



## OVERVIEW

The Marine Ecology Program within the Bureau of Safety and Environmental Enforcement's Environmental Compliance Program focuses on monitoring, verifying, improving, and enforcing industry's compliance with environmental standards during Outer Continental Shelf operations.

## BACKGROUND

Marine ecology is the interaction of living organisms with their environment. This encompasses both plants and animals as organisms and their relationships to all aspects of the environment such as sediment, water quality, currents, sunlight, etc. Marine ecology also includes the interaction of organisms with each other. BSEE considers all the components of ecology in their Marine Ecology Program, with a goal of ecosystem-based management.

Offshore energy activities affect the marine environment in numerous ways. Bottom-disturbing activities include anchoring, drilling, construction on the seafloor, and laying pipes or cables. Effects throughout the water column include turbidity and sedimentation from seafloor disturbance and drilling; discharge of fluids such as produced water, grey water, and cooling water; and sounds in the water. Other effects include possible marine debris, light pollution, and viewshed effects. BSEE's marine ecology program applies regulations and guidelines to restrict possible impacts.



## BSEE MARINE ECOLOGY PROGRAM

Marine ecologists in BSEE's ECP conduct a variety of reviews and inspections to ensure offshore energy companies comply with all required environmental laws, regulations, and protective mitigations.

The companies' post-activity submittals include reports and documentation of their offshore activities that are compared with previously filed plans, regulations, and other requirements. This includes inspection of anchor

patterns, drilling locations, and pipe lay corridors. Offshore inspections are performed to confirm companies are following required practices, such as shunting drill cuttings to the seafloor when working in protection zones near sensitive habitats.

In addition to visual inspections on offshore platforms and drill rigs, seafloor inspections are also conducted to confirm proper cleanup during offshore site clearance work.



***ECP advances the BSEE mission to protect the environment through vigorous regulatory oversight and enforcement.***

BSEE uses a variety of tools for these inspections, including side-scan sonar, sector-scanning sonar, magnetometers, and remotely operated vehicles.

BSEE sponsors annual monitoring of the reef habitat at Stetson Bank in the Gulf of Mexico to ensure that protective measures are effective in safeguarding these sensitive habitats.

Stetson Bank is one of 39 offshore banks with sensitive reef habitats that BSEE protects in the Gulf of Mexico.

This monitoring utilizes random transects, repetitive photo stations, fish surveys, urchin and lobster surveys, year-round water quality measures, and other methods to assess the ongoing health of the reef.

BSEE is currently adding direct measurements of hydrocarbons on the reef to track any possible contamination.

BSEE marine ecologists coordinate with other regulators to provide feedback and adaptive management recommendations to improve the effectiveness of biological mitigations and regulations.

Marine ecology is a critical component of BSEE's environmental stewardship mission.

For additional information please visit the BSEE Marine Ecology Program webpage or contact us at: [BenthicEcology@bsee.gov](mailto:BenthicEcology@bsee.gov).

*The Bureau of Safety and Environmental Enforcement, established in 2011, is a U.S. Department of the Interior agency. BSEE promotes worker safety, environmental protection and conservation of resources through regulatory oversight and enforcement of the offshore energy industry on the U.S. Outer Continental Shelf.*

