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## Managing Dredge Impacts by Optimizing the Use of Sand Resources

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FE = Fates & Effects    HE = Habitat & Ecology    IM = Information Management			



## BOEM Information Needs:

- OCS sand resources finite and need to be carefully managed
- Develop a process to optimize OCS sand resource use and promote better management and conservation by incorporating long-term needs with resource availability and impact-minimizing strategies
- Concerns for cumulative effects from recurrent, multiple dredging of same area

## Date Information is Required:

- Ongoing – inform future leasing decisions

## Marine Minerals Program



Multiple dredges working off Long Beach Island, NJ

**Tentative Ranking: 3**

## Background:

### A) Relationship with Previous Work/Efforts

- Multiple use of same sand resource area (initial construction and renourishment cycles)
- Study will compile existing data (e.g., geological, bathymetric) as well as information provided in Project Completion Reports from issued leases/agreements
- Build on previous studies ex. “*Dredging Guidelines to Maintain and Protect the Integrity of Offshore Ridge and Shoal Regimes/Detailed Morphologic Evaluation of Offshore Shoals*” (2011)

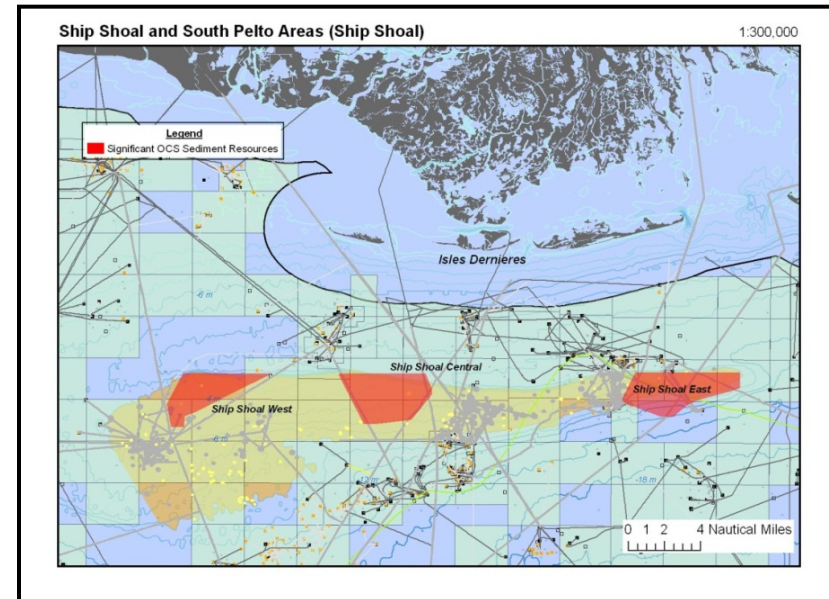
## Background:

### **B) Relationship with Concurrent/Future Efforts**

- Study will support regional sand resource management
- Future Marine Minerals Program geospatial database will centralize information and provide comparative analysis w/in GIS framework
- Study will support more informed consultation and coordination with resource agencies such as NMFS

## Study's Objectives:

1. Develop a planning approach for optimizing OCS sand resources while minimizing potential impacts
2. Demonstrate benefits and costs of this planning process by developing draft borrow area management plan(s) to optimize use of two or three OCS sand resource areas characterized by frequent dredging and/or multiple users (e.g., Ship Shoal LA, Sandbridge Shoal VA)

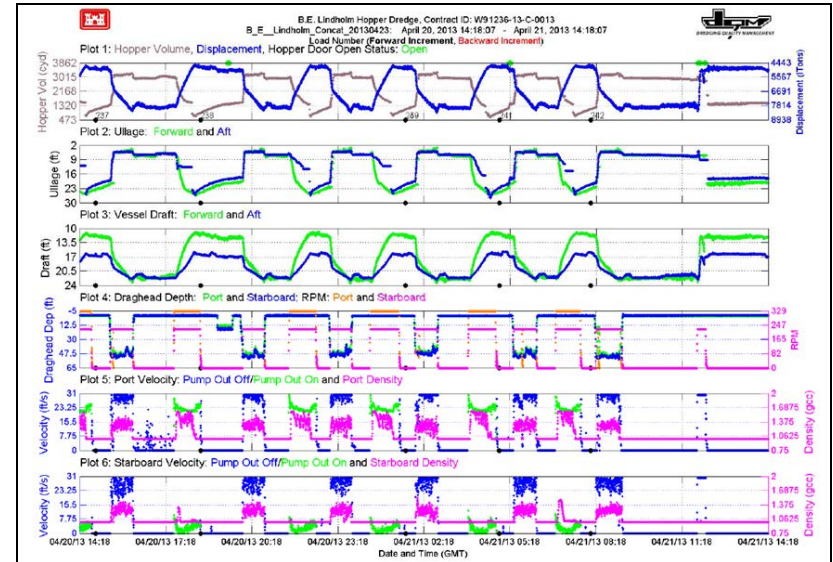


## Study Methods:

- Data compilation
- Literature review and syntheses
- GIS analyses
- Coordination with USACE/stakeholders

## Four-Tier Approach:

- Physical Resource Characteristics and Borrow Area Requirements (sediment dynamics, project engineering requirements - design volume, fill frequency)
- Environmental Considerations (operational windows, avoidance areas)
- Best Management Practices (techniques to minimize dredging intensity and maximize recovery)
- Cost Effectiveness and Analyze Decision Trade-offs



## **Additional *Pertinent* Information**

- Close coordination w/ USACE and input from dredging industry
- With no plan in place, borrow areas are managed on a case-by-case basis, which is not conducive to responsible and sustainable resource management