Environmental Studies Program: Ongoing Study

Title	Pacific Marine Assessment Partnership for Protected Species (PacMAPPS) (NSL #PC-17-04)
Administered by	Pacific OCS Region
BOEM Contact(s)	Dr. Desray Reeb (desray.reeb@boem.gov)
Procurement Type(s)	Inter-agency Agreements
Conducting Organizations(s)	National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southwest Fisheries Science Center and Pacific Islands Fisheries Science Center
Total BOEM Cost	$1,440,000
Performance Period	FY 2017–2021
Final Report Due	Hawaiian Archipelago: March 31, 2021 California Current: June 22, 2020
Date Revised	January 22, 2021
PICOC Summary	
Problem	In order for environmental assessments to be accurate, density estimates for protected species must be up-to-date. Currently, the supporting data is several years old.
Intervention	Collaborate with ongoing NMFS efforts to conduct multiple biological surveys to estimate population densities of endangered or threatened marine species and fill spatial and temporal gaps in current survey efforts.
Comparison	Comparisons between the older existing data sets and this new species density and distribution data will inform trends or changes in environmental variables and/or species densities and distributions.
Outcome	Up-to-date assessments, including spatial and temporal distribution, of protected species in areas of the Pacific that are of special interest to BOEM.
Context	Southern California, Central California, Northern California, Washington-Oregon, Hawaii

BOEM Information Need(s): BOEM Pacific Region continues to assess environmental effects of existing oil and gas development activities and proposed renewable energy facilities using the best available information. For marine mammals, we often rely on stock assessment reports prepared annually by the National Marine Fisheries Service (NMFS). Although these reports are prepared annually, the underlying data supporting these reports may be several years old and NMFS' Science Center cruise schedules in the Pacific (Southwest, Northwest, and Pacific Islands Fisheries Science Centers) are not necessarily coordinated across species distributions. Likewise, there is limited information on offshore distribution and use of the outer continental shelf by other protected species including seabirds and sea turtles. This study supports a Pacific-wide strategic plan for coordinated protected species assessment surveys and derived site-specific analyses relevant to BOEM areas of interest.

Background: In 2011, BOEM and NMFS entered into a memorandum of understanding whereby both agencies agreed to cooperate and coordinate environmental studies and analyses. Collection and analysis of protected species (marine mammals, seabirds, and sea turtles) data are fundamental needs for both agencies. In 2013, the Marine Mammal Commission recommended that BOEM Pacific Region partner with other state and federal resource agencies, academic institutions, and private researchers to support broad-scale, multi-year, seasonal wildlife surveys. BOEM met with NMFS, U.S. Navy (Navy), and U.S. Fish and Wildlife (FWS) representatives from West Coast and Pacific Islands Science Centers and regional offices on March 18, 2016. The objective was to develop a multi-year strategic plan for protected species assessment surveys across the Pacific that would address each agency's information needs. BOEM, Navy, FWS, and NMFS all agreed that the U.S. West Coast (California Current ecosystem) and Hawaiian Archipelago were high priority areas for protected species survey effort. The ultimate goal is to develop a partnership between our agencies and regions that will allow for better and more consistent data collection across the Pacific. BOEM's contribution will help fill spatial and temporal gaps in current survey efforts.

Objectives: The purpose of this study is to provide up-to-date assessments, including spatial and temporal distribution, of protected species in areas of the Pacific that are of special interest to BOEM. Specific objectives include:

1. Identify oceanographic conditions that influence protected species distribution.
2. Describe how protected species distribution in the Pacific may shift with changing environmental conditions.
3. Identify geographic features that are associated or interact with key life history elements (e.g., feeding, migration, breeding, and birthing).
4. Evaluate the relative importance of protected species habitat on a scale useful for the evaluation of offshore energy projects in the Pacific.
5. Archive survey data in a system that will allow current data to be compared with past and future efforts.

Collection of data across the range of species' distribution provides context for environmental review of offshore projects. A clear understanding of what drives species' use of marine habitats allows us to describe the relative intensity of interactions between protected species and offshore human activities. Both context and intensity are critical components of National Environmental Policy Act (NEPA) reviews.

Methods: National Oceanic and Atmospheric Administration (NOAA) vessels conducted long-range visual and acoustic line-transect surveys for protected species and collected oceanographic data in the Hawaiian Archipelago ecosystem in CY 2017. Another survey effort in the California Current ecosystem (Washington through California) was conducted in CY 2018. The resulting data will be used to support up-to-date stock assessments and derived protected species use and distribution products for areas of interest to BOEM (currently portions of Oregon, central and southern California, and the Main Hawaiian Islands).

Specific Research Question(s):

1. Where do marine mammals live in the Pacific?
2. Why do they live there?

3. What factors can we look at to predict future distribution?

Current Status: Two inter-agency agreements (IAs) with NMFS were awarded in June 2017: an IA with the Pacific Islands Fisheries Science Center (for work in the Hawai'ian Archipelago) and an IA with the Southwest Fisheries Science Center (for work in the California Current). Draft report deliverables for the California and Hawai'ian cruises have been reviewed by BOEM and are currently being finalized by NOAA. Visual line-transect data (cetacean sightings and effort) for all California Current surveys (from 1991 to 2018) and Hawai'ian surveys have been or are in the process of being uploaded to OBIS-SEAMAP (http://seamap.env.duke.edu/), from where they can be viewed and downloaded by the public. Spatial density surface layers based on survey data collected through 2014 will soon be available through NOAA's CetMap webpage (https://cetsound.noaa.gov/cda-index) and through Density Mapper (https://seamap.env.duke.edu/models/Pacific-GOA/), a web-based mapping tool developed by Duke University.

Publications Completed:

Henry AE, Moore JE, Barlow J, Calambokidis J, Ballance LT, Rojas-Bracho L, Urbán Ramírez J. 2020. Report on the California Current Ecosystem Survey (CCES): Cetacean and Seabird Data Collection Efforts, June 26 – December 4, 2018, U.S. Department of Commerce, NOAA Technical Memorandum NMFS-SWFSC-636.

Simonis AE, Trickey JS, Barlow J, Rankin S, Urban J, Rojas-Bracho L, Moore JE. 2020. Passive Acoustic Survey of Deep-Diving Odontocetes in the California Current Ecosystem 2018: Final Report, U.S. Department of Commerce, NOAA Technical Memorandum NMFS-SWFSC-630.

Affiliated WWW Sites:

https://marinecadastre.gov/espis/#/search/study/100179
https://www.boem.gov/Notes-From-The-Field/
https://www.pifsc.noaa.gov/hiceas/

References: None