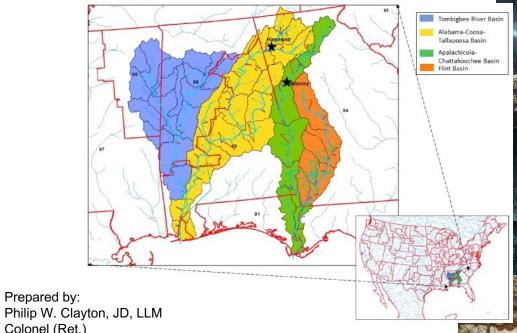
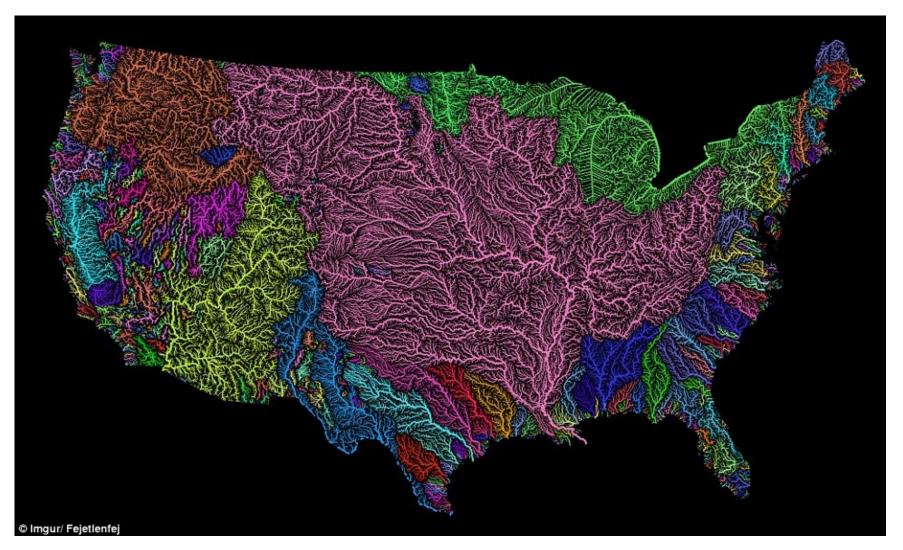
# Apalachicola Chattahoochee Flint River Basin (ACF)

Economic Significance to SE Alabama, SW Georgia, and North Florida



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### **Jurisdictional Waters of the United States**



### An "Inland Marine Highway" for Freight Transportation



Our "inland marine highways" move commerce to and from 38 states throughout the nation's heartland and Pacific Northwest, serve industrial and agricultural centers, and facilitate imports and exports at gateway ports on the Gulf Coast.

- 12,000 miles of commercially navigable channels
- 192 lock sites



## **ACF Project Information**

### **Navigation**

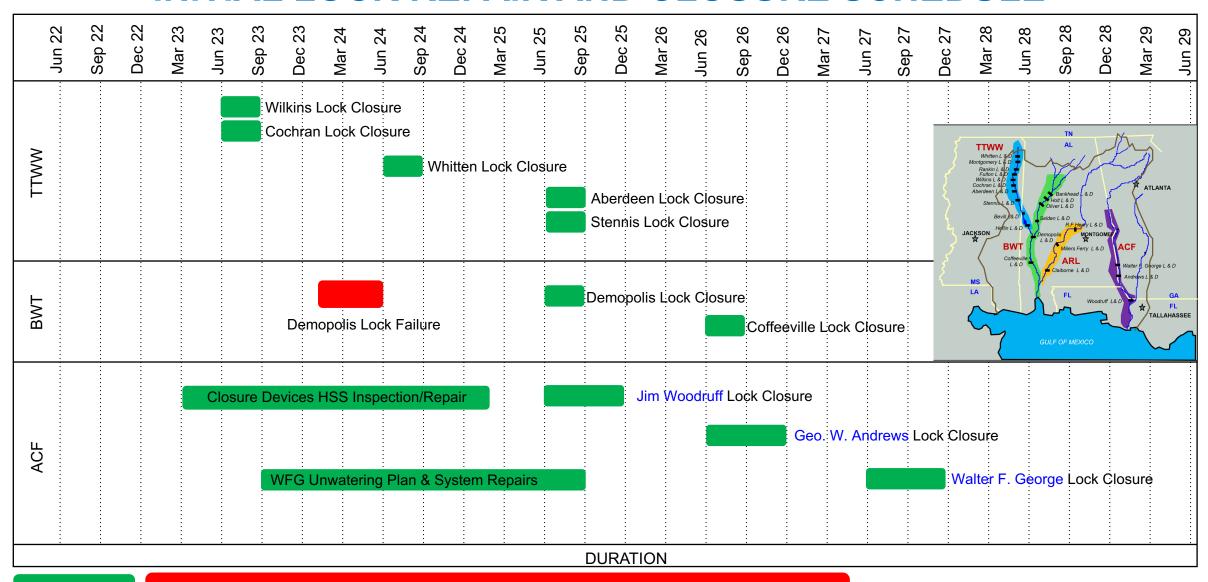
- ~\$6.2 B in lock and dam infrastructure sitting unused, unmaintained, and with very limited funding since 2003.
- 261 Miles of authorized channel from Gulf Intracoastal Waterway (GIWW) to Phenix City/Columbus (9 feet deep X 100 feet wide)
- ~ 140 miles from the GIWW to Bainbridge
- Channel Maintenance of the Apalachicola segment (FL) last occurred in 2001
- USACE annual appropriation for all Civil Works is ~~\$8.6 Billion (FY2024). US Army Corps of Engineers (USACE) will not allocate annual resources to "low use" systems per the OMB utilization algorithm (maintenance requirements X commercial utilization = annual funding). Our system is "low use" due to lack of maintenance and component failure
- USACE 2020 estimate of \$94.2 mil to repair all 3 locks and spillways (1.6% of the annual budget)
- Estimate includes \$43 mil to repair spillway gates (Storage and Flow Management)
- With locks repaired the system is 65-70% reliable for commercial navigation most years (Nov Jul)
- Limited dredging required at Mile Marks 77.8, 40.5, and 36.5 (~< 9 miles of channel) per a USACE 2019 bathymetry survey
- Possible solution may be dredging these locations to 20 feet, in a modified "V" form, at a five-year interval (ex. Sunflower Bar on the TennTom Waterway)
- Strongly recommend local stakeholders either conduct the dredging or provide oversight to Corps operations.
- Modified "V" allows for shallow habit along the edges, greatly reduces bank subsidence and channel infiltration, and captures
  flow in the channel for distribution downstream in the flood plain.
- Beneficial Use of dredge materials <u>must</u> be built into the Scope of Work It's the cost of doing business today! (No upland or with-in bank disposal)
- Limited dredging in the shallow areas improves reliability to 90-95%
- \$10 mil annually needed to keep project at acceptable level of maintenance (utilization will allow funding through the annual civil works appropriation)

# Substantial ACF Project Funding in FY 2024

- USACE allocated \$74.6 million from the Bipartisan Infrastructure Legislation (BIL) Waterway
  Infrastructure Fund to the Mobile District for Jim Woodruff lock and dam at Lake Seminole and
  Walter F. George lock and dam at Lake George/Eufaula. Driven largely by letters from our five
  Regional Planning Councils and Commissions
- Senators Tuberville (AL) and Britt (AL) requested \$20.635 million in a Congressionally Directed Spending addition for FY 2024 for George W. Andrews lock and dam at Columbia, Alabama. Driven by an interest in the entire system being operational and growth of entities like the Hudson Alpha-Wiregrass Biotechnical Institute in Dothan
- The Energy and Water Appropriations Act of 2024 signed into law in March funded \$20.635 million.
- USACE surprisingly allocated \$6 million in FY 2024 O&M for routine maintenance and NEPA Consultation
- \$101 million is now available to the Mobile District and should fund all lock and spillway restoration
- Funding for channel restoration and dredge material disposal operations are scheduled in future years requests.

### MOBILE DISTRICT

### **INITIAL LOCK REPAIR AND CLOSURE SCHEDULE**



### **ACF** Economic Information

### Economics 1,2,&3

- The tri-state region bounding the lower ACF is an economically depressed area
- Poverty rates in the region are nearly twice that of the national average<sup>3</sup> (26.6% regional poverty rate, 13.6% national poverty rate)
- A regional average annual wage is \$39,900. A regional average annual cost of living is \$52,400.
- The economic potential of commercial navigation is significant to the region
- Greatly reduces the wear and tear on existing road infrastructure due to heavy loads
- Greatly reduces GHG emissions
- Current Industry and Water Supply tristate \$7.1B and 39,000 jobs<sup>1</sup>
- Current Tourism tristate \$662M and 5,100 jobs¹
- Commercial Navigation Initial investigation of the tristate region in 2019 and 2020<sup>2</sup>
  - ▶ Identified 27 former and potential users includes National Defense, renewable energy (wood pellets, biofuel, graphene, and nuclear) and about 2.1 million tons of cargo
  - ► Est. 80 to 770 barge shipments per year (~43,000 truck equivalent loads)
  - ▶ Potential for over 3.8 million tons of cargo annually within five years
- An August 2021 Economic Impact Study³ by Dr. Keivan Deravi suggest:
  - ► At 2.1 mil tons of cargo annual: potential for over 29,400 new jobs, \$1.99 billion in total economic impact over 10 years, and an 18:1 ROI³
  - ► Yields an additional \$2.4 billion in tax revenue over ten years (18:1 ROI for government investment of \$136 million for all repairs)<sup>3</sup>

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### Total Economic Impact for the Lower ACF Basin

A Summary of Dr. Deravi's Study

Rate of Return and Net Increase in Total Economic Impact of Lower ACF Basin Restoration Under Alternative Assumptions

Growth Assumption	Tons	Direct Employment Impact (JOBS)	Direct Output Impact	Output Total Impact	Net Increase in Output	Average Annual Rate of Return (Present Value)	Return for \$1 in Spending (Present Value) (ROI)	
27.5%	446,250	6,266	\$235m	\$423m	\$91m	0%	\$1.0	
50%	525,000	7,372	\$277m	\$498m	\$166m	4%	\$2.0	
75%	612,500	8,600	\$323m	\$581m	\$249m	18%	\$3.0	
100%	700,000	9,829	\$269m	\$664m	\$322m	24%	\$4.0	
500%	2,100,000	29,487	\$738m	\$1,994m	\$1,700m	178%	\$18	

Historic average tonnage

Achievable
Average
tonnage from
2021 estimates

## **Economic Impact for Florida**

Increase in Total Economic Impact of Lower ACF Basin Restoration Under Alternative Assumptions for Florida

Tons per Year	Tons Per Year	Direct Employment Impact (JOBS)	Direct Output Impact	Output Total Impact
50.00%	525,000	737	\$28m	\$50m
75.00%	612,500	860	\$32m	\$58m
100.00%	700,000	983	\$27m	\$66m
500.00%	2,100,000	2,949	\$74m (	\$199m

### **Economic Impact for Georgia**

Increase in Total Economic Impact of Lower ACF Basin Restoration Under Alternative Assumptions for <a href="Georgia">Georgia</a>

Tons per Year	Tons Per Year	Direct Employment Impact (JOBS)	Direct Output Impact	Output Total Impact
50.00%	525,000	3,760	\$141m	\$254m
75.00%	612,500	4,386	\$165m	\$296m
100.00%	700,000	5,013	\$137m	\$339m
500.00%	2,100,000	15,038	\$376m	\$1,017m

## **Economic Impact for Alabama**

Increase in Total Economic Impact of Lower ACF Basin Restoration Under Alternative Assumptions for <u>Alabama</u>

Tons per	Tons Per	Direct	Direct Output	Output Total	
Year	Year	Employment	Impact	Impact	
		Impact (JOBS)			
50.00%	525,000	2,875	\$108m	\$194m	
75.00%	612,500	3,354	\$126m	\$227m	
100.00%	700,000	3,833	\$105m	\$259m	
500.00%	2,100,000	11,500	\$288m	\$778m	

35 Potential Users on the System

Company	Product	City	State	Jobs added	Hr Rate Avg	Net Ton or TEU (TEU=44,800 lbs)	Net Tons from Column G	Barge Equivalents (Annual)	Revenue Gross	1	Point of Contact	Phone	Highlight
AFC Grain	Fertilizer	Columbia	AL	5	\$12	5,200 T annual	5200.0	4			Larry Knighton	334-696-8034	indicates critical
Southern Nuclear	Components	Columbia	AL					2			Jim DeLano	205-440-9395	to national
Houston Co Port Auth	Mixed	Columbia	AL								James Etheredge	etheredge.jame	to national
GreatSouthern Wood Preserving	Finished Lumber Products	Abbeville	AL			1	1						security or food
Wood Pellet Mill (proposed)	Fuel pellets for export	Abbeville	AL	90	\$18	700,000 T Annual	/00000.01						•
Wood Pellet Mill (proposed)	Fuel pellets for export	Eufaula	AL	90	\$18	700,000 T Annual	700000.0	52					and energy
Medical Glove Manufacturing	Latex Rubber Medical Products	<del>Eufaula</del>	AŁ	θ		100,000 bbl natural latex	0.0	6			Bill Fylstra	334-688-0070	resilience
Biddle Manufacturing	Luxury House Boats	<del>Eufaula</del>	AŁ	θ		64 TEU annual	0.0	θ	\$6.4 mil		Doug Biddle	704-728-4897	resilience
Tessenderlo Kerley	Fertilizer	Eufaula	AL	5	\$25	300,000 T annual	300000.0	23	·		Eddie Maldonado	334-687-6692	
Carbo Ceramics Manufacturing	Pelletized Ceramic for petroleum	Eufaula	AL	15		15,000 T annual	15000.0				David Girouard	334-688-3508	
Mineral Manufacturing	HFST/Bauxite/Calcined Aggregates	Eufaula	AL	65		400,000 T annual	400000.0	 22		·	Ryan Reed	814-599-2230	
Alcoa	Green Petroleum Coke	Eufaula	AL	10		200,000 T annual	20000.0	 15	}	·	nyumiceu	014 333 2230	
MC Dixon Lumber Co.	Finished Lumber Products	Eufaula	AL	10		720 TEU annual	16128.0	24	}		Bob Dixon	334-687-8204	List of 35 Potentia
Garrison Bro. Lumber Co.	Finished Lumber Products	Eufaula	AL	10	\$18	240 TEU annual	5376.0				Ben Garrison	334-687-6033	
			AL	500		†	t	375		<del> </del>	†	334-067-0033	users with
Souther Pine Energy, LLC	Biodiesel, graphene, biochar	White Oak		500	\$28	†	409500.0	3/3			Steven Saccente	+	immodiate access t
Continental Carbon Co.	Carbon Black	Phenix City	AL	θ		40,000 bbl residual fuel oil	0.0				<del> </del>	<del></del>	immediate access to
WestRock	Coated Board	Hatchachubbee	AL								<del>-</del>		the rivers suggests
Apalach Maritime Museum  AMMFL.org	Passenger Paddle Wheel Cruise	Apalachicola	FL	3				24			Capt. George Floyd	770-364-5712	
Florida Marine Transporters	Tug Operator	Mandiville	LA	10			t	27			Teapt. George Troya	770 304 37	3.8 million tons
Smith Co Recycling	Recycled Materials	Bainbridge	GA								https://smithcorecyclir	229-27	annually
			1										annually
Far West Logistics Southeast Minerals	Tug Operator Feed Suppliment Components	Bainbridge Bainbridge	GA GA	10			<del> </del>				Randy Weibrecht Alec Poitevint	<i>y</i>	
Flint River Mills (FRM)	Feed, Seed, Fertilizer	Bainbridge	GA			***************************************	<del> </del>			-	Alec Poitevint	<i>[</i>	
Hunt Refining/Blue Knight	reed, seed, retuitzer	bambridge	- GA							\$80,000 Rail	Alceronevine	/ <u> </u>	
Energy Partners (Formerly Ergon Asphalt)	Liquid Asphalt	Bainbridge	GA	25	\$22	325,000 bbl annual	47794.0	25		Demurrage	Johnny	229-248-0804	
Steward Machine	Tainter Valves/Miter Gates	Bainbridge	GA	50		85 T x 6 times/year 240 T X 4 times/year	1470.0	14		Demarrage	nger	229-243-0702	
Tessenderlo Kerley	Fertilizer	Bainbridge	GA	3	\$25		180000.0	7		/	e Maldonado	334-687-6692	
RW Griffin Feed, Seed & Fertilize	<del> </del>	Bainbridge	GA	25		800,000 T annual	800000.0	61			Mr. Morgan Wells	612-486-3856	
JS Commodities	Commodities	Bainbridge	GA	23	\$22	200,000 T annual	20000.0	 15	†	<del>                                     </del>	Ralph G. Evans	912-384-2393	
				3		†	†		<u> </u>	-1/ /	1	-	
Anovian	Synthetic Graphite (Green & PET Coke)	Bainbridge	GA	100	\$18	165,000 T annual	165000.0	15	/	/	Tom Weber	920-664-1030	
Georgia Pacific	Finished Paper Products	Cedar Springs	GA	<del> </del>			<del> </del>		-//-	<del></del>		+	
Republic Conduit	Galvanized Electrical Conduit	Cedar Springs	GA				ļ		<i>y                                    </i>		ļ		
uel	Bulk Fuel	Hilton	GA	3		300,000 bbl annual	44120.0	//2		<b>-</b>	ļ	<del> </del>	
JS TRANSCOM	Dept of Defense	Fort Benning	GA	ļ				/	<u></u>	<b></b>	<b></b>	ļ	
outhwire	Copper Plating	Carrolton	GA	0		270 TEU annual	6050.0	// 9					12
				1029	\$22		3835638.0	767	1 )			1	

### **National Waterways Foundation Data**

CY 2021 Economic Analysis for Select Waterways (Alternative Analysis of ACF Economic, Environmental, and Societal Potential)

and

Environmental Significance of Inland Waterway Navigation (Favorable effect on GHG Emissions)

# ECONOMIC IMPACT OF ALABAMA'S INLAND WATERWAYS



IN 2021, ALABAMA'S INLAND PORTS, INLAND WATERWAYS,
AND INLAND WATERWAYS DEPENDENT INDUSTRIES SUPPORTED

**Nearly** 134,000 jobs

\$8.4 billion in personal income

\$15.9 billion in Gross State Product

\$35.4 billion in total output

...Giving rise to \$1.7

billion

in state & local tax revenue

#### INLAND WATERWAYS SUPPORT ALABAWA'S KEY INDUSTRIES

Percent of Goods
Shipped by Water (Tons)

Primary Metal Manufacturing

← 11.2% of inbound / ← 10.6% of outbound

Primary Manufacturing

← 7.2% of inbound / ← 5.3% of outbound

### Waste Mgmt & Remediation Ser

### 10.6% of inbound

### 10.6%

← 7.7% of inbound

### TOP INLAND WATERWAYS COMMODITIES BY WEIGHT

Fabricated Metal Product Mfg

(comprising 55% of total tonnage)







### TOP INLAND WATERWAYS COMMODITIES BY VALUE

(comprising 61% of total value)





\$894



s mer \$569 million

22,069

1,270 MILES of navigable inland waterways, ranking it

nation

### ALABAMA'S INLAND WATERWAY ASSETS ATA GLANCE

Warrior-Tombigbee,
Tennessee, TennesseeTombigbee, Coosa Alabama
and Apalachicola ChattahoocheeFlint Rivers, and the Gulf Coast
Intracoastal Waterway

19 public ports

In 2021,
27.8 M tons of freight valued at
\$5.3 BILLION moved on Alabama's inland waterways, which is equivalent to over
695.000 TRUCKS

Avoided trucks translates into reduced congestion, emissions, and crashes, and contributes to the state of good repair of highway infrastructure

42% of Alabama's

MARINE FREIGHT TONNAGE

moves on inland waterways

### National Waterways Foundation CY2021 Economic Analysis for <u>Alabama</u>

- Five rivers and the Gulf Intracoastal Waterway
- Includes the ACF system
- 27.8 million tons of freight
- \$5.3 billion in value
- \$1.7 billion in state and local tax revenue
- 695,000 trucks off the roadways
- 134,000 better paying jobs

# ECONOMIC IMPACT OF OKLAHOMA'S NATIONAL WATERWAYS FOUNDATION

IN 2021, OKLAHOWA'S PORTS, INLAND WATERWAYS,
AND INLAND WATERWAYS/DEPENDENT INDUSTRIES SUPPORTED

Nearly 78,000 jobs

\$4.4 billion in personal income

\$6.6 billion in Gross State Product

\$15.5 billion in total output



in state & local tax revenue

#### INLAND WATERWAYS SUPPORT OKLAHOWA'S KEY INDUSTRIES

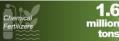
Industry Sub-Category	Percent of Goods Shipped by Water (Tons)	Direct Oklahoma Jobs
Crop Production	→ 26.7% of outbound	1,680*
Primary Metal Product Mfg	<b>← 16.0%</b> of inbound	3,250
Machinery Manufacturing	← 5.2% of inbound	21,830
Fabricated Metal Product Mfg	⊕ 5.0% of inbound	19,950

\*Total for Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11)

### TOP INLAND WATERWAYS COMMODITIES BY WEIGHT

(comprising 72% of total tonnage)







0.2 million tons

### TOP INLAND WATERWAYS COMMODITIES BY VALUE

(comprising 89% of total value)



\$606

Agricultural Products, such as oils & seeds \$594

Base Metals, such as copper, lead, aluminum, and zinc

\$253 million

# 150 MILES of navigable inland waterways, ranking it 30 th in the nation

### OKLAHOMA'S INLAND WATERWAY ASSETS ATA GLANCE



2 public ports

# In 2021, 5 M tons of freight valued at \$1.6 BILLION moved on Oklahoma's

moved on Oklahoma's inland waterways, which is equivalent to over 127,000 TRUCKS

Avoided trucks translates into reduced congestion, emissions, and crashes, and contributes to the state of good repair of highway infrastructure

### National Waterways Foundation CY 2021 Economic Analysis for <u>Oklahoma</u>

- Resembles the <u>ACF</u> capacity
- 5 million tons of freight
- Food and food products, agricultural commodities, fertilizers, grain crops, animal feed, and aggregates.
- \$1.6 billion in value
- \$ millions in state and local tax revenue
- 127,000 off the roadways
- Large number of better paying jobs

# ECONOMIC IMPACT OF WISCONSIN'S INLAND WATERWAYS



IN 2021, WISCONSIN'S PORTS, INLAND WATERWAYS, AND INLAND WATERWAYS DEPENDENT INDUSTRIES SUPPORTED

Nearly 147,000 jobs

\$10.0 billion in personal income

\$15.8 billion in Gross State Product

\$34.1 billion in total output

...Giving rise to \$1.2 billion

in state & local tax revenue

#### INLAND WATERWAYS SUPPORT WISCONSIN'S KEY INDUSTRIES

Industry Sub-Category

Construction

Nonmetallic Mineral Product Mfg

TOP INLAND WATERWAYS COMMODITIES BY WEIGHT

(comprising 87% of total tonnage)









#### TOP INLAND WATERWAYS COMMODITIES BY VALUE (comprising 62% of total value)



Percent of Goods

Shipped by Water (Tons)

C 3.1% of inbound

C 4.3% of inbound

\$32.0

Cereal Grains, \$24.0 including \$24.0 million barley, & oats



## Wisconsin has nearly 230 MILES of navigable inland

waterways, ranking it nation

### WISCONSIN'S INLAND WATERWAY ASSETS AT A GLANCE



**₩** 

Direct

69,962

5,629

Wisconsin Jobs

 ${f 12}^{
m public}_{
m ports}$ 

# 1.9M tons of freight valued at \$107 MILLIO

moved on Wisconsin's inland waterways, which is equivalent to over 48,000 TRUCKS

Avoided trucks translates into reduced congestion, emissions, and crashes, and contributes to the state of good repair of highway infrastructure

7% of Wisconsin's

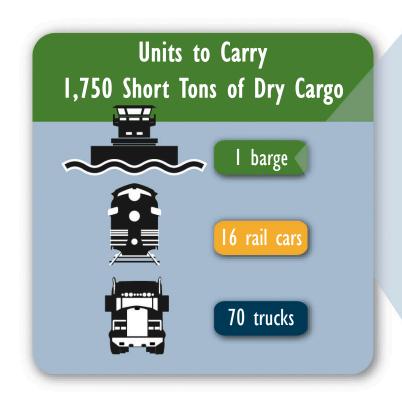
MARINE FREIGHT TONNAGE

moves on inland waterways

# National Waterways Foundation Economic Impact for Wisconsin

- Resembles the <u>Flint</u> capacity
- 1.9 million tons of freight
- Food and food products, agricultural commodities, fertilizers, grain crops, animal feed, and aggregates.
- \$107 million in value
- \$ millions in state and local tax revenue
- 48,000 trucks off the roadways
- Large number of better paying jobs

### **Easing Rail and Highway Congestion in Our Communities**





One loaded covered hopper barge carries 58,333 bushels of wheat, enough to make almost 2.5 million loaves of bread.



### **Moving Freight Efficiently Throughout America**

# Transporting freight by water is also the most energy-efficient choice.

Barges can move one ton of cargo 647 miles per gallon of fuel. A rail car would move the same ton of cargo 477 miles, and a truck only 145 miles.



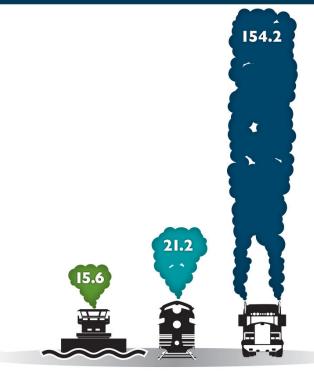
Ton-miles Traveled per Gallon of Fuel



### The Greener Way to Move America's Cargoes

Barges have the smallest carbon footprint among other transportation modes.

To move an identical amount of cargo by rail generates 30% more carbon dioxide than by barge, and 10 times more emissions by trucks than by barge.



Tons of CO<sub>2</sub> per Million Ton-miles



### Example of an Environmental Restoration Opportunity



Corley Slough "Sand Mountain" MM 36.5

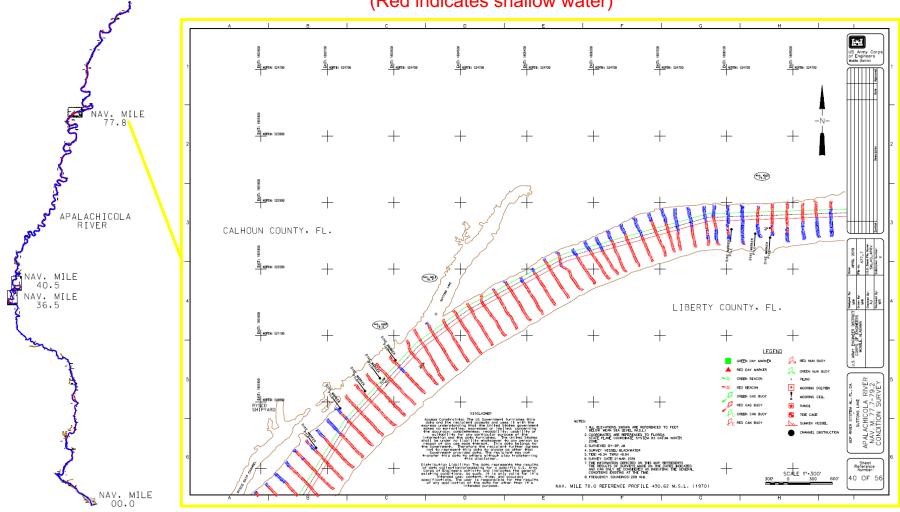
- ~ 1 million cubic yards of Sand (Dredge Materials)
- Site 39 (Liberty Co) is 14.8 acres and 300,000 cu yds
- Site 40 (Gulf Co) is 9.7 acres and 500,000 cu yds
- Mineral Manufacturing Co is willing to remove the materials and contribute funds for site restoration
- One of many possible locations (Upland and within bank disposal areas) for material removal and restoration of native trees and grasses

# USACE 2019 Bathymetry Data for Historical Shoaling Locations

(~ 9 miles of the 106 miles of the Apalachicola River)

### Shallow location on the lower Apalachicola (MM 77.7 to 79.2) Blountstown (MM 77.8)

(Red indicates shallow water)



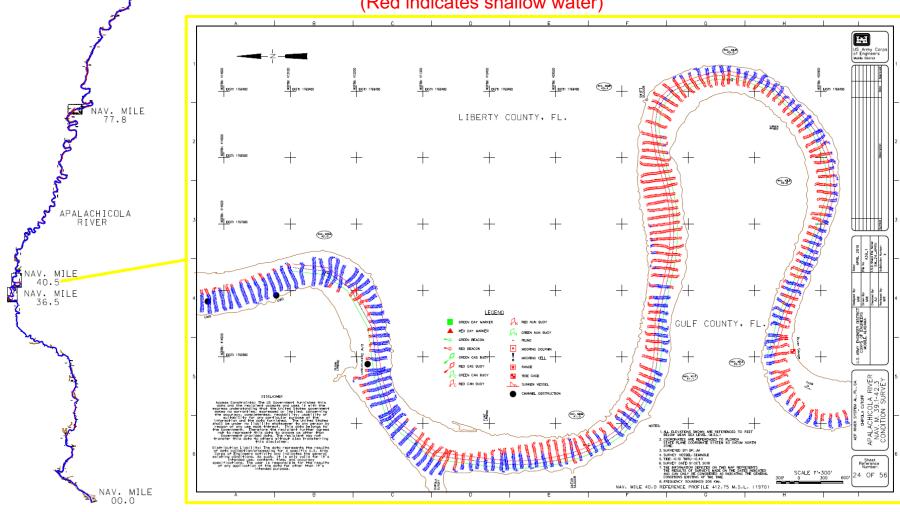
Note: Channel width is 900 to 1,200 feet





### Shallow location on the lower Apalachicola (MM 39.1 to 42.3) Chipola Cutoff (MM 40.5)

(Red indicates shallow water)

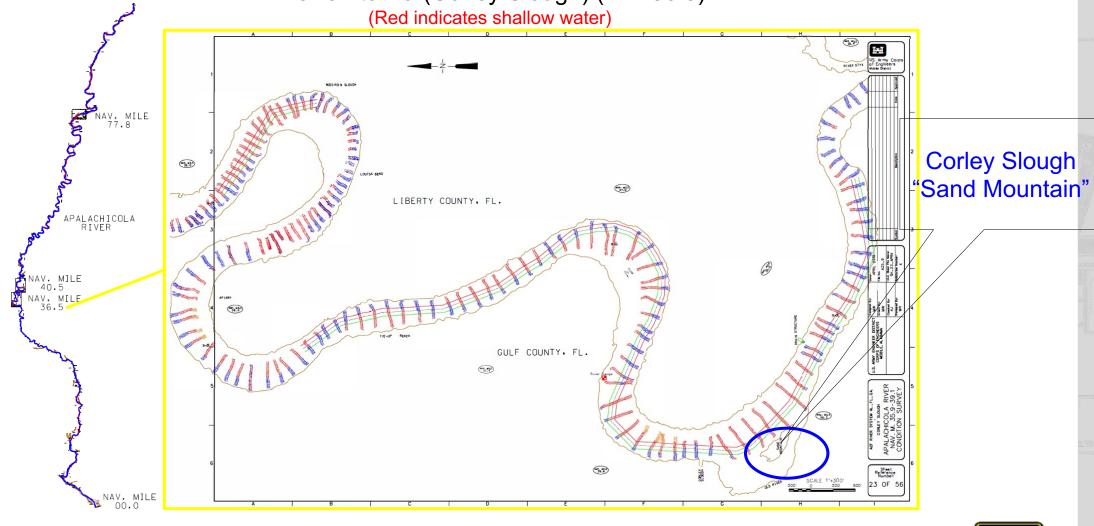


Note: Channel width is 900 to 1,200 feet





## Shallow location on the lower Apalachicola (MM 35.9 to 39.1) Wewahitchka (Corley Slough) (MM 36.5)



Note: Channel width is 900 to 1,200 feet





### **ACF Conclusions and Recommendation**

- Full potential to change living conditions for many of the 1.2 million residents of the tri-state region
- Proper management for navigation will enhance flows for ecology in the Apalachicola Bay System and flood plain
- Environmental interests must be a part of the conversation as to how channel restoration might be accomplished (techniques, disposal, frequency, etc.)
- Commercial Navigation greatly reduces GHG Emissions
- Dredging Blountstown (MM77), Chipola Cutoff (MM40), and Wewahitchka (MM36) locations to 20 feet, in a modified "V" form and at a five-year interval may be a viable, least destructive solution for historical shoaling and flow restrictions
- Modified "V" or "suboptimal" dredging leaves shallows on banks and gradually slopes to depth affords shallow habitat along the banks, greatly reduces bank subsidence and channel infiltration, provides for improved ecological flows to the flood plain, and supports navigation simultaneously.
- Beneficial Use of dredge materials <u>must</u> be built into the Scope of Work it's the cost of doing business today!
- Upland and with-in bank disposal of dredge materials are not an option!
- Lock repairs will facilitate fish lockage for T&E and other species supports critical fish/mussel relationships for a cleaner and healthier ecosystem
- The ACF is a crucial infrastructure asset to the nation and should be adequately maintained for ecological concerns, health and safety of downstream residences, industrial users, water supply, recreation, and commercial navigation

### References:

- 1. Mixon, Phillip PhD., Associate Prof of Economics, 2020, January 7, Economic Impact of the Mid/Lower Apalachicola-Chattahoochee-Flint Waterway.
- 2. Clayton, Philip JD, LLM, 2020, Aug 20, ACF Customer Utilization Survey, unpublished, Eufaula Barbour Co. Chamber of Commerce.
- 3. Deravi, M. Keivan, PhD. Economic Research Services, Inc., August 2021, The Economic Impact of Restoration of Infrastructure on the Lower Apalachicola-Chattahoochee-Flint River Basin.

  Prepared by:

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