

FY17 RSM IPR

SAJ/SAM - Evaluation of Turbidity Compliance Issues in the State of Florida Associated with Federal Navigation Projects

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BLUF: Beach and nearshore beneficial use activities associated with Federal projects in the State of Florida require permits setting turbidity limits that can potentially cause cost and schedule impacts during construction due to dredge shutdowns.

Challenges/Objectives

- Permits must be obtained from FDEP for littoral placement of dredged material associated with Federal projects
- Permits have arbitrary turbidity compliance limits
- Turbidity levels often exceed compliance levels during placement activities
- Meeting compliance using required sampling methodology is problematic
- May result in temporary shut downs of dredging activities

Approach

- Collaborate with FDEP on realistic turbidity requirements
- Develop a joint strategy to implement recommendations in defining and implementing turbidity permit conditions
- Identify tools to help evaluate justifiable mixing zones
- Establish consistent monitoring methodologies
- Analysis of turbidity data to determine project specific variations
- Select demo projects to showcase non-compliance difficulties





Turbidity Plume



**SAJ/SAM - Evaluation of Turbidity Compliance Issues in the State of Florida
Associated with Federal Navigation Projects**

USACE RSM PDT

Partner

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➤ SAM

- Larry Parson
- Elizabeth Godsey

Florida Department of Environmental Protection
Beaches, Inlets and Ports Program

- Turbidity Monitoring Work Group

State Regulatory Agencies

Key Leveraging Opportunities

Re-establishment of the Turbidity Monitoring Working Group



NAVIGATION

Jacksonville Program

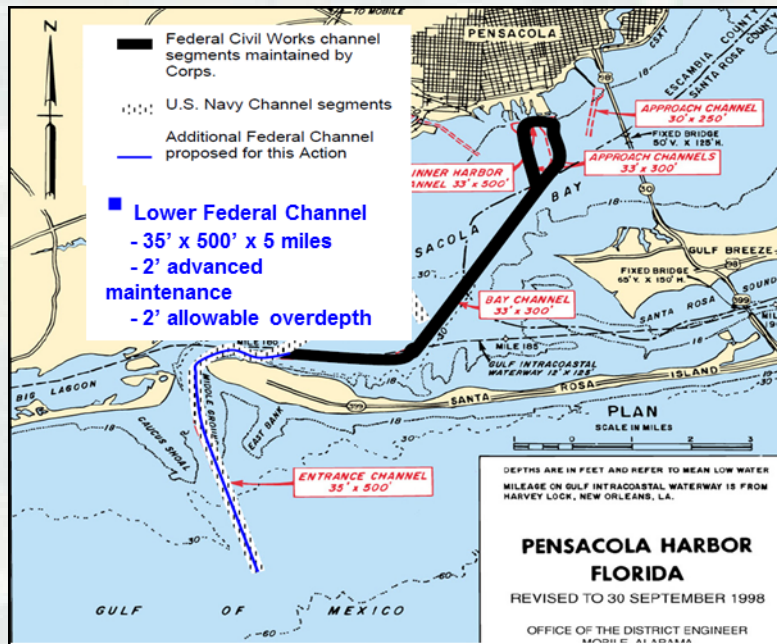
Authorized Projects

★ 17 Deep Draft Harbors

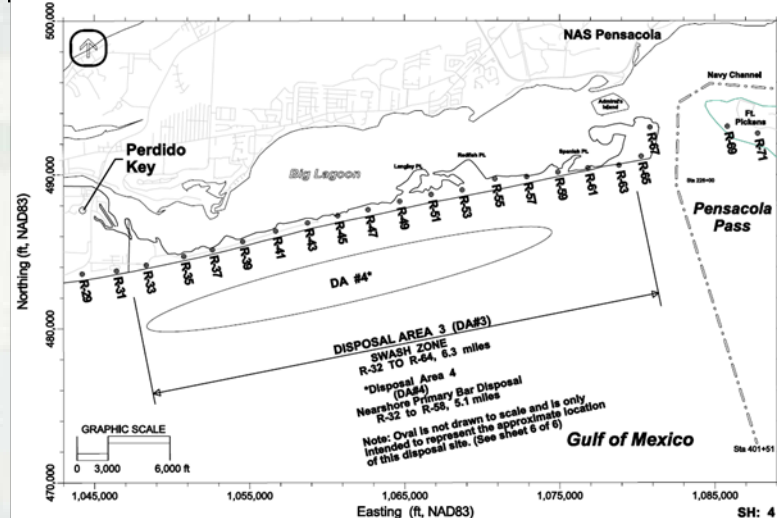
— Jacksonville Civil Works Boundary



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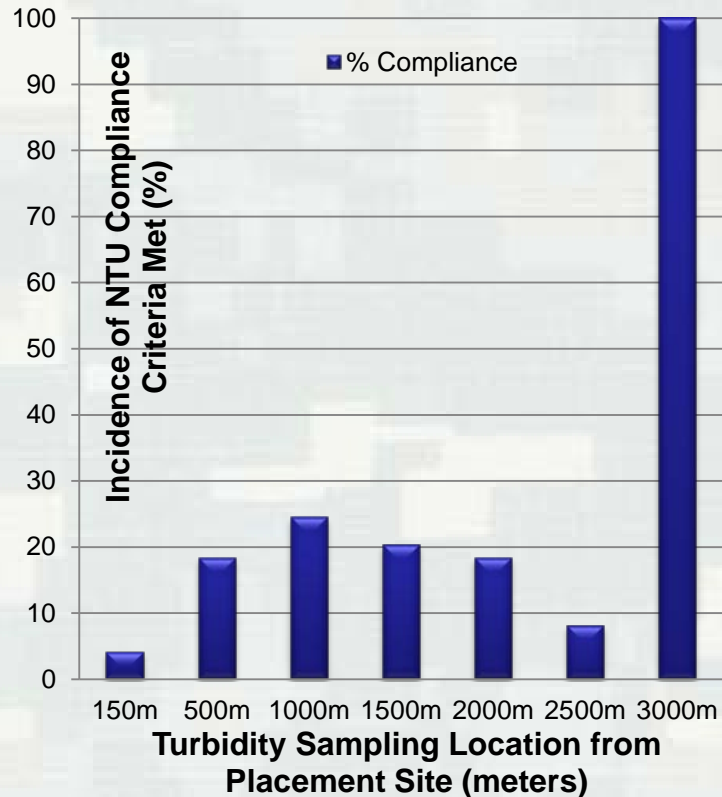


- Consistent with regional sediment management principles
- Utilized engineering modeling and analysis to predict behavior of plume at placement site utilizing:
 - ▶ Actual turbidity data
 - ▶ Littoral hydrodynamic processes for Pensacola area
- Requested and received variance for 3,000 meter mixing zone at placement area
- Dredging or filling shall cease immediately and not resume until corrective measures have been taken and turbidity has returned to acceptable levels



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% Compliance With Permit Conditions

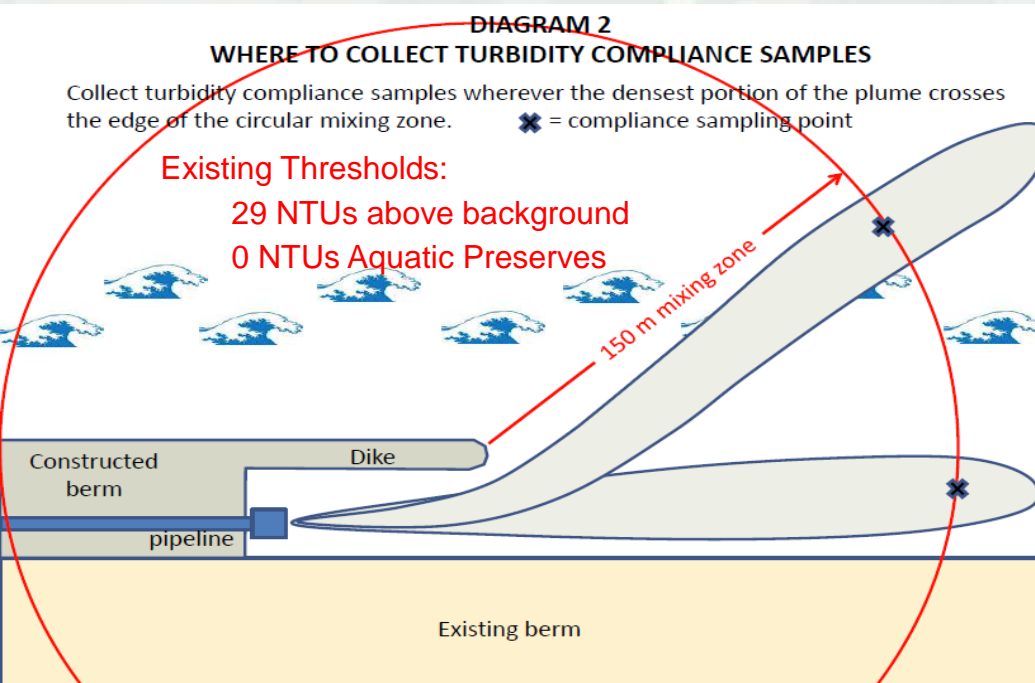


- An expanded mixing zone of 3,000 m is justified
- Did not meet compliance majority of time inside 3,000 m
- Littoral mixing zones less than 3,000 m in this case would result in dredging shutdowns
- Impacts to numerous Federal projects along Florida panhandle



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Accomplishments

- Ongoing coordination with FDEP
- Initiated coordinated with other States on turbidity requirements
- Analysis of turbidity data to determine project specific variations
- Draft TN - Evaluation of Turbidity Compliance Challenges in the State of Florida Associated with the Beneficial Use of Dredged Material from Federal Navigation Projects

Deliverables

- Complete coordination regarding turbidity requirements with States
- Coordination meeting between Districts and FDEP
- Select demo projects
- MFR to document meeting outcome and recommendations
- ID predictive tools to determine thresholds and mixing zones
- Technical Note



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UPs

- Working to establish realistic thresholds
- Encourage beneficial use of dredged material and reduce costs by decreasing upland and offshore disposal
- Avoid costly dredge shut-downs associated with exceeding compliance thresholds

DOWNs

- Costs to establish demos to showcase and justify mixing zone needs
- Will take some time to institute throughout all Federal projects. May require permit modifications
- Possibility of dredge shutdowns



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How is this project benefiting the USACE and Nation

- Money saved in the prevention dredge shut downs
- Encourages beneficial littoral placement of sand
- Reduces placement in ODMDS

