16 Conclusions

Savannah District conducted its evaluation of the Savannah Harbor Expansion Project with the collaboration of the Cooperating Agencies, which consisted of EPA Region IV, the USFWS Southeast Region, the NOAA Fisheries Service Southeast Region, and the Georgia Ports Authority. The District also sought and incorporated the views of other Federal and State agencies, the public, and the Stakeholders Evaluation Group on the scientific investigations and analyses to be conducted, the evaluation of the alternative depths and mitigation features, and the plan to be implemented.

Savannah Harbor is currently the second largest container port on the US east coast (by TEU volume) and the fourth largest container port in the Nation. However, it also currently has the shallowest controlling depth for a major container port.

The present 42-foot deep channel was designed to accommodate container ships with a maximum TEU capacity of 4,024 TEUs. At that time, the design vessel was the largest size containership that could pass through the Panama Canal.

The largest vessels presently calling at the Port are rated at more than 8,100 TEUs and are too wide and deep to pass through the Panama Canal. GPA and the State of Georgia have made major investments in landside infrastructure to accommodate increasingly larger vessels and burgeoning trade growth at the Port and the region it serves. Additional improvements are planned and funded.

The primary navigation problems identified relate to the inefficient operation of container ships resulting from insufficient channel depth. Operating costs for container ships calling at Savannah are increased because vessels must light load to navigate the 42-foot channel. Deeper-drafting vessels can use tides to provide additional water depth, but they must wait for the higher tides to occur, incurring additional operating costs from the time delays. Light loading and tidal delays will increase in the future as present harbor users increase their annual tonnage and as larger, more efficient ships replace older, smaller ones. These inefficiencies affect the cost of the Nation's international trade.

Several management measures were identified to address the navigation-related problems. These included operational (i.e., non-structural) measures, locally implemented structural measures, structural measures implemented at other ports, and structural modification of the existing 42-foot navigation channel. Management measures carried into detailed planning included channel deepening, turning basin expansion, bend widening, and meeting area construction. The alternative plans evaluated in detail included the No Action alternative (42-foot depth) and five channel deepening alternatives: 44-, 45-, 46-, 47-, and 48-foot channel depth.

Under without-project conditions, the ongoing expansion of the Elba Island LNG facility is expected to increase LNG vessel traffic by as much as 80%. Planned infrastructure improvements at the Garden City Terminal are expected to increase the TEU throughput capacity to 6.5 million TEUs before 2020. The number of TEUs transported through the port is expected to continue to grow. Vessel traffic at the Garden City Terminal is expected to approximately double by 2024.

The Corps evaluated a wide variety of potential project issues including salinity, dissolved oxygen, loss of wetlands, conversion of one marsh type to another, beach erosion, shoreline erosion, fisheries, benthos, endangered species, cultural and historic resources, sediment quality, groundwater, drinking water, hurricane surge, tidal amplitude, economics, air quality, environmental justice, noise, and cumulative impacts. State-of-the-art computer models were used to determine the level of effect that could be expected from implementation of the alternatives. The same models were used to evaluate ways to reduce those effects and develop mitigation plans. The project alternatives include features to avoid impacts, reduce impacts, and then replace of compensate for impacts that couldn't be avoided or reduced.

Project impacts would generally increase with the depth alternative considered (42, 43, 44, 45, 46, 47 to 48-foot depths). Similarly, the project benefits would also increase as the channel depth increases. Those benefits would consist of transportation cost savings produced when larger Post-Panamax vessels operate more efficiently and experience fewer tidal delays. Increases in the number of containers moving through the Port are expected in the future. However, no changes in that growth are expected to occur as a result of deepening the harbor. That expected growth of cargo would occur with or without a deepening project. The 47-foot depth alternative is identified as the National Economic Development (NED) Plan because it maximizes the net economic benefits that would be produced for the nation. The 47-foot depth alternative has a benefit-to-cost ratio of 5.5. The total project investment cost is estimated to be $709 million, which would save the Nation more than $213 million each year in transportations cost for waterborne commerce. The project would produce annual net benefits of $174 million. The annual cost to operate and maintain the Savannah Harbor Navigation Project would increase by $5.1 million.

Direct adverse impacts from the 47-foot depth alternative would occur to the following resources: 16 acres of brackish marsh, chloride levels at the City of Savannah's water intake, Striped Bass habitat, and Shortnose sturgeon habitat. Indirect impacts would occur to the following resources: conversion of 223 acres of tidal freshwater marsh to brackish marsh; and conversion of 740 acres of saltmarsh to brackish marsh.

With the mitigation, the following would occur: (1) Restoration of 40 acres of brackish marsh at Disposal Area 1S; (2) Minor increase in dissolved oxygen levels throughout the estuary; (3) No adverse effects to the City of Savannah's municipal and industrial water intake on Abercorn Creek; (4) Restoration of access for Shortnose sturgeon and other anadromous fish species to historic spawning areas at the Augusta Shoals through a fish bypass at the New Savannah Bluff Lock and Dam; (5) Increase in the number of Striped bass fingerlings stocked in the estuary; (6) Conversion of 223 acres of tidal freshwater marsh to brackish marsh; (7) Conversion of 740 acres of saltmarsh to brackish marsh; (8) Conversion of 964 acres of tidal freshwater marsh and saltmarsh to brackish marsh; (9) Recovery and preservation of the remains of the CSS *Georgia*; and (10) Construction of a public boat ramp on Hutchinson Island.

After consideration of the environmental impacts, the economic benefits, the views of the public, and the views of the Federal Cooperating Agencies, the 47-foot depth alternative is the Selected Plan because it is economically justified, it maximizes the net economic benefits to the Nation, it is environmentally sustainable, and in the best interest of the Nation.

The improvement to the existing deep-draft navigation project at Savannah Harbor (Savannah Harbor Navigation Project), which was authorized by Section 101(b)(9) of the Water Resources Development Act of 1999 should be implemented to deepen the existing 42-foot project to a 47-foot depth, with such modifications as in the discretion of the Secretary may be deemed advisable.