BOEM

Bureau of Ocean Energy Management

THE MARINE MINERALS PROGRAM

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Noncompetitive OCS Sand

- **“The Secretary may negotiate with any person an agreement for the use of Outer Continental Shelf sand, gravel and shell resources—**

- **(i) for use in a program of, or project for, shore protection, beach restoration, or coastal wetlands restoration undertaken by a Federal, State, or local government agency; or**

- **(ii) for use in a construction project, that is funded in whole or in part by or authorized by the Federal Government.” (Outer Continental Shelf Lands Act)**

Mission

The Marine Minerals Program will facilitate access to and manage the Nation's Outer Continental Shelf (OCS) **non-energy marine minerals**, particularly sand and gravel, through

- environmentally responsible stewardship of resources,
- prudent assessments of exploration and leasing activities,
- coordination with governmental partners and engagement of stakeholders,
- strategic planning, and
- mission-focused scientific research to improve decisionmaking and risk management.

Functions and Priorities

- **Stewards** of **OCS non-energy marine minerals**
- **Facilitate access** to OCS sediment for Federal, State, and local government agencies
- **Identify and evaluate** OCS sediment resources (National Sand Inventory)
- **Manage multiple-use conflicts** (e.g., pipelines, telecom cables, navigation, and commercial fisheries)
- **Conduct research** to inform decisionmaking and manage risk
- **Provide** for **competitive** and **noncompetitive** leasing of OCS “non-energy” marine minerals

Why OCS Sand?

Advantages over nearshore sand

- Higher quality (coarser grain size and less mud)
- Offshore excavation does not affect wave climate at shoreline
- Excavation occurs outside of the active coastal system, introducing new sand to supplement a deficit in the coastal sand budget

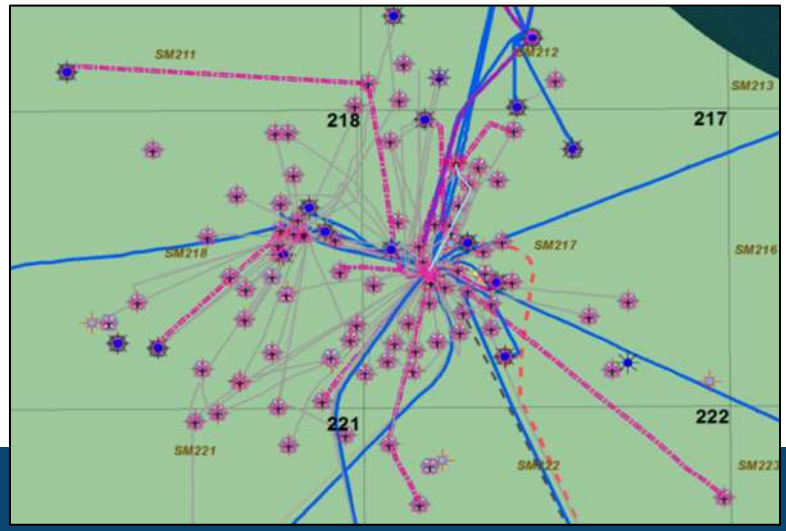
→ Improves project long-term sustainability and geomorphic/ecologic function

+ Only viable option for some Gulf of Mexico projects

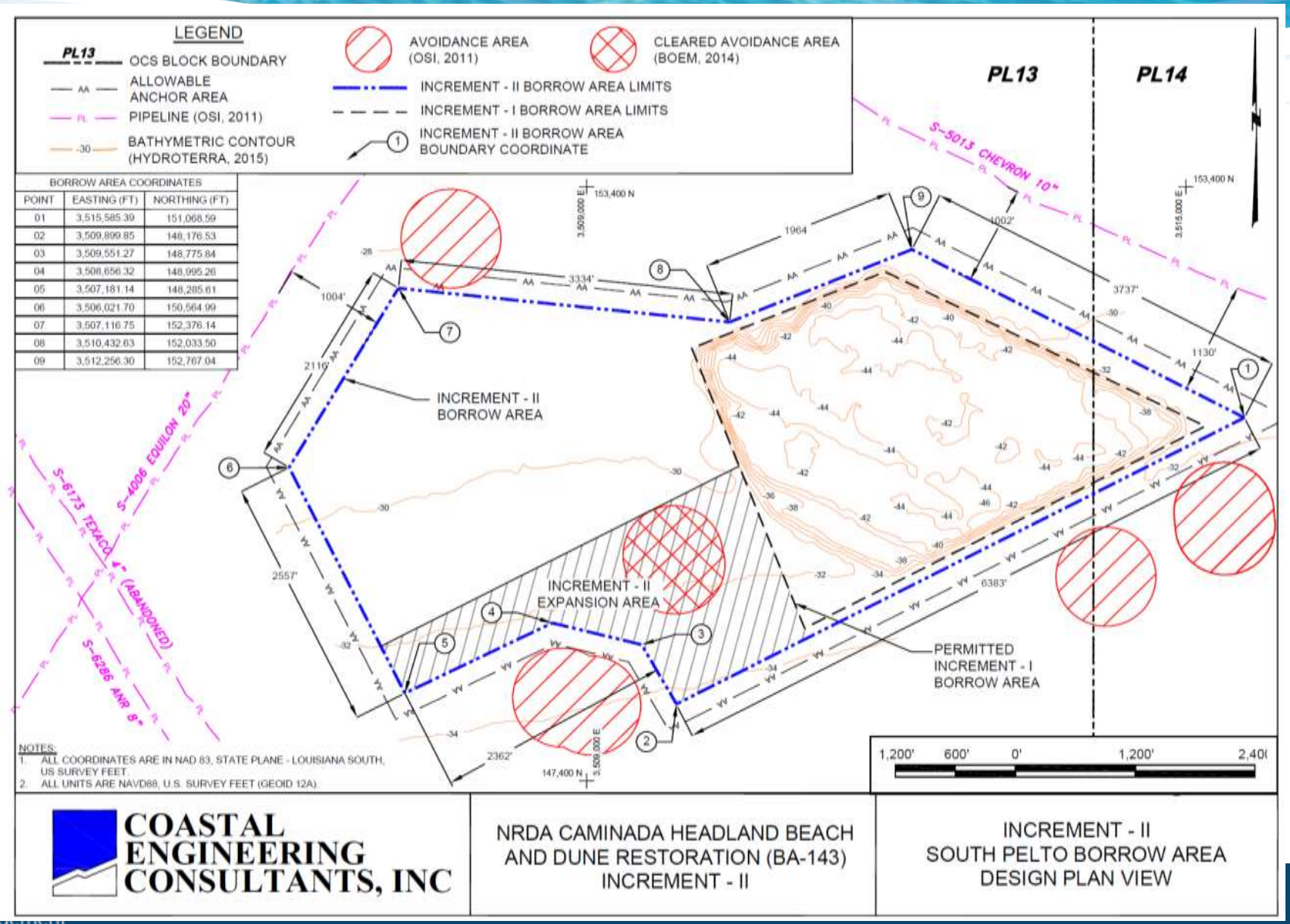
Multiple-Use Conflicts

Gulf of Mexico: Managing Multiple Uses

- Sand is extremely scarce where needed most in the northern Gulf of Mexico
- **Every Gulf of Mexico Region OCS-identified borrow area has pipeline conflicts (usually multiple)**
- Oil and gas infrastructure obstructs access = higher costs to projects
- Significant OCS sediment resources policy developed: BOEM must proactively manage resources to ensure availability
- Reliable geological/geophysical data are key – Gulfwide Sand Inventory initiative



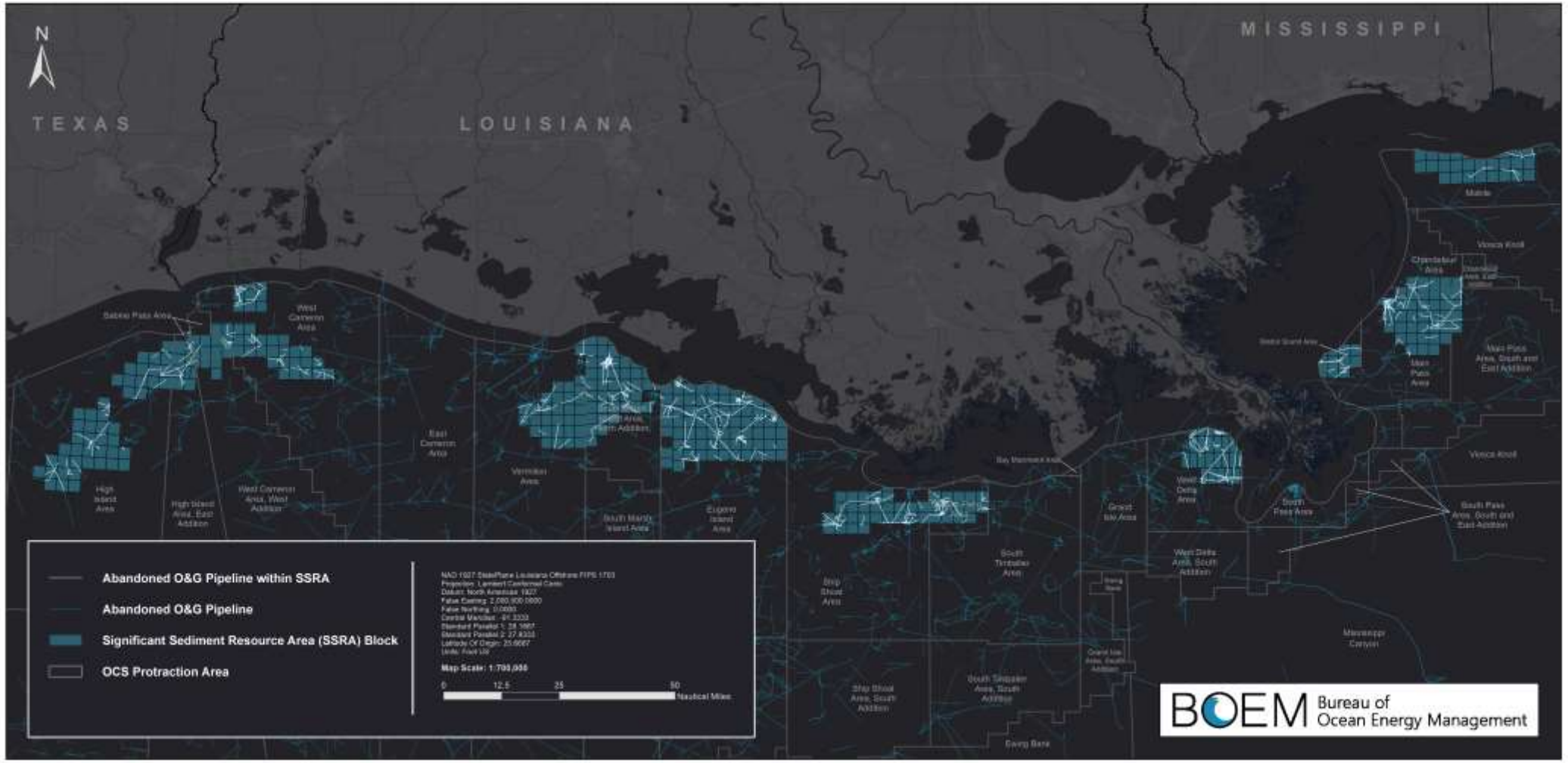
Caminada Headland Restoration: Cam II Borrow Area



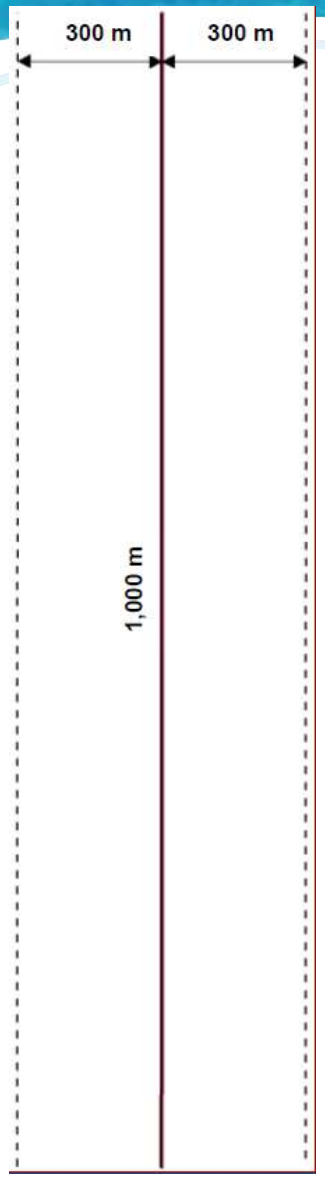
Sediment Conflicts of Use

Abandoned Oil and Gas Pipelines within Significant Sediment Resource Area (SSRA)

U.S. Outer Continental Shelf, Gulf of Mexico Region



Impact of Pipeline Buffers



- Volume and value of sediment unavailable based on 1,000-meter pipeline
  - It will occupy 1,000 x 600 sq. meter = 600,000 sq. meter of significant sediment resources area
  - It will prevent access to about 600,000 x 3 meter (thick) = 1,800,000 sq. meter **or** 1.8 MCM/2.4 MCY of sediment
  - Average economic value of sediment – $21 per meter cubed
  - Economic value of 1.8 MCM – ~$37.8 million

Courtesy of Syed Khalil, Louisiana CPRA (2019)

National Sand Inventory

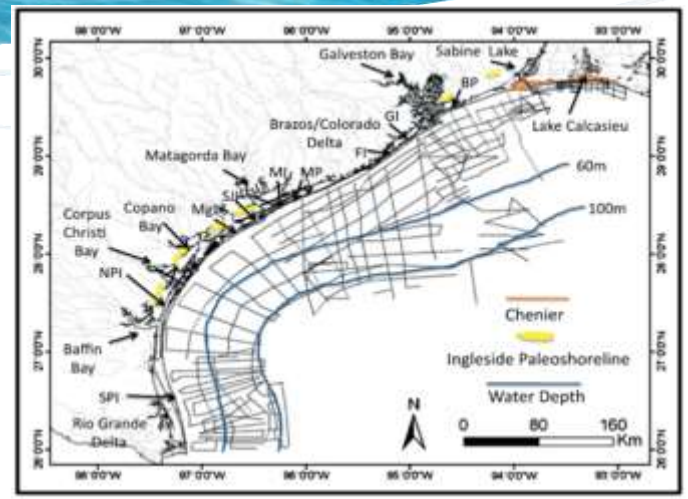
Gulfwide Offshore Sand Inventory

- **Coordination with the Gulf Coast States and other Federal agencies (i.e., USGS, USACE, etc.) concerning offshore sediment management efforts and priority needs**

- **Understanding shelf geologic evolution important to locating discrete sand bodies (not just “low-hanging fruit” bathymetric highs)**

- **Beyond the project scale, long-term management as stewards of OCS mineral resources (i.e., managing use conflicts, decreasing restoration planning uncertainty, etc.)**

Gulfwide Sand Inventory Strategy

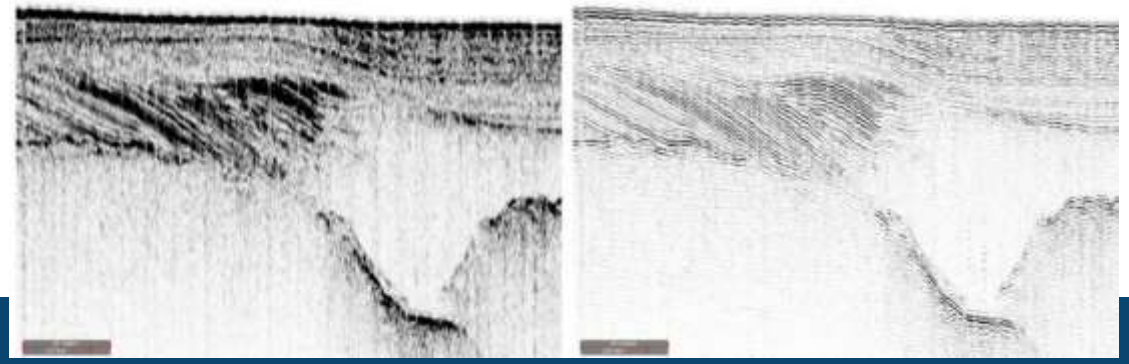


Near Term

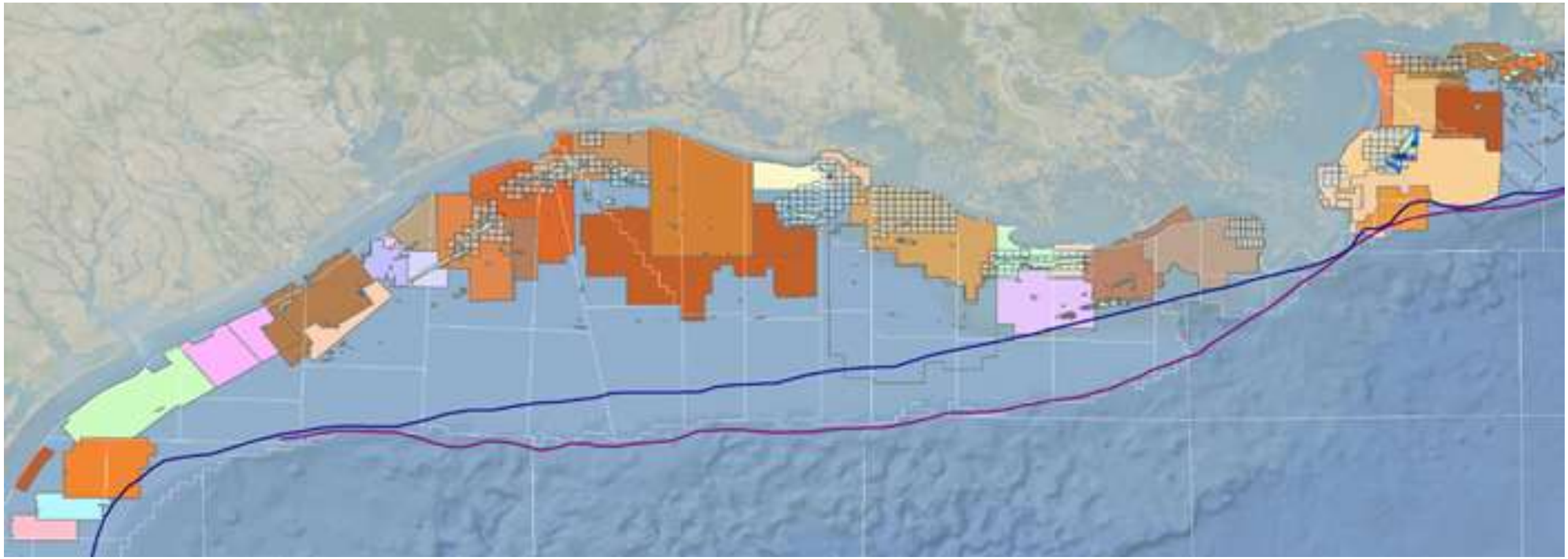
- Implemented though cooperative and interagency agreements with Texas, Mississippi, USGS, Louisiana, Alabama, and Florida.
- Existing data incorporated into MMIS, data gaps identified, and prioritization (upcoming projects) to direct new data collection.

2020-2030

- 8- to 10-year program that funds the Gulfwide Sand Inventory for new data collection, sand resource delineation, ore-quality assessments, and quantified reserves estimates.
- Coordinate with other on-going and future data acquisition to streamline efforts and reduce overall costs for data collection.

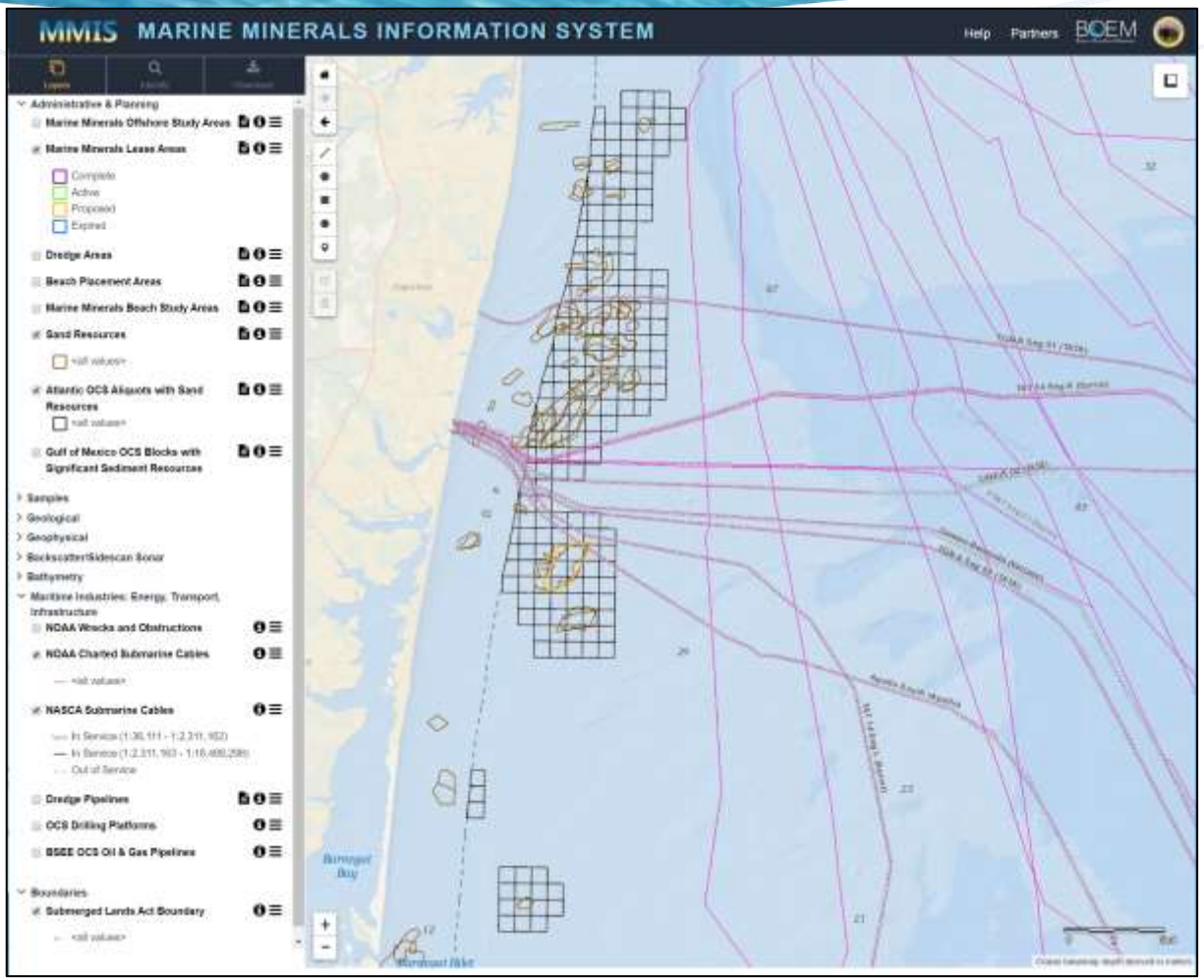


BOEM Data in Texas (Under Evaluation)



What is the MMIS?

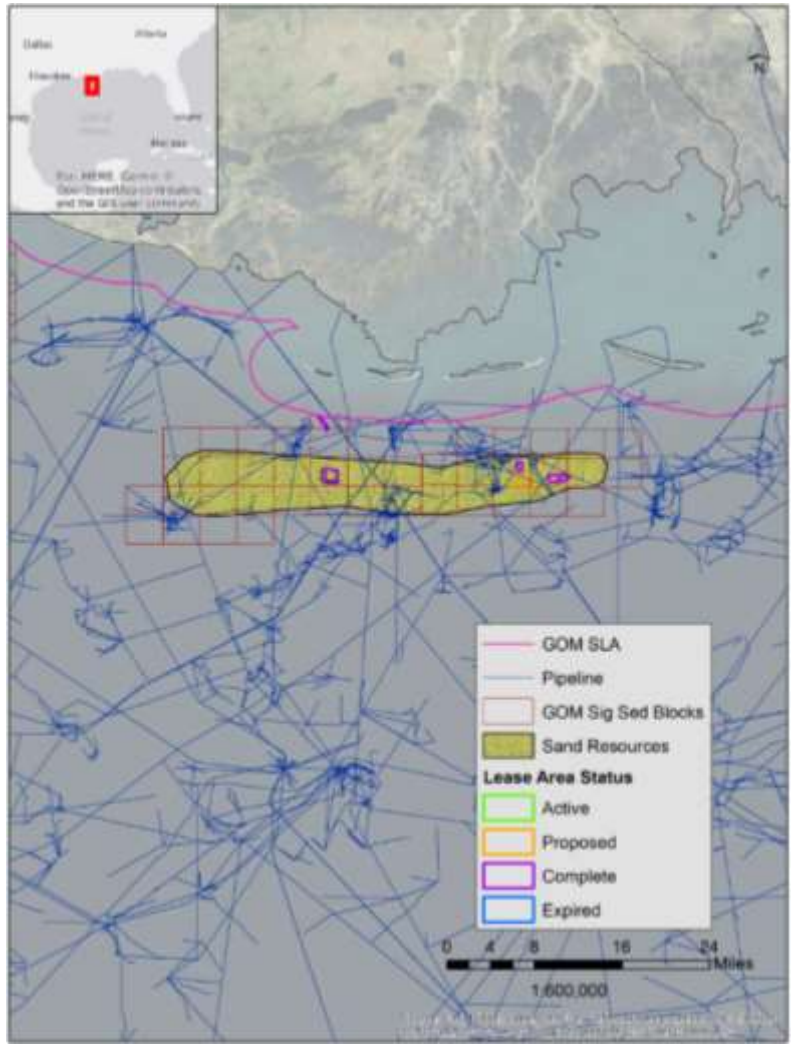
- **Geospatial viewer for managing multiple uses of the OCS**
  - Sand resource assessment
  - Environmental assessments
  - Submerged infrastructure
  - OCS sand leasing, project infrastructure and placement



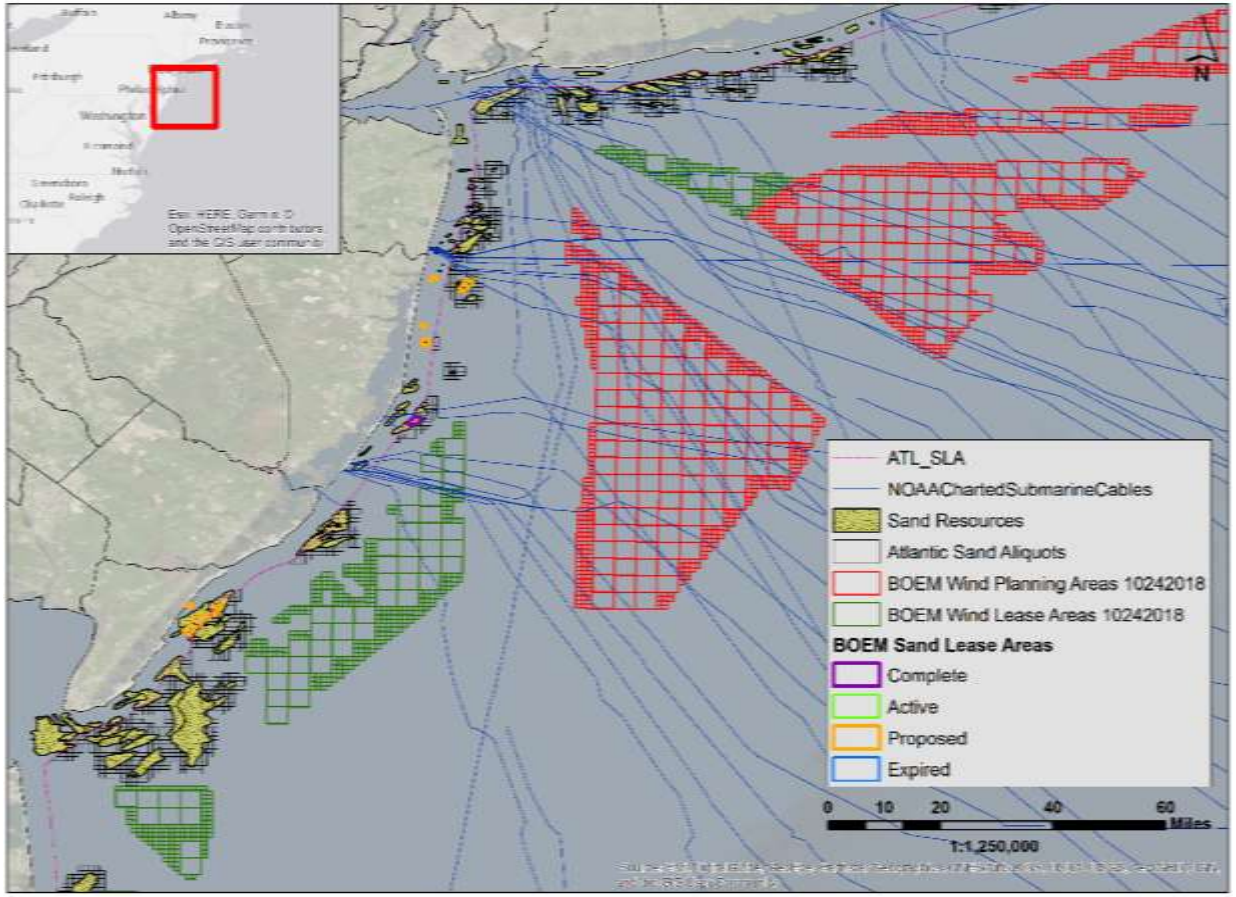
Steward of OCS Sediment Resources

MMIS – Managing Multiple Uses of the OCS

Oil and Gas Infrastructure – Gulf of Mexico



Submarine Cables – North Atlantic



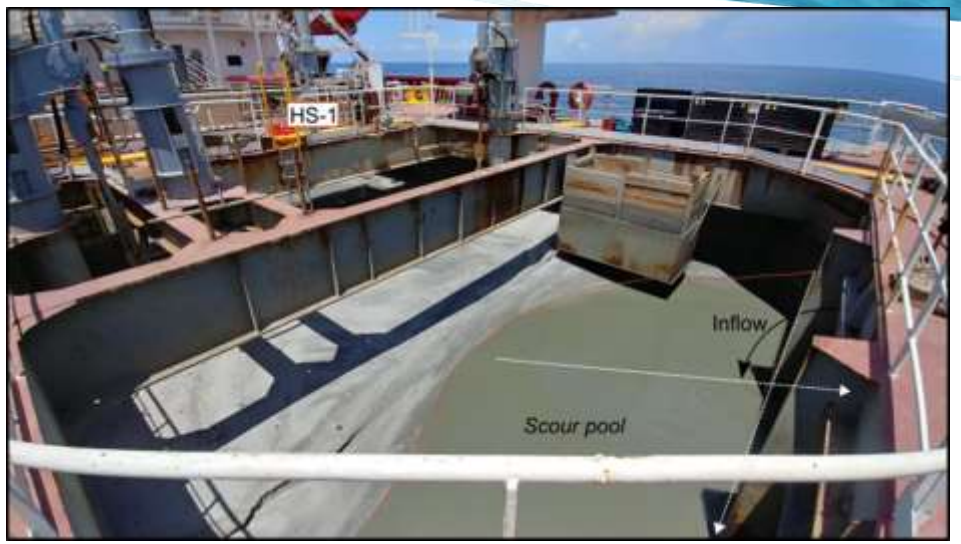
Gulfwide Inventory Conclusions

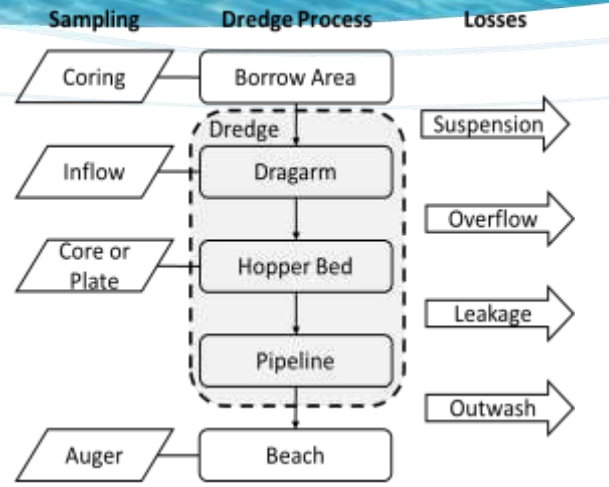
- **Well established for decades that sand resources are scarce**
- **BOEM and partners taking a regional approach to managing offshore sand resources to inform future project planning and to identify multiple-use conflicts**

  Requires
  - Quality geological and geophysical data
  - Structured data management tool to inform decisions
  - Close coordination with State partners and other stakeholders
- **Refined geologic interpretations are important to identify new sand resources and increase planning confidence at the project scale**
- **BOEM and partners pursuing a Gulfwide Sand Inventory as part of a larger National Sand Inventory**

Informing through Science

Separation of Fines during Hopper Dredging



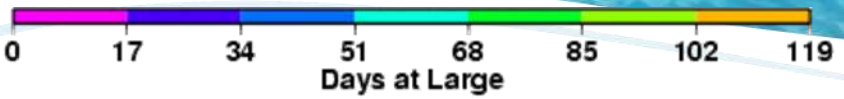


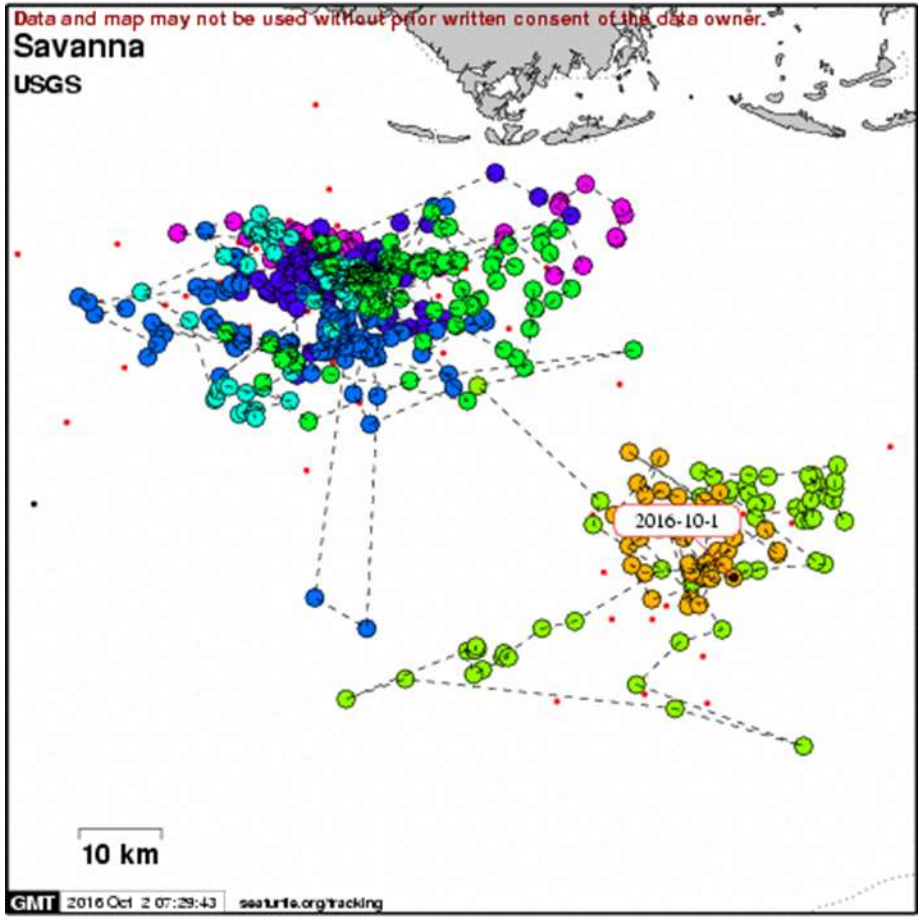
- Sand delivered to the beach is poorer in fines than indicated from borrow sampling.
- Fines content reduced from 4.4% in the borrow site to 0.5% placed on the beach.
- Accounting for separation of fines could increase availability of offshore sand resources.
- **Publication**: January 2019

Sea Turtle Movement and Habitat Use in the Northern Gulf of Mexico

- **Study Objective:** Capture and tag sub-adult, juvenile, and adult sea turtles in the northern Gulf of Mexico using trawling operations
- **Specific Goals:**
  - Determine the extent of movements and seasonal site fidelity
  - Fine-scale characterization of dive profiles
  - Identify and assess physical and biological features to characterize habitats
  - Assess the population structure and isotopic signatures
  - Status of abundance and distribution
  - Exposure to non-nesting individuals

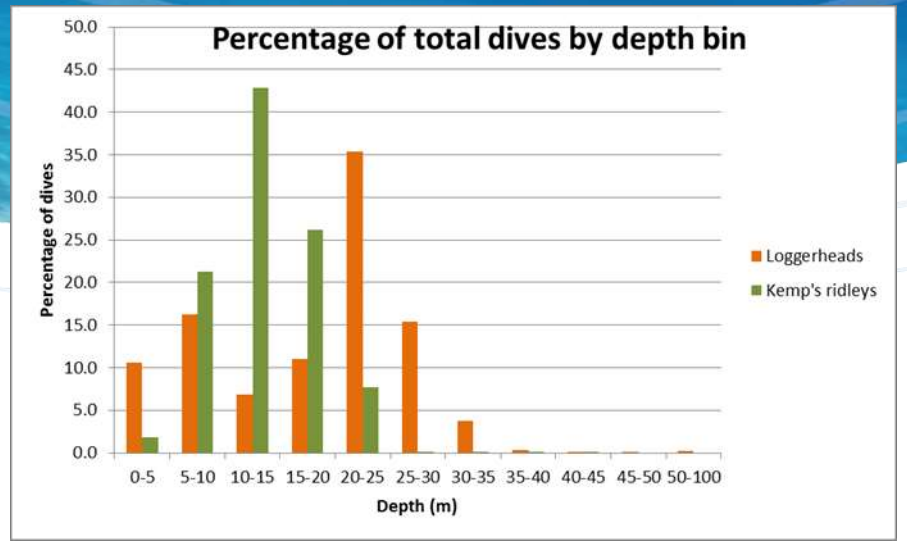
Sea Turtle Movement

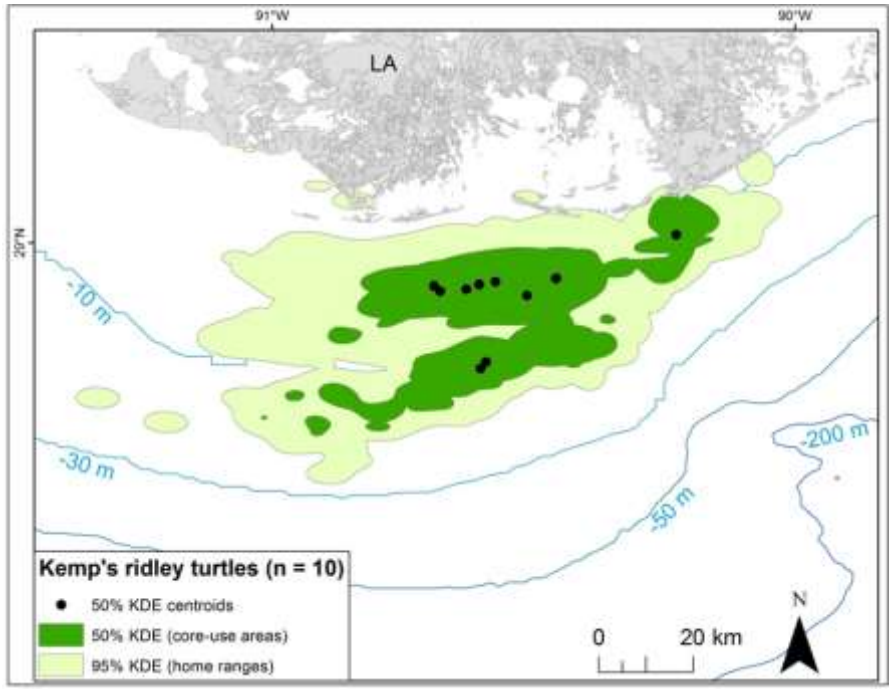




Distance Traveled: 2083 km

Straight-line Distance: 44 km





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