



Upper Mobile Bay Wetlands Creation Site

ADB GREEN PORTS WEBINAR SERIES
NATURE-FOCUSED APPROACHES TO BENEFICIAL REUSE OF DREDGED
MATERIAL

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Alabama Port Authority

- The Port of Mobile – located in the northern Gulf of Mexico in the State of Alabama
- Located along the Mobile River at the northern end of Mobile Bay.
- Only deep-water port in Alabama with direct access to five Class I Railroads, 2 Interstates, and 15,000 miles of inland waterway through the United States and Canada.
- Need to provide safe, navigable waters for the vessels
- Economic engine for the State of Alabama – creating 1 in 7 jobs statewide.

Powering Alabama's Economy

One Shipment at a Time



1 in 7 Jobs
Statewide



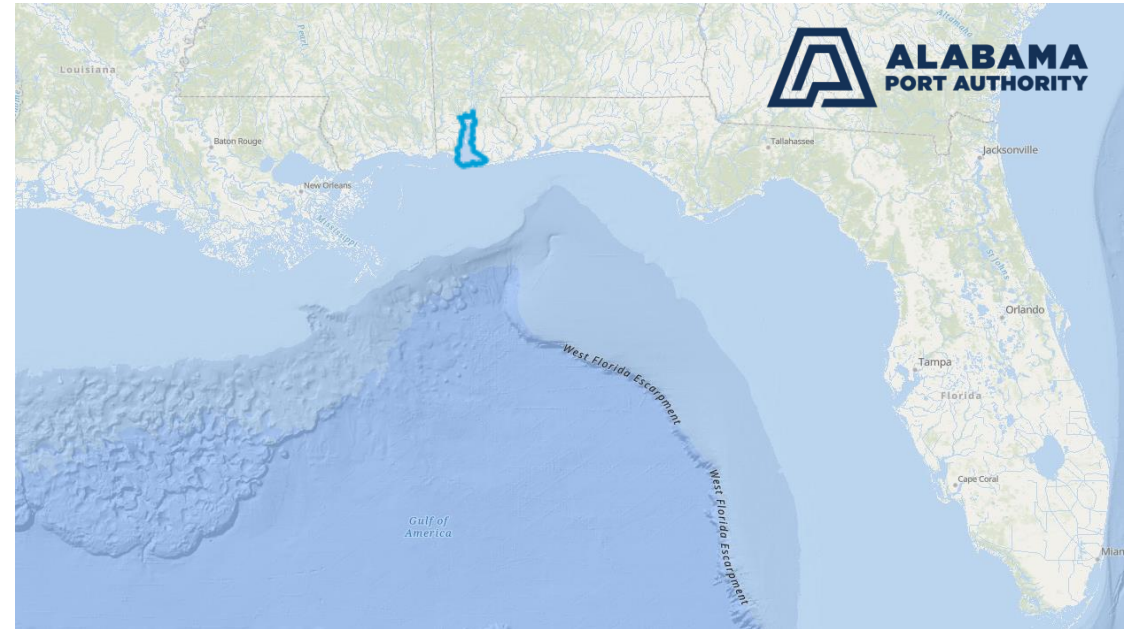
\$415.8 Billion
Total Economic Value



\$10.1 Billion
State & Local Taxes

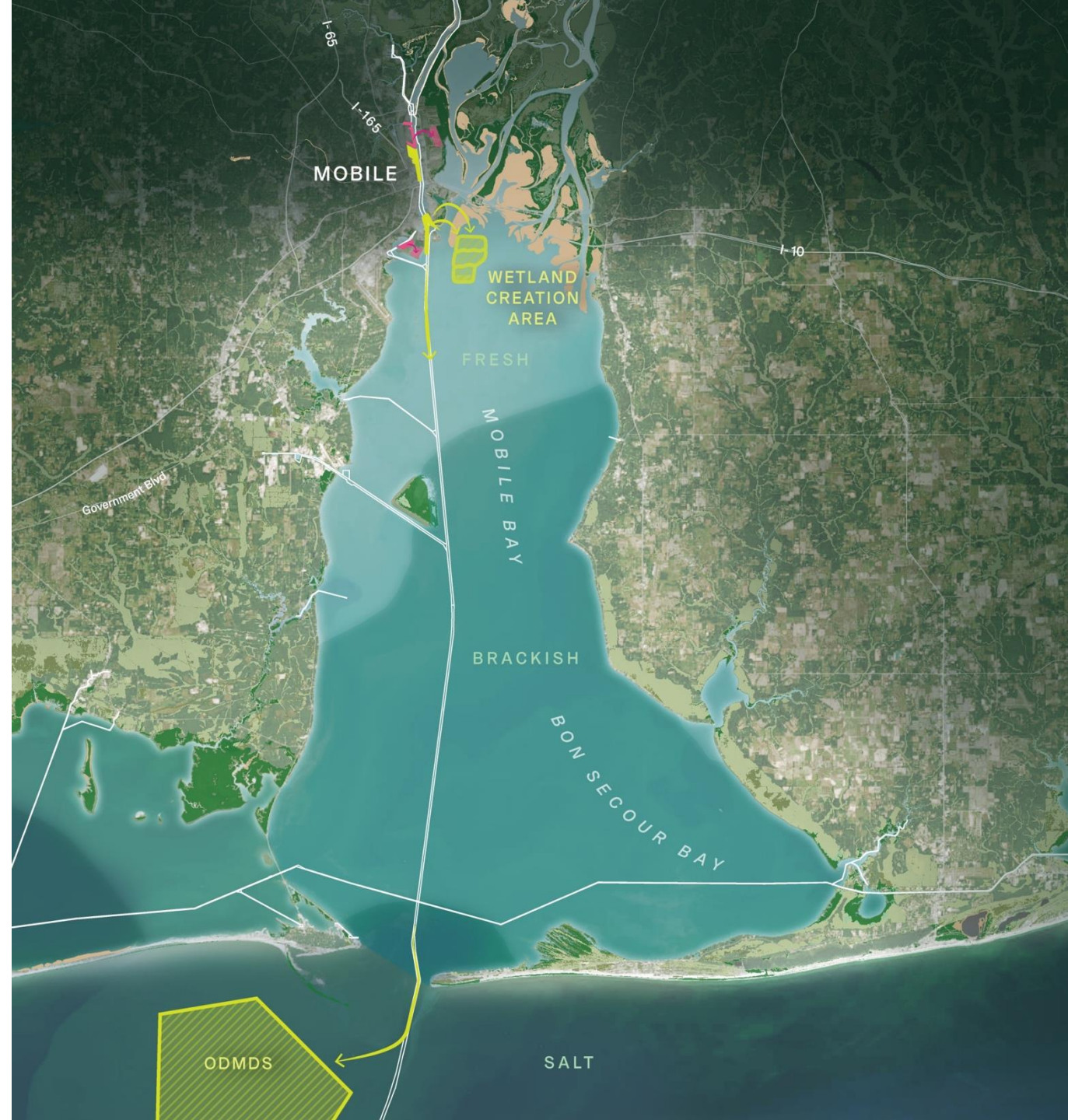


234.4 Billion Tons
of Cargo Moved



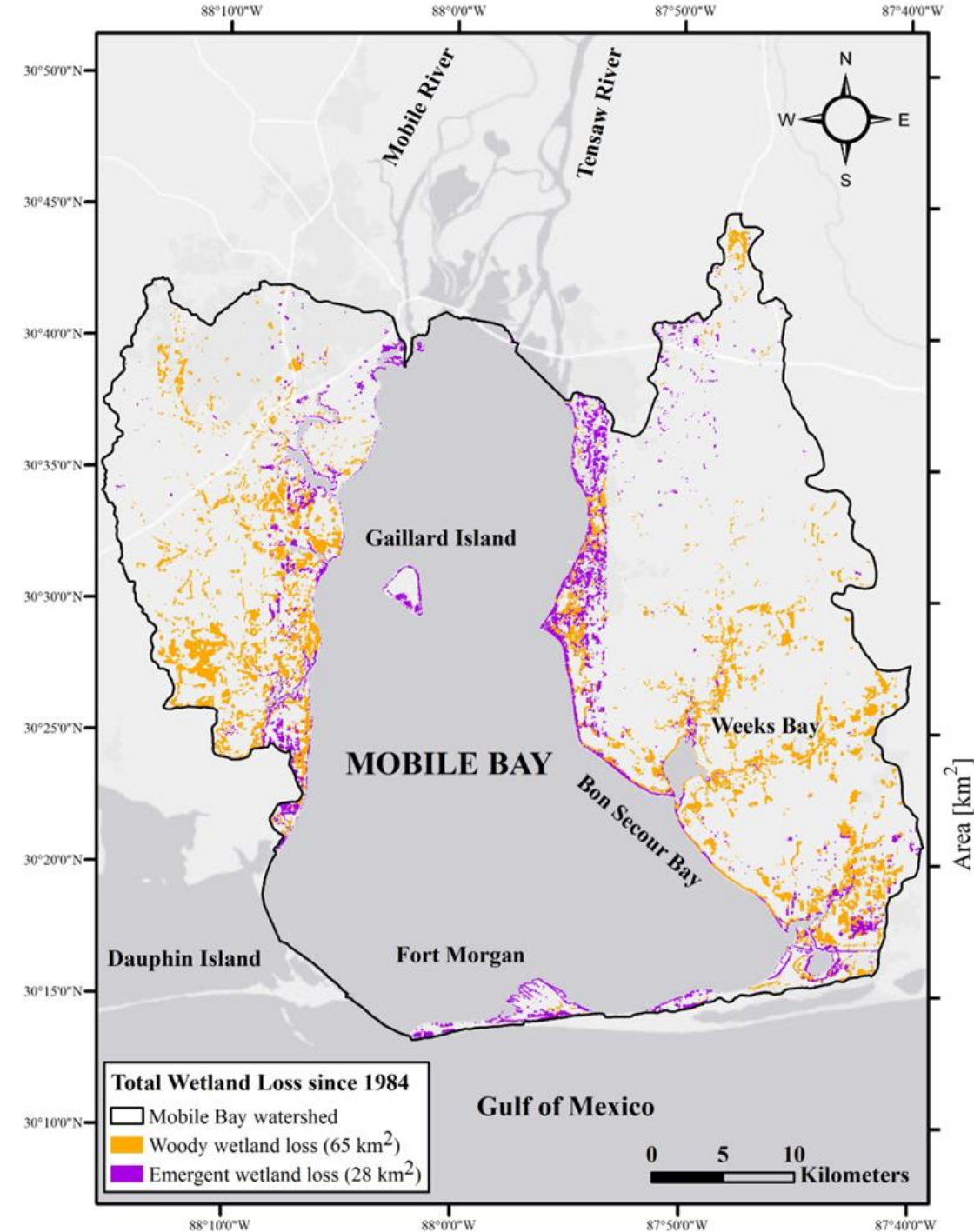
Defining the Dredging Problem & Solutions

- Dredge 457,000 cubic meters of material every year at \$50/m³ from public berths
- Running out of capacity
- Multiple solutions required
- Dredged Material Management Plan with multiple solutions
 - Upland
 - Offshore
 - Beneficial use



Defining the Environmental Problem – Wetland loss

- 8,000ha of wetlands lost since 1984 in Alabama
- Rising sea levels
- Hardening of shorelines
- Sediment inputs



Nature-based Solutions – Beneficial Reuse

- Utilize dredged material to create wetland habitats
- Creates capacity for dredged material placement
- Reduced cost to Port
- Reduced carbon footprint
- Reuses valuable Mobile Bay sediments



Process

- Planning
- Design
- Permitting
- Construction



DESIGN INVESTIGATIONS



In-Field Site Investigations (Local Businesses)

- Mapping bay bottom elevations over 2,000 acres.
- Geotechnical samples collected through 70 soil borings.
- Cultural resources re-assessment.
- Sediment testing in berths.



Desktop Analyses

- Sea level rise estimations.
- Water level analyses.
- Typical wave climate and hydrologic modeling.
- Sediment settlement analyses.
- Environmental modeling for habitat benefits.

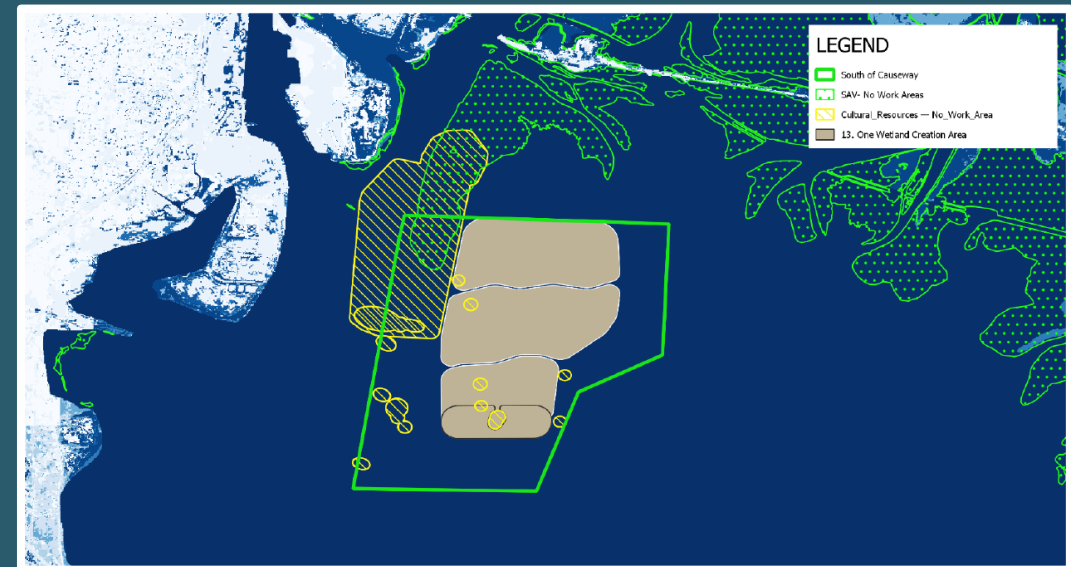
DESIGN CRITERIA



Design Criteria

- Environmental, social-economic, and cultural criteria include:
 - Maximize habitat diversity and increase habitat productivity.
 - Minimize impacts to current commercial and recreational fishing areas.
 - Avoid cultural resources.
 - Avoid submerged aquatic vegetation and oyster reefs.
 - EPA-standard tested sediments for open water dredged material placement.

- Physical site condition criteria include:
 - Wind and wave climate to inform shoreline protection features.
 - Elevation of wetland to create habitat.
 - Slope stability of sediments for containment design to reduce turbidity.
 - Depth of water for maximized capacity of dredged material and site access.



Permitting

- Build the Bowl

- Federal Permits

- Fisheries benefits and impacts (National Oceanic and Atmospheric Administration)
 - Sediment testing (Environmental Protection Agency)
 - Modeling (US Corp of Engineers)
 - Cultural Resources

- State Permits

- Water Quality Certification
 - Coastal Consistency

- Fill the Bowl

- Federal dredging permits for 4 separate berths
 - State water quality re-evaluation

US Army Corps of Engineers

This notice of authorization must be conspicuously displayed at the site of work.

A permit to perform work authorized by statutes and regulations of the Department of the Army at
Upper Mobile Bay; approximately 1.5 miles south of US Highway 90/95 interchange; at Latitude 30.544803°, Longitude -88.000639°, Mobile, Mobile County, Alabama.

has been issued to Alabama Port Authority, Attention: Doug Otto on September 24, 2025

Address of Permittee: 250 North Water Street, Mobile, Alabama 36602

PERMIT NUMBER **SAM-2021-00246-DCH**

Allison Monroe Digitally signed by Allison Monroe
Date: 2025.09.24 10:11:11 -05'00'

Allison Monroe, Chief
Mobile District, Regulatory Division
For the District Commander

ENG FORM 43-95, Jul 81 (33 CFR 320-3.39) EDITION OF JUL 79 MAY BE USED Project: CEC-WO

Next Steps

- Construction
 - Construct the first 100-acre site in 2027
 - Fill the site with dredged material over a three-year period to wetland elevation
 - Build next wetland creation cell over 20-year period



MOVING FORWARD WITH BENEFICIAL USE



- **Challenges to beneficial use restoration –**
 - Education and outreach – perceived threats.
 - Regulatory efficiencies for large nature-based projects.
 - Requires collaboration between key decision makers
- **Opportunities**
 - Beneficial use recovers the vast investment of money and energy inherent in all dredging activities and creates wetlands that are eroding at alarming rates.
 - Addresses threats of climate change and sea level rise for ecological and sediment management goals.



Thank You

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