Unlocking the Depths: Optimizing Benthic Habitat Assessments for Offshore Wind Development

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Benthic habitat assessments are important components of a Construction and Operations Plan for offshore wind projects. Standardizing methods for these surveys across lease areas would streamline the process and allow for regional comparisons. Consideration and acceptance of non-extractive survey methods can improve safety and efficiency.

Why conduct Benthic Habitat Assessment Surveys?

- Identify site-specific benthic habitat and resource conditions, including sensitive habitats and species.
- Provide required input for Essential Fish Habitat mapping.
- Establish baseline conditions for impact assessments.
- Provide data for designing avoidance, minimization, and mitigation measures.

Types of Surveys

- Geophysical: Multibeam echosounder and side scan sonar to identify simplified sediment types and seabed morphology.
- Ground truthing:
  - Benthic grabs – laboratory analysis of grain size and benthic community (extractive).
  - Sediment Profile and Plan View Imaging (SPI-PV) – visual analysis of grain size and benthic community (non-extractive).
  - Towed video – visual analysis; especially useful in areas of hard bottom and transitional areas; allows identification of mobile species that may not be visible in grabs or SPI-PV (non-extractive).

Benthic Habitat Assessments – Call for Standardization & Acceptance of Non-Extractive Methods

View BOEM 2019 Benthic Habitat Survey Guidelines

NMFS 2021 Recommendations for Mapping Fish Habitat

OFFSHORE WINDPOWER

SPI-PV Images. Source: Atlantic Shores South Appendix II-G4

Challenges

- Permitting timelines can conflict with vessel availability and seasonal fieldwork constraints.
- Variability in methods and lack of standardized procedures.
- Extensive mapping requirements.
- Shifting guidelines and expectations throughout the life of a project.

Recommendations

- Begin planning and design of surveys early and collaborate with state and federal agencies.
- Pivot toward the use of interactive mapping products.
- Explore increased use of visualization techniques (SPI-PV, video) as opposed to extractive techniques (benthic grabs). This would protect species and habitat, improve worker and vessel safety, and increase the efficiency of data analysis.

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