BOEM ENVIRONMENTAL STUDIES PROGRAM: Ongoing Study

Region: Pacific

Planning Area(s): Southern California

Title: Pacific Rocky Intertidal Survey and Monitoring (PRISM) Study (PC-12-03)

BOEM Information Need(s) to be Addressed: The information collected through the direct monitoring of rocky intertidal shores by BOEM staff will be used to determine the effects of OCS oil and gas operations, including those from accidental oil spills, on the nearby shoreline habitats.

Total BOEM Cost: $100,000 **Period of Performance:** FY 2012-2016

Conducting Organization: BOEM Pacific Region (conducted by in-house biologists)

BOEM Contact: Lisa Gilbane

Description:

Background: OCS platforms offshore California are located in close proximity to the shoreline where important biological resources are present. Activities from offshore oil and gas drilling have the potential to directly affect these shoreline habitats, especially in the event of an accidental oil spill. The OCS Lands Act states in 43 U.S.C 1345 Section 20 (3)b that "*Subsequent to the leasing and developing of any area or region, the Secretary shall....monitor the human, marine, and coastal environments of such area or region in a manner designed to provide time-series and data trend information which can be used for comparison with any previously collected data for the purpose of identifying any significant changes in the quality and productivity of such environments, for establishing trends in the areas studied and monitored...*" This study is designed to monitor shorelines across the four counties that border producing OCS oil and gas facilities. The BOEM PRISM team (formerly the MMS Intertidal Team or MINT) is one of twelve monitoring teams which collect the data for the Multi-Agency Rocky Intertidal Network (MARINe) rocky intertidal monitoring at over 120 established sites. However, in addition to the biannual monitoring of established rocky intertidal sites, PRISM staff design and implement individual studies of associated resources to answer questions identified in the field during this monitoring, and to support the overall BOEM mission. The monitoring work in this study was initiated in 1991. PRISM presence in the field has the added benefit of interacting with the public during monitoring and provides BOEM with the opportunity to demonstrate our commitment to the environment in a visible manner.

Objectives: This study has three objectives. The first objective is to collect data in the field to monitor the shoreline adjacent to existing oil and gas operations. By collecting data about natural and anthropogenic perturbations in the rocky intertidal habitat, BOEM then has the basis to determine effects from our operations, including those from an accidental oil spill. The second objective accomplished by this study is to improve our understanding of the effects of

OCS activities through the direct study by BOEM staff in field studies designed to further understand effects on shoreline habitats. Lastly, this study fulfills our commitment to participate in the cooperative agreement with the University of California for MARINe. BOEM funds a separate study for the monitoring, analysis, and publication of these data and management of the MARINe Network which spans two coastlines. Federal participation is a requirement of cooperative agreements with the State.

Methods: There are several tasks included in this study. The first task, biannual monitoring, remains the same throughout the five-year program. Additional tasks are identified at the beginning of the fiscal year in an annual plan which is reviewed and approved by the region and headquarters. These additional tasks are either special short-term studies designed by staff to answer specific questions, or efforts that support the monitoring task. Examples of the range of topics pursued by the PRISM team include testing new protocols, developing archiving protocols, analyzing data from special studies, devising new field mapping efforts, and developing rapid shoreline field response protocols.

For the monitoring task, PRISM biologists collect data each fall and spring at a majority of the 24 sites established in each of four counties bordering oil and gas platforms. PRISM biologists work directly with the University biologists and provide support where the need is greatest. Individual staff average completion of 8-12 sites over 5-10 field days each year. Fixed replicate plots of barnacles, mussels, turf algae, rockweeds, and anemones are photographed for determination of percent cover. Seastars, owl limpets, and the federally listed black abalone are measured and counted. Percent cover of surfgrass and associated species is estimated along line transects. Data are collected in the field by PRISM biologists and sent to the University for analyses.

The PRISM team is investigating how existing field efforts can inform environmental analyses of future lease sales for renewable energy projects. Offshore commercial-scale wave energy devices are predicted to alter the physical environment, specifically wave energy and sediment transport, which could in turn affect the biological communities. Detecting changes from energy devices requires ongoing monitoring before devices are in place. The PRISM team aided MARINe in establishing five sites in Oregon to monitor biology and wave height. The team also works with University and National Park Service biologists to deploy and maintain a network of pH sensors in the Santa Barbara Channel.

Current Status: PRISM biologists completed sampling for FY 2016 in May 2016.

Final Report Due: September 30, 2016
Other Reports: Annual Reports

Publications Completed: None

Affiliated WWW Sites: https://vimeo.com/118301368

Revised Date: July 27, 2016