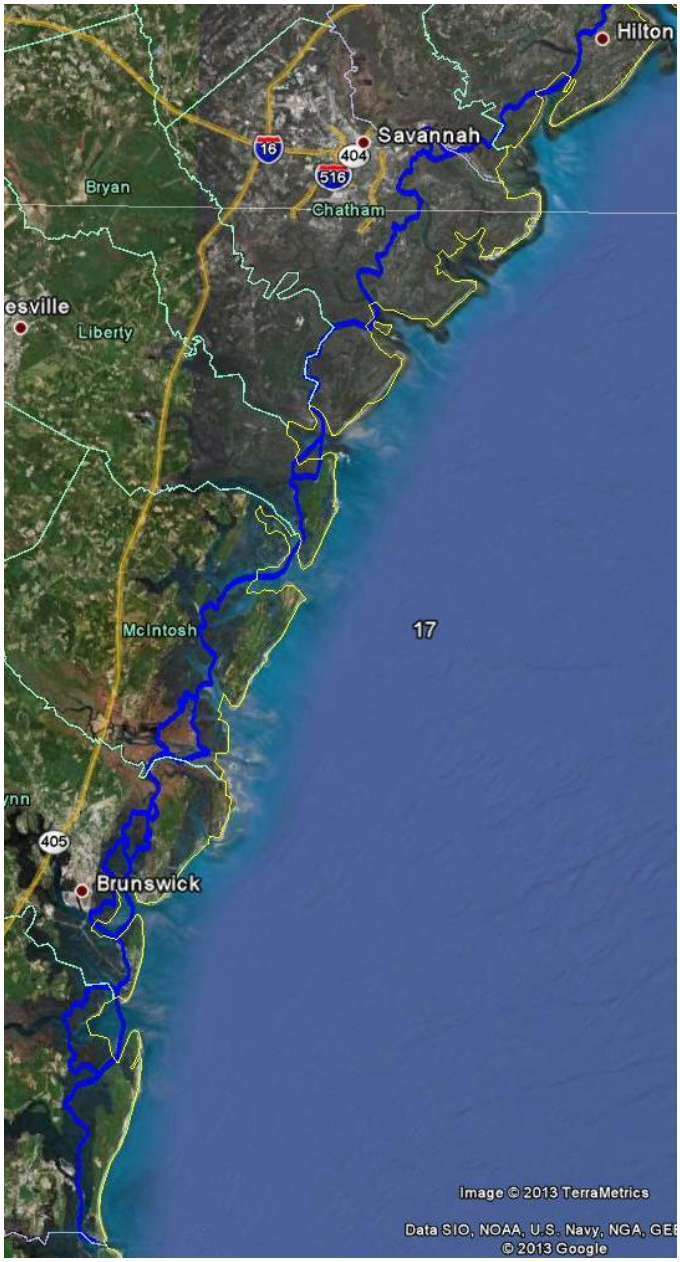
Dredged Material Management Plan
Atlantic Intracoastal Waterway
Port Royal Sound, South Carolina to Cumberland Sound, Georgia
November 2015

Appendix D: Georgia Coastal Zone Consistency Determination (CZM)



US Army Corps of Engineers®
South Atlantic Division
Savannah District

DRAFT

Georgia Coastal Zone Consistency Determination (CZM)

Savannah District Maintenance Dredging
Atlantic Intracoastal Waterway (AIWW)

Jasper and Beaufort Counties, South Carolina

Chatham, Bryan, Liberty, McIntosh, Glynn, and Camden Counties, Georgia

US Army Corps of Engineers
Planning Division
Savannah, Georgia

March 2014

Table of Contents

1.0 Summary Determination 5
2.0 Background 6
2.1 Purpose 6
2.2 Existing AIWW Federal Navigation Project 6
2.3 GACMP Jurisdiction 7
2.4 Authority 7
3.0 Alternatives Including the Proposed Action 8
3.1 Dredges Used on the AIWW in Savannah District 8
3.2 Scope of Savannah District AIWW 8
3.3 Maintenance Dredging on the AIWW 9
3.4 Description of Existing Operational Reaches and Associated Disposal Areas 16
3.5 Summary of Impacts - Maintenance Dredging - AIWW Savannah District 29
3.6 Proposed Disposal Sites for Future Maintenance of the AIWW 31
3.7 Proposed Disposal Methods by Reach 37
3.8 Summary of Proposed Disposal Methods 44
3.9 Timing and Duration of Discharge 46
3.10 Beneficial Use of Dredged Sediment 46
3.11 Relationship of the Proposed Action to Other Federal Projects 47
4.0 Effects of the Proposed Action 47
4.1 Summary of Effects 47
5.0 Other Areas of Environmental Concern 49
5.1 Primary and Secondary Impacts 49
5.2 State Threatened and Endangered Species 49
6.0 State Enforceable Policies 51
6. 1 Introduction 51
6. 2 List of Pertinent State Laws and Authorities 52
6. 3 Aquaculture 53
6. 4 Air Quality 54
6. 5 Boating Safety 55

6. 6 Coastal Management **55**
6. 7 Coastal Marshlands **56**
6. 8 Dams **58**
6. 9 Department of Natural Resources **58**
6. 10 Endangered Wildlife **61**
6. 11 Environmental Policy **62**
6. 12 Erosion and Sedimentation **63**
6. 13 Game and Fish **64**
6. 14 Georgia Heritage **66**
6. 15 Groundwater Use **67**
6. 16 Hazardous Waste **68**
6. 17 Historic Areas **70**
6. 18 Natural Areas **71**
6. 19 Oil and Gas and Deep Drilling **74**
6. 20 Phosphate Mining **75**
6. 21 Protection of Tidewaters **75**
6. 22 Recreational Docks **76**
6. 23 Right of Passage **77**
6. 24 River Corridors **78**
6. 25 River and Harbor Development (Includes Burke-Day requirements) **81**
6. 26 Safe Drinking Water 82
6. 27 Scenic Rivers **83**
6. 28 Scenic Trails **85**
6. 29 Septic Tanks **85**
6. 30 Shellfish **86**
6.31 Shore Protection **88**
6.32 Solid Waste Management **90**
6.33 Surface Mining **91**
6.34 Underground Storage Tanks **91**
6.35 Water Quality **92**
6.36 Water Wells **95**
6.37 Wildflower Preservation **95**
7.0 Other Management Authorities **96**
8.0 State Programs **98**

9.0 Local Land Use Plans 101

10.0 Conclusion.....101

11.0 References 101

LIST OF APPENDICES

Enclosure A - Draft Dredged Material Management (DMMP) Plan
Enclosure B - Protected Species List - Composite List for Federal/State Species within Georgia Counties of AIWW
Enclosure C - Coordination letters
Enclosure D - 404 (b) (1) Evaluation

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1.0 Summary Determination

The Federal Coastal Zone Management Act (CZMA), 16 U.S.C. 1451 et seq., as amended, requires each Federal agency activity performed within or outside the coastal zone (including development projects) that affects land or water use, or natural resources of the coastal zone to be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved state management programs. A direct Federal activity is defined as any function, including the planning and/or construction of facilities, which is performed by or on behalf of a Federal agency in the exercise of its statutory responsibilities. A Federal development project is a Federal activity involving the planning, construction, modification or removal of public works, facilities or other structures, and the acquisition, use or disposal of land or water resources.

To implement the CZMA and to establish procedures for compliance with its Federal consistency provisions, the US Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), has promulgated regulations which are contained in 15 C.F.R. Part 930. This Consistency Determination is being submitted in compliance with Part 930.30 through 930.44 of those regulations.

This evaluation was prepared to determine if the proposed Atlantic Intracoastal Waterway (AIWW) Project is consistent with the Georgia Coastal Management Program (GCMP). Much of the information contained within this Consistency Determination is also contained in the draft Environmental Assessment (EA) prepared for the proposed action. References to that document are included in some of the discussions on the Project's compliance with certain individual state policies. Should further information concerning the proposed project be desired, please refer to the draft EA.

In accordance with the CZMA, Savannah District has determined that the proposed maintenance of the AIWW project would be carried out in a manner which is fully consistent with the enforceable policies of the Georgia Coastal Management Program to the maximum extent practicable. The evaluations supporting that determination are presented in Sections 6 through 9 of this document. In addition, this determination is supported by information and analysis in the draft EA, which is incorporated by reference to the extent relevant to Georgia coastal zone consistency issues.

Much of the information contained within this Consistency Determination is also contained in the draft EA prepared for the proposed action. References to that document are included in some of the discussions on the Project's compliance with certain individual state policies. Should further information concerning the proposed project be desired, please refer to the draft EA, to which this Determination is an Appendix.

2.0 Background

2.1 Purpose

This Consistency Determination addresses the consistency of proposed maintenance of the existing Atlantic Intracoastal Waterway (AIWW) Navigation Project with the Georgia Coastal Management Program, as required by the CZMA. For purposes of the CZMA, the enforceable policies of the Georgia Coastal Management Plan constitute the approved state program. A Dredged Material Management Study is being conducted to formulate a 20-year maintenance plan for the AIWW within the Savannah District area of responsibility. The primary objective of this study is to identify the best maintenance scheme that allows continued use of the waterway and minimizes adverse environmental impacts associated with the dredging and sediment disposal.

This study outlines a long-term (20-year) maintenance plan that identifies and evaluates problems associated with the maintenance of the AIWW. Based on the analysis of studies and collaboration with other agencies, a recommended alternative and Dredged Material Management Plan (DMMP) (Enclosure A) was developed that allows continued use of the AIWW navigation channel and minimizes adverse environmental impacts.

Currently, the majority of the maintenance sediment is deposited in undiked marsh areas adjacent to the AIWW; which although acceptable when the original environmental document was prepared (USACE 1976), is no longer an acceptable impact without appropriate mitigation. The goal of this study is to develop and identify the best plan for long-term maintenance dredging, where to place maintenance dredging materials.

2.2 Existing AIWW Federal Navigation Project

The Planning Guidance Notebook (ER1105-2-100) requires that all Federally maintained navigation projects must demonstrate that there is sufficient dredged material disposal capacity for a minimum of 20 years.

A preliminary assessment is required for all Federal navigation projects to document the continued viability of the project and the availability of dredged material disposal capacity sufficient to accommodate 20 years of maintenance dredging. If the preliminary assessment determines that there is not sufficient capacity to accommodate maintenance dredging for the next 20 years, then a dredged material management study must be performed. This project was funded using Operations and Maintenance (O&M) funding for the Savannah District portion of the Atlantic Intracoastal Waterway (AIWW) and resulted in the draft DMMP (Enclosure A).

This document is an Appendix to the EA for the proposed action. A more detailed description of the current AIWW Navigation Project may be found in Section 1.0 and 2.0 of the EA.

2.3 GACMP Jurisdiction

The Savannah District portion of the AIWW starts at Port Royal Sound, SC (Beaufort County) and continues for 161 river miles to Cumberland Sound at the GA/FL border (Figure 1). The Savannah District portion of the AIWW that is within Georgia contains 137 of the total 161 river miles. This includes all of the six Georgia counties lying adjacent to the coast, which are included in the Georgia Coastal Management Plan as six of the eleven counties that are within the coastal zone. The Georgia CMP lists dredging, channel improvements, and other navigational works conducted by the US Army Corps of Engineers (USACE) as being direct Federal activities that are subject to Federal Consistency.

2.4 Authority

The Federal Coastal Zone Management Act (CZMA), 16 U.S.C. § 1451 et seq., as amended, is the legislative authority regarding the consistency of Federal actions with state coastal policies. Section 1456(c)(1)(A) of the CZMA states: "Each Federal agency activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone shall he carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved state management programs." A Federal activity is defined as any function, including the planning and/or construction of facilities that is performed on behalf of a Federal agency in the exercise of its statutory responsibilities.

To implement the CZMA and to establish procedures for compliance with its federal consistency provisions, the US Department of Commerce, National Oceanographic and Atmospheric Administration, has promulgated regulations, 15 C.F.R. Part 930. This Consistency Determination was prepared in compliance with § 930.30 through 930.44 of those regulations.

3.0 Alternatives Including the Proposed Action

3.1 Dredges Used on the AIWW in Savannah District

Hydraulic cutterhead dredges have historically performed the dredging work on the AIWW, since the disposal sites were next to the reaches being dredged. This dredge type is the most efficient for placing material in upland (or saltmarsh) disposal sites. Mechanical dredges with scows would be used to dredge reaches where the disposal site is located farther (> 6 miles) than a cutterhead dredge can efficiently pump the material. Typically, material is pumped through a 16 inch pipeline to the disposal site. Small hopper dredges would be used where the dredge material is suitable for beneficial use and for near shore beach re-nourishment. Hopper dredges and mechanical dredges would be used when dredged material is to be transported to Ocean Dredged Materials Disposal Sites (ODMDS).

3.2 Scope of Savannah District AIWW

The Atlantic Intracoastal Waterway (AIWW) is a 739-mile inland waterway system between Norfolk, Virginia, and St. John's River, Florida, which offers a continuous, sheltered passage between these two destinations. The portion of the AIWW within Savannah District is situated between Port Royal Sound, South Carolina, (mile 552) on the north and Cumberland Sound (mile 713) on the South, which is located at the Georgia-Florida border. Thus, Savannah District's portion of the waterway constitutes approximately 22 percent of the AIWW. The 161-mile section of the AIWW within Savannah District is comprised of a 24-mile section in the State of South Carolina with the remaining 137 miles located in the State of Georgia.

In 1937, the first piece of legislation that would create the waterway with the dimensions authorized today was passed. The River and Harbor Act of August 26, 1937, provided for a 7-foot protected route around St. Andrew Sound (Senate Committee Print, 74th Congress, 1st Sess.) and for a 12-foot channel between Beaufort, South Carolina, and Savannah, Georgia (Rivers and Harbors Committee Doc. No. 6, 75th Congress, 1st Sess.). On 20 June 1938, a 12-foot channel between Savannah, Georgia, and Fernandina, Florida, with various cut-offs, and an anchorage basin at Thunderbolt was authorized (House Doc. No. 6liB, 75th Congress, 3d Sess.). The widths of the AIWW were to be 90 feet in land cuts and narrow streams and 150 feet in open waters. Dredging of the 12-foot channel between Beaufort, South Carolina, and Fernandina, Florida, was initiated in 1940 with the excavation of 507,275 cubic yards (CY) and completed in 1941 with the removal of 6,168,556 CY.

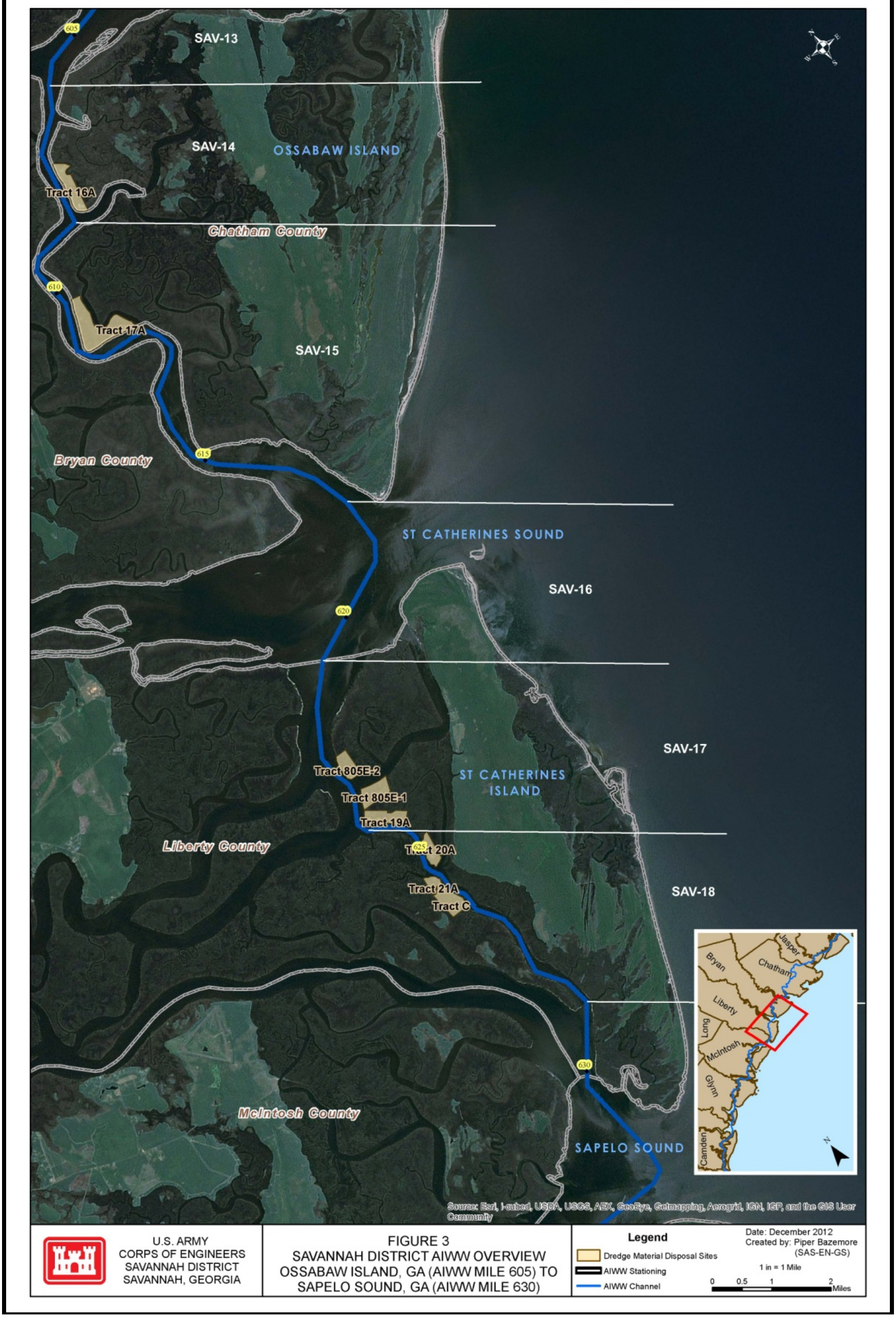
In addition to the main route and the protected route around St. Andrews Sound, the project provides for two other alternate channels. An alternate and more protected route of 7 feet deep MLW from Doboy Sound to Brunswick, Georgia, was incorporated into the project in 1912. The River and Harbor Act of March 2, 1945, approved an alternate route 9 feet deep and 150 feet wide in Frederica River. This alternate route did not require dredging since it had formerly been the main route prior to its abandonment in 1938 for a new route via Mackay River. Although all three of these routes are part of the AIWW project today, maintenance dredging has only been performed in the protected route around St. Andrews Sound.

3.3 Maintenance Dredging on the AIWW

Since the AIWW within Savannah District is quite long (161 miles), the waterway has been divided into operational reaches (36) to facilitate discussion. Figures 1-6 show these various operational reaches as well as the location of the disposal areas that are used to deposit the material from maintenance dredging activities. Each section of the waterway is discussed in regard to its shoaling areas, shoaling rates, maintenance requirements (for the next 20 years) and disposal areas, and the impacts that have occurred from using those disposal areas. Maintenance of the AIWW is usually accomplished using a hydraulic pipeline dredge. In most reaches, the dredged material is discharged onto existing disposal mounds in undiked disposal areas. For the most part, these undiked disposal areas are located in wetlands. The head section (discharge pipe) of the dredge is generally placed on existing dredged material deposits. The heavier material (sand) tends to settle in the area of the existing deposits while the fines (silt, mud) filter through the marsh. Some of this fine-grain material remains in the disposal tract while some of it reenters the waterway. On some occasions, fine-grain material from AIWW dredging operations has encroached on marsh areas outside of the disposal easements. There are several reaches where the material is discharged into diked disposal areas or into open water disposal sites.


HILTON HEAD ISLAND
555
560
Beaufort County
SAV-1
565
DAUFUSKIE ISLAND
CALIBOGUE SOUND
570
Tract 3
SAV-2
SAV-3
SAV-4
Jasper County
Tract 2
SAV-5
575
Tract 1 (14B)
14B
Jones-Oysterbed Island
TYBEE ISLAND
Chatham County
Tract 1-A-1
SAV-6
Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Jasper
Bryan
Chatham
Liberty
Long
McIntosh
Glynn
Camden
U.S. ARMY
CORPS OF ENGINEERS
SAVANNAH DISTRICT
SAVANNAH, GEORGIA
FIGURE 1
SAVANNAH DISTRICT AIWW OVERVIEW
HILTON HEAD ISLAND, SC (AIWW MILE 552) TO
TYBEE ISLAND, GA (AIWW MILE 575)
Legend
Dredge Material Disposal Sites
AIWW Stationing
AIWW Channel
Date: December 2012
Created by: Piper Bazemore
(SAS-EN-GS)
1 in = 1 Mile
0 0.5 1 2
Miles


Jasper County
Tract 575 (14B)
14B
Jones-Oysterbed Island
SAV-5
TYBEE ISLAND
Tract 1-A-1
SAV-6
Tract 1A
Tract 2A
Tract 2B
SAV-7
Tract 3A
Tract 4B
Tract 4A
WHITEMARSH ISLAND
580
Tract 5A
Tract 5B
WILMINGTON ISLAND
SAV-8
Tract 7B
Tract 7A
Tract 105E
Tract 301E
585
Tract 8A
Tract 9A
Tract 10C
Tract 9B
WASSAW SOUND
SAV-9
Chatham County
590
Tract 11J K
Tract 11L
Tract 11H
Tract 11A
Tract 11C
Tract 11B
Tract 11F
Tract 11G
Tract 401E
Tract 400E-3
SKIDAWAY ISLAND
WASSAW ISLAND
SAV-10
Tract 400E-2
Tract 400E-1
Tract 13A
Tract 14A
Tract 14B
595
SAV-11
600
OSSABAW SOUND
Tract 15B
Tract 15A
SAV-12
605
SAV-13
Bryan County
Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Jasper
Bryan
Chatham
Liberty
Long
McIntosh
Glynn
Camden
N
U.S. ARMY
CORPS OF ENGINEERS
SAVANNAH DISTRICT
SAVANNAH, GEORGIA
FIGURE 2
SAVANNAH DISTRICT AIWW OVERVIEW
TYBEE ISLAND, GA (AIWW MILE 575) TO
OSSABAW SOUND, GA (AIWW MILE 605)
Legend
Dredge Material Disposal Sites
AIWW Stationing
AIWW Channel
Date: December 2012
Created by: Piper Bazemore
(SAS-EN-GS)
1 in = 1 Mile
0 0.5 1 2
Miles


605
SAV-13
SAV-14
OSSABAW ISLAND
Tract 16A
Chatham County
610
Tract 17A
SAV-15
615
Bryan County
ST CATHERINES SOUND
SAV-16
620
SAV-17
Tract 805E-2
Tract 805E-1
Tract 19A
ST CATHERINES ISLAND
Liberty County
625
Tract 20A
Tract 21A
Tract C
SAV-18
630
McIntosh County
SAPELO SOUND
Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Jasper
Bryan
Chatham
Liberty
Long
McIntosh
Glynn
Camden
U.S. ARMY
CORPS OF ENGINEERS
SAVANNAH DISTRICT
SAVANNAH, GEORGIA
FIGURE 3
SAVANNAH DISTRICT AIWW OVERVIEW
OSSABAW ISLAND, GA (AIWW MILE 605) TO
SAPELO SOUND, GA (AIWW MILE 630)
Legend
Dredge Material Disposal Sites
AIWW Stationing
AIWW Channel
Date: December 2012
Created by: Piper Bazemore
(SAS-EN-GS)
1 in = 1 Mile
0 0.5 1 2
Miles


630
Liberty County
SAPELO SOUND
635
BLACKBEARD ISLAND
SAV-19
640
SAV-20
Tract 24A
SAV-21
SAPELO ISLAND
Tract 25C
Tract 25D
Tract 25BA
Tract 25E
Tract 26A
Tract 27A
645
Tract 27B
SAV-22
Tract 28A
SAV-23
650
SAV-24
Dumping Area 28
DOBOY SOUND
McIntosh County
SAV-25
Tract 29A
Tract 29D
Tract 29B
Tract 29C
WOLF ISLAND
SAV-26
Tract 30A
Tract 30B
SAV-27
Tract 31B
Tract 31A
ALTAMAHA SOUND
Dumping Area 32
Dumping Area 34
Tract 34A
SAV-28
DARIEN
Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Jasper
Bryan
Chatham
Liberty
Long
McIntosh
Glynn
Camden
N
U.S. ARMY
CORPS OF ENGINEERS
SAVANNAH DISTRICT
SAVANNAH, GEORGIA
FIGURE 4
SAVANNAH DISTRICT AIWW OVERVIEW
SAPELO SOUND, GA (AIWW MILE 630) TO
ALTAMAHA SOUND, GA (AIWW MILE 655)
Legend
Dredge Material Disposal Sites
AIWW Stationing
AIWW Channel
Date: December 2012
Created by: Piper Bazemore
(SAS-EN-GS)
1 in = 1 Mile
0 0.5 1 2
Miles


Bird Island Disposal Area
680
JEKYLL ISLAND
Tract 52B
Dumping Area 52
Tract 52A
52A
Tract 52C
Tract 53A
SAV-33
Glynn County
685
Tract 1500E
690
SAV-34
Umbrella Cut
Tract COE 1
Tract COE 3
Dover Cut
ST ANDREW SOUND
LITTLE CUMBERLAND ISLAND
Tract COE 2
695
Tract COE 4
SAV-35
CUMBERLAND ISLAND
700
Camden County
705
Tract 1700L
Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
Jasper
Bryan
Chatham
Liberty
Long
McIntosh
Glynn
Camden
U.S. ARMY
CORPS OF ENGINEERS
SAVANNAH DISTRICT
SAVANNAH, GEORGIA
FIGURE 5
SAVANNAH DISTRICT AIWW OVERVIEW
JEKYLL ISLAND, GA (AIWW MILE 680) TO
CUMBERLAND ISLAND, GA (AIWW MILE 705)
Legend
Dredge Material Disposal Sites
AIWW Stationing
AIWW Channel
Date: December 2012
Created by: Piper Bazemore
(SAS-EN-GS)
1 in = 1 Mile
0 0.5 1 2
Miles


CUMBERLAND ISLAND
700
705
710
Tract 1700L
SAV-36
Tract CP2 Parcel #6
Tract CP1 Parcel #5
Tract CP3 Parel #7
Tract B Parcel # 4
CUMBERLAND SOUND
Camden County
ST MARYS
Nassau County
Duval County
Jasper
Bryan
Chatham
Liberty
Long
McIntosh
Glynn
Camden
Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
U.S. ARMY
CORPS OF ENGINEERS
SAVANNAH DISTRICT
SAVANNAH, GEORGIA
FIGURE 6
SAVANNAH DISTRICT AIWW OVERVIEW
CUMBERLAND ISLAND, GA (AIWW MILE 700) TO
CUMBERLAND SOUND, GA (AIWW MILE 710)
Legend
Dredge Material Disposal Sites
AIWW Stationing
AIWW Channel
Date: December 2012
Created by: Piper Bazemore
(SAS-EN-GS)
1 in = 1 Mile
0 0.5 1 2
Miles

A Maintenance Evaluation Study for the AIWW within Savannah District was completed in 1983. As part of this study, impact determination evaluations were conducted to assess the effects of depositing dredged material into the undiked disposal areas. These evaluations were conducted through the analysis of color infrared photography and site inspections of the most heavily used disposal tracts.

A similar study to the one described in the preceding paragraph was completed in 2011 (Wetland and Upland Assessment of Dredged Material Placement Areas Atlantic Intracoastal Waterway). In addition to determining the impacts of the past disposal of dredged material in the undiked disposal areas, the 2011 report referenced also evaluated the potential for recovery of lost wetland functions with or without enhancement activities. An Estuarine Wetland Rapid Assessment Procedure (E-WRAP) analysis was conducted for these undiked disposal sites which utilized a standardized matrix that assists in evaluating wetland habitats and their landscape setting, and in determining the potential for recovery of any lost wetland function with or without enhancement activities. The matrix established a numerical ranking for individual ecological factors that can strongly influence the recovery of wetlands. Wildlife utilization of upland and wetland areas on each site was scored. Vegetative cover for each site was analyzed, including presence of desirable canopy, shrub, and ground cover vegetation. Adjacent land use that would affect the recovery of the site was categorized and scored. The ability of the site to recover lost wetland functions was determined.

The 1983 and 2011 reports are used in the following discussion of impacts to determine how vegetation in some of the disposal areas has changed in response to either additional dredged material deposition or non-use since the 1983 report.

3.4 Description of Existing Operational Reaches and Associated Disposal Areas

Operational Reach SAV-1. Port Royal Sound, SC to Ramshorn Creek, SC (AIWW Mile 552.-568.5)

The first 16.5 miles of the AIWW within the Savannah District traverses Skull Creek from Port Royal Sound to Calibogue Sound, thence Cooper River to Ramshorn Creek. This reach of the waterway affords sheltered, naturally deep waters. No dredging has been required since construction of the 12-foot channel. No disposal areas have been acquired for this reach of the AIWW.

Operational Reach SAV-2. Ramshorn Creek, SC (AIWW Mile 568.5-569.9)

This reach of the waterway has only been dredged two times (1966, 1980) since completion of the 12-foot channel when about 54,000 and 34,000 CY (CY) of material (sand) were dredged and deposited in SC Tract 3 which is undiked. SC Tract 3 (about 278 acres) consists of 12 small created upland islands surrounded by tidal marsh. Although the small islands only occupy 6.6 acres of the tract, approximately 107.5 acres (38.7%) of the tract appear to have been impacted by dredged material deposition. Based on the small amount of maintenance material that has been placed in the site and the maturity of some of the trees on the islands in SC Tract 3, most of

the impacts in this site can be attributed to construction of the 12-foot channel. Most of SC Tract 3 (187.89 acres) remains tidal wetlands.

Operational Reach SAV-3. New River, SC (AIWW Mile 569.9-572.2)
This reach of the AIWW has not required any maintenance dredging. No disposal areas have been designated for this reach.

Operational Reach SAV-4. Walls Cut, SC (AIWW Mile 572.2-572.6)
Maintenance dredging in Walls Cut has been conducted on three occasions (1964, 1980, 2001) when about 90,000, 24,000 and 19,000 CY of material (sand) respectively were removed. SC Tract 2 which is undiked was designated to receive material dredged from this reach of the AIWW. Although it was probably used for placement of dredged material resulting from construction of the 12-foot project and early maintenance dredging cycles, it has not been used in the recent past. Material removed during the 1980 cycle was probably placed in SC Tract 1 while material removed during the 2001 cycle was placed in an existing diked disposal area (DMCA 14-B) adjacent to Fields Cut which is designated to receive dredged material from both the Savannah Harbor and AIWW projects. SC Tract 2 is located on Turtle Island. Turtle Island is a South Carolina Department of Natural Resources Wildlife Management Area.
An evaluation of SC Tract 2 (58.6 acres) indicates that it consists of one small upland island (1.73 acres) surrounded by tidal marsh. Although deposition of dredged material has resulted in the direct loss of 1.73 acres of marsh, the actual acreage of impacts is about 22.45 acres.

Operational Reach SAV-5 Fields Cut, SC (AIWW Mile 572.6-576.2)
Fields Cut has been dredged 11 times since completion of the 12-foot project. Approximately 555,890 CY of material (fine silt) have been dredged and placed in three disposal areas. SC Tract 1 is located on the western side of Fields Cut. Part of SC Tract 1 was included within DMCA 14-B when it was constructed for Savannah Harbor. Thus dredged material from Fields Cut can be placed into this fully diked site. The remaining portion of SC Tract 1 is diked only on the front side adjacent to Fields Cut. This part of SC Tract 1 received much of the maintenance material from the AIWW until more recent maintenance dredging cycles when the material was placed into DMCA 14-B. The existing Jones Oysterbed Island DMCA for Savannah Harbor is also available for dredged material from the lower end of Fields Cut.

SC Tract 1 (480 acres) consists of 267 acres of tidal wetlands, 40 acres of upland islands, and a one- acre freshwater wetland on one of the upland islands. The remaining 172 acres of SC Tract 1 are included within the dikes of DMCA 14-B for Savannah Harbor. The acreage of impacts for this site is 398 acres.

Operational Reach SAV-6 Elba Cut-McQueens Cut (AIWW Mile 576.2-577.4).
Most of the maintenance requirements for this reach of the waterway have been in Elba Cut. Elba Cut-McQueens Cut has been dredged on seven occasions with the last maintenance performed in 2009. Approximately 546,000 CY of material (fine silt) have been dredged and placed in several disposal areas. Tract 1-A-1 which is undiked received most of the dredged material from this reach. Tract A (not shown on the project maps) was briefly used through a Special Use Permit from the National Park Service. However, this permit was terminated in 1973, and Tract A is no longer a disposal area. Tract 1-A (204.9 acres, not shown on Figure 2A)

has only a few small disposal mounds totaling 11.43 acres that probably date to the construction of the 12-foot channel in the 1940s and has not been used for maintenance of the waterway. This tract was used prior to construction of Elba and McQueens cuts.
Site 1-A-1 (38.7 acres) is comprised of 22.09 acres of wetlands and 16.61 acres of upland islands. All of the site has been impacted to some extent by the deposition of dredged material. The wetland survey of the site in 1983 indicated that dredged material disposal had already impacted 100% of the site by that time.

Operational Reach SAV 7-St. Augustine Creek (AIWW Mile 577.4-578.2)
This reach of the waterway has been dredged six times since completion of the 12-foot project with the last maintenance occurring in 2009. Approximately 534,000 CY of material (mud, silt) was dredged and deposited into Disposal Areas 2-A, 2-B, and 3-A. Site 2-A (43.44 acres) which is undiked consists of 40.38 acres of tidal wetlands and 3.06 acres of upland islands. Approximately 39.77 acres of this site have been impacted. Field studies conducted for the 1983 study indicated that Tract 2-A had already been fully impacted (100%) by that time.

Disposal Site 2-B shows evidence of past diking, but some of the dike appears to have eroded. At one time, tracts 2-B and 3-A were fully diked and joined together to form a large diked containment area. Site 2-B (36.4acres) consists of 33.45 acres of tidal wetlands and 2.95 acres of upland islands. Total impacts for this site include 35.31 acres. Disposal site 3-A (119.0 acres) consists of about 41 acres of tidal wetlands and a 22-acre upland island. The site also includes a 29-acre freshwater wetland area. A dike surrounds the upland island and freshwater wetland and extends southward to partially enclose the tidal wetland. The original diked area encompassed 119 acres. Total impacts for this site are 121.21 acres. Field studies conducted in 1983 indicated both Tracts 2-B and 3-A had been fully impacted at that time. Aerial photography from 1994 indicates that Tract 3-A was probably last used in 1989. Tract 2-B probably saw its last used in 1972.

Operational Reach SAV 8-Wilmington River (AIWW Mile 578.2-585.5)
Maintenance dredging has been performed in this reach of the AIWW on 16 occasions between 1950 and 1992. Approximately 5,000,000 CY of material (mud, silt) has been removed and placed in seven disposal areas. All of these disposal areas are undiked with the exception of a 26-acre diked area located within Tract 9-A. This diked site is also used by a vessel repair business for the maintenance of its yacht basin. This private user is required to maintain 130,000 CY of capacity within this diked disposal site for Federal use under terms of its agreement with the Corps.

Tract 2-A. Some of the material dredged from the upper portions of the Wilmington River has been placed into this disposal site. The impacts to this site were discussed in a preceding paragraph.

Tract 5-A. Tract 5-A (128.7 acres) consists of nine upland islands surrounded by tidal marsh. A highway (US 80) bisects the northern portion of the site. Tidal wetlands (116.63 acres) make up most of the site with upland islands (12.07 acres) comprising the rest of the site. The acreage of impacts for this site is 118.72 acres. The field surveys for the 1983 report indicated that about 63.5% of the tract had been affected by dredged material disposal. Field surveys for the 2011

report indicate that over 90% of the tract has been impacted which indicates that maintenance dredging cycles since 1983 have significantly affected the site. The site has also been impacted by the construction of ditches to control mosquitoes.

Tract 5-B. Tract 5-B (30 acres) consists of one upland island surrounded by tidal wetlands. Tidal wetlands comprise about 29 acres with the upland island comprising the remaining acreage of the site. The acreage of impacts for this site is 6.62 acres. Based on the small area of impacted marsh in the tract and the maturity of the trees on the island, it does not appear to have been used in the recent past. This site was not evaluated during the 1983 field work because of its limited use.

Tract 7-A. Tract 7-A (52.47 acres) consists of seven upland islands surrounded by tidal marsh. Tidal wetlands comprise about 40 acres of the site with 12.47 acres of upland islands comprising the remainder of the site. The acreage of impacts for this site is 37.31 acres which is about 71% of the site. Studies conducted during the field work for the 1983 report indicate that about 59% of the site was impacted at that time. Consequently, maintenance dredging (1985, 1987, 1989) conducted since that time appears to have further impacted wetlands in the tract.

Tract 8-A. Tract 8-A (about 46.6 acres) consists of one small upland island surrounded by tidal marsh. Approximately 50% of the wetland area is bare ground. Tidal wetlands make up about 42.1 acres of the site while the remaining 4.5 acres are upland island. The acreage of impacts for this site is 16.10 acres (about 34.5% of the site). This corresponds closely to the acreage of impacts (17.2 acres-36.9%) identified in the 1983 study which indicates the tract has not been used in the recent past.

Site 9-A. Site 9-A (about 133.5 acres) consists of 2 small upland islands and one 26-acre, circular diked disposal area surrounded by tidal marsh. Tidal wetlands make up about 126.5 acres of the site, with 7 acres of upland islands comprising the remainder of the site. The acreage of impacts for this site is 88.8 acres, including about 9.0 acres outside the easement. This compares to impacts of about 90.7 acres, including about 10.0 acres outside the easement, identified in the 1983 study. Consequently, it appears that no additional disposal occurred outside the diked area since 1980.

Site 9-B. Site 9-B is approximately 24 acres in size and consists of one 0.48-acre upland island surrounded by tidal marsh. Tidal wetlands comprise about 23.71 acres of the site. The acreage of impacts for this site is 6.33 acres. The site was not assessed in the 1983 study because it was not being routinely used for maintenance dredging.

Tract 10-C (about 57.6 acres) is also located along this reach of the AIWW. Tract 10-C is undiked and has never been used.

Operational Reach SAV-9-Skidaway River (AIWW Mile 585.5-591.0)
Maintenance dredging has only been conducted once in this reach of the AIWW (1992-16,800 CY) since completion of the 12-foot channel in the 1940s. Dredged material from this reach has been deposited into four undiked disposal sites which are designated Tracts 11-B, 11-H, 11-K and 11-L.

Tract 11-K (24.7 acres) consists of 23.88 acres of tidal wetlands, with about 0.82 acres of upland islands. The acreage of impacts for this site is 7.42 acres or about 30% of the tract. Impacts determined in the 1983 study showed about 14.4 acres or about 58.5% of the tract had been impacted by that time. This tract has not been used in the recent past, and it appears that some of the impacted marsh in this tract has recovered.
Tract 11-L (39.6 acres) consists of 39.12 acres of tidal wetlands and 0.48 acres of upland islands. The acreage of impacts for this site is 1.83 acres. This tract also apparently shows signs of marsh recovery as the field work for the 1983 study indicated that about 6.0 acres or 15.1% of the tract had been impacted at that time.

Disposal Tract 11-H (19.5 acres) which is undiked is also located along this reach of the waterway. It contains one small deposit (1.91 acres) of dredged material in the front portion of the disposal easement as a result of material from the construction of the 12-foot project.

Operational Reach SAV-10-Skidaway Narrows (AIWW Mile 591-594)
No maintenance of this reach of the AIWW has been required since completion of the 12-foot channel. Undiked Tract 12-A (67.9 acres) was used to place dredged material from the construction of the 12-foot project. This site also received dredged material in 1974 as a result of dredging to straighten the channel. Tract 12-A is also crossed by the Diamond Causeway to Skidaway Island (State Highway 204) which also impacted wetlands. Tidal wetlands make up approximately 50.41 acres of the tract with upland islands comprising the remaining 17.49 acres. The total acreage of impacts for this site is 11.87 acres (17.5%). This tract also seems to show some signs of marsh recovery from not having been used since 1974. Marsh impacts identified in the 1983 study indicated that about 21.2 acres or about 31.2% of the tract had been impacted at that time.

Tract 11-B (undiked) is also located along this reach of the AIWW. Tract 11-B (48.8 acres) has 5.15 acres of dredged material dating from initial channel construction and one maintenance dredging cycle in 1974. Undiked Tracts 13-A (162.1 acres) and 14-A (44.5 acres) are located at the confluence of the Skidaway Narrows and Burnside River. Tract 13-A contains deposits of dredged material (5 small upland islands totaling 7.24 acres) from the construction of the 12-foot project and/or early maintenance dredging. Tract 14-A appears to have never been used.

Operational Reach SAV-11-Burnside River to Hells Gate (AIWW Mile 594-600.8)
This reach of the AIWW has not required any maintenance since completion of the 12-foot channel. Tract 14-B (32.8 acres) is an undiked marsh island disposal easement that has never been used.

Operational Reach SAV-12-Hells Gate (AIWW Mile 600.8-602.4)
Maintenance dredging in this reach of the AIWW has been conducted 22 times with the last maintenance dredging occurring in 2009. Approximately 2,815,925 CY of maintenance material (mostly sand, with some silt and clay) has been removed. The dredged material has been deposited into either undiked Tract 15-A (109 acres) on the western end of Raccoon Key or undiked Tract 15-B (66.6 acres).

Tract 15-A consists of one large upland island adjacent to a freshwater wetland area surrounded by tidal marsh. Tidal wetlands make up about 88 acres of the tract while the remainder of the tract consists of the freshwater wetland (2.61 acres) and the upland island (18.39 acres). The total acreage of impacts for this site is 57.95 acres (about 53.1% of the tract). Use of this tract has resulted in additional wetland impacts since the 1983 report which showed total impacts of about 43.1 acres or 39.5% of the tract.
Tract 15-B consists of tidal marsh. The largest vegetative community present onsite is bare ground area in the tidal marsh areas. The total acreage of impacts for this site is 30.86 acres which is about 46.3% of the tract. Additional impacts have occurred to wetlands in the tract since the 1983 report which indicated about 25 acres or 37.4% had been impacted at that time.

Tracts 15-A and 15-B have been extensively used for maintenance material from Hells Gate. However, several agencies expressed concern over the damage occurring to several finger streams in Tract 15-A. In response to this concern, the Corps began to also use open water disposal on the north and south sides of Raccoon Key for material that is mostly sand.

Operational Reach SAV-13-Hells Gate to Florida Passage (AIWW River Mile 602.4-605.9)
Maintenance dredging in this section of the AIWW has only been required on one occasion (2009) when about 56,000 CY of material (mud, silt) were removed. Depending on the location of the shoaling area, the material would have been placed in either Tract 15-A or 15-B which were discussed in the preceding paragraph, or in Tract 16-A which is discussed in the following paragraph.

Operational Reach SAV-14-Florida Passage (AIWW Mile 605.9-608.5)
The Florida Passage has been dredged on five occasions since completion of the 12-foot channel, having been last dredged in 2009. Approximately 268,000 CY of dredged material (mud, silt) have been removed and placed in undiked Tract 16-A (131 acres). The site consists of two upland islands surrounded by tidal marsh. Tidal wetlands make up 126.57 acres of the site while the upland islands comprise the remaining 4.43 acres. The total acreage of impacts for this site is 17.43 acres or about 13.3% of the tract. Tract 16-A has only been used once (2009) since completion of the 1983 report. Consequently, the existing, adverse impacts to marsh are similar to those in the 1983 report which indicated about 15.4 acres or 11.7% of the tract had been impacted.

Operational Reach SAV-15-Bear River (AIWW Mile 608.5-617.5)
Maintenance dredging has been conducted in Bear River on four occasions since completion of the 12-foot project with the last being conducted in 1977. The dredged material (mud, silt) has been placed in undiked Tract 17-A. Tract 17-A (244.7 acres) consists of tidal wetlands with four impacted areas. The total acreage of impacts at this site is 7.75 acres or 3.2% of the site. This tract has only been used once (2009) since completion of the 1983 study. Since this tract was last used for the 1977 maintenance dredging cycle, overall marsh recovery has occurred in the site. The field surveys for the 1983 study indicated about 24.1 acres or 9.9% of the site had been impacted by dredged material disposal placement at that time.

Operational Reach SAV-16-St. Catherines Sound to North Newport River (AIWW Mile 617.5-620.5)

From Bear River, the AIWW crosses St. Catherines Sound to the mouth of the North Newport River. No maintenance of this reach of the AIWW has been required, and no disposal areas are located along this portion of the waterway.

Operational Reach SAV-17 North Newport River (AIWW Mile 620.5-623.9)
Maintenance dredging has only been performed in this section of the AIWW on one occasion (1964). About 67,110 CY of material was placed into Tract 805 E-2 (not shown on Figure 2B), resulting in 3.43 acres of dredged material in one mound. Track 805 E-1 (not shown on Figure 2B) was also designated for dredged material from the North Newport River but was never used for placement of dredged material. The Corps had only 10-year easements on these sites, and the right to dispose on them was terminated in 1974.

Operational Reach SAV-18 Johnson Creek (AIWW Mile 623.9-629.3)
Maintenance dredging in Johnson Creek has only been conducted on one occasion (1973) when about 141,537 CY of material was removed. Two undiked disposal areas (Tracts 19-A and 20-A) have been used for the dredged material removed from this reach of the waterway. Tract 19-A (97.8 acres) consists of two small upland islands surrounded by tidal marsh. Most of the site (97.59 acres) is comprised of tidal marsh while the remaining 0.21 acres is upland islands. The acreage of impacts for this site is 12.78 acres or about 13% of the site. The lack of use of this site is evidenced by the apparent recovery of some the marsh within the tract. Field surveys conducted for the 1983 report indicated that about 25.7 acres or about 26.2% of the tract had been impacted at that time.

Tract 20-A (71.9 acres) consists of tidal marsh. About 10.35 acres or about 14.4% of the site have been impacted by dredged material disposal. This site shows some evidence of marsh recovery as the 1983 report indicates that about 13.2 acres or 18.4% of the tract had been impacted at that time.

Tract 21-A (34.6 acres) is located just upstream of Tracts 19-A and 20-A. It appears to have never been used for disposal of dredged material.

Operational Reach SAV-19 Sapelo Sound-Front River (AIWW Mile 629.3-639)
No maintenance dredging has been required in this reach of the AIWW. There are no disposal areas in this portion of the AIWW.

Operational Reach SAV-20-Front River (**AIWW Mile 639-640)**
No maintenance dredging has been required in Front River. Disposal Tract 24-A (128.6 acres) shows evidence of deposition of a small amount of material from construction of the 12-foot project. Tract 24-A has probably also received some material from maintenance dredging of the upper end of Creighton Narrows which is discussed in the following paragraph.
Operational Reach SAV-21-Creighton Narrows (AIWW Mile 640-642.9)
Creighton Narrows has been dredged on 11 occasions since completion of the 12-foot project, with the last event in 1999. Approximately 1,629,509 CY of material (silt, clays) has been removed and deposited in four undiked disposal areas located adjacent to the waterway. Disposal Tract 24-A (128.6 acres) consists of six small upland islands on the southern portion of the site surrounded by tidal marsh. The site is almost entirely tidal wetlands with the exception

of the six upland islands which are 0.69 acres (total). The total acreage of impacts for this site is 14.54 acres or about 11.3% of the tract. The 1983 report indicated that about 9.5 acres or 7.4% of the tract had been impacted at that time.
Tract 25-A (104.2 acres) consists of 6 upland islands surrounded by tidal marsh. Tidal wetlands make up most of the site with the exception of 3.55 acres which are upland islands. The total acreage of impacts for this site is 32.72 acres or about 31.4% of the tract. This tract has apparently been used very little during recent maintenance dredging cycles as evidenced by the comparison to site impacts in the 1983 report which indicated that about 42.6 acres or 40.9% of the tract had been impacted.

Tract 25-C (133.8 acres) consists of five upland islands surrounded by tidal marsh. Tidal wetlands make up most of the site except for 2.38 acres of upland island. The total acreage of impacts for this site is 33.97 acres (25.4%). This tract also shows evidence of marsh recovery as the 1983 report indicates that about 55.5 acres or 41.5% of the tract was impacted at that time.

Tract 25-E (43.13 acres) consists of 3 upland islands surrounded by tidal marsh. The tidal marshes account for 40.05 acres of the site while the upland islands constitute 3.08 acres. The total acreage of impacts for this site is 31.39 acres which is about 72.8% of the site. The 1983 report showed a similar extent of impacts (31.6 acres-73.3%).

Operational Reach SAV-22-Old Teakettle Creek (AIWW Mile 642.9-648.2)
Maintenance dredging has not been required in Old Teakettle Creek. There are three undiked disposal tracts along Old Teakettle Creek which are designated to receive dredged material from this reach of the waterway. Tract 26-A (31 acres) and Tract 27-B (101.9 acres) show evidence of deposits associated with construction of the 12-foot project. Tract 26-A has 7.42 acres and Tract 27-B has 2.36 acres of dredged material, respectively. Tract 27-A (80.2 acres) appears to have never been used.

Operational Reach SAV-23-Doboy Sound (AIWW Mile 648.2-649.5)
Doboy Sound has been dredged on six occasions since completion of the 12-foot project with the last dredging event occurring in 1979. Approximately 199,312 CY of material (mud, silt) have been removed and deposited into open water on the north side of Commodore Island (Dump Area 28). Tract 28-A (155.6 acres) is located on Little Sapelo Island adjacent to the waterway. This site has never been used for the deposition of dredged material. The Sapelo Island National Estuarine Reserve is located on the western perimeter of Sapelo Island. The Center is dedicated to research, education, stewardship, and sound management of coastal resources in Georgia. The reserve is administered by the National Oceanic and Atmospheric Administration and managed by the Georgia Department of Natural Resources.

Operational Reach SAV-24-North River Crossing (AIWW Mile 649.5-651.4)
Maintenance dredging has been performed on five occasions in the North River Crossing since completion of the 12-foot project, with the last maintenance occurring in 1980. Approximately 238,596 CY of dredged material (mud) has been removed and placed in an undiked disposal area adjacent to this reach of the waterway. Most of the maintenance material from the North River Crossing has been deposited into undiked Tract 29-B. Tract 29-B (120 acres) consists of one upland island surrounded by tidal marsh. Tidal wetlands make up about 116 acres of this site

while the upland island is located on the other four acres of the tract. The total acreage of impacts on this tract is 47.83 acres (30.2% of the site). Additional impacts to wetlands have occurred since completion of the 1983 study which indicated that about 35.9 acres or 30% of the site had been impacted at that time.

Undiked Tract 29-A (158.3 acres) consists of a large tidal wetland with no upland areas present. Some dredged material (probably from construction or early maintenance dredging) has been deposited in this site. The total acreage of impacts is 11.94 acres (7.5%) . Since this site has not been used for recent dredged material disposal, it shows some signs of marsh recovery. The 1983 report indicated that about 19.2 acres or 12.1% of the tract had been impacted at that time.

Undiked Tract 29-C (92.6 acres) is located at the confluence of the North River Crossing and the Rockdedundy River. The site consists of two upland islands surrounded by tidal wetlands. The total acreage of impacts for this tract is about 46.76 acres or 50.5% of the area. There appears to be some marsh recovery within the site as evidenced by the impact shown in the 1983 report which was 53.5 acres (57.8%)

Operational Reach SAV-25- Rockdedundy River (AIWW Mile 651.4-652.7)
Maintenance of this portion of the AIWW has only been performed on four occasions since 1980 with the last dredging occurring in 1996. The material (mud) has been placed in either Tract 29-B or 30-A which are undiked. Tract 29-B was discussed in the preceding section addressing the North River Crossing.

Tract 30-A (230.1 acres) consists of one upland island surrounded by tidal marsh. The upland island is approximately 27.59 acres while the remainder of the tract is tidal marsh. The total acreage of impacts for this tract is 163.81 acres. This tract shows a substantial increase in impacts (mainly because of maintenance requirements in the South River and Little Mud River) over those reported in the 1983 report which indicated that about 88.9 acres or 38.7% of the tract had been impacted. The aerial photographs used in the 1983 study and the 2011 study indicate impacts have occurred outside of the easement.

Operational Reach SAV-26-South River (AIWW Mile 652.7-653.5)
South River has required extensive maintenance (mud, silt) as it has been dredged 22 times between 1952 and 1999. Approximately 1,362,623 CY have been removed and placed in Tract 30-A which was discussed in the preceding paragraph.

Operational Reach SAV-27-Little Mud River (AIWW Mile 653.5-656.4)
Little Mud River has also required extensive maintenance as it has been dredged 19 times between 1963 and 2001. Approximately 4,947,674 CY of material (mud, silt) has been removed and placed in undiked Tracts 30-A, 30-B, or 32-A. Tract 30-A has been discussed in previous paragraphs. Tract 30-B was used for construction and some of the early maintenance material; however the easement for this tract was terminated in 1973 when it became part of Wolf Island National Wildlife Refuge.

Tract 32-A (228.9 acres) consists of one upland island surrounded by tidal marsh. The upland island takes up about 10.03 acres of the tract with the rest being tidal marsh. The total acreage of

impacts for this tract is 195.52 acres including impacts that extend beyond the boundary of the easement. Much of the impacts to wetlands have occurred during maintenance dredging cycles since the 1983 report which showed impacts to about 58.3 acres of marsh (25.5%) and no impacts outside of the easement.

Operational Reach SAV-28-Altamaha Sound (AIWW Mile 656.4-660.1)
Maintenance dredging of the Altamaha Sound portion of the AIWW has been performed on 16 occasions between 1960 and 2009. Approximately 1,724,315 CY of material (sand, silt) has been removed and placed in undiked disposal tracts 31-A, 31-B, 34-A, and 36-A. On occasion, open water disposal sites 32 (located adjacent to Tract 31-A) and 34 (adjacent to Tract 34-A) have been used.

Tracts 31-A and 31-B are located on the southern end of Wolf Island. Tract 31-A was used for two dredging cycles in 1963 and 1969. The easements for these two tracts were terminated in 1973 when they became part of Wolf Island National Wildlife Refuge.

Tract 34-A (80.9 acres) consists of two upland islands surrounded by tidal marsh. The upland islands comprise about 12.35 acres of the site while tidal marsh constitutes the remainder. The total acreage of impacts for this site is 28.77 acres (35.6%). Tract 34-A has been used very little since the 1983 report which showed impacts to 28.9 acres of the site.

Tract 36-A (260.4 acres) consists of three upland island surrounded by tidal marsh. The three upland islands comprise about 42.68 acres of the tract while the tidal wetlands comprise about 217.72 acres. The total acreage of impacts for this tract is 107.19 acres. This tract shows a substantial increase in impacts over that reported in the 1983 study which indicated that about 60.1 acres or 23.0% had been impacted at that time.

Operational Reach SAV-29-Buttermilk Sound (AIWW Mile 660.1-664.5)
Buttermilk Sound has required extensive maintenance. It has been dredged 22 times between 1952 and 2009. Approximately 4,042,151 CY of material (sand, silt) have been removed and placed into undiked tracts 42-C, 42-B, 43-A, 43-B, 44-A, and 44-B. Open water disposal areas are located adjacent to Tract 42-C, 43-A, 43-B and downstream of Tract 42-B.

Tract 42-B (65 acres) consists of an upland area adjacent to tidal marsh. The upland area is about 9.96 acres. The total acreage of impacts for this site is 42.04 acres (64.7%). This is a substantial increase in marsh impacts over that reported in the 1983 study which indicated that about 17.7 acres or 27.2% of the tract had been impacted.

Tract 42-C (14.5 acres) is made up entirely of tidal wetlands. There have been minor impacts to 1.60 acres of these wetlands. Tract 42-C was not surveyed for the 1983 report because it was not regularly used as a disposal site.

Tract 43-B (176.4 acres) consists of one upland island surrounded by tidal marsh. The site is mostly tidal wetlands with the upland island occupying 4.87 acres. The total acreage of impacts for this tract is 14.05 acres. This is a slight increase in wetland impacts over that reported in the

1983 study which indicated that about 7.5 acres or 4.2% of the tract had been impacted by dredged material disposal.

Tract 44-A (76.4 acres) consists of 6 upland islands surrounded by tidal marsh. The island occupies about 5.05 acres of the site while tidal wetlands comprise the other 71.35 acres. The acreage of impacts for this site is 22.51 acres. This tract has not been used in the recent past as indicated by the 1983 report which showed that about 22.7 acres of the tract had been impacted at that time.

Tract 43-A (138.3 acres) was used for some of the early maintenance dredging, but the easement was terminated in 1972, and it is no longer a disposal site.

Tract 45-B (167.6 acres) has not been used for maintenance, but contains a 14-acre, mature hammock-like upland island resulting from disposal of material from the initial construction of the 12-foot channel in the 1940s. Tract 45-C (59.5 acres) has never been used.

One of the open water sites, (42), was an experimental marsh development site. The Georgia Department of Natural Resources in conjunction with the US Army Corps of Engineers Waterways Experiment Station conducted research relative to marsh establishment as part of the Corps of Engineers Dredged Material Research Program.

Operational Reach SAV-30-Mackay River (River Mile 664.5-674)
This section of the AIWW has not required maintenance dredging. Six undiked disposal tracts are located along this reach of the AIWW. Tract 46-A (96.7 acres) contains a small (0.77-acre) deposit of dredged material from construction of the 12-foot project. Tract 48-B (52.1 acres) has never been used. Tract 48-A (52.1 acres) contains one upland island surrounded by tidal marsh. The tidal marsh occupies most of the track with the upland island occupying about 3.31 acres. The total acreage of impacts for this tract is 12.46 acres. Tract 48-A was not surveyed for the 1983 report because it was not heavily used as a disposal site. Tracts 49-A (69.5 acres), 49-B (103.5 acres) and 49-C (68.2 acres) appear to have never been used.

Operational Reach SAV-31-Frederica River (AIWW Mile 674-677)
No maintenance dredging has been required in the Frederica River. Track 47-A (167.3 acres) contains some dredged material deposits (6.06 acres) from initial construction of the 12-foot channel in the 1940s.

Operational Reach SAV-32-St. Simon Sound (AIWW Mile 677-680.8)
Maintenance dredging St. Simon Sound has been conducted on two occasions in 1963 and 1969. Tract 51-A (67.6 acres) is available, but it does not appear to have ever been used. The material (silts, clays) from this reach of the waterway was probably deposited in Open Water Site No. 51 located near the confluence of the Frederica River and St. Simon Sound.

Operational Reach SAV-33-Jekyll Creek (AIWW Mile 680.9-685.9)
Jekyll Creek has by far required the most maintenance of any reach of the AIWW within Savannah District. It has required maintenance dredging 20 times between 1952 and 1999. Approximately 10,842, 893 CY of material (mud, silt) has been removed during these

maintenance dredging cycles. It should be noted that additional maintenance would have been performed between 1999 and 2011 had acceptable disposal options been available. Material is usually placed in three undiked disposal areas which are 52-A (115.7 acres), 52-B (95 acres) and 53-A (180.4 acres). On occasion, an overboard disposal site located in the Brunswick River adjacent to Tract 52-A has been used. Much of the material from Jekyll Creek has reentered the waterway after being discharged into Tracts 52-A, 52-B and 53-A.

Tract 52-A (115.7 acres) consists of 6 upland islands surrounded by tidal marsh. Most of the site remains a tidal marsh with the exception of 8.94 acres comprised of the upland islands. All 115.7 acres of the tract have been impacted by dredged material disposal. In addition, dredged material has spread over approximately 12 acres outside the easement boundaries. The 1983 report indicated that about 105.4 acres or 91.1% of the tract had already been impacted by that time.

Tract 52-B (95 acres) consists of tidal marsh with no uplands on site. This site has been completely impacted by the disposal of dredged material as determined by the survey for the 1983 report.

Tract 53-A (180.4 acres) consists of tidal marsh with no uplands present. The acreage of impacts for this site is 97.02 acres (53%.8%). This is in close agreement with the findings of the 1983 report which found that about 107.1 acres or 59.4% of the site had been impacted. The apparent marsh recovery in Tract 53-A indicates that it has not been used for dredged material disposal in the recent past.

Operational Reach SAV-34-Jekyll Creek to Cumberland River (AIWW Mile 685.9-692)
This section of the AIWW traverses deep water in St. Andrews Sound and has not required maintenance. There are no disposal tracts designated for use for this portion of the waterway.

Operational Reach SAV-35-Cumberland River to Cumberland Sound (AIWW Mile 692-707)
This section of the AIWW has been dredged in 1965, 1995, and 2001. Approximately 92,300 CY of material (sand, silt) has been removed during these dredging cycles. Some of the material was deposited in Tract Parcel B2-3 which is a fully diked disposal area. Tract Parcel B2-3 (now known as Tract 1700-L or Big Crab Island) was transferred to the Department of the Army Military Ocean Terminal Kings Bay in 1974 for use in maintaining that facility. It is currently owned by the US Navy and used to deposit dredged material from maintenance of channels associated with the Naval Submarine Base Kings Bay. Through an agreement with the Navy, maintenance material dredged from the AIWW in 1995 and 2001 was placed into this disposal site. In 1965, some of the dredged material from this reach of the AIWW was also discharged into open water at a site east of Tract Parcel B2-3. Four other disposal tracts used for this section of the AIWW were also transferred to the Department of the Army Military Ocean Terminal Kings Bay in 1974. Parcel No.1 (54.64 acres), Parcel No. 5 (1199.1 acres), Parcel No. 6 (139 acres), and Parcel No. 7 were also transferred to the Kings Bay facility. The Corps reserved a perpetual spoil disposal easement in Parcels 5, 6, and 7. Parcel No. 4 was also available for dredged material disposal for this reach of the AIWW. However, this disposal easement was not used since it is located on Cumberland Island National Seashore.

Operational Reach SAV-36-Cumberland River to Cumberland Sound (AIWW Mile 707-713)
This section of the AIWW required maintenance dredging on one occasion in 1965. It is currently maintained by the US Navy as part of the Naval Submarine Base Kings Bay.

Alternate Route Around St. Andrews Sound
An alternate route (7 feet deep, 75 feet wide) around St. Andrews Sound was completed in 1940. This alternate route extends from the main channel of the AIWW in Jekyll Creek through Jekyll Sound, Little Satilla River, Umbrella Cut, Umbrella Creek and its south branch, through Dover Cut to Dover Creek, thence up Dover Creek and through a narrow neck of land to Satilla River, thence through a land cut south of Todd Creek and through Floyd Creek to the main route of the waterway in Cumberland River. Almost all the shoaling problems have occurred in Umbrella Cut and Umbrella Creek with some minor shoaling in Floyd Creek. Maintenance dredging has not been performed in this alternate route in many years.

There are two disposal tracts that have been used for maintenance material from this alternate AIWW route. Tract 1 (140 acres) is located in Camden County, Georgia. It has received very little dredged material. Consequently, it is comprised entirely of tidal marsh. The total acreage of impacts for this disposal area is 9.32 acres.

Tract 3 (673.0 acres) which is also located in Camden County has received most of the dredged material from this section of the waterway. Tract 3 consists of one small upland island (0.58 acres) surrounded by tidal marsh. The total acreage of impacts for this disposal tract is 75.83 acres.

3.5 Summary of Impacts - Maintenance Dredging - AIWW Savannah District

The preceding discussion has provided information on the impacts that have occurred over the past 70-odd years associated with the construction and maintenance of the Savannah District's portion of the AIWW. Defining both the nature and extent of impacts is extremely important since this information can be used to develop a 20-year DMMP for the AIWW. The goal is to develop a DMMP that provides a plan that allows for maintenance of the waterway while avoiding or minimizing impacts to the aquatic environment. The following summarizes the above discussion:

1. The existing project (12-foot channel) was completed in the early 1940s. The Corps was provided disposal easements which were predominately located in tidal marsh adjacent to the waterway.

2. Most of the dredged material resulting from both construction of the project and subsequent maintenance of the project was deposited into these easements in an unconfined manner, i.e., no dikes were constructed within these easements to confine the dredged material. More than likely, this was done to eliminate the costs associated with constructing large diked disposal areas along numerous reaches of the waterway. Also in view of the instability of the substrate in these marsh areas, it is highly questionable how feasible it would have been to construct diked areas in these wetlands. Diked dredged material containment areas constructed in these wetlands

would have been subject to failure because of their exposure to extreme high tides and storm events.

3. Disposal of dredged material from construction of the project adversely impacted tidal marsh. Much of the material from construction of the 12-foot channel was sand which raised the elevation of the marshes to the extent that upland vegetation replaced the wetland species present in the marsh. This is evidenced by the presence of mature hammock-like upland islands in many of the disposal easements that only received dredged material from the initial channel construction in the 1940s.

4. Disposal of dredged material from maintenance dredging cycles has also adversely affected tidal marsh. As evidenced by information presented in the above discussion, areas of impacted marsh were observed in many of the disposal tracts during the field surveys for the 1983 report and the 2011 report.

5. Some of the disposal tracts have been totally impacted for many years since construction and early maintenance of the waterway. These tracts are located in heavy maintenance areas and include such sites as Tract 1-A-1 (Elba Cut-McQueens Cut), Tracts 2-A, 2-B, and 3-A (St. Augustine Creek-upper Wilmington River), and Tracts 52-A and 52-B (Jekyll Creek).

6. Maintenance of the AIWW continues to have impacts on tidal wetlands in disposal tracts that are used for those areas of the waterway requiring maintenance. Since completion of the 1983 impact study, additional marsh impacts have been observed in Tracts 5-A, 7-A and 9-A (Wilmington River), 15-A and 15-B (Hells Gate), 16-A (Florida Passage), 24-A (Creighton Narrows), 29-B (North River Crossing), 32-A (Little Mud River), 36-A (Altamaha Sound) and 42-B and 42-A (Buttermilk Sound). Although some of the tracts have already been totally impacted by the deposition of AIWW maintenance material (see paragraph 5 above), continued use of these sites prevents any chance of marsh recovery.

7. For those tracts that have not been used or received very little use in the recent past, some evidence of marsh recovery has been observed. These tracts include 11-K and 11-L (Skidaway River), 12-A (Skidaway River), 17-A (Bear River), 19-A and 20-A (Johnson Creek), 25-A and 25-C (Creighton Narrows), 29-A and 29-C (North River Crossing), 30-A (Rockdedundy River), and 53-A (Jekyll Creek).

8. There are 12 disposal tracts along the AIWW that appear to have never been used including 10-C (Wilmington River), 14-A (Skidaway River), 14-B (Burnside River), 21-A (Johnson Creek), 27-A (Old Teakettle Creek), 28-A (Doboy Sound), 45-C (Buttermilk Sound), 48-B, 49-A, 49-B, 49-C (Mackay River), and 51-A (St. Simon Sound). These unused tracts total 721.7 acres.

9. Although use of undiked disposal in tidal wetlands has impacted marsh, these impacts would have been much worse had the disposal tracts been diked. If the disposal tracts provided to the Corps in the 1940s had been diked, these dikes would have been more than likely constructed to encompass the entire easement. Subsequently, wetlands within the dikes would have been cut

off from tidal flow and completely destroyed with little to no chance to recover from dredged material deposition.

10. Disposal of dredged material into wetland areas has created additional wildlife habitat. The 2011 study included use of the Estuarine Wetland Rapid Assessment Procedure which evaluated wildlife utilization of upland and wetland areas on the disposal tracts. Based on the results of this analysis, most of the tracts showed minimal to moderate wildlife utilization of the uplands or wetlands on the disposal tracts.

11. Although undiked disposal has impacted wetlands, much of the remaining wetlands on the disposal tracts have retained most of their wetland functions. The Estuarine Wetland Rapid Assessment Procedure was also used to determine the potential for recovery of any lost wetland function with or without enhancement activities. For most disposal tracts, this assessment was able to conclude: "Most of the wetland areas onsite show minor adverse impacts to aquatic functions and likely would recover without enhancement activities".

3.6 Proposed Disposal Sites for Future Maintenance of the AIWW

Based on the information developed in Section 4.0 above, the discharge of dredged material into undiked tidal wetlands associated with the maintenance of the AIWW within the Savannah District has had significant adverse impacts on these wetlands. In addition to impacts to tidal wetlands, undiked disposal can adversely affect water quality in the vicinity of the discharge. While the heavy material (sand) tends to remain in the disposal area, the fine grain material (mud, silt, clay) can leave the disposal area during the disposal process resulting in an increase in turbidity and suspended solids in adjacent waterways. The fine grain material that remains in the disposal area is also subject to enter adjacent waterways due to the influence of high tides and storm events. The tendency of some of the fine grain materials to leave the disposal area has also been observed in several tracts along the AIWW where dredged material has spilled into adjacent marshes outside of the easement.

The South Carolina Department of Natural Resources (SCDNR) and the Georgia Department of Natural Resources (GADNR) have requested that the practice of discharging dredged material into undiked disposal areas in wetlands be discontinued along the AIWW. The SCDNR has also expressed general opposition to open water disposal of dredged material unless that material is being placed into an approved offshore dredged material disposal site (ODMDS) or onto a seriously eroding beach. The GADNR has stated that it would consider open water disposal of dredged material in certain areas provided that material is sand.

In view of the adverse effects associated with undiked disposal of dredged material along the AIWW and the requests of the SCDNR and GADNR, the Corps is preparing a new 20-year DMMP for the AIWW. The main objective of the is 20-year DMMP is to identify alternative disposal methods for those sections of the AIWW that will require maintenance over the next 20 years that will meet the dredged material disposal requirements of the project while minimizing impacts to the aquatic environment and addressing the requests of the State resource agencies.

In view of the adverse effects of undiked disposal into tidal marshes and the comments and concerns of the GADNR and SCDNR, the following conclusions can be reached relative to the consideration of disposal alternatives for Savannah District's portion of the AIWW:

1. For the long term, continued discharge of dredged material into undiked tidal wetlands is not a viable alternative in either state.

2. The SCDNR does not usually approve open water disposal of dredged material. If the material is suitable for beach nourishment, the SCDNR will consider approving the material to be placed on a severely eroding beach.

3. The GADNR would prefer that open water disposal of dredged material be discontinued. However, they have indicated that they would consider this alternative if the material is clean sand (at least 80% sand).

4. The construction of high ground diked disposal areas in the vicinity of some of the high shoaling areas would be a preferred method of disposal versus the existing practice of undiked disposal into wetlands. However, an evaluation of potential high ground disposal sites along Savannah District's portion of the AIWW indicates several logistical problems in many reaches of the AIWW that would be associated with the construction of such areas. First, much of the high ground along the ocean side of the waterway is located on property that is in a protected status, ie., Wassaw Island, Ossabaw Island, Blackbeard Island, St. Catherine's Island, Sapelo Island,etc. Much of the land on the mainland side of the waterway has been or is being developed or is too far from the waterway to serve as a feasible disposal area.

5. Disposal of some of the material from the AIWW into an approved or new ODMDS (Figure 2) is a viable alternative. However, this potential disposal alternative presents problems relative to both logistics and costs. All of the District's that maintain the AIWW from Norfolk to Jacksonville have approved ODMDSs. However, these disposal sites are used to maintain entrance channels to various other deep draft navigation projects, and none of them are designated to receive dredged material from maintenance of the AIWW. Problems encountered in considering the ODMDSs for maintenance of the AIWW include access for hopper dredges to the shallow channel of the AIWW, and moving large amounts of silty material from portions of the AIWW channel to the ODMDS.

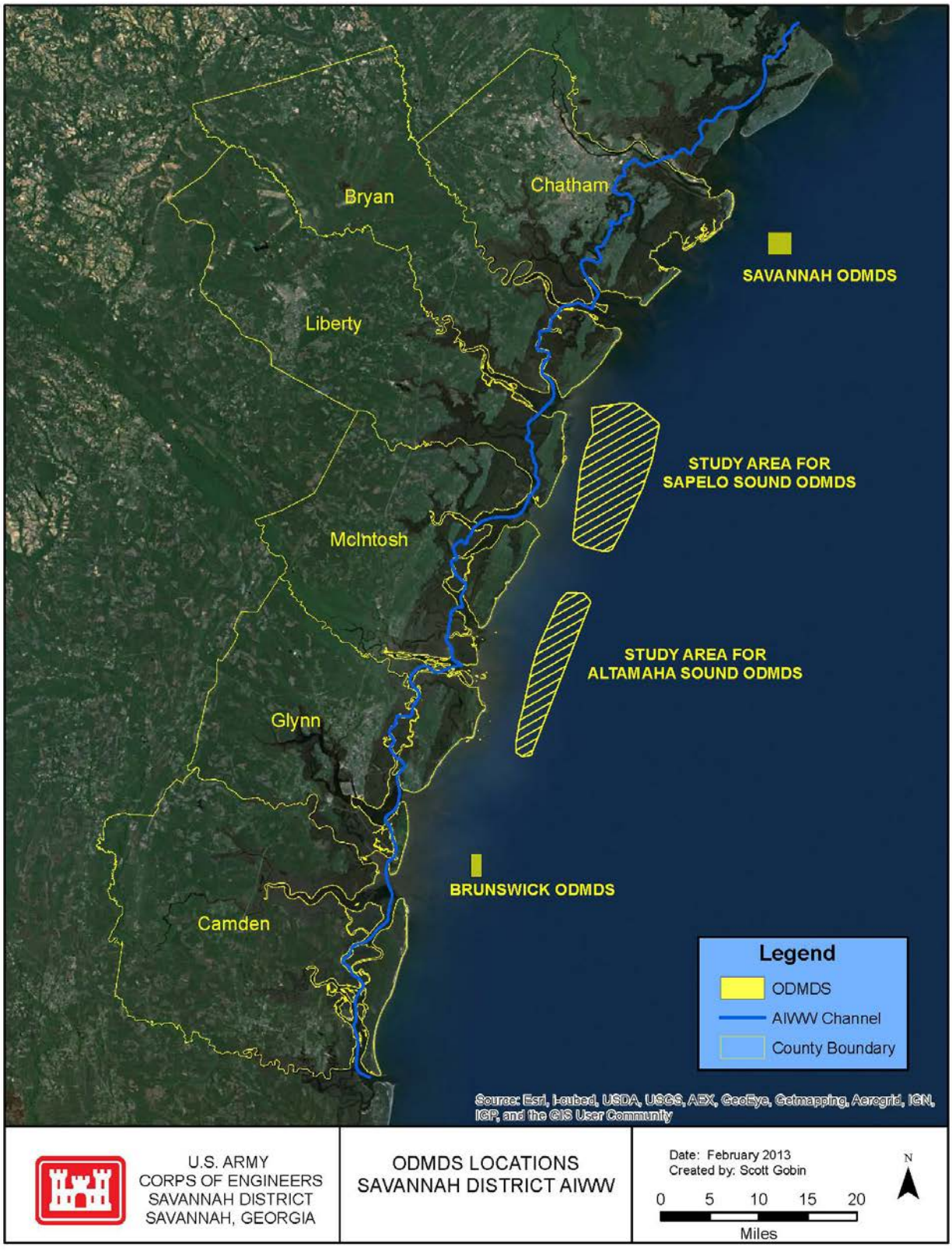


Figure 2 Location of Existing Savannah ODMDS and Brunswick Harbor ODMDS; Sapelo and Altamaha ODMDS are preliminary design and not exact in location or size

With the above stipulations taken into consideration, the following disposal alternatives were developed for the 35 reaches of the AIWW within Savannah District that may require maintenance dredging to provide a 20-year DMMP.

Disposal options under consideration for the 20-year DMMP for the AIWW include:

1. Use of existing diked disposal areas where available. Implementation of this alternative where possible eliminates the need to discharge dredged material into undiked disposal tracts along various reaches of the waterway. The DMMP utilizes existing diked disposal areas to the maximum extent practicable.

2. Beneficial use of suitable material (beach nourishment). Suitable material for beach nourishment was identified in two reaches in the South Carolina portion of the waterway. This material could be placed on the beaches on either Hilton Head Island or Daufuskie Island. However, the State of South Carolina normally only approves beach nourishment projects for severely eroding beaches. Various environmental documents (EA, etc.) would have to be prepared and environmental clearances would have to be obtained. Considering the small amount of material that would be available for beach nourishment, this option is probably not economically practicable when considering placement costs and the costs to obtain required environmental clearances. However, the State of South Carolina will be notified of any future maintenance in Ramshorn Creek or Walls Cut to determine if there is an interest in using the material for shore protection.

3. Construction of new, high ground, diked diposal areas. Implementation of this alternative would reduce the use of the undiked disposal areas located in tidal marsh along the AIWW. Several potential sites were located where diked disposal areas could be constructed. However, when the total costs (land acquisition, site preparation and dike construction, site maintenance, environmental clearances, mitigation etc.) were considered along with potential impacts to wildlife habitat, this alternative was eliminated.

4. Construction of diked disposal areas within the existing disposal easements. Implementation of this alternative would reduce the disposal of dredged material into undiked disposal areas in tidal marsh. However, this alternative would have significant adverse impacts on tidal marsh. Many of the disposal tracts have large expanses of functioning tidal marsh. Large amounts of functioning marsh would be enclosed within the dikes since most of the easement would require diking to provide sufficient capacity for the dredged material. Based on observations of the impacts of undiked disposal on tidal marsh, implementation of this alternative would have even greater adverse impacts on the aquatic ecosystem. After considering the adverse impacts to tidal marsh and the associated mitigation costs, this alternative was eliminated from consideration.

5. Ocean dumping of dredged material into the existing ODMDS sites for the Savannah Harbor and Brunswick Harbor projects as well as the establishment of two new dredged material ocean disposal sites off Sapelo Sound and Altamaha Sound. The dredged material would be placed onto barges by bucket dredge. The material would be unloaded onto an ocean-going dump scow which would take it to the designated ODMDS. Although this “triple handling” of the dredged material greatly increases costs when compared to other dredging and disposal methods, it also

eliminates other costs such as dike construction and maintenance, wetland mitigation, etc. This disposal method also totally removes the dredged material from both the channel and the aquatic ecosystem. There are several shallow draft hopper dredges which could possibly be used in lieu of the bucket dredge. If available and practical to use within the Savannah District's portion of the AIWW, this type of dredged would allow the material to be taken directly to the ODMDS in lieu of having to use the barges and dump scows.

6. Use of existing open water disposal sites within the State of Georgia. The Georgia Department of Natural Resources has indicated they would consider continued use of some of the existing open water disposal sites provided the material is at least 80% sand. Three reaches (Hells Gate, Altamaha Sound and Buttermilk Sound) were identified where at least some of the maintenance material would meet that criterion. However, some of the material in those reaches would not meet the 80% requirement. Consequently, the suitable material to be removed from three reaches would be placed in existing open water disposal sites. Material not meeting this criterion would be placed on existing dredged material deposits within the current disposal easements for that reach of the waterway. Some of the material would be used to fill geo-tubes (or some other similar technology) which in turn would serve as the containment dikes to keep the material confined to existing deposits within the disposal area.

Table 1 below shows future anticipated dredging requirements as well as the preferred disposal alternatives for each reach.

Dredging Reach Name	Operational Name	20-yr Capacity Required	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Port Royal to Ramshorn Creek	SAV-1	0	Sav Harbor DMCA14-B	Sav Harbor DMCA14-B	Sav Harbor DMCA14-B	Sav Harbor DMCA14-B
Ramshorn Creek, SC	SAV-2	72,900	Sav Harbor DMCA14-B	Beach Placement	Sav Harbor DMCA14-B	Sav Harbor DMCA14-B
New River	SAV-3	0	Sav Harbor DMCA14-B	Sav Harbor DMCA14-B	Sav Harbor DMCA14-B	Sav Harbor DMCA14-B
Walls Cut	SAV-4	34,800	Sav Harbor DMCA14-B	Sav Harbor DMCA14-B	Sav Harbor DMCA14-B	Sav Harbor DMCA14-B
Fields Cut, SC	SAV-5	348,000	Sav Harbor DMCA14-B	Sav Harbor DMCA14-B	Sav Harbor DMCA14-B	Sav Harbor DMCA14-B
Elba/McQueens Cut	SAV-6	298,350	Sav Harbor DMCA14-B	Sav Harbor DMCA14-B	Sav Harbor DMCA14-B	Sav Harbor DMCA14-B
St. Augustine Creek	SAV-7	1,785,000	Sav Harbor DMCA14-B	Sav Harbor DMCA14-B	DMCA 3-A and 9-A[1]	Sav Harbor DMCA14-B
Wilmington River	SAV-8	345,000	Sav Harbor DMCA 14-B	Sav Harbor DMCA 14-B	DMCA 3-A and DMCA in Tract 9-A[1]	Partially diked Tract 3-A and DMCA in Tract 9-A[1]
Skidaway River	SAV-9	0	DMCA in Tract 9-A	DMCA in Tract 9-A	DMCA in Tract 9-A	DMCA in Tract 9-A
Skidaway Narrows	SAV-10	0	DMCA in Tract 9-A	DMCA in Tract 9-A	DMCA in Tract 9-A	DMCA in Tract 9-A
Burnside River to Hells Gate	SAV-11	0	DMCA in Tract 9-A	DMCA in Tract 9-A	DMCA in Tract 9-A	DMCA in Tract 9-A
Hells Gate	SAV-12	1,540,050	Open Water (coarse); confined Tracts 15-A and 15-B (fines)	Open Water (coarse); confined Tracts 15-A and 15-B (fines)	Savannah ODMDS	Open water (coarse); Undiked Tract 15-A (silt)
Hells Gate to Florida Passage	SAV-13	0	Savannah ODMDS	New 100-acre Upland DMCA	Dike Tract 16-A (New DMCA)	Undiked Tracts 15-A and 16-A[1]
Florida Passage	SAV-14	95,400	New ODMDS @ Sapelo Sound	New 100-acre Upland DMCA	Dike Tract 16-A (New DMCA)	Undiked Tract 16-A
Bear River	SAV-15	79,050	New ODMDS @ Sapelo Sound	New 100-acre Upland DMCA	Dike 17-A (New DMCA)	Undiked Tract 17-A
St. Catherines Sound - North Newport River	SAV-16	0	New ODMDS @ Sapelo Sound	New ODMDS @ Sapelo Sound	Dike Tract 19-A if Needed (New DMCA)	Undiked Tract 19-A
North Newport River	SAV-17	0	New ODMDS @ Sapelo Sound	New ODMDS @ Sapelo Sound	Dike Tract 19-A if Needed (New DMCA)	Undiked Tract 19-A
Johnson Creek	SAV-18	0	New ODMDS @ Sapelo Sound	New ODMDS @ Sapelo Sound	Dike Tract 19-A if Needed (New DMCA)	Undiked Tract 19-A
Sapelo Sound - Front River	SAV-19	0	New ODMDS @ Sapelo Sound	New 350-acre Upland DMCA	New DMCAs on 24-A	Undiked Tract 24-A
Front River	SAV-20	0	New ODMDS @ Sapelo Sound	New 350-acre Upland DMCA	New DMCAs on 24-A	Undiked Tract 24-A
Creighton Narrows	SAV-21	1,361,250	New ODMDS @ Sapelo Sound	New 350-acre Upland DMCA	New DMCAs on 24-A, 25-C, 25-E[2]	Undiked Tract 24-A, 25-C, and 25-E[2]
Old Teakettle Creek	SAV-22	0	New ODMDS @ Sapelo Sound	New 350-acre Upland DMCA	New DMCAs on 25-E	Undiked Tract 25-E
Doboy Sound	SAV-23	0	New ODMDS @ Altamaha Sound	New 350-acre Upland DMCA	New ODMDS @ Altamaha Sound	Open Water North Side Commodore Island
North River	SAV-24	480,000	New ODMDS @ Altamaha Sound	Brunswick ODMDS	New ODMDS @ Altamaha Sound	Undiked Tract 29-B and 30-A
Rockedundy River	SAV-25	351,000	New ODMDS @ Altamaha Sound	Brunswick ODMDS	New ODMDS @ Altamaha Sound	Undiked Tract 29-B and 30-A
South River	SAV-26	870,000	New ODMDS @ Altamaha Sound	Brunswick ODMDS	New DMCA on Tract 30-A	Undiked Tract 30-A
Little Mud River	SAV-27	3,907,500	New ODMDS @ Altamaha Sound	Brunswick ODMDS	Dike Tract 32-A (New DMCA)	Undiked Tract 32-A
Altamaha Sound	SAV-28	1,080,000	New ODMDS @ Altamaha Sound	Open Water Sites 32 and 34 (coarse); confined Tracts 34-A and 36-A (fines)	Open Water Sites 32 and 34 (coarse); confined Tracts 34-A and 36-A (fines)	Open water (coarse); Undiked Tracts 34-A and 36-A (silt)
Buttermilk Sound	SAV-29	2,170,050	Open Water Sites 43and 44 (coarse); confined Tracts 42-B	Open Water Sites 43and 44 (coarse); confined Tracts 42-B	New ODMDS @ Altamaha Sound	Open water (coarse); Undiked Tract 42-B (silt)
Mackay River	SAV-30	0	Andrews Island DMCA	Andrews Island DMCA	Andrews Island DMCA	Undiked Tracts 46-A and 48-A[1]
Frederica River	SAV-31	0	Andrews Island DMCA	Andrews Island DMCA	Andrews Island DMCA	Undiked Tract 48-A
St. Simons Sound	SAV-32	0	Andrews Island DMCA	Andrews Island DMCA	Andrews Island DMCA	Andrews Island DMCA
Jekyll Creek	SAV-33	9,230,000	Brunswick ODMDS	Brunswick ODMDS	Dike Tract 52-A[3]	Undiked Tract 52-A[3]
Jekyll Creek to Cumberland River	SAV-34	0	Brunswick ODMDS	Brunswick ODMDS	Dike Tract 52-A[3]	Diked Disposal in tract 1700L (Crab Island)
Cumberland River to Cumberland Sound	SAV-35	77,550	Diked Disposal in tract 1700L (Crab Island)	Diked Disposal in tract 1700L (Crab Island)	Diked Disposal in tract 1700L (Crab Island)	Diked Disposal in tract 1700L (Crab Island)
Cumberland River to Cumberland Sound	SAV-36	0	Diked Disposal in tract 1700L (Crab Island) Maintained by U.S. Navy	Diked Disposal in tract 1700L (Crab Island) Maintained by U.S. Navy	Diked Disposal in tract 1700L (Crab Island) Maintained by U.S. Navy	Diked Disposal in tract 1700L (Crab Island) Maintained by U.S. Navy

[1]Placement would be in the tract closest to the portion of the reach being dredged.
[2]All three tracts would be needed to handle the anticipated volumes to be dredged from Creighton Narrows (SAV-21)
[3]Tract 52-A would not provide adequate volume and would only be used on a temporary basis while a long term solution is investigated for Jekyll Creek (SAV-33).

3.7 Proposed Disposal Methods by Reach

Based on the preceding discussion of alternatives, the following disposal alternatives are proposed for the future maintenance requirements of the AIWW within Savannah District. The alternative discussion includes information on the amount of material that would have to be dredged and the type of material that is removed. Due to the bulking factor involved with dredged material, the amount of storage capacity required is generally one a-and-a-half to two times the amount of the material that is removed during maintenance dredging.

Operational Reach SAV-1 Port Royal to Ramshorn Creek (mile 552-568.5)
No previous maintenance dredging has been required in this reach of the AIWW, and no maintenance is anticipated to be required during the 20-year life of the DMMP. If maintenance is required in this reach of the waterway, the material would be placed in existing DMCA 14-B.

Operational Reach SAV-2 Ramshorn Creek (mile 568.5-569.9)
Approximately 49,000 cubic yards of material (sand) would be removed during the 20-year life of the DMMP. This reach of the water way is projected to require 66,000 CY of storage capacity.

The preferred method for disposal of dredged material from this reach of the AIWW is to use existing DMCA 14-B which is designated to receive material from Savannah Harbor and the AIWW. Although the costs of adding sufficient booster pumps to move the material approximately seven miles or taking the material to DMCA 14-B by barge would be great, it would be cheaper than building a diked disposal area in SC Tract 3 (especially considering the wetland mitigation costs for impacts in SC Tract 3).

Operational Reach SAV-3-New River (AIWW Mile 569.9-572.2)
Maintenance dredging has not been required in this reach of the AIWW. If the need arises to conduct maintenance dredging in New River, the material could be deposited into existing DMCA 14-B which is designated to receive dredged material from Savannah Harbor and the AIWW.

Operational Reach SAV-4-Walls Cut (AIWW Mile 572.2-572.6)
It is estimated that Walls Cut will have to be dredged once (23,000 CY of sand) during the 20-year life of the DMMP which would require 35,000 CY of storage capacity. SC Tract 2 is designated to receive dredged material form Walls Cut, however, this disposal tract has not been used in many years. SC Tract 2 is located on Turtle Island which is a South Carolina Department of Natural Resources Wildlife Management Area.
Maintenance was last performed in 2001, and the material was last placed in existing DMCA 14-B. This is the preferred method of dredged material disposal for this reach of the AIWW for future maintenance.

Operational Reach SAV-5-Fields Cut-AIWW Mile 572.6-575.3)
It is estimated that approximately 298,000 CY of storage capacity would be required during the 20-year life of the DMMP to handle the estimated 232,000 cubic yards of maintenance material (fine silt).

Tract 1 was designated to receive dredged material from this reach of the AIWW. Approximately 172 acres of Tract 1 were included within the dikes of DMCA 14-B. Future maintenance material would be placed in DMCA 14-B. No further dredged material would be placed into the remainder of SC Tract 1 which is diked on the front side (Fields Cut).

Operational Reach SAV-6-Elba Cut-McQueens Cut (AIWW Mile 575.3-577.4)
Estimates indicate that about 299,000 CY of storage capacity would be required to handle the 199,000 cubic yards of maintenance material (fine silt) for the 20-year life of the DMMP. Most of the material removed from this section of the AIWW has been placed into Tract 1-A-1. Future maintenance material would be placed into DMCA 14-B which is designated to receive dredged material from Savannah Harbor and the AIWW.

Operational Reach SAV-7-St.Augustine Creek (AIWW Mile 577.4-578.2)
It is estimated that about 1,190,000 cubic yards of dredged material (mud and silt) would be removed during the 20-year life of the DMMP. Approximately 1,785,000 CY of storage capacity would be required to handle this material. In the past, maintenance material from this reach of the AIWW has been placed in either Tract 2-A or Tracts 2-B/3-A. All future maintenance material would be placed in DMCA14-B.

Operational Reach SAV-8-Wilmington River (AIWW Mile 578.2-585.0)
Approximately 345,000 CY of storage capacity would be needed to meet the requirements since about 230,000 cubic yards of material (mud and silt) would be removed during the 20-year life of the DMMP.

Some sections of the Wilmington River (especially the upper portion) have high maintenance requirements. Consequently, substantial amounts of maintenance material have been placed into Tracts 2-A, 2-B/3-A, 5-A, 7-A, and 9-A. Disposal of dredged material into undiked Tracts 2-A, 5-A, 7-A and the undiked portion of Tract 9-A would be discontinued. Tracts 2-B/3A were fully diked to form one 155.4-acre disposal area. However, no maintenance dredging has been conducted in the Wilmington River since 1989, and the dike has apparently gone into disrepair. The dike around 2-B/3-A would be repaired and this site used for future maintenance of the Wilmington River. Initial estimates indicate that this site could provide approximately 2.5 million CY of dredged material disposal capacity if the site is constructed with 10-foot dikes.

Tracts 2-B and 3-A have been totally impacted by dredged material disposal as evidenced by field studies conducted in 1983 and 2011. Tidal wetlands in these two tracts have also been degraded by being diked which removed them from tidal influence. Tidal wetlands (about 96 acres) are still evident in these areas, and a 29-acre freshwater wetland has formed in Tract 3-A. Consequently, restoring the dike around Tracts 2-B/3-A will result in impacts to these wetlands. Costs of restoring and maintaining the dikes around Tracts 2-B and 3-A and mitigating for loss of tidal wetlands within the dikes make this option more expensive than sending the material

from the northern portion of this reach to DMCA 14-B. Consequently, the preferred plan for this reach is to use DMCA 14-B.

In addition to DMCA 14-B which can be used for maintenance of the upper Wilmington River, some disposal capacity will be required for the anticipated shoaling in the lower Wilmington River. The preferred disposal option for the lower section of the Wilmington River is to use the diked containment area in Tract 9-A. A small (26-acre) diked area has already been constructed in Tract 9-A. It is used by a local vessel repair business to maintain depths at their facilities. As a requirement for their use of the disposal area, this business must maintain 130,000 CY of capacity within the diked disposal area for use by the Government, if required.

Operational Reach SAV-9 Skidaway River (AIWW Mile 585.0-591.0)
This reach of the AIWW within Savannah District has not required maintenance. If any future maintenance dredging is required, the material could be placed into the diked area in Tract 9-A previously discussed.

Operational Reach SAV-10-Skidaway Narrows (Mile 591.0-594.0)
No maintenance dredging has been required for this reach of the AIWW. If any future maintenance dredging is required, the material could be placed into the diked area in Tract 9-A previously discussed.

Operational Reach SAV-11-Burnside River to Hells Gate (AIWW Mile 594.0 to 600.8)
This reach of the AIWW has not required maintenance dredging. If any future maintenance dredging is required, the material could be placed into the diked area in Tract 9-A previously discussed.

Operational Reach SAV-12 Hells Gate (AIWW Mile 600.8 to 602.4)

Hells Gate is a major shoaling area, and it is estimated that 1,540,000 CY of storage capacity will be required for the 20-year life of the DMMP to provide sufficient capacity for the estimated maintenance dredging quantity (1,027,000 cubic yards). Hells Gate was last dredged in 2009. The material removed from Hells Gate has been discharged into undiked tracts 15-A and 15-B while some of the material was discharged into open water disposal sites on the north and south sides of Raccoon Key. Both tracts 15-A and 15-B showed additional marsh impacts during the field surveys for the 2011 study versus those observed in the 1983 study. The need for open water disposal on the north and south sides of Raccoon Key was previously identified based on damage to finger streams that was occurring in Tract 15-A.

Dredged material from this reach of the AIWW can vary from silt and clay to sand. For future maintenance dredging, some of the material (sand) could be discharged into the open water sites on the north and south sides of Raccoon Key as has been the practice. However, the river bottoms and the estuarine water column are essential fish habitat that must be considered in evaluating the impacts of open water disposal. Sediment sampling and grain size analysis would be required before each dredging cycle to ascertain how much of the material would be suitable for open water disposal. The State of Georgia has indicated that the material would have to be at least 80% sand before they would consider it suitable for open water disposal.

Disposal of the material unsuitable for open water disposal would involve confining it on the existing deposits within Tracts 15-A and 15-B. Instead of constructing traditional earthen dikes within the disposal area, the material would be placed in geo-tubes (or other similar technology) which would serve as the confining structure. This would reduce the amount of additional marsh that would be impacted by the construction of traditional dikes in the disposal tracts.

If the use of geo-tubes proves infeasible, the unsuitable material would be placed in the existing ODMDS for Savannah Harbor provided the material was determined to be suitable for ocean disposal per the stipulations of the Section 103 Guidelines.

Operational Reach SAV-13-Hells Gate to Florida Passage (AIWW Mile 602.4-605.9)
No maintenance of this reach of the AIWW has been required. If maintenance is required over the 20-year life of the DMMP, the material would be placed in the Savannah Harbor ODMDS or disposed of in accordance with the procedures prescribed for the Florida passage described below.

Operational Reach-14-Florida Passage (AIWW Mile 605.9 to 608.5)

It is estimated that approximately 95,400 CY of storage requirement would be required for this reach of the waterway for the 20-year life of the DMMP. Approximately 63,600 cubic yards of material (mud and silt) would be removed during this time.

This reach of the waterway was last dredged in 2009, and the material was discharged into undiked disposal Tract 16-A. This is the only time this tract has been used since the 1983 report. Consequently the amount of the tract that was observed during the field studies for the 2011 report to have been impacted by dredged material disposal (13.3%) is very similar to that observed (11.7%) during the field work for the 1983 study.

The preferred disposal alternative is to place the material into a new ODMDS located offshore of Sapelo Sound. The establishment of a new ODMDS at this location would require site designation studies per the requirements of Section 103 of the Marine Protection, Research and Sanctuaries Act (MPRSA) and site designation approval by the US Environmental Protection Agency (USEPA).

Operational Reach SAV-15- Bear River (AIWW Mile 608.5-617.5)

The 20-year storage requirement for this reach of the AIWW is 79,000 CY (dredging requirements-about 53,000 cubic yards of mud and silt). Past maintenance dredging and disposal involves placing the material into undiked Tract 17-A. Tract 17-A has been used only once since completion of the 1983 study, and the field work for the 2011 study suggests marsh recovery has occurred in this tract. The 2011 study indicates that about 8 acres of this 244-acre tract have been impacted by dredged material disposal compared to 24 acres observed in the 1983 study.

Material removed from Bear River would be handled in the same manner as that discussed for the Florida Passage above, i.e., placed into the ODMDS to be established off Sapelo Sound.

Operational Reach SAV-16-St. Catherines Sound (AIWW Mile 617.5-620.5)
Maintenance dredging has not been required for this reach of the AIWW. If maintenance is required in this reach during the 20-year life of the DMMP, the material would be placed in the new ODMDS off Sapelo Sound.

Operational Reach SAV-17-North Newport River (AIWW Mile 620.5-623.9)
Maintenance dredging has not been required in the North Newport River. If maintenance dredging is required in this reach of the AIWW in the future, the material would be placed in the new ODMDS off Sapelo Sound.

Operational Reach SAV-18-Johnson Creek (Mile 623.9-629.3)
In the past, dredged material from Johnson Creek has been deposited into either Tract 19-A (97.8 acres) or Tract 20-A (71.9 acres). This reach of the AIWW has not required maintenance dredging since 1973. Consequently, the field surveys for the 2011 report indicate that some marsh recovery is occurring in these tracts.

Although maintenance dredging has not been required in Johnson Creek since 1973, it is estimated that about 106,500 CY of dredged material disposal capacity could be needed for the 20-year life of the DMMP to handle the 71,000 cubic yards of mud and silt that would be removed. The preferred alternative is to place the material from Johnson Creek in the new ODMDS off Sapelo Sound.

Operational Reach SAV-19-Sapelo Sound-Front River (AIWW Mile 629.3-639)
This reach of the AIWW has not required maintenance dredging. If maintenance dredging is required in the future, the material would be placed in the new ODMDS that would be established off Sapelo Sound.

Operational Reach SAV-20-Front River (AIWW Mile 639-640)
This reach of the AIWW has not required maintenance dredging. If maintenance dredging is required in the future, the material would be placed into the new ODMDS off Sapelo Sound.

Operational Reach SAV-21-Creighton Narrows (AIWW Mile 640-642.9)
This reach of the AIWW has not been dredged since 1999, however, it is anticipated that the 20-year storage capacity to meet project needs is about 1,361,000 CY. About 908,000 cubic yards of material (silts and clays) would be removed during the 20-year life of the DMMP. Four disposal tracts have been used to deposit dredged material. These disposal tracts are Tract 24-A (128.6 acres), Tract 25-A (104.2 acres), Tract 25-C (133.8 acres), and Tract 25-E (43.13 acres). The preferred disposal alternative is to place the maintenance material from this reach of the waterway into the new ODMDS off Sapelo Sound.

Operational Reach SAV-22- Old Teakettle Creek (AIWW Mile 642.9-648.2)
This reach of the AIWW has not required maintenance dredging. If maintenance dredging is required, the material would be disposed of at the new ODMDS off Sapelo Sound.

Operational Reach SAV-23- Doboy Sound (AIWW Mile 648.2-649.5)
This reach of the AIWW has not been dredged since 1978. When it has been dredged, the material has placed into an open water disposal area adjacent to Commodore Island. Although the material has some sand, it also contains silts and clays. If maintenance is required in Doboy Sound in the future, the material would be placed into a new ODMDS off Altamaha Sound.

Operational Reach SAV-24-North River Crossing (AIWW Mile 649.5-651.4)
Maintenance dredging has not been conducted in the North River Crossing since 1980. In the past, material has been deposited into undiked tracts 29-A, 29-B, and 29-C. For purposes of the DMMP, it is estimated that about 480,000 CY of storage capacity will be required to handle about 320,000 cubic yards of material (mud). If future maintenance is required, the material would be deposited into the new ODMDS off Altamaha Sound.

Operational Reach SAV-25-Rockdedundy River (AIWW Mile 651.4-652.7)
Maintenance dredging was last performed in the Rockdedundy River in 1996. Material dredged from this portion of the AIWW has been placed in either undiked Tracts 29-B or 30-A. It is estimated that approximately 351,000 CY of storage would be required for the 20-year life of the DMMP to handle about 2,340,000 cubic yards of dredged material (mud). Future maintenance material from this portion of the AIWW would be deposited into the new ODMDS off Altamaha Sound.

Operational Reach SAV-26-South River (AIWW Mile 652.7-653.5)
This reach of the AIWW was last dredged in 1999. The material has normally been placed in undiked Tracts 29-C or 30-A. Approximately 870,000 CY of storage capacity would be needed to meet the requirements of the DMMP. Future maintenance material (about 580,000 cubic yards of mud and silt) from the South River would be placed into the new ODMDS off Altamaha Sound.

Operational Reach SAV-27-Little Mud River (AIWW Mile 653.5-656.4)
Little Mud River has required extensive maintenance having been dredged 19 times between 1963 and 2001. It is estimated that about 3,908,000 CY of storage capacity would be required for the 20-year life of the DMMP to handle about 2,605,000 cubic yards of mud and silt. In the past, material has been discharged Tracts 30-A, 30-B, or 32-A. The preferred alternative is to place future maintenance material from Little Mud River into the new ODMDS off Altamaha Sound.

Operational Reach SAV-28-Altamaha Sound (AIWW Mile 656.4-660.1)
This reach of the AIWW was last dredged in 2009. It is estimated that about 1,080,000 CY of dredged material storage capacity would be required to meet the requirements of the 20-year DMMP. The maintenance material to be removed (about 720,000 cubic yards) varies from silt to sand.
In the past, dredged material has been placed into Tracts 34-A and 36-A. Open water sites 32 and 34 have also been used to dispose of the course grained sediments. The preferred alternative is to place future maintenance material from this reach into the new ODMDS off Altamaha Sound.

Operational Reach SAV-29-Buttermilk Sound (AIWW Mile 660.1-664.5)
Buttermilk Sound has been dredged 22 times between 1952 and 2009. The dredged material has been placed into undiked tracts 42-C, 42-B, 43-A, 43-B, 44-A and 44-B as well as open water disposal sites located adjacent to Tracts 42-C, 43-A, 43-B and downstream of Tract 42-B. It is estimated that about 2,171,000 CY of storage capacity will be needed to satisfy the requirements of the 20-year DMMP. The maintenance material (about 1,447,000 cubic yards) to be removed varies from silt to sand.

The DMMP provides for the continued use of the open water sites for coarse grain material. The material that is unsuitable for open water disposal would be placed in geo-tubes to provide a contained disposal area in tract 42-B. The intent is to confine the newly placed dredged material to the portions of this tract already impacted by disposal activities in the past. If this method of disposal proves infeasible, the material would be placed into the new ODMDS off of Altamaha Sound.

Operational Reach SAV-30-Mackay River (AIWW Mile 664.5-674.0)
This reach of the AIWW has not required maintenance dredging. If dredging is required in Mackay River, the material would be placed into the diked disposal area (Andrews Island) designated for the maintenance of Brunswick Harbor.

Operational Reach SAV-31-Frederica River (AIWW Mile 674-677)
No maintenance dredging has been required for this reach of the AIWW. If maintenance is necessary, the material would be placed into the existing diked Andrews Island disposal area.

Operational Reach SAV-32-St. Simon Sound (AIWW Mile 677-680.9).
Maintenance dredging St. Simon Sound has been conducted on two occasions in 1963 and 1969, and no future maintenance dredging in St. Simon Sound is anticipated to be necessary. However, should maintenance dredging be required in St. Simon Sound, the material would be placed into the existing Andrews Island disposal area.

Operational Reach SAV-33-Jekyll Creek (AIWW Mile 680.9-685.9)
It is estimated that approximately 9,230,000 CY of dredged material storage capacity would be required to maintain Jekyll Creek for the 20-year life of the DMMP. The maintenance material to be removed (about 4,615,000 cubic yards) is predominantly silts and clays.

In the past, most of the dredged material from Jekyll Creek has been discharged into undiked Tracts 52-A (115.7 acres) and 52-B (95 acres) which have been completely impacted by this activity although most of these tracts remain tidal wetlands. Tract 53-A (180.4 acres) has also been used. In addition to impacts to marsh within the disposal tracts, past dredged material disposal into Tracts 52-A and 52-B has been characterized by material running through the disposal areas and back into Jekyll Creek.

A thorough alternatives analysis was conducted for this reach of the AIWW in regards to the construction of a diked disposal area within Tracts 52-A and 52-B. There have been dike stability problems with past attempts to partially dike these sites. There has also been opposition expressed to constructing diked disposal areas in Tracts 52-A and 52-B based on aesthetic impacts to the viewshed of the nearby Jekyll Island National Historic District. There is insufficient high ground in the vicinity of Jekyll Creek to construct an upland diked disposal area large enough to handle the anticipated 20-year volume of material in this reach.

Based on these previous studies, the preferred alternative is to deposit dredged material from Jekyll Creek into the existing ODMDS for the Brunswick Harbor Navigation Project.

Operational Reach SAV-34-Jekyll Creek to Cumberland River (AIWW Mile 685.9-692)
This section of the AIWW has not required maintenance dredging, and there are no designated disposal areas for this reach. Should this reach require dredging in the future, the material would be placed into the existing ODMDS for the Brunswick Navigation project.

Operational Reach SAV-35-Cumberland River to Cumberland Sound (AIWW Mile 692-707)
This reach of the AIWW was dredged in 1965, 1995, and 2001. The Corps has an agreement with the US Navy to use their diked disposal area (Tract 1700-L or Crab Island) for any future maintenance requirements for this reach of the AIWW.

Operational Reach SAV- 36-Cumberland River to Cumberland Sound (AIWW Mile 707-713)
This reach of the AIWW is maintained by the US Navy as part of the channel for the Naval Submarine Base Kings Bay.

Alternate Route Around St. Andrews Sound. Maintenance of the alternate route around St. Andrews Sound is not included in the DMMP.

3.8 Summary of Proposed Disposal Methods

The proposed project, including the amount and characteristics of the dredged material to be removed from the various reaches of the AIWW within Savannah District during the 20-year life of the DMMP have been described in preceding paragraphs. In the past, much of the maintenance material from the AIWW has been placed in undiked disposal areas located adjacent to the waterway. Many of these disposal areas are located in tidal wetlands. Disposal of dredged material into these undiked disposal sites within the tidal wetlands is no longer a

viable disposal alternative for maintenance of the AIWW. Consequently, this disposal alternative will not be addressed in this BATES.

In summary, the following three disposal alternatives are proposed in the DMMP for the portion of the AIWW within the Savannah District:

1. Use of existing diked disposal areas where available.

This method of disposal is proposed for the following reaches of the AIWW within Savannah District:
Reach SAV-1 Port Royal to Ramshorn Creek (DMCA 14-B)
Reach SAV-2 Ramshorn Creek (DMCA 14-B)
Reach SAV-3 New River (DMCA 14-B)
Reach SAV-4 Walls Cut (DMCA 14-B)
Reach SAV-5 Fields Cut (DMCA 14-B)
Reach SAV-6 Elba/McQueens Cut (DMCA 14-B)
Reach SAV-7 St. Augustine Creek (DMCA 14-B)
Reach SAV-8 Wilmington River (DMCA 14-B and diked area within Tract 9-A)
Reach SAV-9 Skidaway River (Diked area within Tract 9-A)
Reach SAV-10 Skidaway Narrows (Diked area within Tract 9-A)
Reach SAV-11 Burnside River to Hells Gate (Diked area within Tract 9-A)
Reach SAV-30 Mackay River (Andrews Island DMCA)
Reach SAV-31 Frederica River (Andrews Island DMCA)
Reach SAV-32 St. Simons Sound (Andrews Island DMCA)
Reach SAV-35 Cumberland River to Cumberland Sound (Kings Bay Crab Island Disposal Area)

2. Ocean disposal of dredged material.

Much of the maintenance material that would be dredged from the AIWW in the future would be placed into USEPA approved ODMDSs. Ocean disposal would involve use of two existing ODMDSs (Savannah Harbor and Brunswick Harbor) and the establishment of two new ODMDSs off Sapelo Sound and Altamaha Sound. Establishment of the two new ODMDSs and use of the existing ODMDSs for the Savannah Harbor and Brunswick Harbor Projects for material from the AIWW would require site designation studies and USEPA approval per the requirements of Section 103 of the Marine Protection, Research and Sanctuaries Act. Ocean disposal of dredged material is proposed for the following reaches of the AIWW:

Reach SAV-13 Hells Gate to Florida Passage (Savannah Harbor ODMDS)
Reach SAV-14 Florida Passage (ODMDS Sapelo Sound)
Reach SAV-15 Bear River (ODMDS Sapelo Sound)
Reach SAV-16 St. Catherines Sound to North Newport River (ODMDS Sapelo Sound)
Reach SAV-17 North Newport River (ODMDS Sapelo Sound)
Reach SAV-18 Johnson Creek (ODMDS Sapelo Sound)
Reach SAV-19 Sapelo Sound to Front River (ODMDS Sapelo Sound)
Reach SAV-20 Front River (ODMDS Sapelo Sound)
Reach SAV-21 Creighton Narrows (ODMDS Sapelo Sound)

Reach SAV-22 Old Teakettle Creek (ODMDS Sapelo Sound)
Reach SAV-23 Doboy Sound (ODMDS Altamaha Sound)
Reach SAV-24 North River (ODMDS Altamaha Sound)
Reach SAV-25 Rockdedundy River (ODMDS Altamaha Sound)
Reach SAV-26 South River (ODMDS Altamaha Sound)
Reach SAV-27 Little Mud River (ODMDS Altamaha Sound)
Reach SAV-28 Altamaha Sound (ODMDS Altamaha Sound)
Reach SAV-33 Jekyll Creek (ODMDS Brunswick Harbor)
Reach SAV-34 Jekyll Creek to Cumberland River (ODMDS Brunswick Harbor)

3. Open Water Disposal in Conjunction with Confined Disposal

Reach SAV-12 Hells Gate (Open water north and south of Raccoon Key, Tracts 15-A and 15-B)
Reach SAV-29 Buttermilk Sound (Open Water Sites 34 and 44, Tract 42-B)

3.9 Timing and Duration of Discharge

Maintenance dredging is performed on the AIWW on an annual basis provided the work is funded. The number of times a particular reach is dredged during the 20-year life of the DMMP will depend on the shoaling rate in that reach. Many of the reaches along will only be dredged 1-2 times while other reaches will require no dredging.

To minimize impacts to sea turtles, use of a hopper dredge would be restricted to December 15 – March 31 of any year.

3.10 Beneficial Use of Dredged Sediment

Because fine-grained materials are incompatible with native beach sediments, beach placement remains a limited option throughout most of the AIWW. Potential construction purposes of the dredged material include fill to build or expand land for airports, ports, residential, or commercial development. Other examples of one-time beneficial use options include shoreline stabilization and environmental enhancement by the creation or restoration of wetland, marsh, or upland habitat (earlier identified as unconfined open water disposal).

Only one reach within Savannah District's AIWW, Ramshorn Creek SC (SAV-2) contains beach-quality sand. This could be made available for re-nourishment of nearby beaches (Hilton Head Island and Daufuskie Island). Pipeline distances to these beaches would be 4.1 miles and 2.75 miles, respectively, if laid over marsh and uplands; a floating pipeline would need to be through New River to Daufuskie Island or through Cooper River to Hilton Head Island, increasing the pumping distance to 7.0 miles and 4.3 miles, respectively. The anticipated 20-yr requirement is 88,000 CY, a relatively small amount to be considered for beach re-nourishment. The historic dredging frequency for this reach is every 14 years. Only 1 alternative to beach re-nourishment was presented in the Draft DMMP - placement in DMCA 14-B (Savannah Harbor Navigation Project). USACE would coordinate with the appropriate natural resource agencies prior to placement in an area other than DMCA 14-B.

3.11 Relationship of the Proposed Action to Other Federal Projects

The northern portion of the proposed action would occur in the general vicinity of the proposed Savannah Harbor Deepening Project (SHEP), and assumes that SHEP as well as the features associated with the Long Term Management Strategy (LTMS) (USACE 1996), Bank Protection for DMCAs 13-A, 13-B, 14-A, and 14-B have been completed.

4.0 Effects of the Proposed Action

The effects of the proposed work are described in more detail in Section 4.0 of the EA. The Mitigation Plan can be found in Section 4.15 of the draft EA. The impacts from dredging and disposal operations within the AIWW are also discussed in more detail in the 404 (b) (1) Evaluation (Enclosure D to this document).

4.1 Summary of Effects

Implementation of the AIWW DMMP (Proposed Action) would result in net benefits to estuarine emergent wetlands in the project area due to the disposal practice of discharging dredged material into undiked disposal areas located in tidal wetlands being discontinued. In addition to estuarine emergent wetlands, EFH in the project area includes oyster reefs and shellbanks, intertidal flats, estuarine water column, and marine water column. Most of the maintenance material from the AIWW would be taken to a designated ODMDS or placed in existing DMCAs. To minimize impacts to sea turtles, use of hopper dredges would be restricted to December 15 - March 31 of any year. Consequently there would be no adverse impacts to these EFH resources.

A small amount of material will be placed into existing open water disposal sites at Hells Gate and in Altamaha and Buttermilk Sound. This material is clean sand and would be placed onto a water bottom with similar substrate. As requested by the Georgia Department of Natural Resources, material placed in the open water disposal sites at Hells Gate and in Altamaha Sound and Buttermilk Sound will have a sand content of 80% or greater. Material with a high sand content settles very quickly, and consequently, this material would tend to stay in the disposal site.

There would be some loss of tidal wetland habitat associated with restoring the containment dike on Disposal Tracts 2-B/3-A (Figure 1A) located on the upper Wilmington River. At one time, Disposal Tracts 2-B/3-A were completely diked to form one disposal area. However, this site has not been used for some time, and the dike has deteriorated. Although this site has been totally impacted by diking and past disposal of dredged material, field studies conducted in 2011 indicate that about 74 acres of tidal marsh (dominated by big cordgrass) and a 29-acre freshwater wetland (dominated by Chinese tallow tree) are present on these tracts. Although every effort would be made to avoid diking marsh where possible, repair of the dike on these tracts would impact most of the remaining tidal marsh and the freshwater wetland. Restoring the dike in these two tracts would provide a diked containment area for material from the Wilmington River for many years to come. This would eliminate the need to use any of the undiked disposal tracts

located along the Wilmington River. Consequently, restoring the dike around Tracts 2-B/3-A is an option for this reach in the DMMP. However, the preferred placement alternative for material from Wilmington River is the Savannah Harbor DMCA 14-B.

Appropriate wetland mitigation would be provided for the impacts to the remaining marsh in Tracts 15-A, 15-B, and 42-B. For compensatory wetland mitigation, credits would be purchased from a tidal wetlands bank if available; if not, funds would be provided to an in-lieu-fee program if available. A third possibility is for the Corps to provide funds to a land trust or state agency to be used for the restoration of saltmarsh. In a separate action, the Corps would consider relinquishing the easements on some of the undiked disposal tracts along the AIWW to the owners (in most cases the states of Georgia and South Carolina) since they would no longer be needed under the proposed action. Depending on GADNR priorities, wetland restoration projects in these former undiked disposal tracts using the funds provided may be appropriate.

An evaluation of the impacts of implementing the AIWW DMMP on EFH has been prepared. This EFH analysis will be coordinated with NMFS. The discharge of dredged material associated with maintenance of the AIWW will not result in the discharge of pollutants that would have significant adverse impacts on recreational, aesthetic, and economic values.

USACE and Georgia DNR are continuing to discuss and evaluate methods of confining the undiked tracts so that dredged material placed there would stay within the easements and not migrate offsite into existing saltmarsh or into adjacent water bodies. One potential option is the use of “geo-tubes” - long, fiber-mesh geotextile tubes that would be placed along the circumference of the existing impacted areas. Dredged material would then be pumped directly into the tubes to form a low berm. It is not known whether the filled tubes would sink into the marsh or whether the dredged materials would be so fine-grained that they would flow directly through the tubes. Georgia DNR has expressed its interest in USACE pursuing a small-scale trial of this option.

If a method of confining the dredged sediments to the existing impacted portion of an unconfined saltmarsh disposal site was successful, it would greatly reduce any additional placement of fill into intertidal wetlands, and reduce the adverse impacts attributable to the use of unconfined saltmarsh disposal.

Use of existing DMCAs for placement of dredged sediments would not result in significant adverse impacts to biological resources, water quality, or cultural resources; it would be consistent with the Coastal Zone Management programs of South Carolina and Georgia, and would not have significant adverse impacts to EFH.

Assuming that the sediments proposed for disposal in an ODMDS meets the Section 103 criteria, this option would not result in significant adverse environmental impacts, and would comply with the Clean Water Act, Endangered Species Act, National Historic Preservation Act; would be consistent with the Coastal Zone Management program of Georgia; and would not adversely impact EFH.

5.0 Other Areas of Environmental Concern

Some of the major environmental concerns associated with the maintenance of the AIWW have been previously addressed in this document. These impacts are discussed in more detail in Section 4.0 (Environmental Consequences) of the EA and the Mitigation Plan (Section 4.15). The impacts from dredging and disposal operations within the AIWW are also discussed in more detail in the 404 (b) (1) Evaluation (Enclosure D to this document).

5.1 Primary and Secondary Impacts

The proposed continuation of maintenance of the AIWW Navigation Project would primarily affect saltwater estuarine and marine habitats. Some short term direct impacts are expected to occur to shallow water benthic communities from maintenance dredging within the AIWW channel. Also, some minor temporary impacts to saltwater marsh from the temporary placement of hydraulic dredge pipelines; however the marsh would be expected to fully recover from this action. There have not been any direct impacts to saltmarsh wetlands identified from dredged material disposal activities within existing DMCAs.

The primary components of the proposed action would not be expected to impact other types of wetlands such as wet savannas, Carolina Bays, vernal pools, wet pine flats; sandhills, or oak/pine flats. The proposed maintenance dredging of this Federal Navigation Project would not result in an increase in ship traffic volume within the AIWW. No other direct or indirect impacts to saltmarsh and/or freshwater wetlands have been identified from the proposed action.

5.2 State Threatened and Endangered Species

A draft Biological Assessment of Federally Threatened and Endangered Species (BATES) has been prepared for the AIWW. The draft BATES is included in the draft EA as Appendix B. The BATES concludes that the proposed maintenance of the AIWW "may affect-is not likely to adversely affect" piping plover, wood stork, West Indian manatee, right whale and humpback whales, sea turtles, and Shortnose and Atlantic sturgeons. The BATES is being coordinated with the US Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) for their input and opinion on the draft BATES. An initial coordination letter from the USFWS and the NMFS is located in Enclosure C of this document.

The pages that follow describe potential impacts to State protected species from the continued maintenance of the AIWW Navigation Project.

5.1.1 Wilson's Plover (*Charadrius wilsonia*)

a. Status. Threatened in State of GA

b. Background. Wilson's Plovers nest on sparsely vegetated saline areas, including beaches above high tide, dune areas, and edges of lagoons. They are territorial during the nesting season but engage in group defense of their nesting areas. During the nonbreeding season, individuals congregate in groups of up to 30 or more, sometimes with other species of small plovers, for

roosting and foraging. Wilson's Plovers feed primarily on crustaceans, particularly fiddler crabs (*Uca* spp.).

c. Project Impact. Project impacts to this species are expected to be minimal.

d. Effect Determination. This species nests regularly in open or lightly vegetated areas of the Savannah Harbor DMCAs, including DMCA 14-B designated in the DMMP to receive dredged material from the AIWW. Continued operation of the DMCAs is necessary to produce nesting habitat for this species. The Corps plans to continue monitoring nesting of this species within the DMCAs to avoid impacts to nests and foster continued nesting success. May affect, but not likely to adversely affect any of its habitat.

5.1.2 Robust Redhorse (*Moxostoma robustum*)

a. Status. Endangered in State of GA

b. Background. Habitat loss and disruption of spawning migrations resulting from dams and impoundments, predation by introduced non-native species, and significant deterioration of water quality due to sedimentation and pollution are believed to have contributed to the decline of the species. The robust redhorse is uncommon in the Ocmulgee, Savannah and Pee Dee rivers.

c. Project Impact. The proposed project would primarily affect saltwater estuarine and marine habitats and would not affect this species freshwater habitat.

d. Effect Determination. No effect on this species.

5.1.3 Narrowleaf Obedient Plant (*Physostegia leptophylla*)

a. Status. Threatened in State of GA

b. Background. Georgia habitat is freshwater and brackish tidal marshes; disjunct in wet savannas of extreme Southwest Georgia. This species has ecological value, but since this species is not a federally listed threatened or endangered species, a detailed survey is not warranted.

c. Project Impact. This species is not known to exist within the project area and would not be expected to occur within the area since its habitat is not similar to what is found in the AIWW and disposal areas.

d. Effect Determination. May affect, but not likely to adversely affect this species or any of its habitat.

5.1.4 Gull-billed tern (*Sterna nilotica*)

a. Status. Threatened in State of GA

b. Background. Nests in colonies on sandy sites; forages over salt marsh, dunes and other grassy areas for insects, spiders, and other invertebrates.

c. Project Impact. Gull-billed terns use the Savannah Harbor DMCAs for breeding, feeding, and loafing. Sediment deposition within the DMCAs produces feeding habitat for the terns and would be conducted in a manner to not interfere with nesting terns, in compliance with the Migratory Bird Treaty Act. Specifically, management of the Savannah Harbor DMCAs for birds has been and will continue to be performed in accordance with the 1996 LTMS. In essence, the LTMS states that when the existing DMCAs are used for sediment placement, they will remain wet for 3 years and then dry for 3 years. Thus, generally about half the DMCAs are wet and the other half dry at any given time, and some DMCAs will be available for breeding, feeding and loafing each year. The DMCAs are monitored for colonial nesting birds and Black-necked Stilts. The dredge operator is required to set the head section in a manner that will not flood any nests on sands around the head section. USACE also holds water in the DMCAs as high as possible prior to the onset of nesting to force the stilts to nest as high as possible in the areas so their nests won't be impacted by subsequent sediment disposal operations conducted during the nesting season.

d. Effect Determination. The proposed action may affect breeding, nesting or loafing areas (within the DMCAs). May affect, but not likely to adversely affect this species or any of its habitat.

5.2 State Listed Species

The following plant species would not be adversely effected by the primary components of the proposed project because their habitat is either upland (rock outcrops, sandy ridges, hammocks, longleaf pine/wire grass uplands, etc.), isolated wetlands (Carolina bays, bogs, wet savannas, etc.), or freshwater wetlands/riverine systems. In the options of the proposed action that could affect freshwater wetlands, a separate NEPA document would be prepared to address that issue.

Asplenium heteroresiliens (Wagner spleenwort*)* (Threatened in State of GA)
Hartwrightia floridana (Hartwrightia) (Threatened in State of GA)
Litsea aestivalis (Pondspice) (Threatened in State of GA)
Neofiber alleni (Round tailed Muskrat) (Threatened in State of GA)
Sageretia minutiflora (Climbing buckthorn) (Threatened in State of GA)
Sideroxylon thornei (Buckthorn) (Endangered in State of GA)
Tillandsia recurvata (Ball moss) (Threatened in State of GA)

6.0 State Enforceable Policies

6. 1 Introduction

The goals of the Georgia Coastal Management Program are attained by enforcement of the policies of the State as codified within the Official Code of Georgia Annotated. "Policy" or

"policies" of the Georgia Coastal Management Program means the enforceable provisions of present or future applicable statutes of the State of Georgia or regulations promulgated duly there under (O.C.G.A. 12-5-322). The statutes cited as policies of the Program were selected because they reflect the overall Program goals of developing and implementing a balanced program for the protection of the natural resources, as well as promoting sustainable economic development of the coastal area.

The list of state laws shown below, which -- along with their associated regulations – describe the legal authority for the state's regulation of its salt marshes, beaches and dune fields, and tidal water bottoms. Each of the coastal resources and use areas of concern is discussed separately in this section, in alphabetical order. For each coastal resources and use areas of concern, a policy statement is provided with a direct citation to Georgia law. The laws are not cited in their entirety. Instead, the purpose of the statute, or a pertinent section of the statute, is cited. The Program policies are the enforceable provisions of the laws cited. A policy statement for each law describes the spirit of the law, directly cited from statements set out in the particular law. In each case, the citation for the statement is provided. The particular statements may or may not be enforceable as written, but the laws to which they relate contain enforceable provisions that have been enacted by the Georgia General Assembly to implement the policies as stated. The policies cited here are, therefore, supported by legally binding laws of the State of Georgia, through which Georgia is able to exert control over impacts to the land and water uses and natural resources in the coastal area. The statutes referenced herein can be found in the Official Code of Georgia Annotated (O.C.G.A.), copies of which are located in headquarters offices of State and local agencies, most public libraries, local courthouses, and numerous other public offices.

A paragraph titled "General Description" is included after each cited policy to serve as a quick reference to the relevant provisions of the law. The General Description is not intended to be, nor should it be interpreted as, law, policy, or restatement of the law. It is merely provided for the convenience of the reader to gain an initial concept as to the content of the related law. The reader is advised to refer to the actual law cited, and not to rely on the General Description as a basis for a legal interpretation of the law on any particular issue. The "Policy Statement" and "General Description" paragraphs were copied directly from the Georgia CZM Program. A paragraph titled "Consistency" follows those two paragraphs to explain Savannah District's position on the extent to which the proposed project is consistent with that enforceable provision.

6. 2 List of Pertinent State Laws and Authorities

Georgia Coastal Management Act
Coastal Marshlands Protection Act
Department of Natural Resources Authority
Endangered Wildlife Act
Game and Fish Code
Georgia Aquaculture Development Act
Georgia Air Quality Act
Historic Area Act
Georgia Boat Safety Act

Georgia Administrative Procedures Act (Revocable License Program)
Georgia Comprehensive Solid Waste Management Act
Georgia Environmental Policy Act
Georgia Erosion and Sedimentation Control Act
Georgia Fisheries Law Pertaining to Shellfish
Georgia Hazardous Waste Management Act
Georgia Heritage Trust Act
Georgia Natural Areas Act
Georgia Environmental Policy Act
Georgia Oil and Gas Deep Drilling Act
Georgia River and Harbor Development
Georgia Safe Dams Act
Georgia Safe Drinking Water Act
Georgia Scenic Rivers Act
Georgia Scenic Trails Act
Georgia Surface Mining Act
Georgia Underground Storage Tank Act
Georgia Water Quality Control Act
Groundwater Use Act
Licenses to Dig, Mine, and Remove Phosphate Deposits
Protection of Tidewaters Act
River Corridor Protection Act
Title 31 - Health (Septic Tank Law)
Shore Protection Act
Water Wells Standards Act
Wildflower Preservation Act

6. 3 Aquaculture

Georgia Aquaculture Development Act (O.C.G.A. 27-4-251, et seq.) 27-4-254. Duty of commission to develop aquaculture development plan; contents of plan; meetings of commission; staff support. The commission shall make a thorough study of aquaculture and the potential for development and enhancement of aquaculture in the state. It shall be the duty of the commission to develop, distribute, and, from time to time, amend an aquaculture development plan for the State of Georgia for the purpose of facilitating the establishment and growth of economically viable aquaculture enterprises in Georgia. (Code 1981. SS 27-4-254, enacted by Ga.L. 1992, p. 1507, SS 8.)

6.3.1 Policy Statement

Georgia Aquaculture Development Act (O.C.G.A. 27-4-251, et seq.) 27-4-254. Duty of commission to develop aquaculture development plan; contents of plan; meetings of commission; staff support. The commission shall make a thorough study of aquaculture and the potential for development and enhancement of aquaculture in the state. It shall be the duty of the commission to develop, distribute, and, from time to time, amend an aquaculture development plan for the State of Georgia for the purpose of facilitating the establishment and growth of economically viable aquaculture enterprises in Georgia. (Code 1981. SS 27-4-254, enacted by Ga.L. 1992, p. 1507, SS 8.)

6.3.2 General Description

The Georgia Aquaculture Development Act was enacted in 1992 to study aquaculture development in Georgia. A 14-member Aquaculture Development Commission composed of industry representatives, scientists, agency representatives, and others is created. The Department of Natural Resources, with assistance from the Department of Agriculture and the Department of Industry, Trade, and Tourism provides staff support for the Commission.

6.3.3 Consistency

This policy is not applicable to the proposed project.

6. 4 Air Quality

6.4.1 Policy Statement

Georgia Air Quality Act (0.C.G.A. 12-9-1, et seq.) 12-9-2. Declaration of public policy. It is declared to be the public policy of the State of Georgia to preserve, protect, and improve air quality and to control emissions to prevent the significant deterioration of air quality and to attain and maintain ambient air quality standards so as to safeguard the public health, safety, and welfare consistent with providing for maximum employment and full industrial development of the state. (Code 1933, 88-901, enacted by Ga.L. 1967, p. 581, SS 1; Ga.L. 1978, p. 275, SS 1; Ga.L. 1992, p. 918, SS 2; Ga.L. 1992, p. 2886, SS 1.)

6.4.2 General Description

The Georgia Air Quality Act provides authority to GA DNR's Environmental Protection Division to promulgate rules and regulations necessary to abate or to control air pollution for the State as a whole or from area to area, as may be appropriate. Establishment of ambient air quality standards, emission limitations, emission control standards, and other measures are necessary to provide standards that are no less stringent than the Federal Clean Air Act are mandated. The Act also requires establishment of a program for prevention and mitigation of accidental releases of hazardous air contaminants or air pollutants, training and educational programs to ensure proper operation of emission control equipment, and standards of construction no less stringent than the federal Act. The Environmental Protection Division administers the Georgia Air Quality Act throughout the State. The Memorandum of Agreement between the Georgia Coastal Resources Division and the Environmental Protection Division ensures cooperation and coordination in the achievement of the policies of the Program.

6.4.3 Consistency

The Georgia Department of Natural Resources, Environmental Protection Division, Air Protection Branch (GADNR- EPD, APB) has air quality jurisdiction for the project area for Chatham, Bryan, Liberty, McIntosh, Glynn, and Camden counties, Georgia. The ambient air quality for the two South Carolina counties and the six Georgia counties, within the impact area, have been determined to be in compliance with the National Ambient Air Quality Standards designated as attainment areas.

Adverse impacts to air quality stemming from the use of dredging equipment would be minimal in extent, temporary in nature, and distributed over 161 river miles of the AIWW. The total number of vessels using the AIWW would not change from continued maintenance of the AIWW. A more detailed description of the impacts of the proposed action on air quality may be found in the draft EA. The proposed project is fully consistent with this policy.

6. 5 Boating Safety

6.5.1 Policy Statement

Georgia Boat Safety Act (O.C.G.A. 52-7-1. et seq.) 52-7-2. Declaration of policy. It is the policy of this state to promote safety for persons and property in and connected with the use, operation, and equipment of vessels and to promote the uniformity of laws relating thereto. (Ga.L. 1973, p. 1427, SS 2)

6.5.2 General Description

The Georgia Boat Safety Act provides enforceable rules and regulations for safe boating practices on Georgia's lakes, rivers, and coastal waters. This Act establishes boating safety zones for a distance of 1,000 feet from the high-water mark on Jekyll Island, Tybee Island, St. Simons Island, and Sea Island. All motorized craft, including commercial fishing vessels, jet skis, and powerboats, are prohibited from these waters, except at certain pier and marina access points. This Act defines "abandoned vessels" as any left unattended for five days and provides for their removal. The Law Enforcement Section of the Georgia Department of Natural Resources, Wildlife Resources Division and the Georgia Bureau of Investigation enforces these regulations.

6.5.3 Consistency

The proposed maintenance of the Federal navigation channel would comply with all required US Coast Guard safety regulations. The AIWW channel would be identified with the required US Coast Guard buoys and channel markers.

6. 6 Coastal Management

6.6.1 Policy Statement

Georgia Coastal Management Act (0.C.G.A. 12-5-320, et seq.) 12-5-321. Legislative purpose. The General Assembly finds and declares that the coastal area of Georgia comprises a vital natural resource system. The General Assembly recognizes that the coastal area of Georgia is the

habitat of many species of marine life and wildlife, which must have clean waters, and suitable habitat to survive. The General Assembly further finds that intensive research has revealed that activities affecting the coastal area may degrade water quality or damage coastal resources if not properly planned and managed. The General Assembly finds that the coastal area provides a natural recreation resource, which has become vitally linked to the economy of Georgia's coast and to that of the entire state. The General Assembly further finds that resources within this coastal area are costly, if not impossible, to reconstruct or rehabilitate once adversely affected by human-related activities and it is important to conserve these resources for the present and future use and enjoyment of all citizens and visitors to this state. The General Assembly further finds that the coastal area is a vital area of the state and that it is essential to maintain the health, safety, and welfare of all the citizens of the state. Therefore, the General Assembly declares that the management of the coastal area has more than local significance, is of equal importance of all citizens of the state, is of state-wide concern, and consequently is properly a matter for coordinated regulation under the police power of the state. The General Assembly further finds and declares that activities and structures in the coastal area must be regulated to ensure that the values and functions of coastal waters and natural habitats are not impaired and to fulfill the responsibilities of each generation as public trustees of the coastal waters and habitats for succeeding generations.

6.6.2 General Description

The Coastal Management Act provides enabling authority for the State to prepare and administer a coastal management program. The Act does not establish new regulations or laws; it is designed to establish procedural requirements for the Department of Natural Resources to develop and implement a program for the sustainable development and protection of coastal resources. It establishes the Department of Natural Resources as the State agency to receive and disburse federal grant moneys. It establishes the Governor as the approving authority of the program and as the person that must submit the program to the Federal government for approval under the Federal Coastal Zone Management Act. It requires other State agencies to cooperate with the Coastal Resources Division when exercising their activities within the coastal area.

6.6.3 Consistency

Preparation of this Consistency Determination is evidence that the Corps of Engineers agrees that Georgia’s coast is a vital natural resource that deserves protection from unwise use. The proposed project fully adheres to the state’s enforceable policies concerning development on the coast. The proposed project is fully consistent with this policy.

6. 7 Coastal Marshlands

6.7.1 Policy Statement

Coastal Marshlands Protection Act (O.C.G.A. 12-5-280, et seq.) 12-5-281. Legislative findings and declarations. The General Assembly finds and declares that the coastal marshlands of Georgia comprise a vital natural resource system. It is recognized that the estuarine area of Georgia is the habitat of many species of marine life and wildlife and, without the food supplied by the marshlands, such marine life and wildlife cannot survive. The General Assembly further

finds that intensive marine research has revealed that the estuarine marshlands of coastal Georgia are among the richest providers of nutrients in the world. Such marshlands provide a nursery for commercially and recreationally important species of shellfish and other wildlife, provide a great buffer against flooding and erosion, and help control and disseminate pollutants. Also, it is found that the coastal marshlands provide a natural recreation resource, which has become vitally linked to the economy of Georgia's coastal zone and to that of the entire state. The General Assembly further finds that this coastal marshlands resource system is costly, if not impossible, to reconstruct or rehabilitate once adversely affected by man related activities and is important to conserve for the present and future use and enjoyment of all citizens and visitors to this state. The General Assembly further finds that the coastal marshlands are a vital area of the state and are essential to maintain the health, safety, and welfare of all the citizens of the state. Therefore, the General Assembly declares that the management of the coastal marshlands has more than local significance, is of equal importance to all citizens of the state, is of state-wide concern, and consequently is properly a matter for regulation under the police power of the state. The General Assembly further finds and declares that activities and structures in the coastal marshlands must be regulated to ensure that the values and functions of the coastal marshlands are not impaired and to fulfill the responsibilities of each generation as public trustees of the coastal marshlands for succeeding generations. (Code 1981, SS 12-5-281, enacted by Ga.L. 1992, p. 2294, SS 1.)

6.7.2 General Description

The Coastal Marshlands Protection Act provides the Coastal Resources Division with the authority to protect tidal wetlands. The Coastal Marshlands Protection Act limits certain activities and structures in marsh areas and requires permits for other activities and structures. Erecting structures, dredging, or filling marsh areas require a Marsh Permit administered through the Coastal Management Program. In cases where the proposed activity involves construction on State-owned tidal water bottoms, a Revocable License issued by the Coastal Resources Division may also be required. Marsh Permits and Revocable Licenses are not issued for activities that are inconsistent with the Georgia Coastal Management Program.

The jurisdiction of the Coastal Marshlands Protection Act extends to "coastal marshlands" or "marshlands", which includes marshland, intertidal area, mudflats, tidal water bottoms, and salt marsh area within estuarine area of the state, whether or not the tidewaters reach the littoral areas through natural or artificial watercourses. The estuarine area is defined as all tidally influenced waters, marshes, and marshlands lying within a tide-elevation range from 5.6 feet above mean high-tide level and below. Exemptions from the jurisdiction of the Act include: Georgia Department of Transportation activities, generally; agencies of the United States charged with maintaining navigation of rivers and harbors; railroad activities of public utilities companies; activities of companies regulated by the Public Service Commission; activities incident to water and sewer pipelines; and, construction of private docks that don't obstruct tidal flow.

Any agricultural or silvicultural activity that directly alters lands within the jurisdictional areas of the Coastal Marshlands Protection Act must meet the permit requirements of the Act and must obtain a permit issued by the Coastal Resources Division on behalf of the Coastal Marshlands Protection Committee. Permits for marinas, community docks, boat ramps, recreational docks, and piers within the jurisdiction of the Coastal Marshlands Protection Act are administered by

the Coastal Resources Division. To construct a marina, a marina lease is required. Private-use recreational docks are exempt from the Coastal Marshlands Protection Act, but must obtain a Revocable License and a State Programmatic General Permit.

6.7.3 Consistency

The project would be constructed in Georgia and South Carolina waters and would affect wetlands within the jurisdiction of the Georgia Coastal Marshlands Protection Act. The draft EA and Mitigation Plan will detail mitigation plans for the impacted wetlands. Since the project would provide mitigation for all affected wetlands, the proposed project is consistent with this policy. This document will be coordinated with the GA DNR-CRD for their review and concurrence with this determination.

6. 8 Dams

6.8.1 Policy Statement

Georgia Safe Dams Act (O.C.G.A. 12-5-370, et seq.) 12-5-371. Declaration of purpose. It is the purpose of this part to provide for the inspection and permitting of certain dams in order to protect the health, safety, and welfare of all the citizens of the state by reducing the risk of failure of such dams. The General Assembly finds and declares that the inspection and permitting of certain dams is properly a matter for regulation under the police powers of the state. (Ga.L. 1978, p. 795. SS 2)

6.8.2 General Description

The Georgia Safe Dams Act provides for the inspection and permitting of certain dams to protect the health, safety, and welfare of Georgia residents. The Environmental Protection Division of the Georgia Department of Natural Resources is responsible for inspecting and certifying dams.

6.8.3 Consistency

Dam Construction or operation is not included in this project.

6. 9 Department of Natural Resources

6.9.1 Policy Statement

12-2-3. Departmental purposes. It shall be the objectives of the department: a. To have the powers, duties, and authority formerly vested in the Division of Conservation and the commissioner of conservation; b. By means of investigation, recommendation, and publication, to aid: (1) In the promotion of the conservation and development of the natural resources of the state; (2) In promoting a more profitable use of lands and waters; (3) In promoting the development of commerce and industry; and In coordinating existing scientific investigations with any related work of other agencies for the purpose of formulating and promoting sound policies of conservation and development. c. To collect and classify the facts derived from such investigations and from the work of other agencies of the state as a source of information

accessible to the citizens of the state and to the public generally, which facts set forth the natural, economic, industrial, and commercial advantages of the state; and d. To establish and maintain perfect cooperation with any and every agency of the federal government interested in or dealing with the subject matter of the department. (Ga. L. 1937, p. 264, SS 4; Ga. L. 1949, p. 1079, SS 1; Ga.L. 1992, p. 6. SS 12.).

6.9.2 General Description

The authority for the Department of Natural Resources is found at O.C.G.A. 12-21, et seq. The objectives for the Department are described, including to aid: in promoting the conservation and development of the State's natural resources; in promoting a more profitable use of lands and waters; in promoting the development of commerce and industry; and in coordinating existing scientific investigations with related work of other agencies for the purpose of formulating and promoting sound policies of conservation and development. The Act also requires the Department to establish and maintain perfect cooperation with any and every agency of the federal government interested in or dealing with the subject matter of the department."

The powers of the Department are established, including: investigations of the natural mining industry and commercial resources of the State and promotion of the conservation and development of such resources; the care of State parks and other recreational areas now owned or to be acquired by the State; examination, survey, and mapping of the geology, mineralogy, and topography of the State, including their industrial and economic utilization; investigation of the water supply and water power of the State with recommendations and plans for promoting their more profitable use and promotion of their development; investigations of existing conditions of trade, commerce, and industry in the State, with particular attention to the causes that may hinder or encourage their growth, and recommendations of plans that promote development of their interests.

The Department is set up in several Divisions. The Wildlife Resources Division is empowered to acquire land areas and to enter into agreements with landowners and the federal government for purposes of managing wildlife species and establishing specific sanctuaries, wildlife management areas, and public fishing areas. The Wildlife Resources Division administers a management plan for each area, which establishes short- and long-term uses, and guidelines for protection and use of each specific area. These areas owned and/or managed by the Wildlife Resources Division are important resources of the coastal area for conservation of wildlife and also for recreational hunting and fishing opportunities. Wildlife management areas within the jurisdiction of the Coastal Marshlands Protection Act and/or Shore Protection Act receive the additional protection provided by said legislation. The Environmental Protection Division is empowered to manage the State's air and water resources. The Coastal Resources Division is charged with management of coastal resources, which includes implementation of the Coastal Marshlands Protection Act and the Shore Protection Act. The Coastal Resources Division responsibilities also include management of marine fisheries resources. The Pollution Prevention Assistance Division provides technical assistance and education for reducing pollution throughout Georgia, including development of Best Management Practices for various industries. The Historic Preservation Division is charged with cataloging, protecting, and preserving the State's historic sites and areas. The Parks, Recreation, and Historic Sites Division has primary

responsibility for development and maintenance of the State's parks and historic sites. The Program Support Division provides administrative support for the Department.

6.9.3 Consistency

The District has been coordinating mitigation plans for the proposed work with the GA DNR to obtain their views during development of the project. The draft EA will be coordinated with GA DNR. The proposed project is consistent with this policy.

6. 10 Endangered Wildlife

6.10.1 Policy Statement

Endangered Wildlife Act (0.C.G.A. 2 7-3-130, et seq.) 27-3-132. Powers and duties of department and board. The department shall identify and inventory any species of animal life within this state which it determines from time to time to be rare, unusual, or in danger of extinction; and, upon such determination, such species shall be designated protected species and shall become subject to the protection of this article.

The board shall issue such rules and regulations as it may deem necessary for the protection of protected species and for the enforcement of this article. Such rules and regulations shall not affect rights in private property or in public or private streams, nor shall such rules and regulations impede construction of any nature. Such rules and regulations shall be limited to the regulation of the capture, killing, or selling of protected species and the protection of the habitat of the species on public lands.

6.10.2 General Description

The Endangered Wildlife Act provides for identification, inventory, and protection of animal species that are rare, unusual, or in danger of extinction. Additional species may be added by the Board of Natural Resources at any time. The protection offered to these species is limited to those that are found on public lands of the State. It is a misdemeanor to violate the rules prohibiting capture, killing, or selling of protected species, and protection of protected species habitat on public lands. The rules and regulations are established and administered by the Department of Natural Resources for implementation of this Act.

Projects permitted under the authority of the Coastal Marshlands Protection Act, the Shore Protection Act, and the Revocable License require full compliance with the protection of endangered and protected species. Outside the jurisdiction of these laws, for those areas that are not public lands of Georgia, protection of endangered species is provided by the federal Endangered Species Act, which has jurisdiction over both private and public lands.

6.10.3 Consistency

A Biological Assessment of Threatened and Endangered Species (BATES) [Appendix B of the EA] has been prepared for this project. The BATES includes an evaluation of potential effects to state listed species. Based on information developed in the BATES, a Summary Effect Determination has been developed to the effect that the project "may affect – is not likely to adversely affect" piping plover, wood stork, West Indian manatee, right whale and humpback

whales, sea turtles, and Atlantic/Shortnose sturgeons. The BATES will be submitted to the USFWS and NOAA for their review.

Standard manatee, Shortnose sturgeon, sea turtle, and right whale conditions would be included in any construction contract for the work. If required for Section 401 Water Quality Certification, hopper dredging activities would be restricted to December 15 through March 31, when sea turtles are least abundant. Hopper dredges would have fully functional inflow and outflow screening and protected species observers.

The continued maintenance of the AIWW navigation channel would not be expected to adversely affect any plant or animal listed as threatened or endangered in the State of Georgia.

6. 11 Environmental Policy

6.11.1 Policy Statement

Georgia Environmental Policy Act (0.C.G.A. 12-16-1, et seq.) 12-16-2. Legislative findings. The General Assembly finds that: a. The protection and preservation of Georgia's diverse environment is necessary for the maintenance of the public health and welfare and the continued viability of the economy of the state and is a matter of the highest public priority; b. State agencies should conduct their affairs with an awareness that they are stewards of the air, land, water, plants, animals, and environmental, historical, and cultural resources; c. Environmental evaluations should be a part of the decision-making processes of the state; and d. Environmental effects reports can facilitate the fullest practicable provision of timely public information, understanding, and participation in the decision-making processes of the state. (Code 1981, SS 12-16-2, enacted by Ga. L. 1991, p. 1728, SS 1.).

6.11.2 General Description

The Georgia Environmental Policy Act (GEPA) requires that all State agencies and activities prepare an Environmental Impact Report as part of the decision-making process. This is required for all activities that may have an impact on the environment. Alternatives to the proposed project or activity must be considered as part of the report.

6.11.3 Consistency

This Coastal Zone Management Consistency Determination is a component of the draft EA, which evaluates the impacts of the proposed project. Although GEPA does not directly apply to a Federal navigation project, Federal agencies must comply with a similar law, the National Environmental Policy Act (NEPA). Preparation of the draft EA is fully consistent with both this state law and NEPA.

6. 12 Erosion and Sedimentation

6.12.1 Policy Statement

Georgia Erosion and Sedimentation Act (O.C.G.A. 12-7-1. et seq.) 12-7-2. Legislative findings; policy of state and intent of chapter. It is found that soil erosion and sediment deposition onto lands and into waters within the watersheds of this state are occurring as a result of widespread failure to apply proper soil erosion and sedimentation control practices in land clearing, soil movement, and construction activities and that such erosion and sediment deposition result in pollution of state waters and damage to domestic, agricultural, recreational, fish and wildlife, and other resource uses. It is therefore declared to be the policy of this state and the intent of this chapter to strengthen and extend the present erosion and sediment control activities and programs of this state and to provide for the establishment and implementation of a state-wide comprehensive soil erosion and sediment control program to conserve and protect the land, water, air, and other resources of this state. (Ga. L. 1975, p.994, SS 2.)

6.12.2 General Description

The Georgia Erosion and Sedimentation Act requires that each county or municipality adopt a comprehensive ordinance establishing procedures governing land disturbing activities based on the minimum requirements established by the Act. The Erosion and Sedimentation Act is administered by the Environmental Protection Division of the Georgia Department of Natural Resources, and by local governments. Permits are required for specified "land-disturbing activities," including the construction or modification of manufacturing facilities, construction activities, certain activities associated with transportation facilities, activities on marsh hammocks, etc. With certain constraints, permitting authority can be delegated to local governments.

One provision of the Erosion and Sedimentation Act requires that land-disturbing activities shall not be conducted within 25 feet of the banks of any State waters unless a variance is granted (O.C.G.A. 12-7-6-(15)). Construction of single-family residences under contract with the owner are exempt from the permit requirement but are still required to meet the standards of the Act (O.C.G.A. 12-7-17-(4)). Large development projects, both residential and commercial, must obtain a permit and meet the requirements of the Act. According to the Georgia Coastal Management Act, any permits or variances issued under the Erosion and Sedimentation Act must be consistent with the Georgia Coastal Management Program. Permits within the jurisdiction of the Coastal Marshlands Protection Act and the Shore Protection Act can include requirements that certain minimum water quality standards be met as a condition of the permit.

There are specific exemptions to the requirements of the Erosion and Sedimentation Act (O.C.G.A. 12-7-17 - Exemptions). The exemptions include: surface mining, granite quarrying, minor land-disturbing activities such as home gardening, construction of single-family homes built or contracted by the homeowner for his own occupancy, agricultural practices, forestry land management practices, dairy operations, livestock and poultry management practices, construction of farm buildings, and any projects carried out under the supervision of the Natural Resource Conservation Service of the US Department of Agriculture. Exemptions from the requirements of the Act also apply to any project involving 1.1 acres or less, provided that the

exemption does not apply to any land-disturbing activities within 200 feet of the bank of any State waters. Construction or maintenance projects undertaken or financed by the Georgia Department of Transportation, the Georgia Highway Authority, or the Georgia Tollway Authority, or any road or maintenance project undertaken by any county or municipality, are also exempt from the permit requirements of the Act, provided that such projects conform to the specifications used by the Georgia Department of Transportation for control of soil erosion. Exemptions are also provided to land-disturbing activities by any airport authority, and by any electric membership corporation or municipal electrical system, provided that such activities conform as far as practicable with the minimum standards set forth at Code Section 12-7-6 of the Erosion and Sedimentation Act. The Georgia Department of Transportation has developed a "Standard Specifications -- Construction of Roads and Bridges," which describes contractor requirements, including controls for sedimentation and erosion. The specifications describe the requirements for both temporary control measures for use during the construction phase, and permanent erosion and sedimentation control measures that need to be incorporated into the design of the project. Failure to comply with the provisions of the specification will result in cessation of all construction activities by the contractor, and may result in the withholding of moneys due to the contractor according to a schedule of non-performance of erosion control, enforced by the Georgia Department of Transportation. Forestry and agricultural land-disturbing activities are subject to the Best Management Practices of the Georgia Forest Commission and the Georgia Soil and Water Conservation Commission, respectively.

6.12.3 Consistency

The primary land disturbing activity for the proposed action would be within existing (DMCAs. Any dike construction, raising, surface preparation or similar activities would use Best Management Practices and conform to the erosion control requirements of the responsible county.

The Georgia Erosion and Sedimentation Control Act requires that land-disturbing activities not be conducted within 25 feet of the banks of any State waters unless a variance is granted. Buffer zone variances may be required for various project elements such the marsh restoration activities in disposal area, bank stabilization, dike construction, etc. The Corps would coordinate plans and specifications as they become available with the Georgia DNR-EPD to determine if buffer variances would be required for the various features of the project. If appropriate, buffer variances would be obtained from the Georgia DNR-EPD as required. The proposed project is therefore consistent with this policy.

6. 13 Game and Fish

6.13.1 Policy Statement

27-1-3. Ownership and custody of wildlife; privilege to hunt, trap, or fish; general offenses. (Game and Fish Code) The ownership of, jurisdiction over, and control of all wildlife, as defined in this title, are declared to be in the State of Georgia, in its sovereign capacity, to be controlled, regulated, and disposed of in accordance with this title. All wildlife of the State of Georgia are declared to be within the custody of the department for purposes of management and regulation in accordance with this title. However, the State of Georgia, the department, and the board shall

be immune from suit and shall not be liable for any damage to life, person, or property caused directly or indirectly by any wildlife.

To hunt, trap, or fish, as defined in this title, or to possess or transport wildlife is declared to be a privilege to be exercised only in accordance with the laws granting such privilege. Every person exercising this privilege does so subject to the right of the state to regulate hunting, trapping, and fishing; and it shall be unlawful for any person participating in the privileges of hunting, trapping, fishing, possessing, or transporting wildlife to refuse to permit authorized employees of the department to inspect and count such wildlife to ascertain whether the requirements of the wildlife laws and regulations are being faithfully complied with. Any person who hunts, traps, fishes, possesses, or transports wildlife in violation of the wildlife laws and regulations violates the conditions under which this privilege is extended; and any wildlife then on his person or within his immediate possession are deemed to be wildlife possessed in violation of the law and are subject to seizure by the department pursuant to Code Section 27-1-21.

It shall be unlawful to hunt, trap, or fish except during an open season for the taking of wildlife, as such open seasons may be established by law or by rules and regulations promulgated by the board or as otherwise provided by law.

It shall be unlawful to hunt, trap, or fish except in compliance with the bag, creel, size, and possession limits and except in accordance with such legal methods and weapons and except at such times and places as may be established by law or by rules and regulations promulgated by the board.

It shall be unlawful to hunt, trap, or fish for any game species after having obtained the daily or season bag or creel limit for that species.

A person who takes any wildlife in violation of this title commits the offense of theft by taking. A person who hunts, traps, or fishes in violation of this title commits the offense of criminal attempt. Any person who violates any provision of this Code section shall be guilty of a misdemeanor.

If any court finds that any criminal violation of the provisions of this title is so egregious as to display a willful and reckless disregard for the wildlife of this state, the court may, in its discretion, suspend the violator's privilege to hunt, fish, trap, possess, or transport wildlife in this state for a period not to exceed five years. Any person who hunts, fishes, traps, possesses, or transports wildlife in this state in violation of such suspension of privileges shall be guilty of a misdemeanor of a high and aggravated nature and upon conviction thereof shall be punished by a fine of not less than $1,500.00 nor more than $5,000.00 or imprisonment for a period not exceeding 12 months or both. (Ga. L. 1968, p. 497, SS 1; Code 1933, SS 45-201, enacted by Ga. L. 1977, p. 396, SS 1; Ga. L. 1978, p. 816, SS 13, 14; Ga. L. 1992, p. 2391, SS 1.) 27-1-4.

Powers and duties of board generally. The board shall have the following powers and duties relative to this title:

a. Establishment of the general policies to be followed by the department under this title;

b. Promulgation of all rules and regulations necessary for the administration of this title including, but not limited to, rules and regulations to regulate the times, places, numbers, species, sizes, manner, methods, ways, means, and devices of killing, taking, capturing, transporting, storing, selling, using, and consuming wildlife and to carry out this title, and rules and regulations requiring daily, season, or annual use permits for the privilege of hunting and fishing in designated streams, lakes, or game management areas; and

c. Promulgation of rules and regulations to protect wildlife, the public, and the natural resources of this state in the event of fire, flood, disease, pollution, or other emergency situation without complying with Chapter 13 of Title 50, the "Georgia Administrative Procedure Act." Such rules and regulations shall have the force and effect of law upon promulgation by the board. (Ga. L. 1911, p. 137, SS 1; Ga. L. 1924, p. 101, SSSS 1, 3,4; Ga. L. 1931, p. 7, SS 25; Ga. L. 1937, p. 264, SSSS 1, 4, 9; Ga. L. 1943, p. 128, SSSS 1, 2, 14; Ga. L. 1955, p. 483, SS 3; Ga. L. 1972, p. 1015, SS 1527; Ga. L. 1973, p. 344, SS 1; Code 1933, SS 45-103, enacted by Ga. L. 1977, p. 396, SS 1; Ga. L. 1978, p. 816, SS 7; Ga. L. 1979, p. 420, SS 3; Ga. L. 1987, p. 179, SS 1)

6.13.2 General Description

The Official Code of Georgia Annotated, Title 27, Chapter I (known as the Game and Fish Code) provides the ownership of, jurisdiction over, and control of all wildlife to be vested in the State of Georgia. The section declares that custody of all wildlife in the State is vested with the Georgia Department of Natural Resources for management and regulation. The Wildlife Resources Division is the principal State agency vested with statutory authority for the protection, management and conservation of terrestrial wildlife and fresh water wildlife resources, including fish, game, non-game, and endangered species. All licensing of recreational and commercial fish and wildlife activities, excluding shellfish, is performed by the Wildlife Resources Division. The Coastal Resources Division issues shellfish permits, regulates marine fisheries activities including the opening and closing of the commercial shrimp harvesting season, areas of shrimp harvest, regulates marine species size and creel limits, and enforces the National Shellfish Sanitation Program. The Commissioner of the Department of Natural Resources has directed that there will be cooperation and coordination between the Divisions of the Department in the administration of their respective responsibilities.

6.13.3 Consistency

The proposed project includes no feature to hunt, trap, fish, possess or transport any recreational and commercial fish or wildlife species. Therefore, no such license is required by the project.

6. 14 Georgia Heritage

6.14.1 Policy Statement

Georgia Heritage Trust Act (O.C.G.A. 12-3-70, et seq.) 12-3-71. Legislative purpose. The General Assembly finds that certain real property in Georgia, because it exhibits unique natural characteristics, special historical significance, or particular recreational value, constitutes a valuable heritage, which should be available to all Georgians, now and in the future. The General

Assembly further finds that much of this real property, because of Georgia's rapid progress over the past decade, has been altered, that its value as part of our heritage has been lost, and that such property, which remains, is in danger of being irreparably altered. The General Assembly declares, therefore, that there is an urgent public need to preserve important and endangered elements of Georgia's heritage, so as to allow present and future citizens to gain an understanding of their origins in nature and their roots in the culture of the past and to ensure a future sufficiency of recreational resources. The General Assembly asserts the public interest in the state's heritage by creating the Heritage Trust Program which shall be the responsibility of the Governor and the Department of Natural Resources and which shall seek to protect this heritage through the acquisition of fee simple title or lesser interests in valuable properties and by utilization of other available methods. (Ga. L. 1975, p. 962, SS 2.)

6.14.1 General Description

Georgia's Heritage Trust Act of 1975 seeks to preserve certain real property in Georgia that exhibits unique natural characteristics, special historical significance, or particular recreational value. This Act created the Heritage Trust Commission, composed of 15 members appointed by the Governor who represent a variety of interests and expertise. The Commission served as an advisory body to the Governor and to the Board of the Department of Natural Resources, making recommendations concerning the identification, designation, and acquisition of heritage areas. Although this Act is still in Georgia law, the Commission's term expired and the implementation and administration of many of the goals of the Act has been superseded by the Heritage 2000 Program.

6.14.3 Consistency

To date, there are no designated heritage areas that have been identified within the proposed project impact area. After surveys are complete, the draft EA will completely assess the presence of heritage areas (and impacts) within the impact area of this navigation project.

Since this proposed maintenance of the AIWW does not include new work (only maintenance) material, no adverse impacts to any existing heritage areas are anticipated at this time. The draft EA will be coordinated with the GA SHPO to ensure there are no adverse impacts from this project. Therefore, the project would be consistent with this policy.

6. 15 Groundwater Use

6.15.1 Policy Statement

Groundwater Use Act (O.C.G.A. 12-5-90, et seq.) 12-5-91. Declaration of policy. The general welfare and public interest require that the water resources of the state be put to beneficial use to the fullest extent to which they are capable, subject to reasonable regulation in order to conserve these resources and to provide and maintain conditions, which are conducive to the development and use of water resources. (Ga. L. 1972, p. 976, SS 2.)

6.15.2 General Description

The Groundwater Use Act charges the Board of Natural Resources with the responsibility to adopt rules and regulations relating to the conduct, content, and submission of water conservation plans, including water conservation practices, water drilling protocols, and specific rules for withdrawal and utilization of groundwater. The Environmental Protection Division administers these rules and regulations. Groundwater withdrawals of greater than 100,000 gallons per day require a permit from the Environmental Protection Division. Permit applications that request an increase in water usage must also submit a water conservation plan approved by the Director of Environmental Protection Division (O.C.G.A. 12-5-96). The Environmental Protection Division has prepared a comprehensive groundwater management plan for coastal Georgia that addresses water conservation measures, protection from saltwater encroachment, reasonable uses, preservation for future development and economic development issues. The Memorandum of Agreement with the Environmental Protection Division ensures that permits issued under the Groundwater Use Act must be consistent with the Coastal Management Program.

6.15.3 Consistency

Since this project does not involve deepening and consists only of maintaining an existing navigation channel, the proposed project is fully consistent with this policy.

6. 16 Hazardous Waste

6.16.1 Policy Statement

Georgia Hazardous Waste Management Act (0.C.G.A. 12-8-60, et seq.) F-20 12-8-61. Legislative policy. It is declared to be the public policy of the State of Georgia, in furtherance of its responsibility to protect the public health, safety, and well-being of its citizens and to protect and enhance the quality of its environment, to institute and maintain a comprehensive state-wide program for the management of hazardous wastes through the regulation of the generation, transportation, storage, treatment, and disposal of hazardous wastes. (Ga. L. 1979, p. I 1 27, SS 2; Ga. L. 1992, p. 2234, SS 5.)

6.16.2 General Description

The Georgia Hazardous Waste Management Act describes a comprehensive, statewide program to manage hazardous wastes through regulating hazardous waste generation, transportation, storage, treatment, and disposal. Hazardous waste is defined by the Board of Natural Resources, and it includes any waste that the Board concludes is capable of posing a substantial present or future hazard to human health or the environment when improperly treated, transported, stored, disposed, or otherwise managed, based on regulations promulgated by the US Environmental Protection Agency. The Hazardous Waste Management Act is administered and implemented by the Environmental Protection Division.

6.16.3 Consistency

Contractors that assist with construction of the project would be required to abide by all applicable toxic and hazardous waste regulations such as those that regulate the cleanup of spills and storage of any hazardous materials. The proposed project is fully consistent with this policy.

6. 17 Historic Areas

6.17.1 Policy Statement

Historic Areas (0.C.G.A. 12-3-50, et seq.) 12-3-50. 1. Grants for the preservation of "historic properties"; additional powers and duties of department. It is declared to be the public policy of the State of Georgia, in furtherance of its responsibility to promote and preserve the health, prosperity, and general welfare of the people, to encourage the preservation of historic properties, which have historical, cultural, and archeological significance to the state. (Code 1981, SS 12-3-50.1, enacted by Ga. L. 1986, p. 399, SS 1; Ga. L. 1996, p. 6, SS 12.)

6.17.2 General Description

The authority found at O.C.G.A. 12-3-50 provides the Department of Natural Resources with the powers and duties to "promote and increase knowledge and understanding of the history of this State from the earliest times to the present, including the archeological, Indian, Spanish, colonial, and American eras, by adopting and executing general plans, methods, and policies for permanently preserving and marking objects, sites, areas, structures, and ruins of historic or legendary significance, such as trails, post roads, highways, or railroads; inns or taverns; rivers, inlets, millponds, bridges, plantations, harbors, or wharves; mountains, valleys, coves, swamps, forests, or Everglade; churches, missions, campgrounds, and places of worship; schools, colleges, and universities; courthouses and seats of government; places of treaties, councils, assemblies, and conventions; factories, foundries, industries, mills, stores, and banks; cemeteries and burial mounds; and battlefields, fortifications, and arsenals. Such preservation and marking may include the construction of signs, pointers, markers, monuments, temples, and museums, which structures may be accompanied by tablets, inscriptions, pictures, paintings, sculptures, maps, diagrams, leaflets, and publications explaining the significance of the historic or legendary objects, sites, areas, structures, or ruins." The Department is also required to "promote and assist in the publicizing of the historical resources of the State by preparing and furnishing the necessary historical material to agencies charged with such publicity; to promote and assist in making accessible and attractive to travelers, visitors, and tourists the historical features of the State by advising and cooperating with State, federal, and local agencies charged with the construction of roads, highways, and bridges leading to such historical-points." The Historical Preservation Division is charged with carrying out these duties, and coordinates its activities in the coastal area with the Coastal Resources Division.

6.17.3 Consistency

An underwater survey for historic resources of the AIWW was recently completed and results have not yet been assessed. The survey of the AIWW disposal tracts will be completed and assessed at a future date. To date, there are no designated historic sites that have been identified within the proposed project impact area. The draft EA will completely assess the presence of historic resources (and impacts) within the impact area of this navigation project.

Since this proposed action does not include new work (only maintenance) material, no adverse impacts to historic resources are anticipated at this time within the AIWW navigation channel.

The draft EA will be coordinated with the GA SHPO to ensure there are no adverse impacts from this project. Therefore, the project would be consistent with this policy.

6. 18 Natural Areas

6.18.1 Policy Statement

Georgia Natural Areas Act (O.C.G.A. 12-3-90, et seq.) 12-3-91. Legislative findings and declaration of purpose. The General Assembly finds that there is an increasing nation-wide concern over the deterioration of man's natural environment in rural as well as urban areas; that there is a serious need to study the long-term effects of our civilization on our natural environment; that while the State of Georgia is still richly endowed with relatively undisturbed natural areas, these areas are rapidly being drastically modified and even destroyed by human activities; that it is of the utmost importance to preserve examples of such areas in their natural state, not only for scientific and educational purposes but for the general well-being of our society and its people. Therefore, it shall be the purpose and function of the Department of Natural Resources to:

a. Identify natural areas in the State of Georgia, which are of unusual ecological significance;
b. Use its influence and take any steps within its power to secure the preservation of such areas in an undisturbed natural state in order that such areas may:

(1) Be studied scientifically;
(2) Be used for educational purposes;
(3) Serve as examples of nature to the general public; and
(4) Enrich the quality of our environment for present and future generations; and
c. Recommend areas or parts of areas for recreational use. (Ga.L. 1969, p. 750, SS 2; Ga.L. 1972, p. 10 1 5, SS 151 1.) 12-3-92.

"Natural areas" defined. As used in this article, the term "natural areas" means a tract of land in its natural state which may be set aside and permanently protected or managed for the purpose of the preservation of native plant or animal communities, rare or valuable individual members of such communities, or any other natural features of significant scientific, educational, geological, ecological, or scenic value. (Ga. L. 1966, p.330, SS 2; Ga. L. 1969, p.750, SS 3.)

6.18.2 General Statement

The Georgia Natural Areas Act authorizes the Department of Natural Resources to identify areas in the State of Georgia, which are of unusual ecological significance, and to secure the preservation of such areas in an undisturbed natural state. The purpose for such acquisition is to allow scientific study of the property, to educate, to "serve as examples of nature to the general public," and to "enrich the quality of our environment for present and future generations." Natural areas, as defined by the Act, are tracts of land in their natural state that are to be set aside and permanently protected or managed for the purpose of preserving natural plant or animal communities, rare or valuable members of such communities, or any other natural features of significant scientific, educational, geologic, ecological, or scenic value.

6.18.3 Consistency

The Georgia Department of Natural Resources, Wildlife Resources Division, Nongame Conservation Section provided an updated list of Georgia's Known Occurrences of Conservation Areas on or near the AIWW Navigation Project, Chatham County, Georgia.

Georgia's Known Occurrences of Conservation Areas

Fort Pulaski National Monument [National Park Service]	Far from project area
Greenspace [Chatham County]	Far from project area
Hunter Army Airfield [US Department of' Defense]	Far from project area
Little Tybee-Cabbage Island Natural Area [Georgia DNR]	Far from project area
Savannah National Wildlife Refuge (NWR) [USFWS]	Far from project area
Savannah River [High Priority Stream]	Adjacent project area
Skidaway Island State Park [Georgia DNR]	Near project area
Tybee Island Tract [Georgia DNR]	Far from project area
Wormsloe Historic Site [Georgia DNR]	Adjacent project area
Harris Neck NWR	Far from project area
Blackbeard Island NWR	Adjacent AIWW; far from disposal areas
Wolf Island NWR	Near Disposal Area 36a
Wassaw NWR	Near project area
Jekyll Island State Park	Near project area
Cumberland Island National Seashore.	Near project area

The following conservation areas in Georgia would not be adversely affected by the proposed maintenance of the navigation channel since they are located on uplands (Greenspace in Chatham County, Hunter Army Airfield, Wormsloe Historic Site, Skidaway Island State Park, and the Tybee Island tract) or too distant from the AIWW and/or disposal areas to be impacted (Fort Pulaski National Monument, Hunter Army Airfield, Savannah NWR, Blackbeard Island NWR, Harris Neck NWR, Little Tybee Island and Cabbage Island)

The following conservation areas may be affected by the proposed action:

Savannah River [High Priority Stream]. There are no anticipated impacts from continued maintenance of the AIWW on the water quality regime in the Savannah River. There is no expected change in the conditions in this area as the same DMCA (14B) would be utilized for the maintenance material dredged in this section of the AIWW.

Jekyll Island State Park and Cumberland Island National Seashore. The reaches (SAV-30 thru SAV-36) in these areas are either part of Brunswick Harbor (SAV-32),, have no historical need for dredging (SAV-30, 31, 34), use approved open water disposal sites (SAV-35), the Brunswick ODMDS (SAV-33), or dredged by the Navy (SAV-36). Therefore, no impacts are anticipated.

Wassaw NWR. There is potential for impacting this NWR from the continued use of undiked disposal areas 15-A and 15-B. Wassaw NWR lies 2 miles northeast of the disposal area 15-A. However, with appropriate mitigation implemented, the proposed action would be expected to be consistent with this policy.

Wolfe Island NWR. There is potential for impacting this NWR from the continued use of undiked disposal area 36-A. Wolfe Island lies 2 miles northeast of the disposal area 36-A. However, with appropriate mitigation implemented, the proposed action would be expected to be consistent with this policy.

6. 19 Oil and Gas and Deep Drilling

6.19.1 Policy Statement

Georgia Oil and Gas and Deep Drilling Act (O.C.G.A. 12-440, et seq.) 12-441. Legislative findings and declaration of policy. The General Assembly finds and declares that its duty to protect the health, safety, and welfare of the citizens of this state requires that adequate protection of underground fresh water supplies be assured in any drilling operation which may penetrate through any stratum which contains fresh water. This duty further requires that adequate protection be assured in any drilling or the use of such drilled wells in certain other environmentally sensitive areas or in other circumstances where the result of such drilling and use may endanger the health, safety, and welfare of the citizens of this state. It is not the policy of the General Assembly to regulate the drilling of shallow exploration or engineering holes except in such environmentally sensitive areas as defined in this part. The General Assembly further finds and declares that, with the current energy shortage which this state and nation face, it must encourage oil and gas exploration to identify new sources of energy, but not at the expense of our important natural resources such as residential, municipal, and industrial supplies of fresh water. The General Assembly further finds and declares that with an increase in oil exploration, it must provide assurances to persons engaging in such exploration that adequate safeguards regarding results of exploration will remain privileged information for a specified time. The General Assembly further finds and declares that it is in the public interest to obtain, protect, and disseminate all possible geologic information associated with drilling operations in order to further the purposes of future energy related research. (Ga. L. 1975, p. 966, SS 1.)

6.19.2 General Description

Georgia's Oil and Gas and Deep Drilling Act regulates oil and gas drilling activities to provide protection of underground freshwater supplies and certain “environmentally sensitive" areas. The Board of Natural Resources has the authority to implement this Act. The Act establishes requirements for drilling, casing, and plugging of wells for oil, gas, or mineral exploration: (1) to alleviate escape of gas or oil from one stratum to another; (2) to prevent the pollution of freshwater by oil, gas, salt water or other contaminants; (3) to prevent drowning of any stratum that might reduce the total ultimate recovery of gas or oil; and, (4) to prevent fires, waste, and spillage of contaminants such as oil.

6.19.3 Consistency

No oil and/or gas drilling operations are proposed for this project.

6. 20 Phosphate Mining

6.20.1 Policy Statement

Licenses to dig, mine, and remove phosphate deposits; restrictions on license holders. (O.C.G.A. 12-4-100, et seq.) 12-4-101. Restrictions on license holders. Whenever any person discovers phosphate rock or phosphatic deposits in the navigable streams or waters of this state or in any public land on their banks or margins and files with the Secretary of State notice of such discovery and a description of the location thereof, he shall be entitled to receive from the Secretary of State a license giving him or his assigns the exclusive right, for ten years from the date of the license, of digging, mining, and removing from such location and from an area for a distance of five miles in any or all directions there from the phosphate rock and phosphatic deposits that may be found therein, provided that persons receiving or holding such licenses shall in no way interfere with the free navigation of the streams and waters or the private rights of any citizen residing on or owning the lands upon the banks of such navigable rivers and waters; provided, further, that as long as the license remains in effect, no person, natural or artificial, shall have the privilege of locating a claim within 20 miles of any other claim for which he has received a license. (Ga. L. 1884-85, p. 125, SS 1; Civil Code 1895, SS 1726; Civil Code 1910, SS 1977; Code 1933, SS 43-401.)

6.20.2 General Description

The laws found at O.C.G.A. 12-4-100, et seq., describe the State's management of phosphate deposits. There is great interest in phosphate mining in Georgia. In fact, the citizens of Georgia developed the Coastal Marshlands Protection Act in an effort to limit potential adverse environmental impacts from a proposed phosphate mining operation. The Secretary of State is charged with the administration of this statute, and is networked with the Georgia Coastal Management Program.

6.20.3 Consistency

Mining of phosphates is not included in the proposed project.

6. 21 Protection of Tidewaters

6.21.1 Policy Statement

Protection of Tidewaters Act (O.C.G.A. 52-1-1. et seq.) 52-1-2. Legislative findings and declaration of policy. The General Assembly finds and declares that the State of Georgia became the owner of the beds of all tidewaters within the jurisdiction of the State of Georgia as successor to the Crown of England and by the common law. The State of Georgia continues to hold title to the beds of all tidewaters within the state, except where title in a private party can be traced to a valid Crown or state grant which explicitly conveyed the beds of such tidewaters. The General Assembly further finds that the State of Georgia, as sovereign, is trustee of the rights of the

people of the state to use and enjoy all tidewaters which are capable of use for fishing, passage, navigation, commerce, and transportation, pursuant to the common law public trust doctrine. Therefore, the General Assembly declares that the protection of tidewaters for use by the state and its citizens has more than local significance, is of equal importance to all citizens of the state, is of state-wide concern, and, consequently, is properly a matter for regulation under the police powers of the state. The General Assembly further finds and declares that structures located upon tidewaters which are used as places of habitation, dwelling, sojournment, or residence interfere with the state's proprietary interest or the public trust, or both, and must be removed to ensure the rights of the state and the people of the State of Georgia to the use and enjoyment of such tidewaters. It is declared to be a policy of this state and the intent of this article to protect the tidewaters of the state by authorizing the commissioner of natural resources to remove or require removal of certain structures from such tidewaters in accordance with the procedures and within the timetable set forth in this article. (Code 1981, SS 52-1-2, enacted by Ga. L. 1992, p. 2317, SS 1.)

6.21.2 General Description

The Protection of Tidewaters Act establishes the State of Georgia as the owner of the beds of all tidewaters within the State, except where title by a private party can be traced to a valid British Crown or State land grant. The Act provides the Department of Natural Resources the authority to remove those "structures" that are capable of habitation, or incapable of or not used for transportation. Permits for such structures may not extend past June 30, 1997. The Act provides procedures for removal, sale, or disposition of such structures. (This is similar to the Right of Passage Act, except that it is specific to tidewaters rather than all waters of Georgia.)

6.21.3 Consistency

It is understood that the State of Georgia has ownership of the beds of all tidewaters within the state. No structures associated with habitation would be built on these lands. The proposed project is fully consistent with this policy.

6. 22 Recreational Docks

6.22.1 Policy Statement

50-16-61. General supervision and office assignment (Under the Administrative Procedures Act, Revocable License Program) The Governor shall have general supervision over all property of the state with power to make all necessary regulations for the protection thereof, when not otherwise provided for.

6.22.2 General Description

The provisions of O.C.G.A. 50-16-61 describe the general supervision of State properties as the responsibility of the Governor. Under this authority, the Department of Natural Resources, Coastal Resources Division issues Revocable Licenses for recreational docks on State-owned tidal water bottoms. In 1995, the Georgia Supreme Court found that the State owns fee simple title to the foreshore on navigable tidal waters and, as a result, owns the river's water bottoms up

to the high water mark and may regulate the use of these tidelands for the public good. (Dorroh v. McCarthy 265 Ga. 750, 462 S.E. 2d 708 (1995). The opinion of the State Attorney General states: "In managing tidelands, the Department of Natural Resources acts under the authority of this section and the Department's employment of the extension of property lines method of allocating use of State-owned water bottoms may be generally acceptable, but rigid adherence to such a policy when it denies deep water access to a riparian or littoral owner, may cause inequitable results (1993 Opinion Attorney General No. 93-25). As described in the State Properties Code (O.C.G.A. 50-16-30, et seq.), the term "Revocable License" means "the granting, subject to certain terms and conditions contained in a written revocable license or agreement, to a named person or persons (licensee), and to that person or persons only, of a revocable privilege to use a certain described parcel or tract of the property to be known as the licensed premises for the named purpose." A Revocable License may be revoked, canceled, terminated, with or without cause, at any time by the licensor.

6.22.3 Consistency

This proposed project does not include construction of any recreational docks; Therefore, this project is fully consistent with this policy.

6. 23 Right of Passage

6.23.1 Policy Statement

Right of Passage Act (O.C.G.A. 52-1-30, et seq.) 52-1-31. Legislative findings and declaration of policy. The General Assembly finds and declares that by the common law the citizens of this state have an inherent right to use as highways all navigable streams and rivers which are capable of transporting boats loaded with freight in the regular course of trade either for the whole or part of the year and that this right of use extends to the entire surface of the stream or river from bank to bank. The General Assembly further finds that the common law regarding such right of use has not been modified by statute nor is it incompatible with the federal or state constitutions. Therefore, the General Assembly declares that ensuring the right of use by all the citizens of this state of navigable streams and rivers which are capable of transporting boats loaded with freight in the regular course of trade either for the whole or part of the year as highways has more than local significance, is of equal importance to all citizens of the state, is of state-wide concern, and, consequently, is properly a matter for regulation under the police powers of the state. The General Assembly further finds and declares that structures located upon navigable streams and rivers which are used as places of habitation, dwelling, sojournment, or residence interfere with the citizens' right to use the entire surface of such streams and rivers which are capable of transporting boats loaded with freight in the regular course of trade either for the whole or part of the year from bank to bank as highways and must be removed to ensure the rights of the citizens of this state to such usage. It is declared to be a policy of this state and the intent of this article to ensure such rights of the citizens of this state by authorizing the commissioner of natural resources to remove or require removal of certain structures from such streams and rivers which are capable of transporting boats loaded with freight in the regular course of trade either for the whole or part of the year in accordance with the procedures and within the timetable set forth in this article. (Code 1981, SS 52-1-31, enacted by Ga. L. 1992, p. 2317, SS 1.)

6.23.2 General Description

The Right of Passage Act declares the right of use of all navigable waterways of the state by all citizens of Georgia. The Act establishes the mechanism to remove “structures" that are capable of being used as a place of habitation, are not used as or are not capable of use as a means of transportation, and do not have a permit under the Act. Permits shall not be issued for a term ending after June 30, 1997. The Right of Passage Act is implemented by the Department of Natural Resources Law Enforcement Division. (This is similar to the Protection of Tidewaters Act, except that it is specific to all navigable waters rather than tidewaters Georgia.)

6.23.3 Consistency

It is understood that the State of Georgia has ownership of the beds of all navigable waters within the state. No structures associated with habitation would be built on these lands; therefore, the proposed project is fully consistent with this policy.

6. 24 River Corridors

6.24.1 Policy Statement

Mountain and River Corridor Protection Act (O.C.G.A. 12-2-1. et seq.) 12-2-8. Promulgation of minimum standards and procedures for protection of natural resources, environment, and vital areas of the state. The local governments of the State of Georgia are of vital importance to the state and its citizens. The state has an essential public interest in promoting, developing, sustaining, and assisting local governments. The natural resources, environment, and vital areas of the state are also of vital importance to the state and its citizens. The state has an essential public interest in establishing minimum standards for land use in order to protect and preserve its natural resources, environment, and vital areas. The purpose of this Code section shall be liberally construed to achieve its purpose. This Code section is enacted pursuant to the authority granted the General Assembly in the Constitution of the State of Georgia, including, but not limited to, the authority provided in Article 111, Section VI, Paragraphs I and 11(a)(1) and Article IX, Section 11, Paragraphs Ill and IV.

The department is therefore authorized to develop minimum standards and procedures, in accordance with paragraph (2) of subsection (b) of Code Section 50-8-7.1 and in accordance with the procedures provided in Code Section 50-8-7.2 for the promulgation of minimum standards and procedures, for the protection of natural resources, environment, and vital areas of the state, including, but not limited to, the protection of mountains, the protection of river corridors, the protection of watersheds of streams and reservoirs which are to be used for public water supply, for the protection of the purity of ground water, and for the protection of wetlands, which minimum standards and procedures shall be used by local governments in developing, preparing, and implementing their comprehensive plans as that term is defined in paragraph (3) of subsection (a) of Code Section 50-8-2. (Code 1981, SS 12-2-8, enacted by Ga. L. 1989, p. 1317, SS 5. 1; Ga. L. 199 1, p. 1719, SS 1; Ga. L. 1992, p. 6. SS 12; Ga. L. 1993, p. 91, SS 12.)

6.24.2 General Description

The statute that is informally known as the Mountain and River Corridor Protection Act (O.C.G.A. 12-2-8) authorizes the Department of Natural Resources to develop minimum standards for the protection of river corridors (and mountains, watersheds, and wetlands) that can be adopted by local governments. The Act is administered by the Environmental Protection Division. All rivers in Georgia with an average annual flow of 400 cubic feet per second are covered by the Act, except those within the jurisdiction of the Coastal Marshlands Protection Act. Some of the major provisions of the Act include: requirements for a 100-foot vegetative buffer on both sides of rivers; consistency with the Georgia Erosion and Sedimentation Act; and local governments must identify river corridors in land-use plans developed under their respective comprehensive planning acts.

Regional Development Centers are instrumental in helping local governments enact the provisions of this Act. The Coastal Georgia Regional Development Center prepared a Regional River Corridor Protection Plan for counties within their jurisdiction. The Plan describes the ten local governments and the associated rivers that are affected by the River Corridor Protection Act, and puts forward a regional plan for the protection of river corridors. Regional plans are preferable to having local governments prepare individual plans. The plan provides for construction of road crossings, acceptable uses of river corridors, maintenance of a vegetative buffer along the river for a minimum of 100 feet from the river's edge (residential structures are allowed within the buffer zone), timber production standards, wildlife and fisheries management, recreation, and other uses. The local governments within the Coastal Regional Development Center jurisdiction affected by the River Corridor Protection Act, and their respective rivers are listed below. Eight coastal counties and two coastal cities (Richmond Hill and Woodbine) are affected.

Adoption of language addressing the River Corridor Protection Act is required in local comprehensive plans. The following counties and cities have adopted a Regional River Corridor Protection Plan.

COUNTY/CITY	RIVER
Bryan County	Canoochee River Ogeechee River
City of Richmond Hill	Ogeechee River
Camden County	Satilla River St. Marys River
City of Woodbine	Satilla River
Chatham County	Savannah River
Effingham County	Ogeechee River Savannah River
Glynn County	Altamaha River
Liberty County	Canoochee River
Long County	Altamaha River

McIntosh County	Altamaha River

Jurisdiction of the River Corridor Protection Act extends along the above named rivers from the limit of Coastal Marshlands Protection Act jurisdiction upstream through the coastal counties.

6.24.3 Consistency

Areas impacted by the proposed project are under the jurisdiction of the Coastal Marshlands Protection Act, rather than the River Corridor Protection Act. The proposed project is fully consistent with this policy.

6. 25 River and Harbor Development (Includes Burke-Day requirements)

6.25.1 Policy Statement

Rivers and Harbor Development (O.C.G.A. 52-9-2). The State of Georgia recognizes the need for maintaining navigation inlets, harbors, and rivers to promote commercial and recreational uses of our coastal waters and their resources. The State of Georgia further recognizes that dredging activities to deepen or maintain navigation channels within tidal inlets, as well as the entrances to harbors and rivers, often alter the natural drift of sand resources within the littoral zone. This alteration can be exacerbated when the sand resources are deposited in designated upland or offshore disposal areas instead of being returned to the natural river-sand transport-beach system. This alteration can adversely impact natural resources, recreation, tourism, and associated coastal economies. Moreover, the State of Georgia believes in the duties of government to protect life and property. Therefore, it is the policy of this state that there shall be no net loss of sand from the state's coastal barrier beaches resulting from dredging activities to deepen or maintain navigation channels within tidal inlets, as well as the entrances to harbors and rivers. Ga. L. 1967, p. 516; Ga. L. 1972, p. 1015, § 1516; Ga. L. 2002, p. 569, § 2; Ga. L. 2004, p. 784, § 1; Ga. L. 2005, p. 60, § 52/HB 95.

6.25.2 General Description

Disposal of sand and sediment originating from water navigation related projects

(a) With regard to all sand that is suitable for beach replenishment originating from the dredging of navigation channels within tidal inlets, as well as the entrances to harbors and rivers:

(1) Such sand shall be used to replenish the adjacent coastal beaches, if feasible, either by deposition of sand into the nearshore littoral zone or direct placement on affected beaches;

(2) If such sand is placed elsewhere, then a quality and quantity of sand from an alternate location necessary to mitigate any adverse effects caused by the dredging shall be used to replenish affected coastal beaches; provided, however, that this paragraph shall apply only where beach replenishment is necessary to mitigate effects from the dredging and dredged material removal from the natural river-sand transport-beach system of a specific project and beach replenishment from another source is the least costly environmentally sound mitigation option;

(3) The disposition of sand shall be completed in cooperation with and, when required by applicable state or federal law, with the approval of the local governing authority and the Department of Natural Resources according to the requirements of Part 2 of Article 4 of Chapter 5 of Title 12, the "Shore Protection Act"; and

(4) All such activities shall provide protection to coastal marshlands as defined in paragraph (3) of Code Section 12-5-282 and to nesting sea turtles and hatchlings and their habitats.

(b) The Department of Natural Resources and the party undertaking the dredging shall

coordinate to determine the option under subsection (a) of this Code section for beach replenishment that is most beneficial to the adjacent or affected coastal beaches, including, where applicable, identifying an alternate source of sand for purposes of paragraph (2) of subsection (a) of this Code section, after taking into consideration environmental impacts and any limitation of applicable state and federal law.

6.25.3 Consistency

Channel maintenance of the AIWW is not expected to have an adverse impact on sand loss on coastal barrier islands near the AIWW. Most of the AIWW is located far inland in relation to the coastal barrier islands (Figure 2) on the Georgia coast. The maintenance material in the AIWW that is suitable for beneficial use and/or beach re-nourishment could be used for near shore beach re-nourishment or dike construction. However, reach 2 in South Carolina is the only area of the AIWW where the dredge material is suitable for beneficial use; this material may be used for re-nourishment at the south end of Hilton Head Island or Daufuskie Island; or for storage in 14-B (for later use in dike construction). However, this would all be within the South Carolina coastal zone and would not impact the Georgia coastal zone. Therefore, this project would be consistent with the River and Harbor Development Policy.

6. 26 Safe Drinking Water

6.26.1 Policy Statement

Georgia Safe Drinking Water Act (0.C.G.A. 12-5-1 70, et seq.) 12-5-171. Declaration of policy; legislative intent; Environmental Protection Division to administer part. As a guide to the interpretation and application of this part, it is declared to be the policy of the State of Georgia that the drinking waters of the state shall be utilized prudently to the maximum benefit of the people and that the quality of such waters shall be considered a major factor in the health and welfare of all people in the State of Georgia. To achieve this end, the government of the state shall assume responsibility for the quality of such waters and the establishment and maintenance of a water-supply program adequate for present needs and designed to care for the future needs of the state.

This requires that an agency of the state be charged with this duty and that it have the authority to require the use of reasonable methods, that is, those methods which are economically and technologically feasible, to ensure adequate water of the highest quality for water-supply systems. Because of substantial and scientifically significant variations in the characteristics, usage, and effect upon public interest of the various surface and underground waters of the state, uniform requirements will not necessarily apply to all waters or segments thereof. It is the intent of this part to confer discretionary administrative authority upon such agency to take the above and related circumstances into consideration in its decisions and actions in determining, under the conditions prevailing in specific cases, those procedures to best protect the public interests. The Environmental Protection Division of the Department of Natural Resources shall be the state agency to administer the provisions of this part consistent with the above-stated policy. (Code 1933, SS 88-2601, enacted by Ga. L. 1964, p.499, SS 1; Ga. L. 1977, p.351, SS 1.)

6.26.2 General Description

The Georgia Safe Drinking Water Act of 1977 charges the Environmental Protection Division with the responsibility for maintaining the quality of drinking water and for maintaining a water-supply program adequate for present and future needs of the State. The Environmental Protection Division is designated as the agency to establish rules and policies for the proper administration of drinking water management programs.

6.26.3 Consistency

The proposed maintenance of the existing navigation channel would not adversely impact the principal drinking water aquifer (upper Floridan) in the coastal area. Maintenance dredging within the scope of the proposed project would not be expected to adversely impact aquifer and production wells in and around Savannah. Therefore, the proposed project is consistent with this Act.

6. 27 Scenic Rivers

6.27.1 Policy Statement

Georgia Scenic Rivers Act (O.C.G.A. 12-5-350, et seq.) 12-5-352. Rivers comprising the Georgia Scenic River System. The Georgia Scenic River System shall be comprised of the following:

a. That portion of the Jacks River contained within the Cohutta National Wilderness Area and located in Fannin and Murray counties, Georgia, which portion extends a length of approximately 16 miles;

b. That portion of the Conasauga River located within the Cohutta National Wilderness Area and located in Fannin, Gilmer, and Murray counties, Georgia, which portion extends a length of approximately 17 miles;

c. That portion of the Chattooga River and its West Fork which are now designated as part of the Chattooga National Wild and Scenic River and located in Rabun County, Georgia, which portion extends a length of approximately 34 miles; and (4) That portion of Ebenezer Creek from Long Bridge on County Road S 393 to the Savannah River and located in Effingham County, Georgia, which portion extends a length of approximately seven miles. The Georgia Scenic River System shall also be comprised of any river or section of a river designated as a scenic river by Act or resolution of the General Assembly. (Ga. L. 1969, p. 933, SS 3; Ga. L. 1978, p. 2207, SS 1; Ga. L. 1981, p. 459, SS 1.)

6.27.2 General Description

The Georgia Scenic Rivers Act of 1969 defines "scenic river" to mean certain rivers or section of rivers that have valuable scenic, recreational, or natural characteristics that should be preserved for the benefit and enjoyment of present and future generations. Certain sections of rivers are named in the Act, and the process for designating other sections of Georgia rivers is described. The Georgia Scenic Rivers Act is administered by the Environmental Protection Division.

6.27.3 Consistency

The project area does not include any rivers covered under this act. The project is fully consistent with this policy.

6. 28 Scenic Trails

6.28.1 Policy Statement

Georgia Scenic Trails Act (O.C.G.A. 12-3-110, et seq.) 12-3-111. Legislative purpose.

In order to provide for the increasing outdoor recreation needs of an expanding population with an increasing amount of leisure time, in order to promote the enjoyment and appreciation of the outdoor areas of Georgia, and in order to provide for a healthful alternative to motorized travel, trails should be established in urban, suburban, rural, and wilderness areas of Georgia. Therefore, the purpose of this article is to provide for a Georgia Scenic Trails System. (Ga. L. 1972, p. 142, SS 2.)

6.28.2 General Description

The Georgia Scenic Trails Act authorizes the Department of Natural Resources to establish a Scenic Trails System in Georgia. The Department is authorized to construct, maintain, and manage trails on lands acquired through purchase, easement, lease or donation. The purpose is to create a balanced system of trails throughout the State, including urban, bicycle, horse, rural hiking, primitive hiking, historical, bikeways and combination trails. The Georgia Department of Transportation is authorized to construct the bicycle trails and bikeways after the Department of Natural Resources has determined their routes.

6.28.3 Consistency

This proposed action would not involve lands that could be considered suitable for establishing a scenic trail; therefore, the proposed project is fully consistent with this policy.

6. 29 Septic Tanks

6.29.1 Policy Statement

Title 31 -- Health (O.C.G.A. Title 31 generally) (Septic Tank Law) 31-2-7. Standards for individual sewage management systems.
The Department of Human Resources shall have the authority as it deems necessary and proper to adopt statewide minimum standards for on-site, individual sewage management systems, including but not limited to standards for the size and construction of septic tanks. The Department is authorized to require that any on-site, individual sewage management system be examined and approved prior to allowing the use of such system in the state. Any on-site, individual sewage management system which has been properly approved shall, by virtue of such approval and by operation of law, be approved for installation in every county of the state; provided, however, that such on-site, individual sewage management system shall be required to

meet local regulations authorized by law. Upon written request of three or more health districts, the department is authorized to require the reexamination of any such system or component thereof, provided that documentation is submitted indicating unsatisfactory service of such system or component thereof. Before any such examination or reexamination, the department may require the person, persons, or organization manufacturing or marketing the system to reimburse the department or its agent for the reasonable expenses of such examination. (Code 1981, SS 31-2-7, enacted by Ga. L 1992, p. 3308, SS 1; Ga. L. 1994, p. 1777, SS 1.) 31-3-5.1. Regulations for septic tanks for individual sewage management systems in unincorporated areas; conformity to building permit.

No building permit for the construction of any residence, building, or other facility which is to be served by a septic tank or individual sewage management system shall be issued by or pursuant to the authority of a county governing authority unless the septic tank or individual sewage management system installation permit is in conformity with any statewide minimum standards for sewage management systems or the rules and regulations of the county board of health adopted pursuant to the authority of subsection (a) of this Code section. No person, firm, corporation, or other entity shall install a septic tank or individual sewage management system in violation of any state-wide minimum standards or the regulations of a county board of health adopted pursuant to the authority of subsection (a) of the Code section. Each county governing authority shall provide by ordinance or resolution for the enforcement of the provisions of this subsection. (Code 198 1, SS 31-3-5. 1, enacted by Ga. L. 1986, p. 227, SS 1; Ga. L. 1992, p. 3308. SS 2; Ga. L. 1994, p. 1777, SS 2.)

6.29.2 General Description

As stated above, the standards and regulations for individual sewage management systems are found at O.C.G.A. 31-2-7 and 31-3-5.1. The Department of Human Resources and the county boards of health are described and established by Title 31. There are other references for managing septic systems throughout the Code, including references within the River Corridor Protection Act (O.C.G.A. 12-2-8), the Georgia Water Quality Control Act (O.C.G.A. 12-5-20), and others, which make reference to safe siting of septic systems to ensure that leakage from those systems does not infiltrate the waters of the State. The county board(s) of health is provided the authority and the responsibility to ensure safe installation and maintenance of septic systems.

6.29.3 Consistency

No septic tanks are proposed as part of this project; therefore, the proposed project is fully consistent with this policy.

6. 30 Shellfish

6.30.1 Policy Statement

Game and Fish Code (O.C.G.A. 27-1-1. et seq.) 27-4-190. Master collecting and picker's permits; hours for taking shellfish; recreational harvesting.

(a) It shall be unlawful to take or possess shellfish in commercial quantities or for commercial purposes without first having obtained a master collecting permit or without proof of purchase that such shellfish were purchased from a certified shellfish dealer. Master collecting permits shall specify whether the permittee is authorized to take oysters, clams, or other shellfish and shall only be issued to persons certified by the Department of Agriculture to handle shellfish unless permission to take and possess shellfish for mariculture purposes has been granted by the department as described in subsection (d) of Code Section 27-4-197. Such permits shall be provided annually at no cost by the department but shall only be issued to persons with the right to harvest shellfish pursuant to Code Sections 44-8-6 through 44-8-8 or to holders of leases from such persons. A permittee may request authorization from the department for employees or agents, who shall be referred to as pickers, of such permittee to take shellfish from permitted areas. Such request shall be in writing to the department and shall include the name, address, and personal commercial fishing license number of the picker. It shall be unlawful for pickers to take or possess shellfish as authorized under their employer's master collecting permit unless they carry on their person while taking or in possession of shellfish a picker's permit as provided by the department indicating the exact area and circumstances allowed for taking. Such pickers' permits and charts shall be provided annually by the department at no cost and shall be in a form as prescribed by the department. Pickers must possess a valid personal commercial fishing license as provided for in Code Section 27-4-110 and, when a boat is used, a valid commercial fishing boat license as provided in Code Section 27-2-8. Master collecting permits and pickers' permits shall not be issued to persons who have been convicted three times in the two years immediately preceding the filing of an application for a permit of violations of this Code section, subsection

(b) of Code Section 27-4-193, subsections (a) and (b) of Code Section 27-4-195, or Code Section 27-4-199. Master collecting permits and pickers' permits issued to master collecting permittee’s agents shall be surrendered to the department upon termination of Department of Agriculture certification for handling shellfish, upon termination of right to harvest shellfish, or upon violation of any provision of this title. If a picker is removed from authorization to take shellfish by the master collecting permittee, that picker shall immediately surrender to the department his picker's permit. It shall be unlawful to possess unauthorized pickers' permits or pickers' permits issued to another person.

(c) It shall be unlawful for any person to take or possess shellfish from unauthorized locations and during unauthorized periods of taking. It shall be unlawful to take shellfish except between the hours of one-half hour before sunrise and one-half hour after sunset.

(Code 1981, SS 27-4-190, enacted by Ga. L. 1991, p. 693, SS 6.) 27-4-193. Taking shellfish from unapproved growing areas; operating facility for controlled purification of shellfish.

(a) As used in this Code section, the term "approved growing area" means that area or areas approved by the department for shellfish harvesting and "unapproved growing area" means all other areas.

(b) It shall be unlawful to take or possess shellfish from unapproved growing areas except at such times and places as the department may establish. The department is authorized to close approved growing areas to allow transplanting at any time between January 1 and December 31. It shall be unlawful to engage in transplanting of shellfish from unapproved growing areas without written authorization from the department. Such authorization may condition the transplanting upon compliance with current, sound principles of wildlife research and

management. In approving growing areas, the department shall consider such current guidelines as have been established by the National Shellfish Sanitation Program at the time of approval of the growing areas and current, sound principles of wildlife research and management. (Code 1981, SS 27-4-193, enacted by Ga. L. 1991, p. 693, SS 6; Ga. L. 1992, p. 6, SS 27.)

6.30.2 General Description

The provisions of O.C.G.A. Title 27 (Game and Fish Code), Part 4 describe the regulation of shellfish in Georgia. The provisions describe the requirements for a commercial shellfish harvester to have a license, issued by the Department of Natural Resources pursuant to the requirements of the US Department of Agriculture. The Department also is authorized to approve shellfish growing areas for commercial harvest, and must consider the guidelines established by the National Shellfish Sanitation Program. The Department conducts water sampling in areas that are approved for shellfish in conjunction with the National Shellfish Sanitation Program.

6.30.3 Consistency

The draft EA discussed shellfish harvesting areas and potential impacts of the proposed action and alternatives; the document will be coordinated with Coastal Resources Division, GADNR, to ensure that no commercial shellfish harvesting areas would be impacted from this proposed action; therefore, the proposed project is fully consistent with this policy.

6.31 Shore Protection

6.31.1 Policy Statement

Shore Protection Act (O.C.G.A. 2-5-230, et seq.) 12-5-231. Legislative findings and declarations. The General Assembly finds and declares that coastal sand dunes, beaches, sandbars, and shoals comprise a vital natural resource system, known as the sand-sharing system, which acts as a buffer to protect real and personal property and natural resources from the damaging effects of floods, winds, tides, and erosion. It is recognized that the coastal sand dunes are the most inland portion of the sand-sharing system and that because the dunes are the fragile product of shoreline evolution, they are easily disturbed by actions harming their vegetation or inhibiting their natural development. The General Assembly further finds that offshore sandbars and shoals are the system's first line of defense against the potentially destructive energy generated by winds, tides, and storms, and help to protect the onshore segment of the system by acting as reservoirs of sand for the beaches. Removal of sand from these bars and shoals can interrupt natural sand flows and can have unintended, undesirable, and irreparable effects on the entire sand-sharing system, particularly when the historical patterns of sand and water flows are not considered and accommodated. Also, it is found that ocean beaches provide an unparalleled natural recreation resource which has become vitally linked to the economy of Georgia's coastal zone and to that of the entire state. The General Assembly further finds that this natural resource system is costly, if not impossible, to reconstruct or rehabilitate once adversely affected by man related activities and is important to conserve for the present and future use and enjoyment of all citizens and visitors to this state and that the sand-sharing system is an integral part of Georgia's barrier islands, providing great protection to the state's marshlands and estuaries. The General Assembly further finds that this sand-sharing system is a vital area of the state and is essential to

maintain the health, safety, and welfare of all the citizens of the state. Therefore, the General Assembly declares that the management of the sand-sharing system has more than local significance, is of equal importance to all citizens of the state, is of state-wide concern, and consequently is properly a matter for regulation under the police power of the state. The General Assembly further finds and declares that activities and structures on offshore sandbars and shoals, for all purposes except federal navigational activities, must be regulated to ensure that the values and functions of the sand-sharing system are not impaired. It is declared to be a policy of this state and the intent of this part to protect this vital natural resource system by allowing only activities and alterations of the sand dunes and beaches which are considered to be in the best interest of the state and which do not substantially impair the values and functions of the sand-sharing system and by authorizing the local units of government of the State of Georgia to regulate activities and alterations of the ocean sand dunes and beaches and recognizing that, if the local units of government fail to carry out the policies expressed in this part, it is essential that the department undertake such regulation. (Code 1981, SS12-5-231, enacted by Ga. L. 1992, p.1362, SS 1.)

6.31.2 General Description

The Shore Protection Act is the primary legal authority for protection and management of Georgia's shoreline features including sand dunes, beaches, sandbars, and shoals, collectively known as the sand-sharing system. The value of the sand-sharing system is recognized as vitally important in protecting the coastal marshes and uplands from Atlantic storm activity, as well as providing valuable recreational opportunities.

The Shore Protection Act limits activities in shore areas and requires a permit for certain activities and structures on the beach. Construction activity in sand dunes is limited to temporary structures such as crosswalks, and then only by permit from the Georgia Coastal Resources Division. Structures such as boat basins, docks, marinas, and boat ramps are not allowed in the dunes. Shore Permits, which are administered by the Coastal Resources Division, are not granted for activities that are inconsistent with the Georgia Coastal Management Program. The Shore Protection Act prohibits operation of any motorized vehicle on or over the dynamic dune fields and beaches, except as authorized for emergency vehicles, and governmental vehicles for beach maintenance or research. The Shore Protection Act also prohibits storage or parking of sailboats, catamarans, or other marine craft in the dynamic dune field.

Direct permitting authority regarding any proposed facilities located within the jurisdictional area the Shore Protection Act lies with the Shore Protection Committee. These permits are administered by the Georgia Coastal Resources Division. This authority is a very important aspect of the Georgia Coastal Management Program, since recreation at the water's edge is a significant demand. Providing public access and recreational opportunities at or near the beach while protecting the sand sharing system is an important component of the Program.

6.31.3 Consistency

Continued maintenance of the AIWW would not be expected to adversely impact this resource. Positive impacts could occur where dredge material is suitable for beneficial use and for near

shore beach re-nourishment. However, reach 2 in South Carolina is the only area of the AIWW that contains material suitable for beach re-nourishment; and this material may be used for re-nourishment at the south end of Hilton Head Island, Daufuskie Island, or DMCA 14B (for later use in dike construction).

6.32 Solid Waste Management

6.32.1 Policy Statement

Georgia Comprehensive Solid Waste Management Act (0.C.G.A. 12-8-21, et seq.) 12-8-21. Declaration of policy; legislative intent.
(a) It is declared to be the policy of the State of Georgia, in furtherance of its responsibility to protect the public health, safety, and well-being of its citizens and to protect and enhance the quality of its environment, to institute and maintain a comprehensive state-wide program for solid waste management which will assure that solid waste facilities, whether publicly or privately operated, do not adversely affect the health, safety, and well-being of the public and do not degrade the quality of the environment by reason of their location, design, method of operation, or other means and which, to the extent feasible and practical, makes maximum utilization of the resources contained in solid waste.
(b) It is further declared to be the policy of the State of Georgia to educate and encourage generators and handlers of solid waste to reduce and minimize to the greatest extent possible the amount of solid waste which requires collection, treatment, or disposal through source reduction, reuse, composting, recycling, and other methods and to promote markets for and engage in the purchase of goods made from recovered materials and goods which are recyclable. (Code 1981, SS 12-8-21, enacted by Ga. L. 1990, p. 412, SS 1; Ga. L. 1992, p. 3259, SS 1; Ga. L. 1993, p. 399, SSSS 1, 2.)

6.32.2 General Description

The Georgia Comprehensive Solid Waste Management Act defines the rules regarding solid waste disposal in the State. Solid waste handling facilities must be permitted by the State unless an individual is disposing of waste from his own residence onto land or facilities owned by him and disposal of such waste does not adversely affect human health (O.C.G.A. 12-8-30.10). State law mandates that a county, municipality, or group of counties beginning a process to select a site for municipal waste disposal must first call at least one public meeting.

In addition to the above-named jurisdictions, a regional solid waste management authority must hold at least one meeting within the jurisdiction of each participating authority. Meetings held to make siting decisions for any publicly or privately owned municipal solid waste disposal facility must be publicized before the meeting is held (O.C.G.A. 12-8-26). Each city and county is required to develop a comprehensive solid waste management plan that, at a minimum, provides for the assurance of adequate solid waste handling capability and capacity for at least ten years. This plan must identify those sites that are not suitable for solid waste facilities based upon environmental and land use factors (O.C.G.A. 12-8-3 1. 1); these factors may include historic and archeological sites. Solid waste facilities within 5,708 yards of a national historic site are not permitted (O.C.G.A. 12-8-25. 1). Solid waste facilities on property owned exclusively by a private solid waste generator are generally exempt from these provisions. Local governments

have the authority to zone areas of environmental, historic, or cultural sensitivity and to protect those sites from becoming waste disposal areas regardless of whether they are public or privately owned.

6.32.3 Consistency

The sediments from maintenance dredging do not meet the definition of a solid waste and, therefore, do not require treatment as such. The proposed project is fully consistent with this policy.

6.33 Surface Mining

6.33.1 Policy Statement

Georgia Surface Mining Act (O.C.G.A. 12-4-70, et seq.) 12-4-71. Legislative purpose; duty of Environmental Protection Division to administer part.

(a) The purposes of this part are:

(1) To assist in achieving and maintaining an efficient and productive mining industry and to assist in increasing economic and other benefits attributable to mining;

(2) To advance the protection of fish and wildlife and the protection and restoration of land, water, and other resources affected by mining;

(3) To assist in the reduction, elimination, or counteracting of pollution or deterioration of land, water, and air attributable to mining;

(4) To encourage programs which will achieve comparable results in protecting, conserving, and improving the usefulness of natural resources to the end that the most desirable conduct of mining and related operations may be universally facilitated;

(5) To assist in efforts to facilitate the use of land and other resources affected by mining so that such use may be consistent with sound land use, public health, and public safety, and to this end to study and recommend, wherever desirable, techniques for the improvement, restoration, or protection of such land and other resources.

(b) The Environmental Protection Division of the department shall administer this part consistent with the above-stated purposes. (Ga. L. 1968, p. 9, SS 2.)

6.33.2 General Description

Georgia's Surface Mining Act regulates all surface mining in Georgia, including the coastal zone. Dredging or ocean mining of materials are not directly regulated by State authority, except that sand and gravel operations are subject to the Shore Protection Act.

6.33.3 Consistency

The proposed maintenance of the Federal navigation channel is not considered a mining operation. The resultant sediment from the channel would not be sold or processed. The proposed project is fully consistent with this policy.

6.34 Underground Storage Tanks

6.34.1 Policy Statement

Georgia Underground Storage Tank Act (O.C.G.A. 12-3-1. et seq.) 12-13-2. Public policy.

(a) It is declared to be the public policy of the State of Georgia, in furtherance of its responsibility to protect the public health, safety, and well-being of its citizens and to protect and enhance the quality of its environments, to institute and maintain a comprehensive state-wide program for the management of regulated substances stored in underground tanks.

(b) It is the intent of the General Assembly that the Environmental Protection Division of the Department of Natural Resources shall be designated as the state agency to administer the provisions of this chapter. The director of the Environmental Protection Division of the Department of Natural Resources shall be the official charged with the primary responsibility for the enforcement of this chapter. In exercising any authority or power granted by this chapter and in fulfilling duties under this chapter, the director shall conform to and implement the policies outlined in this chapter.

(c) It is the intent of the General Assembly to create an environmental assurance fund which, in addition to those purposes set forth in subsections (f) and (g) of Code Section 1 2-1 3-9, may also be used by owners and operators as an alternate to insurance purchased from insurance companies for purposes of evidencing financial responsibility for taking corrective action and compensation of third parties for bodily injury and property damage caused by sudden and non-sudden accidental releases arising from operating underground storage tanks. (Code 1981, SS 12-13-2, enacted by Ga.L. 1988, p. 2072, SS 1; Ga.L. 1989, p. 14, SS 12.)

6.34.2 General Description

The Underground Storage Tank Law provides the authority for the Environmental Protection Division to define the State criteria for operating, detecting releases, corrective actions, and enforcement of the utilization of underground storage tanks (USTs). The rules, found at Chapter 391-3-15 of the Rules and Regulations of the State of Georgia, establish minimum standards and procedures to protect human health and safety and to protect and maintain the quality of groundwater and surface water resources from environmental contamination that could result from any releases of harmful substances stored in such tanks. These requirements reflect the federal law regulating underground storage tanks as well as the applicable State rules. All facilities with underground storage tanks are subject to these requirements. The Memorandum of Agreement between the Coastal Resources Division and the Environmental Protection Division ensures cooperation and coordination in the implementation of UST standards within the coastal area.

6.34.3 Consistency

No installation of USTs is proposed for this project. The proposed project is fully consistent with this policy.

6.35 Water Quality

6.35.1 Policy Statement

Georgia Water Quality Control Act (O.C.G.A. 12-5-20) 12-5-21. Declaration of policy, legislative intent.

(a) The people of the State of Georgia are dependent upon the rivers, streams, lakes, and subsurface waters of the state for public and private water supply and for agricultural, industrial, and recreational uses. It is therefore declared to be the policy of the State of Georgia that the water resources of the state shall be utilized prudently for the maximum benefit of the people, in order to restore and maintain a reasonable degree of purity in the waters of the state and an adequate supply of such waters, and to require where necessary reasonable usage of the waters of the state and reasonable treatment of sewage, industrial wastes, and other wastes prior to their discharge into such waters. To achieve this end, the government of the state shall assume responsibility for the quality and quantity of such water resources and the establishment and maintenance of a water quality and water quantity control program adequate for present needs and designed to care for the future needs of the state, provided that nothing contained in this article shall be construed to waive the immunity of the state for any purpose.

(b) The achievement of the purposes described in subsection (a) of this Code section requires that the Environmental Protection Division of the Department of Natural Resources be charged with the duty described in that subsection, and that it have the authority to regulate the withdrawal, diversion, or impoundment of the surface waters of the state, and to require the use of reasonable methods after having considered the technical means available for the reduction of pollution and economic factors involved to prevent and control the pollution of the waters of the state.

(c) Further, it is the intent of this article to establish within the executive branch of the government administrative facilities and procedures for determining improper usage of the surface waters of the state and pollution of the waters of the state, and to confer discretionary administrative authority upon the Environmental Protection Division to take these and related circumstances into consideration in its decisions and actions in determining, under the conditions and specific cases, those procedures which will best protect the public interest. (Ga. L. 1957, p. 629, SS 2; Ga. L. 1964, p. 416, SS 2; Ga. L. 1977, p. 368, SS 1.)

6.35.2 General Description

The Georgia Water Quality Control Act grants the Environmental Protection Division authority to ensure that water uses in the State of Georgia are used prudently, are maintained or restored to a reasonable degree of purity, and are maintained in adequate supply. In the administration of this law, the Environmental Protection Division can revise rules and regulations pertaining to water quality and quantity, set permit conditions and effluent limitations, and set permissible limits of surface water usage for both consumptive and non-consumptive uses through the Board of Natural Resources. Through a Memorandum of Agreement between the Environmental Protection Division and the Coastal Resources Division, the rules and permits of the Environmental Protection Division are administered in a manner consistent with the enforceable policies of the Coastal Management Program.

The authority to regulate the rivers, streams, lakes, and subsurface waters throughout the State for public and private water supply and agricultural, industrial, and recreational uses is provided to the Environmental Protection Division. The Act makes it unlawful for any person to dispose of sewage, industrial wastes, or other wastes, or to withdraw, divert, or impound any surface waters of the State without a permit. Tourism and recreational entities, manufacturing and

transportation facilities, and other activities found in the coastal zone covered under the policies of the Georgia Coastal Management Program are responsible for compliance with the regulations implementing the Georgia Water Quality Control Act.

6.35.3 Consistency

Water quality would be routinely monitored during project implementation to ensure that applicable water quality standards are not violated**.** Effluent leaving the weirs in the disposal area would be routinely monitored for physical parameters such as dissolved oxygen, pH, suspended solids, etc.).

The proposed project will require a Section 401 Water Quality Certification by the Georgia DNR Environmental Protection Division. The proposed project would adhere to any conditions associated with the Certification and therefore, the project would be fully consistent with this policy.

6.36 Water Wells

6.36.1 Policy Statement

Water Wells Standards Act (O.C.G.A. 12-5-120, et seq.) 12-5-121. Legislative intent. It is the intent of the General Assembly to provide in this part for the application of standards for the siting, construction, operation, maintenance, and abandonment of wells and boreholes so as to protect the public health and the water resources of this state. (Ga.L. 1976, p. 974, SS 2; Ga.L. 1985, p. 1192, SS 1.)

6.36.2 General Description

The Water Wells Standards Act of 1985 provides standards for siting, constructing, operating, maintaining, and abandoning wells and boreholes. The Act requires that individual and non-public wells must be located as far removed from known or potential sources of pollutants as possible. Licensing requirements for drilling contractors are established by the Act, as well a State Water Well Standards Advisory Council. The Council is authorized to adopt and amend rules and regulations that are reasonable to govern the licensing of well contractors. Compliance with the Water Wells Standards Act is required for all activities that utilize well water. The provisions of the Act are enforceable under Georgia law. The Council may file a petition for an injunction in the appropriate superior court against any person that has violated any provisions of the Act.

6.36.3 Consistency

Borings and test wells that were taken or installed during the study period complied with the state standards for casing, capping and plugging. If any additional similar work is required (including monitoring wells), these would also be conducted in a manner that complies with these standards. Therefore, the proposed project is fully consistent with this policy.

6.37 Wildflower Preservation

6.37.1 Policy Statement

The Wildflower Preservation Act (O.C.G.A. 12-6-170, et seq.) 12-6-172. Powers and duties of Department and Board of natural Resources as to wildflower preservation.
(a) The Department of Natural Resources shall from time to time designate as a protected species and species of plant life within this state which it may determine to be rare, unusual, or in danger of extinction, and upon such designation such species will become subject to the protection of this article. (Ga.L. 1973, p. 333, SS 3; Ga.L. 1982, p. 3, SS 12.)

6.37.2 General Description

The Wildflower Preservation Act provides for designation of and protection of plant species that are rare, unusual, or in danger of extinction. Additional species may be added by the Board of Natural Resources at any time. The protection offered to these species is limited to those that are found on public lands of the State. It is a misdemeanor to transport, carry, convey, sell, cut, pull up, dig up, or remove protected species listed by this Act.

6.37.3 Consistency

The proposed project would not be expected to impact any land that contains wildflowers that are considered rare, unusual, or in danger of extinction. The proposed project is fully consistent with this policy.

7.0 Other Management Authorities

The paragraphs in this section describe management authorities which provide the Coastal Resources Division with additional tools and mechanisms to accomplish the goals of the Georgia Coastal Management Program. Although these authorities are not listed as policies of the Program, they are laws of the State. Most of the statutes referenced here are primarily procedural. These laws and programs are not considered enforceable policies of the Georgia Coastal Management Program and thus are not used in preparing or reviewing Federal Consistency Determinations and certifications.

7.1 Coordinated and Comprehensive Planning by Counties

(Informally known as the Georgia Planning Act) The Georgia Planning Act (O.C.G.A. 45-12-200, et seq.) requires each local government to develop a comprehensive plan to guide growth and development as a condition to receive State funding assistance. Under the Georgia Planning Act, minimum planning standard was developed for the preparation, adoption, and implementation of local comprehensive plans. The planning standards constitute a three-step planning process: inventory and assessment; needs and goals; and implementation and strategy. The Act establishes Regional Development Centers (RDCs) throughout Georgia. Three of these Centers have jurisdiction within the coastal zone: the Southeast Georgia RDC includes Brantley and Charlton counties; the Heart of Georgia RDC includes Wayne County; and the Coastal Georgia RDC includes the remaining eight counties (Bryan, Camden, Chatham, Effingham, Glynn, Liberty, Long, and McIntosh). The role of the RDCs is to work with local and county governments individually and on a regional basis to improve services and programs, consistent

with local comprehensive plans, to benefit residents of the region. The Coastal Management Program works closely with the RDCs to implement the policies of the Program. Many of the goals, objectives and policies of the Georgia Coastal Management Program can be achieved by local comprehensive planning processes and implemented through local land-use controls and the public infrastructure.

The proposed work would take place in Georgia and South Carolina. The Coastal Georgia RDC has jurisdiction for the portion of this project located within Georgia including Chatham County, Bryan, Glynn, Liberty, McIntosh, and Camden. The proposed project will be coordinated with stakeholders, interested agencies, the public, and the Coastal Georgia RDC. It is not expected that the proposed work would conflict with any aspect of an existing long term comprehensive land use plan.

7.2 Georgia Administrative Procedures Act

The Georgia Administrative Procedures Act (O.C.G.A. 50-13-4, et seq.) establishes the procedural requirements for adoption, amendment, or repeal of rules and regulations, among other things. New rules require at least 30 days notice of intended action. Similar public comment requirements are required for federal regulatory actions. Public comment and input is important for any regulatory action, both to provide an opportunity for presentation of citizens' ideas and concerns and to provide time for implementation by those entities that may be potentially impacted.

The 30-day public comment period for the draft EA, which is a requirement of the NEPA process, provide a formal avenue for the public to provide input on the proposed project. The proposed project complies fully with the spirit of the Georgia Administrative Procedures Act.

7.3 Georgia Litter Control Law

The Georgia Litter Control Law (O.C.G.A. 16-7-40, et seq.) makes it unlawful for any person or persons, "...to dump, deposit, throw, or leave or to cause or permit the dumping, placing, throwing, or leaving of litter on any public or private property in this state or any waters in this state" unless the situation meets one of three conditions. Litter may be disposed at a site if (1) the property is designated as a litter disposal site, (2) litter is placed in a proper receptacle, and/or (3) litter is disposed of by permission of the property owner in a manner consistent with the public welfare.

Construction contracts would contain provisions which require the contractors to remove all construction debris from the project sites as part of their demobilization activities. The proposed project complies with the intent of the Georgia Litter Control Law.

7.4 Georgia Uniform Conservation Easement Act

The Georgia Uniform Conservation Easement Act (O.C.G.A. 44-10-1, et seq.*)* defines "conservation easement" to mean a non-possessory interest in real property, with limitations or affirmative obligations, the purposes of which include retaining or protecting natural property;

assuring its availability for agricultural, forest, recreational, or open space use; protecting natural resources; maintaining or enhancing air or water quality; or preserving the historical, archeological, or cultural aspects of real property. A landholder may be a government agency or a charitable organization.

The proposed action would not include or adversely affect any “conservation easements” and therefore the proposed action would be in compliance with the Georgia Uniform Conservation Easement Act.

8.0 State Programs

The following State programs contribute towards effective management of Georgia's coastal resources. As non-regulatory programs, they do not constitute enforceable policies of the Program and are not used in Federal consistency reviews. The District has included a discussion of these programs in this Consistency Determination because of the goals of these programs. In general, these programs would be expected to apply to work in Georgia.

8.1 Acres for Wildlife Program

The Acres for Wildlife Program is administered by the Non-game and Endangered Wildlife Program of the Georgia Department of Natural Resources to provide technical assistance to private landowners for resource and habitat management. The Program helps to identify wildlife habitat and provides advice to help the landowner manage the property for the welfare of the wildlife.

This program does not apply to the proposed project.

8.2 Certified Burner Program

The Certified Burner Program is administered by the Georgia Forestry Commission to educate the citizens of Georgia about safe burning techniques. The Georgia General Assembly declared that prescribed burning is a resource protection and land management tool that benefits the safety of the public, Georgia's forest resources, the environment and the economy of the State (O.C.G.A. 12-6-146).

The proposed action does not include any prescribed burning.

8.3 Community Wildlife Project

The Community Wildlife Project is the only wildlife habitat certification program directed to the community as a whole. It is designed to encourage and improve management of wildlife habitats found in urban, suburban, and semi-rural areas. The program is administered by local garden clubs affiliated with the Garden Clubs of Georgia in concert with the Non-game and Endangered Wildlife Program of the Georgia Department of Natural Resources. The Community Wildlife Project establishes minimum criteria for community-based habitat management projects.

This policy does not apply to the proposed action.

8.4 Forest Stewardship Program

The Forest Stewardship Program is administered by the Georgia Forestry Commission in cooperation with the Non-game and Endangered Wildlife Division of the Department of Natural Resources. The Program is designed to provide technical assistance to private landowners for management of forest lands. A concomitant Stewardship Incentive Program provides State funding on a cost-sharing basis to implement certain aspects of the program.

This policy does not apply to the proposed action.

8.5 Heritage 2000

Heritage 2000 is a public-private partnership program designed by Governor Miller to acquire historic property and resources throughout Georgia. The initiative is modeled after Preservation 2000.

This policy does not apply to the proposed action.

8.6 Georgia's Non-game Wildlife Conservation and Habitat Fund

Georgia's Non-game Wildlife Conservation and Habitat Fund (O.C.G.A. 12-3-600, et seq.) provides the Department of Natural Resources a mechanism to establish non-game wildlife conservation and habitat acquisition, as well as education programs to enhance the protection of non-game flora and fauna. The Department of Natural Resources may solicit voluntary contributions through an income tax return contribution mechanism, by offers to match contributions, or by fund raising or other promotional techniques. Any funds collected are placed into a "Non-game Wildlife Conservation and Wildlife Habitat Acquisition Fund."

This policy does not apply to the proposed action.

8.7 Preservation 2000

Preservation 2000 is a three-year program implemented by Governor Miller in 1994 to acquire approximately 100,000 acres for the State of Georgia to preserve natural areas, historic sites, parks, wildlife management areas and similar sites. It is funded by a $65 million bond fund, approximately $1.45 million in gifts, and small amounts of Federal funds. Since its inception, over 84,000 acres have been acquired and approximately 33,000 acres are under negotiation during the summer of 1997. There were over 450 nominations of various parcels throughout the State. Currently, there are four natural areas and two wildlife management areas designated within the coastal area as a result of Preservation 2000. Some of the 33,000 acres under negotiation lies within the coastal area. The areas acquired provide such uses as protection for bald eagles and other endangered species, hunting, fishing, boating, nature observation, primitive camping, scientific study and protection of water quality for shellfish. A concomitant part of the Preservation 2000 program is the Georgia Greenways Council, a coalition of trail organizations and local, State and Federal agencies involved with trail development. The coalition promotes the protection of linear corridors and coordinates trail development throughout the State. A

proposed Coastal Water Trail, the aquatic equivalent of the Appalachian Trail, would run along Georgia's coast from the Savannah River to the St. Mary's River. This trail would provide routing for sea kayaks and other small craft, and include access trails, boat launching sites and camping areas.

This policy does not apply to the proposed action.

8.8 River Care 2000

River Care 2000 is a public-private partnership program designed by Governor Miller to acquire natural areas and historic property along Georgia's riverbanks. The initiative is modeled after Preservation 2000. River Care 2000 is intended to provide recreation and park land, and to allow better flood management.

This policy does not apply to the proposed action.

9.0 Local Land Use Plans

The draft EA for this project will be coordinated with interested parties in Georgia and South Carolina to ensure the proposed action is in compliance with all local land use plans.

10.0 Conclusion

In accordance with the CZMA, 16 U.S.C. SS 1456(c), as amended, it has been determined that the proposed maintenance of the Savannah District portion of the AIWW Federal Navigation Project would be carried out in a manner which is fully consistent with the enforceable policies of the Georgia Coastal Management Plan. This determination applies to the preferred alternative (-47 foot MLW depth alternative) and the effects of the preferred alternative on the land or water uses or natural resources of the coastal zone, as directed by 15 C.F.R. SS 930.39.

11.0 References

US Army Corps of Engineers. 1976. Final Environmental Impact Statement for Dredging Atlantic Intracoastal Waterway.

US Army Corps of Engineers. 1983. AIWW Maintenance Program Evaluation Study. Savannah District.

US Army Corps of Engineers. 1993. Dredging Fundamentals Facilitator’s Guide. US Army Corps of Engineers, Huntsville Division.

US Army Corps of Engineers. 2012. Final EIS for Savannah Harbor Expansion Project (SHEP).