Environmental Studies Program: Ongoing Study

Title	Gulf of Mexico (GOM) Marine Assessment Program for Protected Species (GoMMAPPS): Seabird Fieldwork and Data Analysis (NSL #GM-16-09c)
Administered by	GOM OCS Region
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Conducting Organizations(s)	U.S. Fish and Wildlife Service (USFWS) Southeast Region
Total BOEM Cost	$2,400,000
Performance Period	FY 2017–2021
Final Report Due	November, 2021
Date Revised	June 4, 2019
PICOC Summary	Write one or two sentences for each of the following elements, as appropriate. If not appropriate, write N/A.
Problem	Provide improved information on living marine resource abundance, distribution, habitat use, and behavior in the GOM.
Intervention	Properly develop mitigate and monitor protocols for potential impacts of human activities.
Comparison	Improve discovery of and access to data and study products to compare anthropogenic impacts in living natural resources.
Outcome	Provide important information to inform both BOEM and Bureau of Safety & Environmental Enforcement (BSEE) regulatory needs, as well as other agencies and stakeholders involved in effective management and conservation of Gulf protected species.
Context	Industrial activities in GOM Region.

BOEM Information Need(s): Improved information is needed on living marine resource abundance, distribution, habitat use, and behavior in the GOM 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 National Environmental Policy Act (NEPA) documents and consultations related to Endangered Species Act (ESA), Marine Mammal Protection Act (MMPA), essential fish habitat (EFH), Migratory Bird Treaty Act (MBTA), and other statues that govern bureau activities. The results of this study provides 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.

Background: Better information is needed on living marine resource abundance, distribution, habitat use, and behavior in the GOM to properly mitigate and monitor for potential impacts of human activities. The GOM is a heavily utilized and industrialized basin, supporting oil and gas exploration and development, commercial and

recreational fishing, shipping, military operations, and tourism 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, GoMMAPPS is modeled after the successful Atlantic Marine Assessment Program for Protected Species (AMAPPS) and is a collaboration among BOEM, National Oceanic and Atmospheric Administration (NOAA), USFWS, and the U.S. Navy. GOMMAPPS focuses on collecting seasonal data on the abundance, distribution, and behavior of marine mammals, throughout the U. S. Atlantic Economic Exclusion Zone (EEZ). Using current habitat utilization models, this study 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 seabirds over the entire GOM EEZ.

Methods: GoMMAPPS conducts repeated, broad-scale surveys of cetaceans in the GOM in order to:

- 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 was accomplished. In keeping with an LME approach, "gulf-wide" coordination was applied to the larger migratory pathways of various species.

Specific Research Question(s):

1) What are the major gaps in current GOM deepwater ocean observing systems that can be filled by this study?
2) How do oceanographic and other ecosystem properties change both temporally and spatially in the deep GOM, including in comparison to historical datasets?
3) What are the natural and anthropogenic drivers of observed variability in these time series?

Current Status: The two main components of the GoMMAPPS Seabird Study were the design and implementation of aerial and vessel-based surveys to collect information characterizing the distribution, abundance, and diversity of birds in the northern GOM; and using models and other empirical data to interpret the influences of natural and anthropogenic variables on avian species. The study evaluate the null model that avian populations are not influenced by: presence and status of offshore oil and gas platforms; proximal fisheries activities; proximal micro-habitat or forage indicators; oceanographic features; and broad-scale weather patterns.

Publications Completed: N/A

Affiliated WWW Sites: https://marinecadastre.gov/espis/#/search/study/100189.

References: N/A