

Offshore Renewable Energy Development

Rapid Seafloor Reconnaissance and Assessment Through Innovative Optical Coring Technology

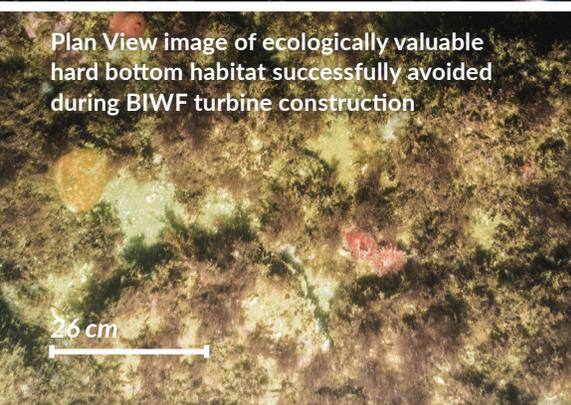
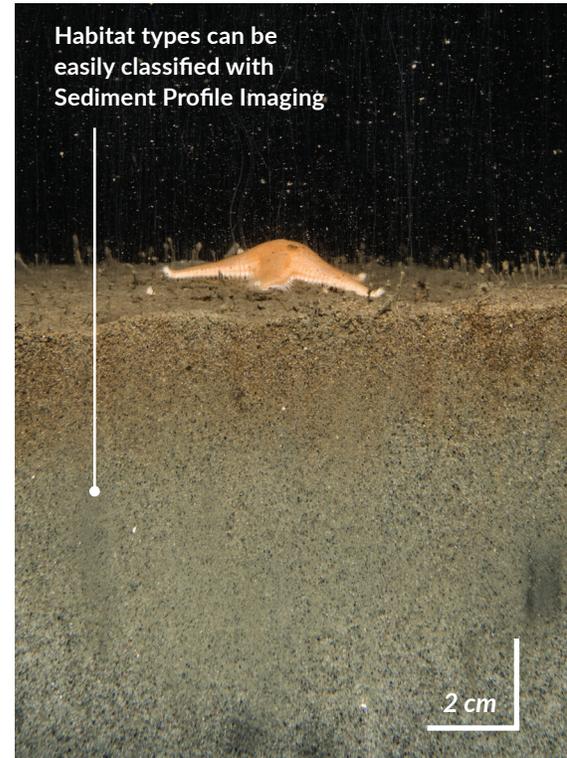


Construction, operation, and decommissioning of **Offshore Wind Farms** and **Offshore Hydrokinetic Facilities** impact benthic habitats and communities. Additionally, the siting of offshore renewable foundations and transmission cables requires in-depth imaging and analysis of the seafloor. The expertise provided by INSPIRE together with our advanced technological capabilities delivers high-quality, clear assessments of the seafloor and surrounding environment.

By collecting high-resolution photographs using our **Sediment Profile Imaging** and Plan View camera system and integrating the images with innovative seafloor mapping techniques, wind turbine siting can be accomplished in a single survey. Our technology allows for the interpretation of seafloor images in real-time, facilitating adaptive sampling and on-the-fly survey adjustments.

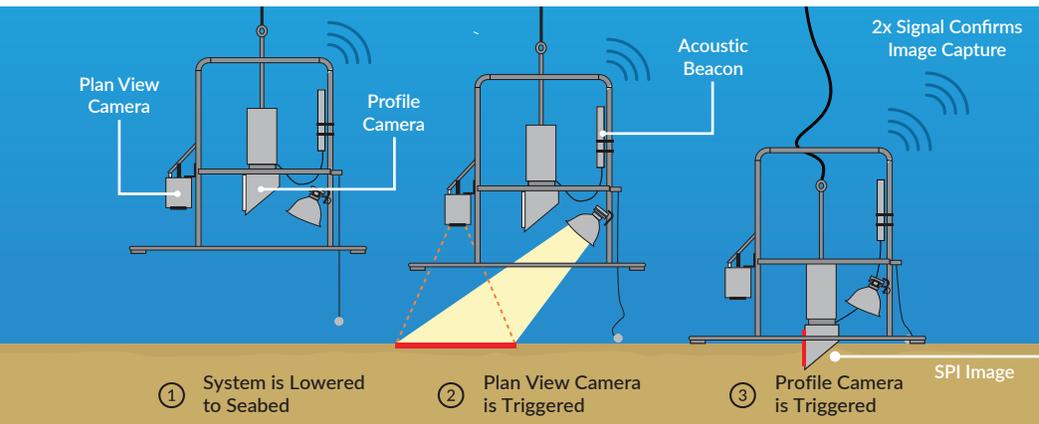
INSPIRE used SPI technology in combination with underwater video and multibeam surveys to inform cable placement, support permit requirements, and document environmental effects related to the construction and operation of the Block Island Wind Farm. By working on the first offshore wind farm in the United States, INSPIRE leads the field in local, state, and federal regulatory experience and facilitation.

INSPIRE scientists invented **SPI technology** and offer the most experienced interpretation and integration of seafloor information available.



What Is Sediment Profile Imaging (SPI)?

Developed by INSPIRE scientists four decades ago, SPI is an optical coring device that works like an upside-down periscope, taking cross-sectional images of the upper 20 cm of the seafloor. Our system combines a plan view and a profile camera to produce data that our scientists use to analyze and interpret physical, chemical, and biological parameters in oceans, lakes, and rivers. SPI is a proven alternative to traditional benthic sampling methods.



Sediment Profile Imaging/Analysis Allows You To:

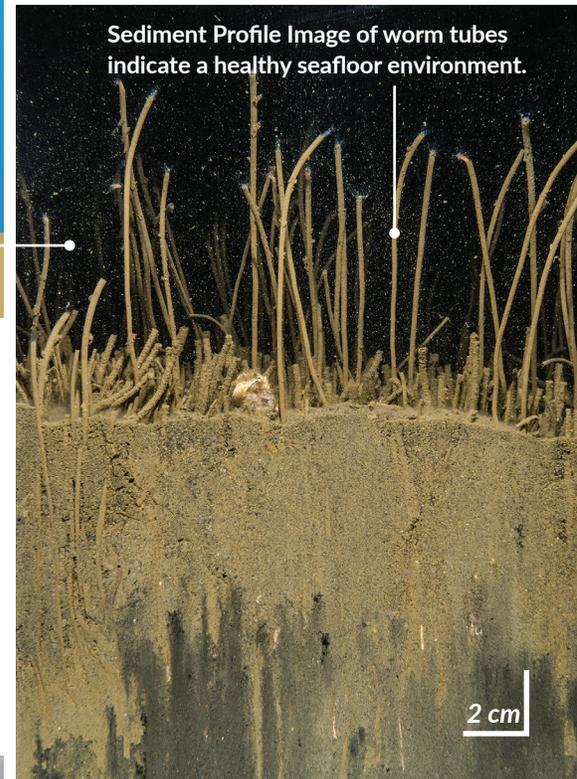
- › Characterize ecological conditions and seafloor habitats before and after installation of turbine foundations, anchor points, transmission cables, and cable landing points.
- › Provide rapid ground truth assessments of multibeam echosounder imaging.
- › Accurately assess the rate and progress of recovery of affected seafloor habitats.
- › Reduce project costs by optimizing in-field sampling.
- › Produce results that are easily understandable by a non-scientific audience.
- › Quickly collect data as required by BOEM to provide Coastal and Marine Ecological Classification Standards (CMECS) habitat classification.

The SPI system can complete 3-5 stations per hour in shallow waters and 1 station per hour in deep sea environments.



Services for Offshore Renewable Energy

- › Sediment Profile and Plan View Imaging
- › Environmental Baseline Surveys
- › Siting Suitability Consulting
- › Export Cable Route Optimization
- › Fish and Fisheries Impact Surveys
- › Benthic Habitat Assessments
- › Construction Impacts Monitoring
- › Data Visualization and Reporting



Our Clients Include:

- › Deepwater Wind
- › NYSERDA
- › Atlantic Wind Connection
- › Fugro
- › US EPA
- › British Petroleum
- › Shell
- › ExxonMobil
- › Petrobras
- › Chevron-Texaco
- › PEMEX
- › Imperial Oil Ltd.
- › Pacific Gas and Electric

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