

## **BOEM ENVIRONMENTAL STUDIES PROGRAM: Ongoing Studies**

**Region:** Pacific OCS Region

**Planning Area(s):** Southern California

**Title:** Environmental Mitigation Monitoring

**BOEM Information Need(s) to be Addressed:** Environmental mitigation monitoring data (see examples of potential types in methods section below) would be used by BOEM to evaluate BOEM-imposed specific requirements (environmental mitigation measures and project conditions) of OCS oil and gas operations. Information from environmental mitigation monitoring studies will aid the development of more feasible and scientifically defensible mitigation measures and project conditions for future oil and gas operations.

**Total BOEM Cost:** \$500,000      **Period of Performance:** FY 2007 – FY 2012

**Conducting Organization:** Applied Marine Services

**Principal Investigator:** Jay Johnson

**BOEM Contact:** [Mark Eckenrode](#)

### **Description:**

Background: An integral part of implementing the OCS Lands Act requires BOEM to conduct environmental reviews and prepare environmental documents such as environmental impact statements (EIS) and environmental assessments (EA). During the past decades, the Pacific OCS Region has issued permits for numerous oil and gas activities. BOEM carefully analyzed these projects and included required environmental mitigation measures and associated permit conditions in environmental documents developed for those projects. Review of the success of the spectrum of environmental mitigation employed in the Region will enable BOEM to improve environmental protection and further ensure oil and gas activities proceed in an environmentally sound and timely manner.

The study is a continuation of two studies of the same name that were designed to evaluate the effectiveness of environmental mitigation required of Pacific OCS oil and gas operations: a field analysis segment that was conducted between 1997 and 2001 and another that was conducted between 2002 and 2006. The evaluations consist of field monitoring and observations of Pacific OCS Region oil and gas operations.

Objectives: The study goals are to observe, sample, and/or monitor for mitigation measure effectiveness requirements (BOEM regulations, Lease Sale Stipulations, National Environmental Policy Act (NEPA) requirements, and non-BOEM agency requirements, etc.) imposed on OCS oil and gas operations in the Pacific OCS Region. In many cases, experimental approaches to measuring mitigation effectiveness will be used. The type of data

collected will depend on specific environmental mitigations either in place or proposed for future operations.

Methods: The Santa Barbara Channel and the Santa Maria Basin will be the primary focus of the environmental mitigation monitoring, with a secondary focus on the San Pedro Basin. Methodology consists of actual mitigation monitoring to determine the environmental effectiveness of mitigation placed upon projects. Examples of potential future field monitoring studies in conjunction with Pacific OCS Region projects of opportunity could include, 1) bio-chemical profiling of shell mounds in the vicinity of the platforms to determine the feasibility of deep water compliance with debris removal; 2) subsea well abandonment studies in the Santa Barbara Channel (e.g., remotely operated vehicle (ROV) site clearance surveys, trawling testing, and sediment and ocean transport); 3) continued studies of the concentration and dilution rates with distance of produced water plumes at representative OCS oil and gas platforms; and 4) collecting drilling discharges and sediment transport samples in the vicinity of hardbottom areas to determine effectiveness of mitigations to protect those resources. The type of data collected will be determined by Pacific OCS Region environmental management and scientists as specified by the particular project and would depend on the specified approval conditions.

**Current Status:** Completed Task Order #2 issued March 2010 on lighting effects on birds; Task Order #3 in Procurement.

**Final Report Due:** 2012

**Publications Completed:** MMS Study Report 2009-021 completed July 2008 on H2S Dispersion. BOEMRE Study Report 2011-47 completed September 2011 on Potential Lighting Effects (see below)

**Affiliated WWW sites:** <http://www.boem.gov/Environmental-Stewardship/Environmental-Studies/Pacific-Region/Studies/Completed-Studies.aspx>

2011-047: Determining the Potential Effects of Artificial Lighting from Pacific Outer Continental Shelf (POCS) Region Oil and Gas Facilities on Migrating Birds

2009-021: Hydrogen Sulfide (H2S) Gas Dispersion Potentials & Release Scenarios for Pacific OCS Region Oil & Gas Platforms Pipelines Located in the Santa Barbara Channel and Santa Maria Basin, California

**Revised Date:** April 18, 2012