely affect DO, a critical resource," DEIS at 5-37 and, thus, as discussed in detail in Section II.A.2(d), the Project would exacerbate DO problems.

Further reductions in DO will negatively impact existing uses in the river, such as the endangered population of shortnose sturgeon, Atlantic sturgeon, striped bass, and other fisheries. According to the GRR, the Project's reductions in DO levels could reduce the shortnose sturgeon's habitat by up to an additional 16 percent. GRR at 163. Moreover, as discussed in Section II.A.2(d), there is considerable uncertainty regarding the effectiveness of the primary measure, the oxygen injection system, intended to mitigate for the decreased DO levels in the river. There are no other "measures identified that could be implemented in the estuary that would restore sturgeon habitat or enhance existing habitats." Id. In its current form, the Project

[29] See Mary Carr Mayle, SC Opposes Savannah River Deepening Plan, Augusta Chronicle, (Jan. 5, 2011), available at http://chronicle.augusta.com/latest-news/2011-01-05/sc-opposes-savannah-river-deepening-plan (last visited Jan. 24, 2010).

would cause further degradation of DO, which, in turn, will inflict additional harm on existing uses in the river. Approval of this Project in its current form will prevent EPD from protecting and maintaining the water quality of the Savannah River, including its existing uses. For these reasons, a 401 WQC cannot be lawfully issued for this Project.

III. The Project Would Needlessly Thwart the Policies of South Carolina's Coastal Zone Management Program ("CMP"), in Violation of the Coastal Zone Management Act ("CZMA") and South Carolina Law.

Pursuant to the federal CZMA, 16 U.S.C. § 1451 et seq. (2010), the Corps must ensure that its activities in South Carolina's coastal zone are consistent to the maximum extent practicable with the state's CMP. See 16 U.S.C. § 1456(c)(1)(A) ("[e]ach Federal agency activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone shall be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved State management programs"). To that end, "e[]ach Federal agency carrying out an activity subject to [Section 1456(c)(1)(A)] shall provide a consistency determination to [the appropriate state agency] at the earliest practicable time, but in no case later than 90 days before final approval of the Federal activity unless both the Federal agency and the State agency agree to a different schedule." 16 U.S.C. § 1456(c)(1)(C).[30] This consistency determination should include "[c]omprehensive data and information" sufficient to support its conclusions. S.C. CMP at V-20. A federal agency may use its NEPA documents as a vehicle for consistency review under the CZMA, provided that those documents include the information and adhere to the timeframes required by the CZMA implementing regulations. 15 C.F.R. § 930.37.

DHEC "is responsible for commenting on and concurring with or objecting to Federal agency consistency determinations," and may do so through "the issuance or denial of relevant State permits" provided it "review[s] individual projects to ensure consistency with all applicable State management program policies and that applicable public participation requirements are met." 15 C.F.R § 930.6(b), (c). Where, as here, a project requires both a Section 401 water quality certification and a coastal zone consistency certification, "the coastal zone consistency certification determination shall be issued as a component of, and concurrently with, the water quality certification." S.C. Code Ann. Regs. § 61-101(A)(7). Because the Project will also require a critical area permit, however, DHEC ultimately might instead make its consistency certification decision through that permitting process. See id. § 61-101(A)(8).

Here, the DEIS and GRR set forth a fundamentally flawed and incomplete analysis of the Project's impacts and therefore fail to supply the "[c]omprehensive data and information," S.C. CMP at V-20, DHEC needs to properly review the Corps' consistency determination. See supra at I.E. For that reason alone, DHEC should object to the Corps' consistency determination. Moreover, even the limited analysis provided shows that the proposed Project would not be carried out in a manner consistent with South Carolina's CMP and will cause serious and unnecessary damage to critical areas of the State's coastal zone. Accordingly, DHEC should deny the Corps' certification request and insist that the Corps explore practicable and less

[30] In South Carolina, the relevant agency is the Office of Ocean and Coastal Resource Management ("OCRM"), an arm of DHEC.

damaging alternatives.

As an initial matter, DHEC must deny certification under the CZMA for the same reason it must do so under Section 401 of the CWA. CZMA Section 307(f) "requires States to incorporate all requirements established pursuant to the Federal Clean Water Act and Clean Air Act into their management programs." S.C. CMP at V-11; see also id. at III-20(7) (mandating that "[p]roposed port development or expansion and operation must meet existing air and water quality standards"). Because the Project would violate water quality standards and the Corps' 404 Guidelines, and thus the CWA, see supra at II.A.2., it is inconsistent with the CWA requirements incorporated into the CMP. And, the Corps' failure to properly analyze and disclose air pollution impacts, see supra at I.E.1., precludes it from certifying consistency, as DHEC lacks reasonable assurance that the Project will not violate any CAA requirements. South Carolina's CMP requires that all port expansion projects meet air and water quality standards. CMP at III-20(7). And, the Project fails to comport with that mandate.

The CMP requires further that projects affecting navigation, such as this one, be coordinated with the South Carolina State Ports Authority ("SCSPA"). CMP III-21; see also. S.C. Code Ann. Regs. § 30-11(B)(2) (requiring DHEC to obtain "a certificate from the South Carolina State Ports Authority declaring that the proposed project or activity would not unreasonably interfere with commercial navigation and shipping" before issuing a critical area permit for projects in waterways used for commercial navigation and shipping or in areas set aside for port development in an approved management plan); id. § 30-1(A)(3) (stating that DHEC's critical area permitting regulations "are to be read as part of, and to be construed with, the policies set forth in the South Carolina Coastal Management Program"). The SCPSA has expressed concern that the Project, as currently proposed, would adversely impact its interest in and the potential for the Jasper Ocean Terminal. Letter to Dean Moss (Savannah River Maritime Commission) from Colden R. Battey, Jr. (SCPSA) dated Dec. 17, 2010. In particular, the disposal cells slated for use by the SHEP proposal could preclude construction of the Jasper terminal. Id. The Corps and GPA must address these issues in the FEIS and must coordinate with the SCPSA to ensure that the Project does not adversely affect South Carolina's overall interests in port development and navigation, as well as to ensure that all reasonable alternatives to and reasonably foreseeable impacts of the Project receive the legally mandated consideration.

Finally, for the reasons discussed in Sections II.B. and V, infra, the proposed Project does not satisfy South Carolina's regulatory requirements pertaining to the "critical areas" of the coastal zone impacted by the Project. "The critical areas are of vital importance to the State." S.C. Code Ann. Regs. § 30-11(A). The CMP therefore prohibits dredging and excavation that would "contribute to water quality degradation" or result in "lethal fish entrapments." S.C. CMP at III-56. It likewise prohibits dredging for public projects in wetland areas unless the activity is water dependant and there are no feasible alternatives. Id. And, recognizing that the "creation and maintenance of navigational channels" is a "specialized form of dredging activity" with "a potential for severe environmental impacts," the CMP provides that such activity "should meet a demonstrated public need." Id. The Corps' proposal cannot be squared with these policies.

IV. The Project Is Inconsistent with Georgia's Coastal Management Program.

The Project is inconsistent with Georgia's Coastal Management Program ("GCMP") and therefore the Georgia Coastal Resources Division ("CRD") should not concur with the Corps' determination of consistency. Under the Georgia Coastal Management Act, to attain consistency with GCMP, Georgia must determine that a project is consistent with state law regulating the state's coastal resources. See O.C.G.A. § 12-5-322(3), (12). For the following reasons, the Project does not comply with various state laws governing coastal resources and is inconsistent with the objectives of the GCMP.

The GCMP's missions is to "balance economic development in Georgia's coastal area with preservation of natural, environmental, historic, archaeological, and recreational resources for the benefit of Georgia's present and future generations." GCMP at 25. One of the primary laws furthering this mission is Georgia's Coastal Marshlands Protection Act (CMPA), O.C.G.A. §§ 12-5-280 et seq. The CMPA regulates activities and structures in the state's marshlands, intertidal areas, mudflats, waters bottoms, and tidal wetlands. The DEIS states that the Project "would affect wetlands within the jurisdiction of the [CMPA]." DEIS, App'x I at 29. Specifically, the Project would convert at least 337 acres of tidal freshwater wetlands in the Savannah National Wildlife Refuge to brackish marsh and would destroy 15.68 acres of salt marsh on the Black River. Id. at 29. Despite the significant impacts to these unique resources, the DEIS concludes that with mitigation in the form of preservation and restoration the project is consistent with the GCMP and CMPA. See id. at 30. Notably, however, the CMPA does not include or contemplate mitigation as means of offsetting destruction of marsh or wetlands under CMPA's jurisdiction. Setting aside the proposed mitigation, the Corps should conclude that the destruction of 337 acres of freshwater wetlands included in the Refuge is not consistent with the GCMP's objective of providing a "coastal zone in which the area and functional integrity of wetlands that impact the coastal region of Georgia are maintained." GCMP at 29. The destruction of hundreds of acres of coastal wetlands and marshlands renders the Project inconsistent with the GCMP.

Among its coastal objectives, the GCMP aims to "[p]rovide a coastal zone in which wildlife species listed as special concern, threatened, or endangered are recovered to healthy, viable populations." GCMP at 28. To effectuate this goal, the Project must be in compliance with Georgia's Endangered Wildlife Act ("EWA"), O.C.G.A. §§ 27-3-130 et seq. Under the EWA, the "destruction of the habitat of any protected animal species on public lands is prohibited." Ga. Comp. R. & Regs. r. 391-4-10-.06(a)(3). Appendix I's discussion of consistency with the EWA recognizes that the Project's dredging of the Savannah River will result in loss of habitat for the endangered shortnose sturgeon. DEIS, App. I at 33. Yet, Appendix I states that "[w]ith the proposed mitigation in place for the Shortnose sturgeon, the proposed Project is fully consistent with this policy." DEIS, App. I at 33. To the contrary, the language of the Georgia EWA is unequivocal, stating "the destruction of the habitat of any protected animal species on public lands is prohibited." Ga. Comp. R. & Regs. r. 391-4-10-.06(a)(3). The DEIS's conclusion that the Project is consistent with the GCMP is flat wrong because the Project violates the Georgia EWA.

An additional program objective is to "[p]rovide a coastal zone in which the integrity and

functioning of the sand-sharing system is maintained." GCMP at 29. Georgia's Shoreline Protection Act (SPA), O.C.G.A. §§ 12-5-231 et seq, is the state's primary legal authority on the protection and management of Georgia's sand-sharing system—including sand dudes, beaches, sandbars and shoals. Also, Georgia law addresses erosion caused by dredging for navigation purposes in tidal inlets, rivers, and harbors. O.C.G.A. §§ 52-9-1 et seq. It is state policy that there should be no net loss of sand from the island beaches because of dredging. O.C.G.A. § 52-9-1. The Corps' recent study concluded that existing dredging Project at the port has contributed to nearly eighty percent of Tybee Island's beach erosion. DEIS, App. I at 17. Yet, the Corps concludes that because the Project would "result in only minor changes in nearshore wave patterns" the Project "would be expected to have very little impact on the Tybee Island shoreline." Id. However, the Corps erroneously examines the Project's potential impacts in isolation, and fails to consider the cumulative impact of the Project and existing beach erosion. For these reasons, the Project is not consistent with the GCMP.

The Project is inconsistent with the objectives of the GCMP and Georgia law protecting water quality on the coast. The GCMP seeks to ensure "that permits approved for coastal area activities are designed to minimize negative impacts on water quality . . . ." GCMP at 26. As described in Section II.C., the GWQCA states "[e]xisting instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected." Id. 391-3-6-.03(2)(b)(i) (emphasis added). The DEIS recognizes that the Project will have significant impacts on the dissolved oxygen DO levels in the Savannah River, a water body already listed as impaired for DO. The lowering of DO would have deleterious effect on the fish populations in the Savannah River, especially the endangered shortnose sturgeon. However, Appendix I's discussion of water quality is devoid of any discussion of lowering DO levels. See DEIS, App'x I at 64-65.

The GCMP requires that the port expansion be consistent with the Georgia Air Quality Control Act, O.C.G.A. §§ 12-9-1 et seq. It is undetermined whether Project is consistent with the air quality policy of the GCMP because, as described in Section I.E.1., the DEIS fails to adequately assess the Project's air quality impacts. The DEIS states that the Project would "improve ambient air quality in Savannah Harbor" because the "total number of container ships would decrease . . . ." DEIS, App'x I at 26. However, this bold assertion is based on a flawed economic assumption, is contradicted by other DEIS statements, and lacks supporting data (described in Section I.D.). A determination of consistency cannot be attained without requiring the Corps to further assess the effects of the Project on air quality.

V. The Corps Has Failed to Apply for and Is Not Entitled to a Critical Area Permit from DHEC.

The South Carolina Coastal Zone Management Act ("South Carolina CZMA") "was passed by the 1977 General Assembly of South Carolina to provide for the protection and enhancement of the State's coastal resources." S.C. Code Ann. Regs. § 30-1(A)(1) (2009). Pursuant to the South Carolina CZMA, "[e]xcept for those exemptions as specified in the 1977 Coastal Zone Management Act, as amended, any person wishing to alter a critical area must receive a permit from [DHEC]." S.C. Code Ann. Regs. § 30-2(B) (2009). The statute's enumerated exemptions exclude "[d]redge and fill performed by the United States Corps of

Engineers for the maintenance of the harbor channels and the collection and disposal of the materials so dredged." S.C. Code Ann. § 48-39-130(D)(4) (2009); S.C. Code Ann. Reg. § 30-5(A)(4) (2009). But, they do not similarly exclude a Project such as this one, which consists of "improvements to" and "expansion of" an existing navigation project. Corps, GPA, & DHEC, Joint Public Notice, at 1, 2 (Nov. 15, 2010). And, under the CWA, the Project must comply with the state's permitting requirements. See 33 U.S.C. § 1344(t).

The Corps, however, has not applied for the required critical area permit. The JPN lists a Section 401 water quality certification and concurrence with the Corps' coastal zone consistency determination as the only authorizations requested and believed to be required from South Carolina. JPN at 8. The Corps' failure to recognize its obligation to obtain the necessary permit has the potential to frustrate or lead to inefficiencies in DHEC's review, as DHEC processes applications for Section 401 certifications according to different procedures when an applicant seeks a critical area permit for the same project. See S.C. Code Ann. Regs. § 61-101(A)(7) & (8). And, early coordination is particularly important here, as the concurrence of not only DHEC, but also SCSPA, will be required. See S.C. Code Ann. Regs. § 30-11(B)(2) (requiring DHEC to obtain "a certificate from the South Carolina State Ports Authority declaring that the proposed project or activity would not unreasonably interfere with commercial navigation and shipping" before issuing a critical area permit for projects in waterways used for commercial navigation and shipping or in areas set aside for port development in an approved management plan).

While the Corps must submit an application if it wishes to proceed with the Project, it is important to note that the Corps would not be entitled to a permit due to the inconsistencies with the CMP policies and critical area regulations previously discussed. See supra at III.

VI. The Biological Assessment Prepared Pursuant to the Endangered Species Act Is Deeply Flawed.

Section 7 of the ESA requires that each federal agency "shall, in consultation with and with the assistance of [the expert service agencies] insure that any action authorized, funded or carried out by such agency . . . is not likely to jeopardize the continued existence of any" listed species "or result in the destruction or adverse modification" of the species' critical habitat. 16 U.S.C. § 1536(a)(2) (2010). Under the regulations implementing this consultation process, each federal agency is required to determine whether its activities "may affect" a listed species. 50 C.F.R. § 402.14(a) (2011). If it is determined that the agency action may affect listed species, formal consultation is required unless FWS or NMFS determines, based on the best available scientific evidence, that the action is "not likely to adversely affect" the species at all. 50 C.F.R. § 402.14(a) & (b).

If formal consultation is sought, such consultation will culminate in the issuance of a biological opinion. The "[b]iological opinion is the document that states the opinion of the Service as to whether or not the Federal action is likely to jeopardize the continued existence of the listed species or result in the destruction or adverse modification of critical habitat." 50 C.F.R. § 402.02 (2011). NMFS' and FWS' joint regulations define [j]eopardize the continued existence of" as "to engage in an action that reasonably would be expected, directly or indirectly,

to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species." 50 C.F.R. § 402.02. Courts have explained that "even where baseline conditions already jeopardize a species, an agency may not take action that deepens the jeopardy by causing additional harm." Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv., 524 F.3d 917, 930 (9th Cir. 2008). Additionally, under the applicable regulations, an action is "jeopardizing" if it keeps recovery "far out of reach," even if the species is able to still cling to survival. Id. at 931. Jeopardy therefore can be found not only where an action plunges a species towards extinction, but where it suppresses the species below the path needed for recovery.

If the biological opinion concludes that the proposed action is not likely to jeopardize a protected species, the project can be completed. If, however, the biological opinion concludes that "jeopardy or adverse modification exists, NMFS [or FWS] must suggest reasonable and prudent alternatives . . . that it believes would not violate section 7(a)(2) and that can be implemented by the action agency." Aluminum Co. v. Administrator, 175 F.3d 1156, 1159 (9th Cir. 1999) (citing 16 U.S.C. § 1536(b)(3)(A)). If no reasonable and prudent alternatives exist, the action agency can seek an exemption, cancel the project, or continue with the project and risk violating the ESA. "The action agency is technically free to disregard the Biological Opinion and proceed with its proposed action, but it does so at its own peril," as it could face liability under the ESA and invite a challenge under the Administrative Procedures Act. Bennett v. Spear, 520 U.S. 154, 170 (1997); see generally National Wildlife Federation v. Coleman, 529 F.2d 359, 371-72 (5th Cir. 1976).

Further, pursuant to the ESA, conferences between representatives of the action agency and the expert agency are required for all federal actions that are likely to adversely affect the continued existence of a species proposed to be listed, such as the Atlantic sturgeon. 16 U.S.C. § 1536(a)(4). If the proposed species is subsequently listed prior to completion of the action, the action agency (in this case, the Corps) must review the action to determine whether formal consultation is required. 50 C.F.R. § 402.10.

The Corps has prepared a biological assessment ("BA") for this Project evaluating the potential impacts of the deepening proposal on endangered and threatened species and has included it at Appendix B to the DEIS. DEIS at 6-2. The assessment is being coordinated with the FWS (jurisdiction over the Florida manatee, piping plover, and nesting sea turtles) and NMFS (jurisdiction over other protected marine and aquatic species which may occur in the project vicinity) pursuant to Section 7 of the ESA. DEIS at 6-2.

A. Shortnose Sturgeon

The shortnose sturgeon ("SNS") was listed as an endangered species in 1967. Causes for decline were attributed largely to overfishing, bycatch in other fisheries, habitat fragmentation mainly due to dams blocking migration to spawning habitats, and water quality degradation Protecting and restoring spawning habitats and river flow conditions in those habitats is an essential part of the species recovery plan. Reestablishing access to historical spawning habitat and ensuring the presence of proper environmental conditions that were once found during the river's natural state are paramount.

The GRR explains that "expected reductions in habitat volume for shortnose sturgeon range from -11.0 to +10.6 percent, depending on channel depth, life stage, and season." GRR at 163. The GRR states further that the results of the hydrodynamic modeling indicate that the impacts to shortnose sturgeon would not be substantially reduced by the initial mitigation plan and that "no measures were identified that could be implemented in the estuary that would restore sturgeon habitat or enhance existing habitats." GRR at 163. The Corps states further that "[s]ince no means of increasing the volume of acceptable habitat within the estuary could be identified, a fishway around the New Savannah Bluff Lock & Dam . . . was recommended." GRR at 163. According to the Corps, the proposed fishway around the dam would allow migrating fish to move upstream past the facility, which would open up an additional 20 miles of habitat upstream of the dam to reaches shortnose sturgeon had used historically. GRR at 164. The Corps contends that the horseshoe rock ramp design would also allow fish to move downstream, thereby allowing young fish spawned upriver to access other habitats needed in later life stages. GRR at 164. Against this backdrop, the BA concludes that "the proposed project may affect, but is not likely to adversely affect Shortnose or Atlantic sturgeon or their critical habitat." BA at 182. We strongly disagree with this conclusion.

To begin with, the Savannah River Estuary provides essential habitat for the continued existence of shortnose sturgeon, and the DEIS does not accurately characterize the effects of such a large-scale disruption to sturgeon habitat. See Expert Report of Shawn P. Young, Ph.D. at 3. Researchers have concluded that the Savannah River shortnose sturgeon population has not been successfully reproducing, and, according to Dr. Young, the proposed harbor deepening Project will likely have significant negative effects on the remaining population in the a number of ways.

This Project will result in a reduction in available habitat and require SNS to seek and select new home ranges of lesser quality. Young Report at 4-6. Sturgeon are bottom-feeders, and the proposed deepening Project will eliminate the benthic community in dredged areas. Young Report at 5-6. It will take years for this community to reestablish itself, and if it does, the benthic community may not be comprised of the same quality and quantity of prey items. Young Report at 5-6. The loss of feeding opportunities will require shortnose sturgeon to find and move to other areas that may or may not provide suitable prey items, and the increased expenditure of energy resulting from this increased movement would be detrimental to the population, resulting in poor health and lower reproductive potential. Young Report at 6.

The deepening Project will also lower DO levels in the harbor, which is a major concern for all fish and aquatic organisms. Young Report at 6. Low dissolved oxygen will affect re-colonization of benthic organisms after substrate dredging and may alter species presence and abundance after re-establishment. Young Report at 7. This will in turn affect sturgeon and other benthic fish feeding and nutrition. In light of the importance of the estuary to juvenile and adult sturgeon; the current low levels of dissolved oxygen; and the questions involving the effectiveness of the oxygenation system, Dr. Young believes the Corps has underestimated the threat of this proposal to sturgeon. Young Report at 7.

Another concern for SNS is the turbidity caused by re-suspension of sediments and the

pollutants that may re-enter the water column after sediment exposure. Young Report at 7-8. Although the DEIS states that a sediment study was conducted to determine chemicals present in solid sediments, it does not appear as if the Corps conducted actual exposure toxicity tests to determine how the deepening Project would impact sensitive species, such as SNS. Young Report at 7-8. These studies should be undertaken and will likely reveal that the SHEP will have substantial negative effects on species such as SNS beyond the level described in the DEIS. Young Report at 8.

As the DEIS and the GRR acknowledge, the deepening Project will also exacerbate problems related to saltwater intrusion. Young Report at 9. Juveniles prefer low levels of salinity, and juveniles experience decreased energy and aerobic capacity, resulting in decreased growth and survival as salinity levels rise. Changes in prey species abundance due to increased salinity, on top of dredging and low dissolved oxygen, "will likely have profound impacts on the entire estuarine fish community, including shortnose sturgeon, Atlantic sturgeon, and striped bass." Young Report at 9.

As noted previously, the DEIS that: "Neither the Corps nor the [resource] agencies could identify any measures that could be implemented in the estuary that would restore sturgeon habitat or enhance existing habitats." DEIS at 5-91. Instead, the Corps suggested a method of allowing fish to move by the lowest dam on the river, the New Savannah Bluff Lock & Dam (NSBL&D) at Augusta, Georgia, which is operated by the Corps. DEIS at 5-91. The theory behind this proposal is that a "fishway around the structure would allow migrating fish to move past the dam" and "would open up an additional 20 miles of habitat upstream of the dam to Shortnose sturgeon, reaches that they had used in the past." DEIS at 5-91. Although the concept of fish passage offers some potential benefits to fisheries more generally, the Corps' proposal is deeply flawed because, as explained below, sturgeon species are unlikely to use the fish passage facility proposed in this case. Young Report at 11-16.

B. Atlantic Sturgeon

Atlantic sturgeon is a long-lived, late-maturing, estuarine-dependent, anadromous species that can live up to 60 years and reach lengths up to 14 feet. Proposed Listings for Two Distinct Population Segments of Atlantic Sturgeon in the Southeast as Endangered under the ESA, 75 Fed. Reg. 61904, 61905 (Oct. 6, 2010). Historically, Atlantic sturgeon were present in 38 rivers ranging from Labrador south to the St. Johns River in Florida, with spawning occurring in at least 18 rivers. Id. at 61906. In the past, there were large numbers of Atlantic sturgeon in many rivers along the Atlantic coastline, but the population suffered from severe declines due to overfishing in the late 1800s. Prior to the collapse of the fishery, Georgia's rivers were estimated to have 11,000 spawning females. Id.

Despite a fishing moratorium imposed by NMFS in 1998, Atlantic sturgeon have continued to suffer negative impacts from a range of factors throughout its habitat. Today, the South Atlantic DPS is estimated to number less than 6 percent of its historic population. Atlantic Sturgeon Status Review Team, Status Review of the Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*) (2007). In this DPS, spawning has been confirmed in the Savannah, and on October 6, 2010, NMFS published its Proposed Listings for two distinct population segments of the

Atlantic sturgeon in the Southeast, the Carolina DPS and the South Atlantic DPS. See 75 Fed. Reg. 61904 (2010). The formal status review found that unintended catch of Atlantic sturgeon in fisheries, vessel strikes, poor water quality, dams, lack of regulatory mechanisms for protecting the fish, and dredging were the most significant threats to the fish.

As pointed out by Dr. Young, the DEIS lacks baseline information and an impact assessment on the Savannah River Atlantic sturgeon. Young Report at 9. The omission of discussion and impact assessment of a species proposed for listing as Endangered needs to be rectified, especially where it has been determined that the proposed activity under review – in this case, dredging – is an obstacle to the species' recovery. Young Report at 9. In addition to lacking baseline information, the main focus of impact evaluation, mitigation, and funded research has been placed on the shortnose sturgeon; however, the Atlantic sturgeon has been neglected. Young Report at 10.

As with shortnose sturgeon, the proposed deepening will have significant negative effects on the health and survival of Atlantic sturgeon. The proposal will likely adversely affect the continued existence of the species by (1) causing a reduction in available habitat and causing changes in summer and winter habitat selection with negative consequences likely; (2) requiring these species to find new foraging habitats if they avoid the project altogether or leaving these species without a source of food due to the elimination of benthic prey from the large-scale dredging; and (3) causing these species to suffer physiologically from potential changes in water quality, including lower dissolved oxygen, increased turbidity and pollutants, caused by re-suspension of sediments, and increased salinity. Young Report at 4.

Although shortnose and Atlantic sturgeon share common traits, the DEIS assumes that the life history and behavior of Atlantic sturgeon and shortnose sturgeon is so similar that the SHEP impacts and the mitigation package will have the same outcome for both species. Young Report at 10. Such an assumption is erroneous. Young Report at 10. For example, a recent study of juvenile sturgeon abundance on in the Hudson River Estuary, has found that juvenile shortnose sturgeon prefer habitats upstream of the saltwedge (low salinity), while juvenile Atlantic sturgeon prefer habitats downstream of the saltwedge (higher salinity). Young Report at 10. Other scientists have documented differences in life history, including temperature selection and spawning habitat preferences. Young Report at 10. As previously noted, there will be some similar impacts, but there is a strong likelihood that the two species will also suffer differently in other ways. Young Report at 10. Greater analysis, therefore, is required to determine the impacts to Atlantic sturgeon and what mitigation is needed to address the harm from this Project. Young Report at 10-11.

C. Proposed Mitigation and Sturgeon

As part of the SHEP mitigation package, the Corps has proposed a fishway at the New Savannah Bluff Lock & Dam ("NSBLD") near Augusta, Georgia, 150 miles upriver of Savannah Harbor, as mitigation for damages to shortnose sturgeon habitat in the estuary. Young Report at 11. The Corps was unable to identify any forms of mitigation within the estuary to offset the loss of critical juvenile rearing habitat. Id. Accordingly, the fishway is a trade-off intended to alleviate impacts to important juvenile habitat by allowing passage to upstream habitat. The

problem is that although a fishway might provide some benefits to other species, this proposal is highly unlikely to benefit sturgeon. According to Dr. Young, the DEIS fails to demonstrate that the proposed fish passage design – the Horseshoe Rock Ramp – will have success at passing either species of sturgeon. Id. The proposal also lacks a detailed fish passage plan listing objectives and goals for the species that would purportedly benefit from the facility. Moreover, for a fish passage facility to be effective, a suitable environment must be present above the dam to support spawning and the development of eggs, larvae, and juveniles. Id. at 11. Should sturgeon select the Augusta Shoals for spawning habitat, it will be important to ensure that proper flows and water temperature are provided. At present time, the release schedules from J. Strom Thurmond Dam (JST) do not provide adequate flows during certain times of year. Young Report at 13. The City of Augusta also diverts a significant portion of flow into the Augusta Canal, substantially reducing flow for fish and aquatic organisms. Id.

Even if it could be demonstrated that the Horseshoe Rock Ramp could be constructed at the NSBLD, modifications would likely be necessary to specifically accommodate sturgeon. Id. at 11. It is likely these changes would substantially increase the cost of the fish passage facility, and additional funding would be needed up front to ensure proper maintenance of the structure in perpetuity. The fish passage proposal would certainly require far greater levels of committed funding than currently proposed, and even then, it is uncertain that the proposed design will work here to address impacts to sturgeon. The most effective mitigation action would be the complete removal of NSBLD along with all other dams/obstructions upstream to the JST and those in the Stevens Creek Basin, a major tributary of the Savannah River between JST and the City of Augusta, in combination with a flow schedule designed to promote biological integrity. Id. at 12.

In light of these concerns and the others expressed in Dr. Young's report, we believe the Corps' conclusion that the "the proposed project may affect, but is not likely to adversely affect Shortnose or Atlantic sturgeon or their critical habitat" completely misses the mark. DEIS, App'x B at 182. To the contrary, Dr. Young believes that this Proposal "will directly reduce the likelihood of both the survival and recovery of shortnose and Atlantic sturgeon by reducing the reproductive fitness, numbers and distribution of each species." Young Report at 16. For these reasons, this Proposal weighs heavily in favor of the preparation of a biological opinion by NMFS to determine if the proposal will jeopardize shortnose sturgeon. We also believe that conference consultation is required for Atlantic sturgeon pursuant to 16 U.S.C. § 1536(a)(4).

D. North Atlantic Right Whales

This Project also threatens one of the most endangered marine mammals in the world – the North Atlantic right whale – with perhaps less than 300 still alive. DEIS, App'x B at 96. As NMFS has acknowledged, the death of even one right whale due to non-natural causes could lead to the extinction of the species. Moreover, the expansion of port facilities is particularly relevant for this imperiled species as "[c]ollisions with ships are the single largest cause of right whale mortality in the western North Atlantic." 71 Fed. Reg. 77,704, 77,710 (Dec. 27, 2006). According to NMFS:

The available evidence strongly suggests that the western population of North

> Atlantic right whale cannot sustain the number of deaths that result from ship strikes and fishing gear interactions. If the impact of these activities continues at current rates, it is likely to result in the *extirpation of the western population of North Atlantic right whales*. Given the low population size of North Atlantic right whales in the eastern Atlantic Ocean, the extirpation of right whales in the western Atlantic Ocean would render the entire species effectively extinct.

71 Fed. Reg. at 77,714 (emphasis added).

In assessing the threat of vessel strikes to right whales resulting from this proposal, the BA states as follows:

> Vessel traffic has increased in the harbor since the last deepening in 1994. The Corps expects the number of vessels that call at the Port will increase in the future in response to population growth in the Southeast. That growth is expected to occur With or Without the proposed harbor deepening. The Corps' economics evaluations indicate that deepening the Federal navigation channel would not increase vessel traffic using Savannah Harbor, but would instead allow a decrease in the number of vessel calls. The Fleet Forecast found within the Economic Appendix in the GRR, states that over the 50-year project time (from 2015 to 2065) the projected number of vessels arriving at Savannah Harbor would be substantially higher for the existing -42 foot depth than for the proposed deepening to -48 feet. The reason for this decrease of vessels with a deeper navigation channel is the same volume of cargo could be carried by fewer, larger vessels as could be carried by a vessel fleet with a higher proportion of smaller vessels. In addition, in excess of 70 percent of the vessels presently do not call on Savannah Harbor at their maximum capacity or design draft. The "light loading" of vessels increase costs to the shipper, which are eventually passed onto the consumer. The proposed deeper channel would allow these "light loaded" vessels to increase their loads to their maximum capacity, thereby decreasing the number of vessels calling on the Port of Savannah.

DEIS, App'x B at 121. In other words, the Corps contends that fewer whales will be struck by vessels if the Project is completed because fewer ships will be calling on the harbor. As explained above, this position is based on an assumption that is not shared by the shipping community. The shipping community, including GPA, believes that the growth of the container traffic at the harbor will accelerate if the harbor is deepened. If GPA and the shipping community is correct, then there will be greater numbers of ships calling on the harbor. Reliance on this flawed assumption here undermines the evaluation of the Project's potential impact on right whales. Further, as discussed in Section I.D.4., the channel appears to be designed in such a manner as will require ships to travel at a speed in excess of the 10 knot speed restrictions.

E. Sea Turtles

Four federally listed, endangered sea turtle species, the Kemp's ridley (*Lepidochelys kempii*), leatherback (*Dermochelys coriacea*), loggerhead (*Caretta caretta*) and the hawksbill

(*Eretmochelys imbricata*), and one threatened species, the green (*Chelonia mydas*), feed in and migrate through the waters affected by the SHEP. GPA's proposal threatens harm to sea turtles due to the proposed dredging activities. Specifically, channelization of inshore and nearshore habitat and the disposal of dredged material in the marine environment can destroy or disrupt resting or foraging grounds and may affect nesting distribution through alteration of physical features in the marine environment. In addition, the associated lighting can negatively affect nesting activities. Moreover, the BA ignores the threat to turtles of ship strikes despite the fact that boat strikes have been identified as a significant and growing threat to sea turtles. Boat collisions can cause immediate death to turtles or severely debilitate them, leading to infection and decreased reproductive fitness. The frequency of injury from propellers and collisions is higher in areas where recreational boating and vessel traffic are intense. Recovery Plan for U.S. Population of Atlantic Green Turtle (1991) at 9 and Recovery Plan for U.S. Population of Loggerhead Turtle, Second Revision (2008) at I-56. Presumably, the BA ignores the threat of boat strikes, as it does with right whales, due to its conclusion that the Project will result in fewer, not more, ships over time.

F. Manatees

The West Indian manatee inhabits coastal, estuarine, and riverine systems in the southeastern United States, the Greater Antilles, eastern Mexico and Central America, and south to northeastern Brazil. About 3,000 West Indian manatees remain in the United States. The Florida subspecies (*T. manatus latirostris*) occupies the northern end of the species' range. These manatees occur primarily in Florida and southeastern Georgia. According to the Florida Manatee Recovery Plan, the most significant problem presently facing manatees is death or serious injury from boat strikes. U.S Fish and Wildlife Service, Florida Manatee Recovery Plan *(Trichechus manatus latirostris)*, Third Revision, at 23. The BA states that in 2008 the Georgia Department of Natural Resources indicated it had recovered three male carcasses in the Savannah River and that "[a]ll three were located at the downtown Savannah waterfront and apparently died from ship propeller lacerations (e.g. one was cut in half)." DEIS, App'x B at 83. Again, the BA does not even mention or assess potential impacts due to increased shipping activity as a result of the Project.

For these reasons and others, the DEIS and GRR fail to adequately assess or accurately disclose the effects of the Proposal on federally endangered and threatened species such as Shortnose sturgeon, North Atlantic right whales, sea turtles, manatees, and other wildlife. For these reasons, the Corps' determination that the Proposal may affect, but is not likely to adversely affect these species, is erroneous, and we believe formal consultation with NMFS and FWS is required.

VII. Consultation Pursuant to the Magnuson-Stevens Fishery Conservation and Management Act and the Fish and Wildlife Conservation Act.

A. Essential Fish Habitat Consultation.

Beyond the ESA, inter-agency consultation is also required under the Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C. §§ 1801 et seq. (the "Magnuson-Stevens

Act"). That Act requires that a federal agency "shall consult with [NMFS] with respect to any action authorized . . . or proposed to be authorized . . . that may adversely affect any essential fish habitat ["EFH"] identified under this Act." 16 U.S.C. § 1855(b)(2); 50 C.F.R. § 600.920(a). For "any federal action that may adversely affect EFH, Federal agencies must provide NMFS with a written assessment of the effects of that action on EFH." 50 C.F.R. § 600.920(e)(1). The assessment must include, among other things, an analysis "of the potential adverse of the action on EFH and the managed species." 50 C.F.R. § 600.920(e)(3)(ii).

Although the DEIS includes an Essential Fish Habitat Evaluation, DEIS, App'x S, it is or understanding that EFH consultation has not yet commenced.

B. Fish and Wildlife Coordination Act.

Finally, coordination with the between the Corp and FWS is required pursuant to the Fish and Wildlife Coordination Act, 16 U.S.C. § 661 et seq. That law provides that "whenever the waters of any stream . . . are proposed or authorized to be . . . deepened . . . or modified for any purpose whatsoever, including navigation," the agency proposing, authorizing or permitting the action "shall first consult" with the FWS and with the "head of the agency exercising administration over the wildlife resources of the particular State wherein the . . . facility is to be constructed, with a view to the conservation of wildlife resources by preventing loss of and damage to such resources . . . ." 16 U.S.C. § 662 (emphasis added). The DEIS includes a draft Fish and Wildlife Coordination Report, in which FWS expresses substantial concerns about the Proposal, including the dissolved oxygen injection system and the impacts to fisheries. DEIS, App'x E. Coordination pursuant to the Fish and Wildlife Coordination Act must be completed before the Project can proceed.

VIII. The Mitigation Proposal Is Inadequate.

Although much of our letter already includes comments regarding specific elements of the mitigation package, we briefly summarize some of our chief concerns here:

A. Global Concerns.

- Overall, it does not appear as if the Corps has made much of an effort to comply with the new rules for compensatory mitigation under the CWA. On April 10, 2008, EPA and the Corps issued a Final Rule on Compensatory Mitigation for Losses of Aquatic Resources under section 404 of the Clean Water Act. See 73 Fed. Reg. 19,594-19,687 (Apr. 10, 2008) (codified at 40 C.F.R. § 230.91 and 33 C.F.R. §§ 325 and 332) (hereinafter referred to as the "Mitigation Rule" or the "Rule"). A central feature of the new Rule is the use of a watershed approach for purposes of all forms of mitigation. See 33 C.F.R. § 332.3(c)(1) ("The ultimate goal of a watershed approach is to maintain and improve the quality and quantity of aquatic resources within watersheds through strategic selection of compensatory mitigation sites."). The Rule states that:

> The district engineer must use a watershed approach to establish compensatory mitigation requirements in DA permits to the extent

> appropriate and practicable. Where a watershed plan is available, the district engineer will determine whether the plan is appropriate for use in the watershed approach for compensatory mitigation. In cases where the district engineer determines that an appropriate plan is available, the watershed approach should be based on that plan. Where no such plan is available, the watershed approach should be based on information provided by the project sponsor or available from other sources.

33 C.F.R. § 332.3(c). Although the DEIS includes statements indicating that the Corps "evaluated several sites within coastal Georgia," DEIS 5-6, for example, there is no indication that the Corps attempted to follow the Mitigation Rule's requirements relating to the utilization of a watershed approach or other key features of the Rule.

- Moreover, the mitigation package as a whole includes a great degree of uncertainty. As explained in greater detail in Section II.A.2.(d), the funding required for the elements of the proposed mitigation package is not assured by either the Corps or GPA. In fact, as explained above in Section II.A.2.(d), it is our understanding the funding needed to ensure that the dissolved oxygen injection system, for example, is maintained and operated in perpetuity will be subject to the precarious federal appropriations process. Without assurance that the proposed mitigation measures will be adequately funded, there can be no confidence in the success or effectiveness of the package as a whole. This approach again runs counter to the Mitigation Rule, which as explained above in Section II.A.2.(d), specifically provides that the "district engineer *shall require* sufficient financial assurances to ensure a high level of confidence that the compensatory mitigation project will be successfully completed, in accordance with applicable performance standards." 33 C.F.R. § 332.3(n)(1) (emphasis added).

B. Mitigation for Direct Wetland Impacts Is Flawed.

This Proposal would cause direct impacts to as many as 14.08 acres of wetlands. JPN at 4. To compensate for the direct impacts of 14.08 acres, the Corps has proposed grading down a former dredge spoil site to an elevation that would allow the growth of *Spartina alterniflora*. DEIS at 5-6. We have the following concerns:

- The proposed location for the mitigation for the 14.08 acres of direct impacts to wetlands is "a previously used sediment placement area (CDF 1S) within Savannah Harbor." DEIS at 5-6. According to the Corps, this area, which is located adjacent to the confluence of the Front River and the Middle River and is within the Refuge, was identified as having the "greatest opportunity to support the long term success of a restored salt and brackish marsh system." DEIS 5-6. The proposed restoration includes grading it down to an elevation that would allow the growth of *Spartina alterniflora*. DEIS at 5-6. If the site does not naturally revegetate as expected, the Corps would plant *Spartina* to provide the basis for subsequent growth across the site. DEIS at 5-7. It is not clear why the Corps does not simply re-plant *Spartina* from the outset. Moreover, it also unclear at what point the Corps will decide to re-plant the site and how extensive the re-planting will be. For example, Table 5-2 presents the "Revegetation Rate for Created

Marsh," but it does explain whether, for example, the Corps will initiate planting activities if 15 percent vegetative cover is not attained in year one. Finally, if the Corps does decide to re-plant, the DEIS does not specify how extensive such planting will be.

C. Mitigation for Indirect Wetland Impacts Is Lacking.

This Proposal would cause indirect impacts to as many as 1,212 acres of freshwater tidal wetlands (the Corps estimates this number will be reduced to 337 acres as a result of proposed flow-altering modifications). DEIS at 5-13; JPN at 4. After investigating and rejecting sites where indirect wetland impacts could be mitigated through restoration, enhancement, or creation, the DEIS indicates that the Corps began to focus on preservation opportunities. DEIS at 5-31 – 5-35. In exchange for impacting 337 acres of freshwater wetlands, the Corps has proposed preserving 2,683 acres of wetlands. DEIS at 5-35.We have the following concerns about the proposal to mitigate for indirect impacts.

- Part of the mitigation package relating to impacts to tidal freshwater marshes is to implement several flow-altering modifications of the river. As discussed above in Section I.A., it was not possible at this time to perform a rigorous review of the Corps' modeling completed in connection with the Project, and we remain concerned about the significant uncertainty regarding the ability of the flow-altering modifications to limit indirect impacts to 337 acres. Moreover, we are further concerned that proposed changes to the hydrology of the river may have unintended consequences. For example, while limiting damage to the tidal freshwater wetlands, the changes in hydrodynamics may have unintended effects to fisheries, including shortnose sturgeon, Atlantic sturgeon, and striped bass.

- We are concerned about the Corps' decision to rely on the Savannah District's Standard Operating Procedure for Compensatory Mitigation (March 2004) (the "SOP") since the SOP was designed to provide guidance for projects involving ten acres of impact or less. The SOP states that it "is applicable to regulatory actions requiring compensatory mitigation for adverse impacts to 10 acres or less of wetland or other open waters" and that the "SOP may be used as a guide in determining compensatory mitigation requirements for projects with impacts greater than the above wetland and stream limits, or for enforcement actions, *however, higher than calculated credit requirements would likely be applicable to larger impacts*." SOP at 1 (emphasis added). In light of the extent of impacts from this Proposal to resources of national importance, we recommend that the Corps adopt a far greater ratio for preserving wetlands.

- The Mitigation Rule underscores the importance of providing in-kind mitigation for unavoidable impacts to "difficult-to-replace" aquatic features, such as freshwater tidal wetlands: "For difficult-to-replace resources (e.g., bogs, fens, springs, streams, Atlantic white cedar swamps) if further avoidance and minimization is not practicable, the required compensation should be provided, if practicable, through *in-kind* rehabilitation, enhancement, or preservation since there is greater certainty that these methods of compensation will successfully offset permitted impacts." 33 C.F.R. § 332.3(e)(3) (emphasis added). We understand the Corps' position that it was difficult to identify

preservation opportunities involving freshwater tidal wetlands; however, if in-kind mitigation cannot be undertaken here, we believe that strongly counsels in favor of far more preservation mitigation as provided for in EPA Region 4's Mitigation Policy.

D. Dissolved Oxygen Injection System Cannot Be Relied On.

- As discussed previously above in Section II.A.2.(d), we have serious doubts relating to the proposal to utilize the oxygenation system for purposes of mitigating the impacts associated with the lowering of already low levels of DO in the water column. In addition to not being able to verify the Corps' modeling results at this time, we are already skeptical of the proposal given the results of the demonstration project, which indicated that any reported benefits were within the natural ranges of variability. Moreover, it is highly dubious that such a system can be maintained and run effectively in perpetuity, especially in light of the fact that funding for its maintenance and operation is not even assured.

E. Fish Passage Is Unlikely to Benefit Shortnose Sturgeon.

- As explained above, in Section VI.C., the Corps has proposed a fishway at NSBLD as mitigation for damages to shortnose sturgeon habitat in the estuary. The DEIS fails to demonstrate that the proposed fish passage design – the Horseshoe Rock Ramp – will have success at passing SNS. The proposal also lacks a detailed fish passage plan listing objectives and goals for the species expected to benefit from the facility. Moreover, for a fish passage facility to be effective, a suitable environment must be present above the dam to support spawning and the development of eggs, larvae, and juveniles. Even if it could be demonstrated that the Horseshoe Rock Ramp could be constructed at the NSBLD, modifications would likely be necessary to specifically accommodate sturgeon. It is likely that these changes would substantially increase the cost of the fish passage facility, and additional funding would be needed up front to ensure proper maintenance of the structure in perpetuity. The fish passage proposal would certainly require far greater levels of committed funding than currently proposed, and even then, it is uncertain that the proposed design will work here to address impacts to sturgeon. The most effective mitigation action would involve the complete removal of NSBLD along with upstream modifications to promote a flow schedule designed to promote biological integrity.

F. Striped Bass Mitigation Proposal Is Weak.

- We are troubled about the proposal to provide a lump sum payment in exchange for significant impacts to the striped bass fishery. Such a proposal should only be considered as a measure of last resort. If no alternative measures can be identified to protect the existing fishery, this proposal must be significantly expanded as impacts to spawning habitat will likely be greater than predicted. Young Report at 3. The Corps has proposed to fund at a 20 percent spawning habitat loss level, but this amount falls well short of what would be needed. Young Report 15. In fact, the Corps has previously underestimated impacts from estuary modifications to the striped bass population in the 1970s and 1980s. Id. The Tide Gate and Diversion Canal installed in the late 1970s and

operated through the 1980s caused a 96 percent decline in striped bass reproduction, prompting a moratorium on striped bass fishing and harvest for an extended period of time. Id. The losses were a result of saltwater intrusion and hydrodynamic changes negatively impacting spawning and the survival of early life stages, and a major re-stocking effort was needed to rebuild the population. Id. To avoid repeating the mistakes of the past, the Corps should anticipate funding at a 100 percent loss level with funding made available prior to initiation of the Project.

- The stocking program, as Dr. Young recommends, should ensure striped bass broodstock are of Savannah River genetic origin, and genetic testing should be conducted before annual aquaculturing occurs. Id. at 16. The Savannah River striped bass are known to be genetically distinct from other river systems. Id. Striped bass in the many Atlantic and Gulf Coast rivers have some distinct physiology and behavior that increases success in the natal system, but may be a liability in restoring populations with genetics outside the natal system. Id.

IX. The Corps' Adaptive Management Plan is Deficient.

In Appendix D of the DEIS, the Corps explains that because the Project is so complex and because the environmental responses to the Project are so uncertain, the Corps will employ "adaptive management" to ensure that certain impacts to the environment caused by the Project will be fully mitigated. DEIS, App'x D at 3. As the Corps relates in Appendix D:

> The Savannah Harbor Expansion Project . . . has the potential to adversely affect nationally important resources. In addition, since predictions are made about future effects to biological resources, there is a degree of uncertainty about the impacts which the recommended action would actually produce. Those uncertainties include both the accuracy of the predictive impact tools and the biological responses that will occur as a result of changes in the environment.

DEIS, App'x D at 3. The Corps defines the adaptive management process 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 [EIS] are not exceeded." Id.

For the wetlands mitigation component of the Project, the Corps must adhere to the requirements of the Corps' Mitigation Rule, which defines adaptive management as follows:

> *Adaptive management* means the development of a management strategy that anticipates likely challenges associated with compensatory mitigation projects and provides for the implementation of actions to address those challenges, as well as unforeseen changes to those projects. It requires consideration of the risk, uncertainty, and dynamic nature of compensatory mitigation projects and guides modification of those projects to *optimize performance*. It includes the selection of appropriate measures that will ensure that the aquatic resource functions are provided and involves analysis of monitoring results to identify potential problems of a compensatory mitigation project and the identification

and implementation of measures to rectify those problems.

33 CFR §332.2 (emphasis added). The Corps has boiled this process down to the following elements: "Predict → Mitigate → Implement → Monitor → Adapt." DEIS, App'x D at 3. All five of these elements are central to effective adaptive management.

To ensure that the adaptive management works correctly, the Corps must develop an adaptive management plan, which the Corps' mitigation rule defines as follows:

> (12) *Adaptive management plan.* A management strategy to address unforeseen changes in site conditions or other components of the compensatory mitigation project, including the party or parties responsible for implementing adaptive management measures. The adaptive management plan will guide decisions for revising compensatory mitigation plans and implementing measures to address both foreseeable and unforeseen circumstances that adversely affect compensatory mitigation success.

33 CFR §332.4(c)(12) (emphasis added). The Corps' adaptive management plan for the Project as set forth in Appendix D of the DEIS is deficient in several respects.

A. There is no Guarantee that Adequate Money will be Available to Fund Mitigation Triggered by the Adaptive Management Plan.

As the Corps explains in its adaptive management plan, there are five components to a adaptive management – predicting impacts, developing appropriate mitigation for those impacts, implementing the mitigation, monitoring the mitigation, and adapting the mitigation as necessary. DEIS, App'x D at 3. The Corps has not made adequate provisions in its adaptive management plan to ensure that the fifth element – adapting the mitigation – will be completed. If, for instance, the chloride levels in the tidal freshwater wetlands reach levels higher than expected and many more of these rare wetlands are degraded as a result, then more wetlands mitigation would be required than is provided for under the adaptive management plan. And under the Corps' plan there is no guarantee that money will be available for such mitigation because the necessary funds will have to be approved by the Administration and appropriated by Congress on a yearly basis. In the current of climate of fiscal restraint, there is no assurance that Congress would appropriate money for additional mitigation for a civil works project that would, by that time, be completed.

The other federal agencies that have to sign off on the Project with the Corps – the EPA, the Department of Interior, and the Department of Commerce – have repeatedly sought assurances that the money for monitoring and adaptive management will be available when it is needed.[31] Likewise, the SHEP Stakeholders Evaluation Group has demanded as much.[32] According to an internal Corps memorandum, the Corps cannot make such assurances. Instead, it appears that the Corps is seeking to have the Georgia Department of Transportation, the local sponsor, place in an escrow account its share, as well as the federal share—approximately $48

[31] Savannah Harbor Expansion Project (SHEP) Monitoring and Adaptive Management Funding Customer Funded Escrow, Savannah District Fact Paper, p. 2, June 25, 2010 (Revised July 9, 2010).
[32] Id.

million total—of the monitoring and adaptive management costs.[33] By establishing this escrow account, at least this amount would not be subject to the whims of Congress. It does not appear, however, that the Corps has been successful in convincing the local sponsor to set aside this money, because the adaptive management plan in the DEIS only suggests that the local sponsor "may" establish an escrow account for *its share* of the monitoring and adaptive management monies. DEIS, App'x D at 32. The federal share would still need to be appropriated by Congress on a yearly basis. Id. Thus, the validity of the Corps' adaptive management plan is still very much in play.

On top of the uncertainty surrounding the funding of the monitoring and adaptive management components of the Project, there is a significant question as to whether the adaptive management sums incorporated in the plan are sufficient. For example, the adaptive management plan allows $1,341,500 for the purchase of additional wetlands if the wetlands mitigation incorporated in the project mitigation plan proves insufficient. Id. at 34. This figure represents only 5 percent of the mitigation costs the Corps included in the wetlands mitigation plan. The Corps does not explain why it chose this amount. Without more, this calculation is arbitrary and capricious.

Furthermore, the Corps does not explain what happens if the harbor deepening destroys far more wetlands than the Corps has predicted. If, for instance, the Project destroys 15 percent more wetlands than the Corps predicts, will the Corps mitigate for those wetlands destroyed that are above the Corps' 5 percent "cap"? This is especially important because there is such a disparity in the amount of wetlands that are at risk as a result of the Project. If the "replumbing" of the estuary works correctly, the Corps predicts that 337 acres of freshwater wetlands will be destroyed. DEIS, App'x C at 54. But if the re-plumbing does not work according to plan this number could be significantly higher.

In a similar vein, the Project calls for the use of three "Speece cones" to increase dissolved oxygen levels in the harbor. Id. at 95. If more Speece cones are needed to raise dissolved oxygen levels to acceptable levels, the adaptive management cost schedule only authorizes the Corps to spend an additional 10 percent for more Speece cones. DEIS, App'x D at 34. It would seem, based on the Corps' numbers, that this amount would not even cover one additional Speece cone. This is alarming when one takes into account that it was not that long ago that the Corps was suggesting that as many as twenty-nine Speece cones would be needed for the Project.[34] As the FWS has pointed out, it is inappropriate to use the performance goals for the Project as the thresholds for remedial action under the adaptive management plan.[35] Because of the uncertainty of the models, the actual impacts of the proposed Project could differ substantially from the predicted impacts.[36] Consequently, the amount of funding set aside for adaptive management should be increased to 10 or 15 percent of the initial cost of construction of the various mitigation components. And this additional amount should be included in the cost of the Project.

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[33] Id.
[34] See SEG Meeting Transcript at 101 (Feb. 14, 2006).
[35] See Letter from Cynthia K. Dohner, Regional Director, U.S. Fish & Wildlife Service, to Col. Jeffrey Hall, U.S. Army Corps of Engineers at 2 (Sept. 9, 2010).
[36] Id.

B. The Modeling Undertaken for the Project Does not Appear to Take into Account other Pollution Control Activities that are Occurring on the Savannah River.

The Federal Modeling Performance Goals do not seem to recognize that other pollution control efforts are ongoing on the Savannah River upstream of the harbor. For example, to come into compliance with the TMDL for dissolved oxygen, upstream dischargers will be undertaking projects to reduce their contributions of biological oxygen demand to the River. These efforts could have a significant impact on dissolved oxygen levels in the harbor. If the Corps fails to take this into account in its monitoring, then it will not get a true reading of whether or not certain components of the adaptive management plan should be triggered. In other words, the Project should not be able to escape its obligations to increase dissolved oxygen levels because upstream dischargers are acting responsibly.

C. The Monitoring Component of the Adaptive Management Plan Is Deficient.

The preconstruction monitoring for physical characteristics and biological resources should be extended to three lunar cycles to ensure an accurate baseline is established. In addition to wetlands and shortnose sturgeon, the Atlantic sturgeon and stripped bass should be monitored. Also, a monitoring plan should be developed to cover the planting of vegetation at the brackish marsh creation site. Furthermore, if additional mitigation is required under the adaptive management plan, the current plan only allows for one year of additional monitoring. This period should be increased to three years. Finally, the proposed long-term monitoring plan appears to be funded for only one year past the initial 5-year post-construction monitoring period. If this long-term monitoring is dependent on future Congressional appropriations, it is unlikely that this monitoring will ever take place. The Corps needs to find a way to better assure that this monitoring will be funded.

Conclusion

We appreciate the opportunity to submit these comments on the proposal to deepen the Savannah Harbor. For the reasons described herein, we believe the Proposal raises serious concerns under the National Environmental Policy Act, the Clean Water Act, the Endangered Species Act, and other state and federal laws and regulations. Our review of the DEIS and Draft GRR reveal that the Corps has failed to provide the public with a meaningful opportunity to review a major, publicly-funded infrastructure project by not providing timely access to the numerous models relied upon by the Corps in rendering its analysis. Until the public is afforded the ability to rigorously review the Corps' analysis, the Corps has frustrated the goals of NEPA by severely limiting public input.

Additionally, the Corps' underlying assumption that this Project is unrelated to the growth of the Georgia Ports Authority's underlying business defies reality, the consistent position of GPA, and the Tier I EIS. In making this suspect assumption, the Corps has undermined its economic analyses and undermined the environmental studies by failing to evaluate many of the negative effects associated with this Proposal. If the Corps is correct that

the Project is unrelated to the Port's underlying business, then there is no need to deepen the channel to keep Savannah Harbor competitive. Moreover, even if this Project could generate transportation efficiencies, the Corps has failed to determine that any savings would benefit the American public. Further, in light of questions raised regarding the ability of the proposed channel to safely accommodate fully-loaded Post-Panamax ships, the stated rationale for this Project is greatly diminished, especially when weighed against the substantial economic costs and environmental impacts.

And finally, the Corps has simply failed to consider a sufficient range of alternatives for accommodating the anticipated larger class of containerships. The refusal to consider whether the federal government could deepen a different port in the Southeast more cost effectively and with fewer impacts on the environment is deeply troubling, especially in these difficult economic times when federal dollars are in short supply. For these and other reasons stated above, we respectfully request that the Corps remedy the significant flaws in the DEIS and Draft GRR before proceeding with this Proposal.

Sincerely,

Christopher K. DeScherer

William W. Sapp

Enclosures

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