TAYLOR ENGINEERING, INC.

Dredged Material Management Plan – Atlantic Intracoastal Waterway

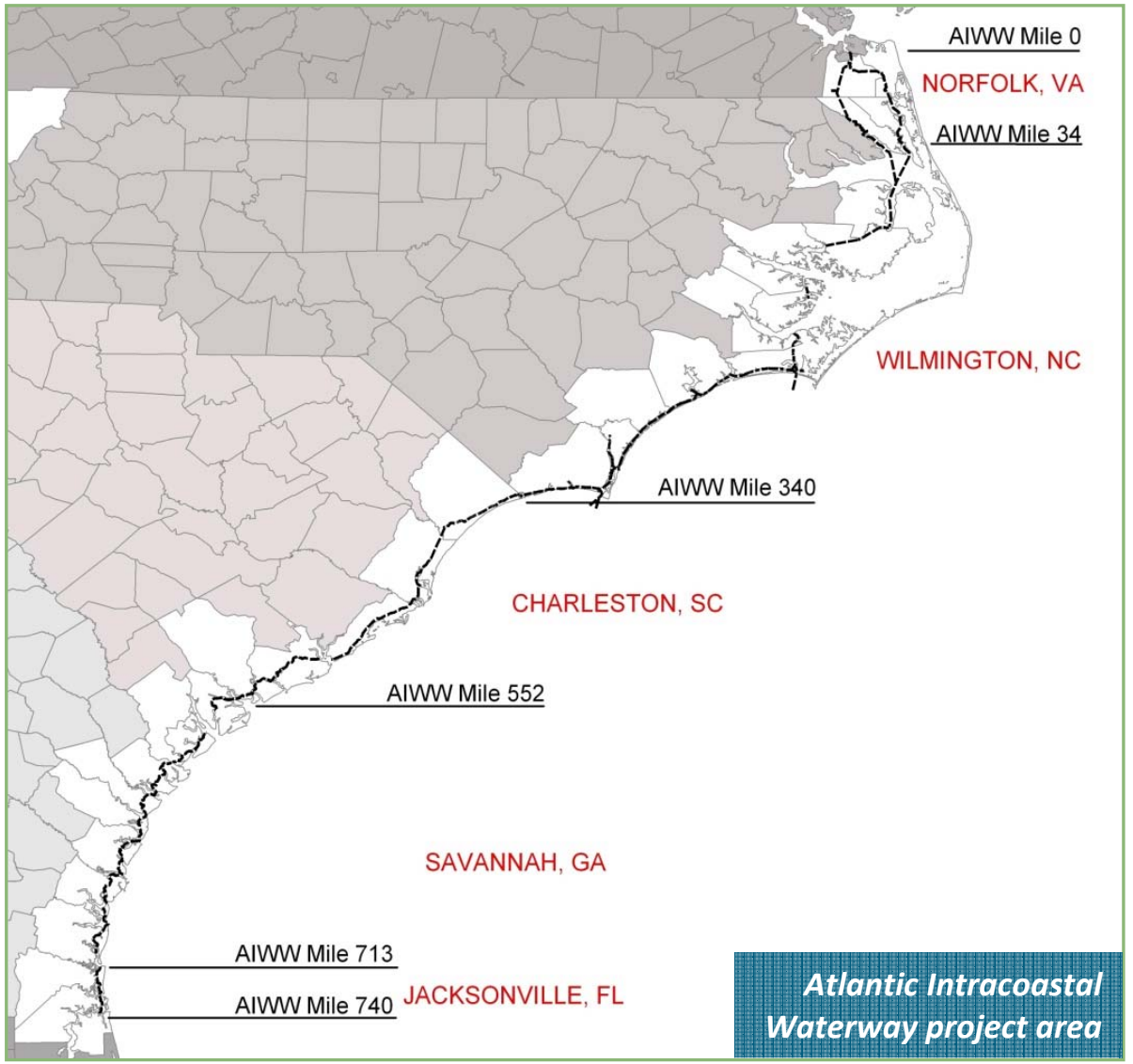
Norfolk, VA to St. Johns River, FL

WEDA
Dredging Summit & Expo 2014

Presented by John Adams, P.E.

June 2014

Overview


AIWW Mile 0
NORFOLK, VA
AIWW Mile 34
WILMINGTON, NC
AIWW Mile 340
CHARLESTON, SC
AIWW Mile 552
SAVANNAH, GA
AIWW Mile 713
AIWW Mile 740
JACKSONVILLE, FL
Atlantic Intracoastal Waterway project area

Local Sponsors

- Provide lands, easements, and right-of-way for USACE Districts
  - Norfolk – No Local sponsor
  - Wilmington – North Carolina Dept. of Environmental and Natural Resources
  - Charleston – South Carolina Health and Environmental Control & Office of Ocean and Coastal Resources Management
  - Savannah – Georgia Dept. of Transportation
  - Jacksonville – Florida Inland Navigation District (FIND)

Dredged Material Management Changes

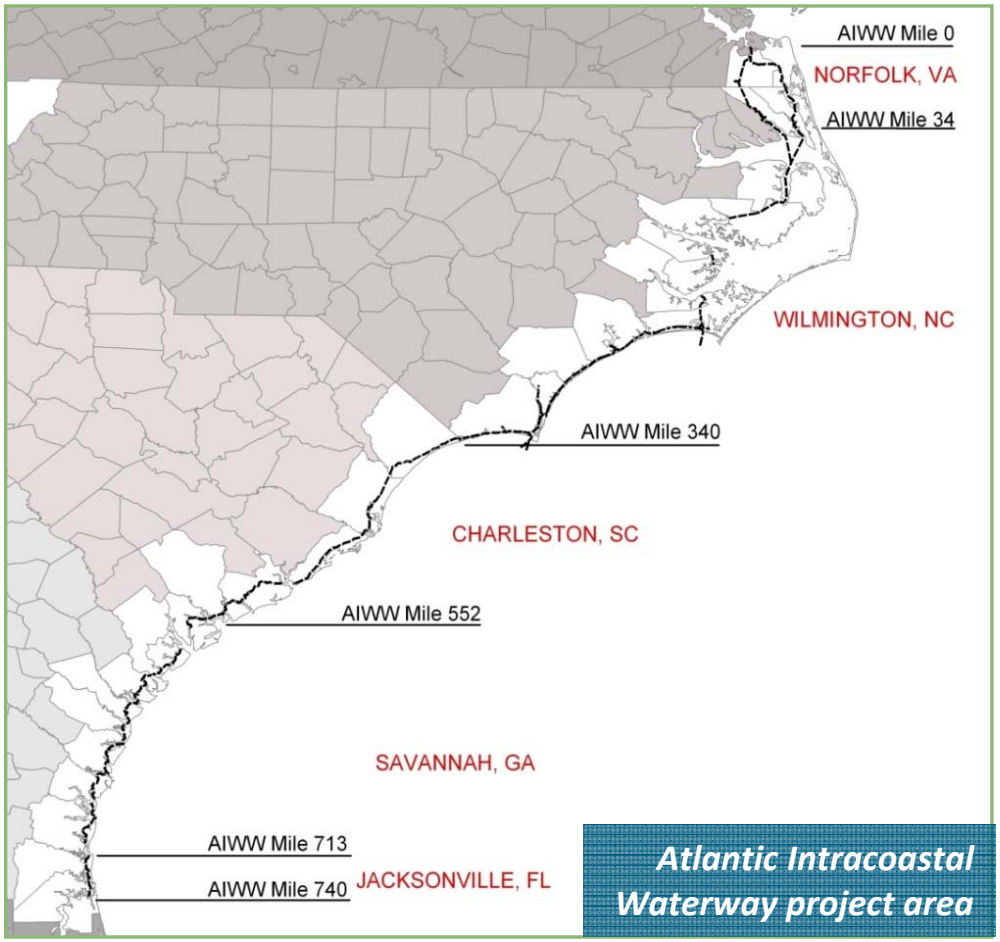
- Original – DMMAs built next to waterway
  - Many in wetlands
  - Open water placement
- 1970s – 1980s
  - Increased environmental awareness
    - Water quality
    - Habitat
    - Endangered species
    - Wetlands
    - Cultural resources

USACE Savannah District, Spoil Islands in vicinity of Brunswick, GA

WEDA

Plan Overview

- Assist USACE to develop management strategy with consistent criteria:
  - Engineering
  - Environmental
  - Economic (Cost)
- Create Phase I DMMP
- Establish 20-year dredging and storage requirements



Dredged Material Management Concepts

- Define strategy for operational channel reaches based on
  - Patterns of historic shoaling (yardage)
  - Material characteristics (sand, silt)
  - Maximum pumping distance (6 miles)
  - Availability of DMMAs
  - Placement options

Projecting Future Dredging Quantities

- 20-year storage requirements based on
  - Historic dredging records
    - Inconsistencies in record keeping
    - Information in different formats
    - Requires analysis of data
  - Hydrographic survey

Dredged Material Management Areas

- Management Options
  - CDA (confined)
  - UCDA (unconfined)
  - Open water
  - Beneficial uses
- Identify Sites
  - USACE Data
  - Maps
  - Google Earth

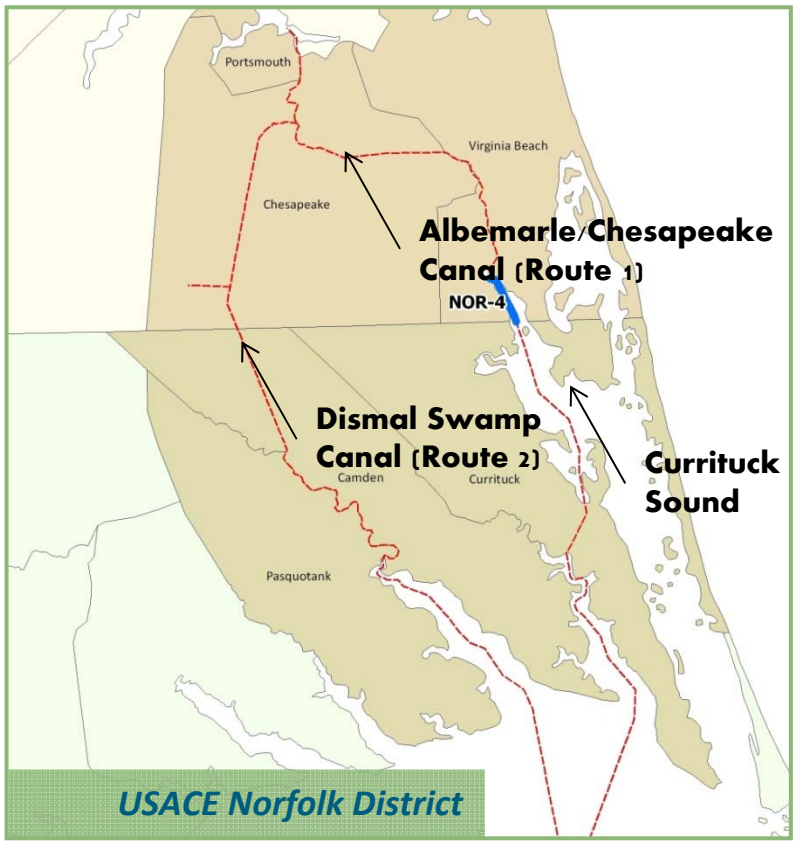

Confined Disposal Area

Reach Designations

- Non-critical
  - 20-year storage capacity
- Critical
  - Modify existing disposal area
- Super-critical
  - New disposal area

Norfolk District Reaches

- Waterway description
- 10 reaches within Dismal Swamp Canal
- 1 super-critical reach (NOR-4)
  - No existing confining DMMAs within 4-mile reach
  - 2.2 MCY 20-year storage volume requirement
  - New 120-acre DMMA or open water



Wilmington District

- 307 waterway miles
- Waterway description
  - 41 reaches
    - 29 non-critical
    - 4 critical
    - 8 super-critical

Wilmington District Reaches

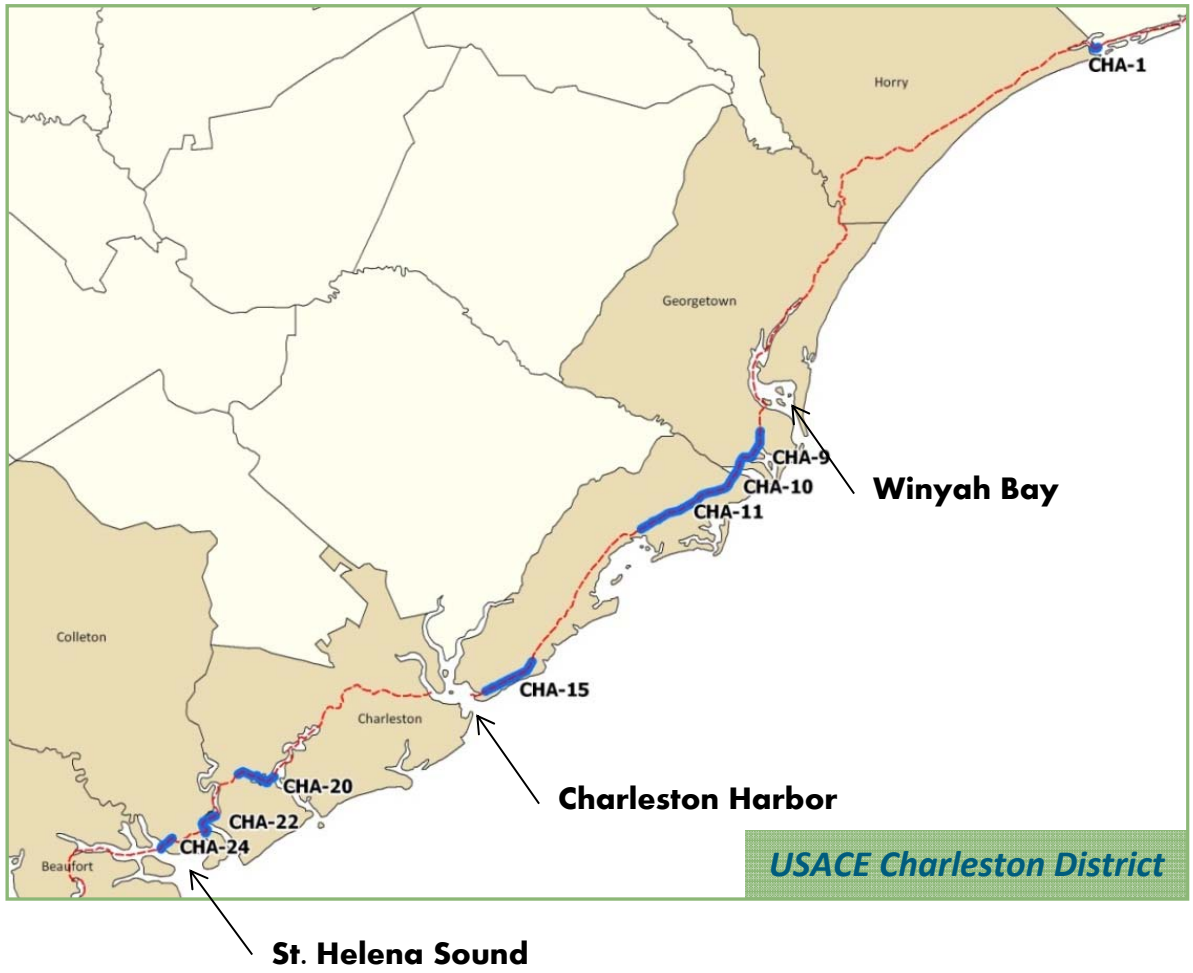
REACH DEFINITION				REQUIRED 20-YEAR STORAGE CAPACITY (CY)
REACH	OPERATIONAL REACH		AIWW MILEAGE	
North Landing River	WIL-1	S	34-45.4	1.5 Million
Coinjock Landcut to Albemarle Sound	WIL-3	S	51-59.6	254,000
	WIL-4	S	59.6-64.1	216,000
Albemarle Sound Bar Channel	WIL-5	S	64.1-66.1	77,000
Alligator River to Alligator-Pungo Landcut	WIL-7	S	80-105	1.2 Million
Core Creek Landcut	WIL-16	C	185-200	1.3 Million
	WIL-17	C	200-207	115,000
Beaufort to Cape Fear Section I	WIL-18	S	207-214	785,000
	WIL-19	S	214-221	17,000
	WIL-20	S	221-227.4	128,000
Beaufort to Cape Fear Section III	WIL-30	C	272-274.3	102,000
	WIL-31	C	274.2-278	237,000

Charleston District

- 211 waterway miles
- Waterway description
  - 28 reaches
    - 15 non-critical
    - 11 critical
    - 2 super-critical

Charleston District Reaches

REACH DEFINITION				REQUIRED 20-YEAR STORAGE CAPACITY (CY)
REACH	OPERATIONAL REACH		AIWW MILEAGE	
Little River to Winyah Bay	CHA-1	C	340-341.9	430,000
Winyah Bay to Charleston	CHA-10	C	414.9-419.6	278,000
	CHA-11	C	419.6-423.8	32,000
	CHA-12	C	423.8-433.8	1.8 Million
	CHA-14	S	436-447	3.6 Million
	CHA-15	C	447-455	1.0 Million
	CHA-16	C	455.2-462.2	1.0 Million
Charleston to Port Royal	CHA-17	C	462.2-466.5	236,000
	CHA-21	C	496.7-501.4	440,000
	CHA-22	C	501.4-508	765,000
	CHA-23	C	508-512	500,000
	CHA-24	C	512-516	1.3 Million
	CHA-25	S	516-518	1.7 Million

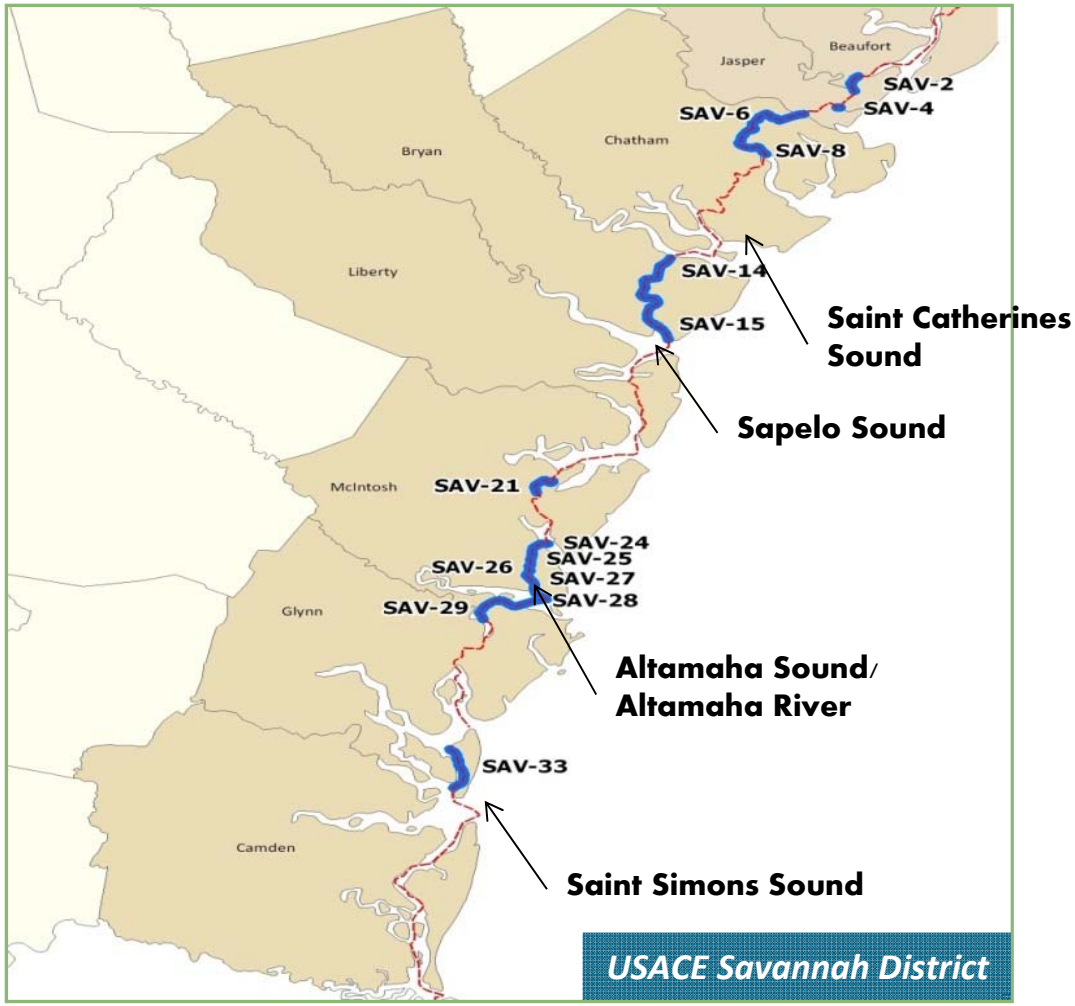


Savannah District

- 150 waterway miles
- Waterway description
  - 33 reaches
    - 21 non-critical
    - 2 critical
    - 10 super-critical

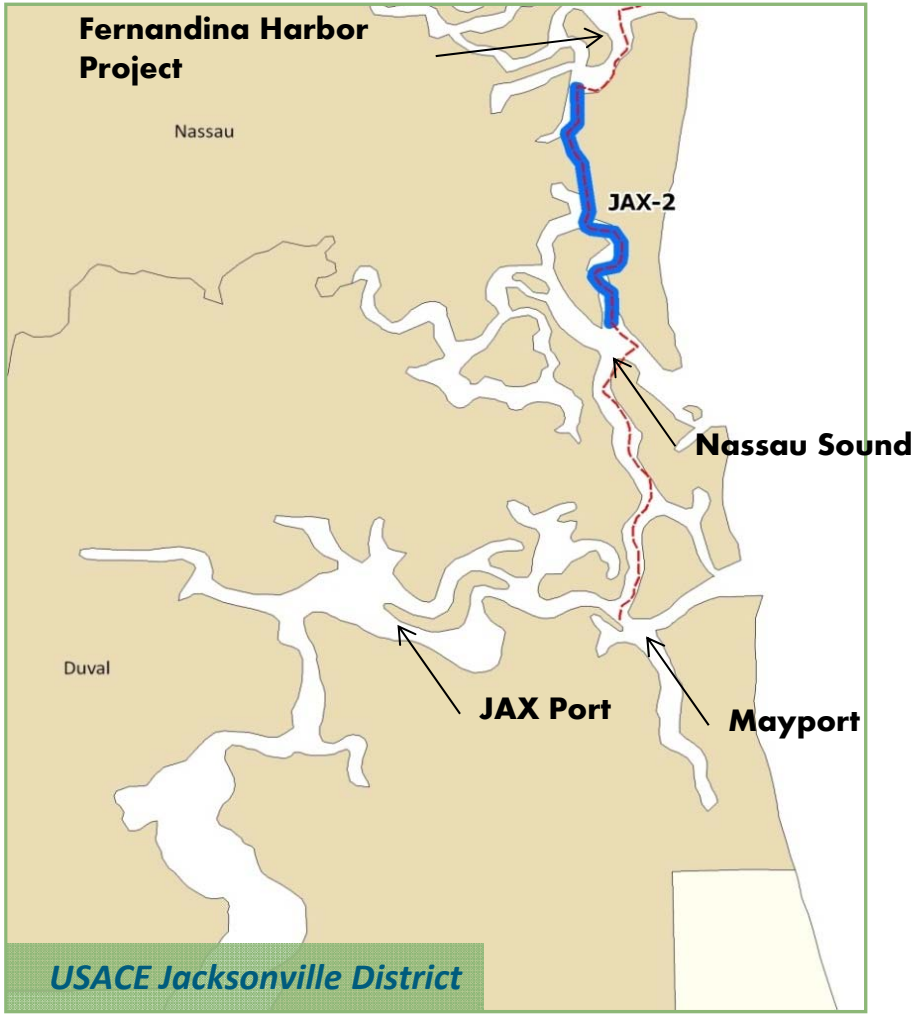
Savannah District Reaches

REACH DEFINITION				REQUIRED 20-YEAR STORAGE CAPACITY (CY)
REACH	OPERATIONAL REACH		AIWW MILEAGE	
Ramshorn Creek, SC	SAV-2	C	568.5-569.9	88,000
Walls Cut	SAV-4	C	572.2-572.6	44,000
Florida Passage	SAV-14	S	605.9-608.5	976,000
Bear River	SAV-15	S	608.5-617.5	132,000
Creighton Narrows	SAV-21	S	640-643	4.2 Million
North River Crossing	SAV-24	S	649.5-651.4	540,000
Rockedundy River	SAV-25	S	651.4-652.7	344,000
South River	SAV-26	S	652.7-653.5	1.5 Million
Little Mud River	SAV-27	S	653.5-656.4	4.6 Million
Altamaha Sound	SAV-28	S	656.4-660.1	4.8 Million
Buttermilk Sound	SAV-29	S	660.1-664.5	8.6 Million
Jekyll Creek	SAV-33	S	680.9-685.9	54.0 Million



Jacksonville District

- 29 waterway miles
- Waterway description
  - 1 super-critical reach (JAX-2)
    - 11-mile reach with one proposed 35-acre DA
    - 56,000 cy deficient 20-year storage volume requirement



Summary by District

DISTRICT	REACHES	NON-CRITICAL	CRITICAL	SUPER-CRITICAL
Norfolk	10	9	0	1
Wilmington	41	29	4	8
Charleston	28	15	11	2
Savannah	33	21	2	10
Jacksonville	5	4	0	1
	117	**78**	**17**	**22**

Recommendations

- Identify disposal options
  - CDA, UCDA, open water, beneficial use
- Conduct site investigations
  - Identify alternative sites
- Conduct surveys
  - Boundary, topographic, soils, resources, environmental
- Perform engineering design
- Coordinate agency / public involvement

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Questions?

John Adams, P.E.

Office: (904) 731-7040

Cell: (904) 434-2571

jadams@taylorengineering.com