FY15 RSM-EWN IPR

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

Nathan Lovelace (SAM)

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.

Description

- 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

Objectives

- SAJ/SAM determine issues, identify available information
- Collaborate with FDEP on realistic turbidity requirements
- Develop a joint strategy to implement recommendations in defining and implementing turbidity permit conditions
- Establish demo projects to showcase non-compliance difficulties
- Identify tools to help evaluate justifiable mixing zones

Turbidity Monitoring Work Group

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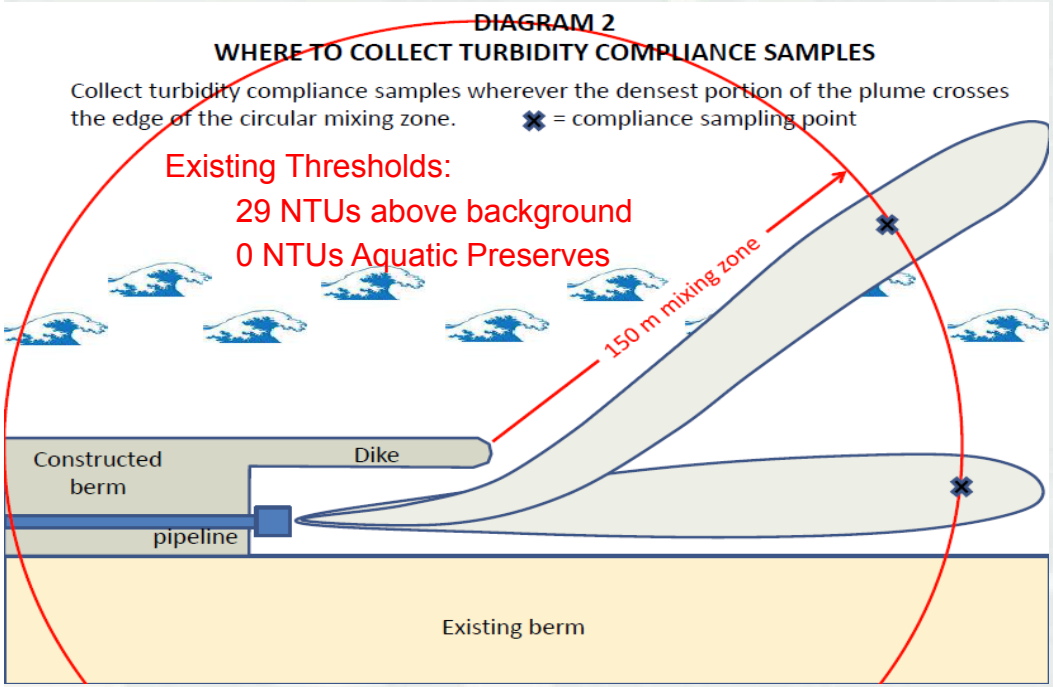

Approach to Address Problem

(Tools, Models, Technologies)

- ID predictive tools to determine thresholds and size of mixing zones
- Recommend monitoring methodologies towards establishing consistent turbidity sampling
- Analysis of turbidity data to determine project specific variations

Deliverables

Working meeting between SAJ & SAM	1/15/15
Meeting notes	1/31/15
Coordination meeting between Districts and FDEP	9/29/15
Presented at FSBPA	2/5/16
Select demo projects	TBD
MFR to document meeting outcome and recommendations	9/30/16

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UPs – 3 Positives from effort

- Realistic thresholds should encourage beneficial use of dredged material and reduce costs by decreasing upland and offshore disposal and decreasing dredge shut-down times associated with exceeding compliance thresholds
- Establishes channels for interagency collaboration and coordination that will be required for planning and permitting beach and nearshore disposal practices
  - Working with the State's Turbidity Working Group
- Promote leveraging research opportunities for the development of useful predictive models and tools

DOWNs – 3 Negatives from effort

- Will likely be some initial costs to establish demos to showcase and justify mixing zone needs
- Will hopefully result in changes to turbidity compliance criteria, however, this may take some time to institute throughout all Federal projects. May require permit modifications.
- Challenging the state on turbidity criteria thresholds. May experience pushback.

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USACE RSM PDT

- SAJ
  - Matt Schrader
- SAM
  - Larry Parson
  - Elizabeth Godsey

Partner

Florida Department of Environmental Protection
Beaches, Inlets and Ports Program

Turbidity Monitoring Work Group
- Permittees
- Consultants
- Contractors
- Environmental Groups
- Regulators

Key Leveraging Opportunities

Establishment of the Turbidity Monitoring Working Group

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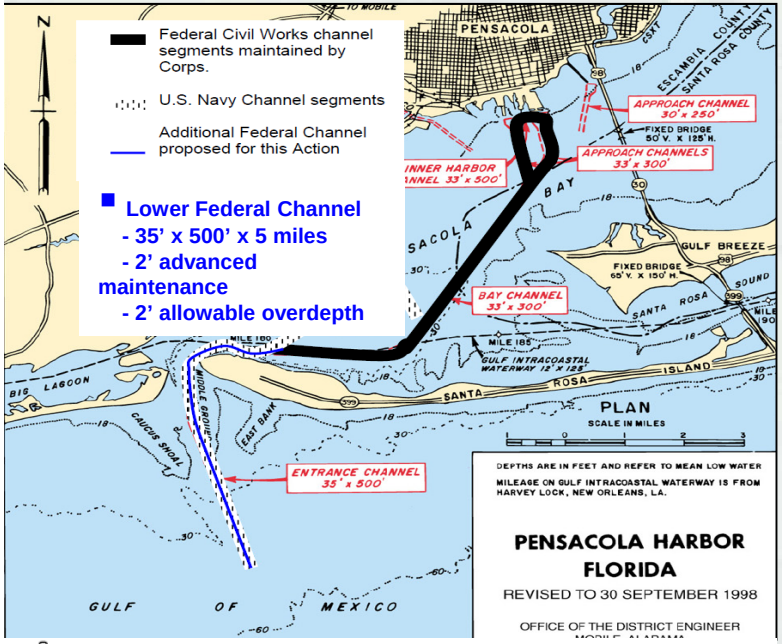

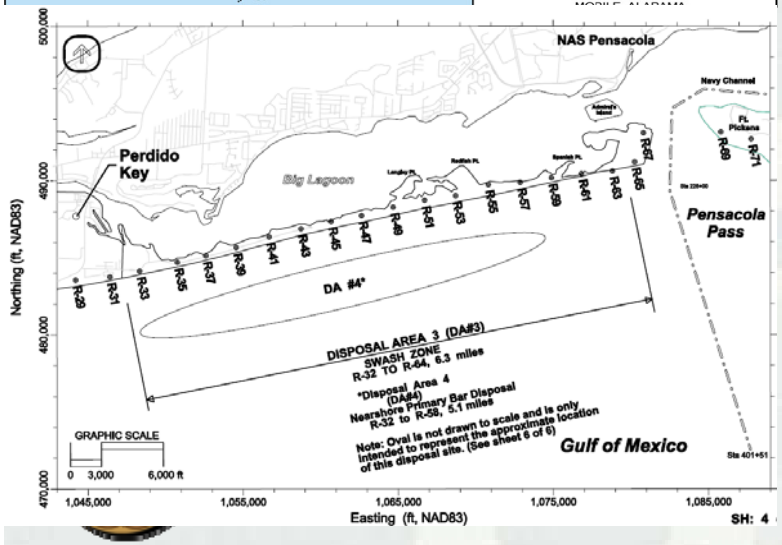

- Over 550 thousand cy of beach quality sand per dredging cycle
- Consistent with regional sediment management principles
- Utilized engineering modeling and analysis to predict behavior of plume at placement site utilizing:
  - Actual turbidity data from Panama City, Florida and other Panhandle projects to determine natural background variations
  - Littoral hydrodynamic processes for Pensacola area
- Requested and received variance for 3,000 meter mixing zone at placement area based on model results & nearby existing projects
- 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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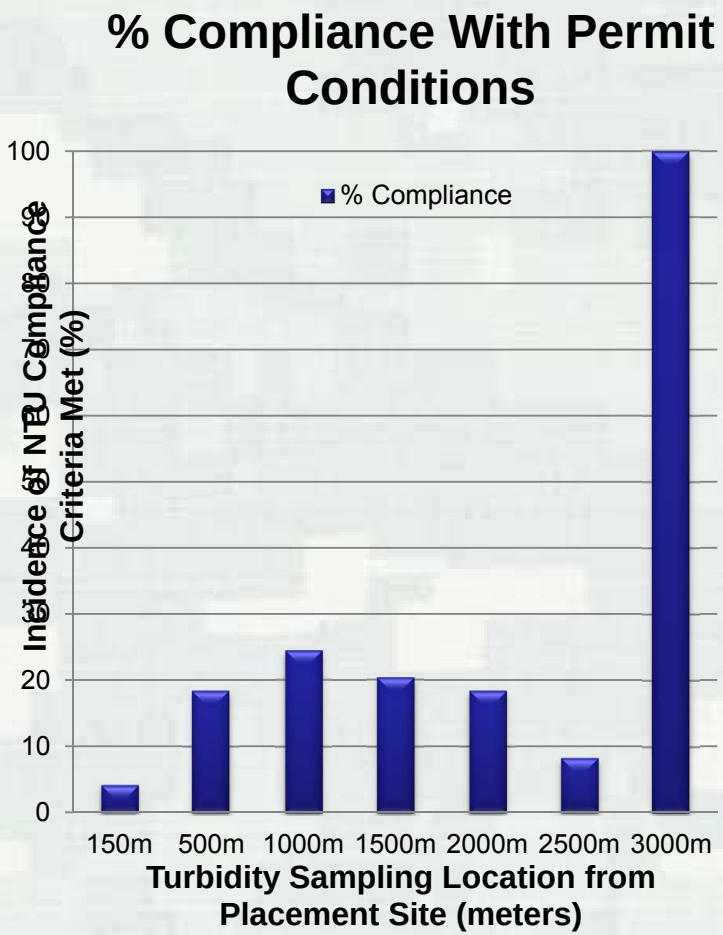

- An expanded mixing zone of 3,000 m is justified
- Did not meet compliance majority of time inside 3,000 m
- Littoral mixing zones less than 3,000 m in this case would result in dredging shutdowns
- Impacts to numerous Federal projects along Florida panhandle

Value to the Nation:

- Significant money saved in the prevention dredge shut downs
- Encourages beneficial littoral placement of sand