Environmental Studies Program: Ongoing Study

Study Area(s): Western, Central, and Eastern Gulf of Mexico

Administered By: Gulf of Mexico OCS Region

Title: Gulf of Mexico Marine Assessment Program for Protected Species (GOMMAPPS): Marine Mammal Fieldwork and Data Analysis (NSL #GM-16-09b)

BOEM Information Need(s) to be Addressed: Improved information is needed on living marine resource abundance, distribution, habitat use, and behavior in the Gulf of Mexico to properly mitigate and monitor for potential impacts of human activities, including those related to the oil and gas industry. Understanding of cumulative impacts on protected species in the Gulf from both natural and anthropogenic forcing is required to inform NEPA documents and consultations related to ESA, MMPA, EFH, MBTA, and other statues that govern bureau activities. The results of this study will provide important information to inform both BOEM and BSEE regulatory needs, as well as other agencies and stakeholders involved in effective management and conservation of Gulf protected species.

Total BOEM Cost: $3,700,000 **Period of Performance:** FY 2017–2021

Conducting Organization(s): NOAA Southeast Fisheries Science Center

Principal Investigator(s): Dr. Jenny Litz (Jenny.Litz@noaa.gov)

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Description:

Background: Better information is needed on living marine resource abundance, distribution, habitat use, and behavior in the Gulf of Mexico to properly mitigate and monitor for potential impacts of human activities. The Gulf of Mexico is a heavily utilized and industrialized basin, supporting oil and gas exploration and development, commercial and recreational fishing, shipping, military operations, and tourism. Numerous workshops in the wake of the *Deepwater Horizon* oil spill have underscored the need for new baseline information and expanded environmental monitoring, including for marine mammals, sea turtles, and seabirds in the Gulf of Mexico. Given the highly migratory nature of many protected species in the Gulf, the scientific community has recommended a "Gulf-wide" approach, whenever possible, which considers the entire Large Marine Ecosystem (LME).

To fill these gaps, the Gulf of Mexico Marine Assessment Program for Protected Species (GoMMAPPS) is modeled after the successful Atlantic Marine Assessment Program for Protected Species (AMAPPS), now in its 2nd phase (AMAPPS-II). Initiated in 2010 as a collaboration among BOEM, NOAA, the U. S. Fish and Wildlife Service, and the U.S. Navy, the AMAPPS focuses on collecting seasonal data on the abundance, distribution, and behavior of marine mammals, sea turtles, and seabirds throughout the U.S. Atlantic

Economic Exclusion Zone (EEZ), providing spatially-explicit information to inform governmental decision makers with mandated responsibilities to protect living marine resources. At the core of AMAPPS are broad-scale surveys conducted through repeated aerial and shipboard line-transect surveys over the entire Atlantic EEZ in each season, with finer spatial-scale sampling at select locations. In order to better understand habitat use, AMAPPS also deployed satellite tags on sea turtles, whales, and gray seals, the data for which was used to employ state-of-the-art spatial modeling. Using current habitat utilization models, the AMAPPS is generating seasonal density maps of various species to inform stock assessments and as a tool for decision makers concerned with possible adverse impacts from offshore energy development, military readiness exercises, and other activities.

Objectives: The objective of this study is to improve information about protected living marine resources through multi-year surveys of marine mammals, sea turtles, and sea birds over the entire Gulf of Mexico EEZ, as well as gulf-wide whenever possible.

Methods: Planning and coordination meetings will be held with potential partners to identify and refine study objectives. As in AMAPPS, GoMMAPPS will conduct repeated, broad-scale surveys of cetaceans, sea turtles, and sea birds in the Gulf of Mexico in order to:

- Collect broad-scale data over multiple years on seasonal distribution and abundances using direct aerial and shipboard surveys;
- Collect similar data at finer scales at several sites of particular interest using visual and acoustic survey techniques;
- Conduct tag telemetry studies within surveyed regions to develop corrections for availability bias in the abundance survey data;
- Collect additional data on habitat use and life-history, residence time, and frequency of use;
- Assess the population size of surveyed species at regional scales, and develop models and associated tools to translate these survey data into seasonal, spatially-explicit density estimates incorporating habitat characteristics.

Collaboration via data sharing with other related observational efforts in the Gulf will be sought. Increased use of passive acoustic monitoring (PAM) is anticipated in GoMMAPPS, including coordination with PAM deployments in other Gulf studies. In keeping with an LME approach, “gulf-wide” coordination will be pursued, including with Mexico, and targeted research (e.g., animal telemetry) will seek to understand the larger migratory pathways of various species.

Current Status: The Inter-agency agreement was signed in April, 2017. The team is participating in its first fieldwork season involving both aerial and vessel surveys.

Final Report Due: April 1, 2021

Publications Completed: -

Affiliated WWW Sites:

https://www.boem.gov/GOMMAPPS/

Revised Date: June 30, 2017