BOEM
Bureau of Ocean Energy Management

Science Notes
Science for Informed Decisions

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Dear Reader,

This month's Science Note highlights the Gulf of Mexico Marine Assessment Program for Protected Species (GoMMAPPS). BOEM is partnering with the National Oceanic and Atmospheric Administration (NOAA), the U.S. Fish and Wildlife Service (USFWS), and the U.S. Geological Survey (USGS) to collect broad-scale information on the abundance and distribution of marine mammals, seabirds, and sea turtles in the Gulf of Mexico to inform marine resource management decisions. We are pleased to share some of the highlights from the first year of fieldwork stretching from Brownsville, Texas, to the Florida Keys.

BOEM develops, funds, and manages rigorous scientific research such as GoMMAPPS to inform policy decisions on the development of energy and mineral resources on the Outer Continental Shelf (OCS). Collectively, the data collected during these surveys provide important environmental context that supports all of the partner agencies' missions and helps us make sure the environment is protected. Enjoy reading this edition, and please send your comments to us at boempublicaffairs@boem.gov.

Sincerely,

William Y. Brown
Chief Environmental Officer

Gulf of Mexico Marine Assessment Program for Protected Species Completes First Year of Fieldwork

The Gulf of Mexico Marine Assessment Program for Protected Species (GoMMAPPS) is a multi-agency partnership between BOEM, NOAA, USFWS, and USGS and is taking place under the National Oceanographic Partnership Program (NOPP). The overarching goal of GoMMAPPS is to collect broad-scale information on the abundance and distribution of marine mammals, seabirds, and sea turtles in the Gulf of Mexico to inform seasonally- and spatially-explicit species density models used in marine resource management decisions.

Killer whales sighted in the eastern Gulf of Mexico during the GoMMAPPS summer 2017 ship-based survey. Photo credit: NOAA Fisheries

The program has recently accomplished a major milestone with the completion of its first year of fieldwork, involving marine life surveys in each season, notably including wintertime, which is traditionally under-sampled. A large team of scientists participated in extensive data collection during multiple aerial and ship-based surveys on the U.S. Outer Continental Shelf (OCS), spanning from Brownsville, Texas, to the Florida Keys. In addition, a host of satellite-tracking tags were deployed on sea turtles off each of the northern Gulf states.

Preliminary Results from the First Year

- Scientists conducted visual observations for marine life, and collected a suite of related habitat and environmental data on broad-scale aerial and ship-based surveys during summer 2017 and winter 2018. In addition to these dedicated GoMMAPPS surveys, they made seabird observations during 93 days at sea on various vessels of opportunity.

A Brown booby observed during a ship-based survey in May 2018. Photo by Chris Haney, Terra Mar Applied Sciences, LLC

- In its first year, the GoMMAPPS team has already collected the largest, most comprehensive seabird dataset ever for the GoM. Approximately 40,000 individual birds covering a wide range of coastal and offshore species have been recorded, using a combination of NOAA vessel-based and USFWS aerial surveys. On the winter aerial survey, some of the most common birds observed included gulls, waterfowl, northern gannets, cormorants, phalarope, and terns.

- Nearly 10,000 individual marine mammals have been visually recorded and identified, in addi-tion to many more acoustic detections from NOAA's towed arrays of passive acoustic monitors. The majority of sightings were for bottlenose dolphins and Atlantic spotted dolphins. Additional sightings included sperm whales, Bryde's whales, killer whales, beaked whales, and a variety of other species.

- Of the nearly 2,800 sea turtle sightings, the largest number of observations was for logger-heads and Kemp's ridleys. USGS scientists also placed 11 satellite tags on juvenile and adult green, Kemp's ridley, and loggerhead sea turtles at in-water sites across the northern Gulf. Notably, one adult female Kemp's ridley, Big Nel, was tagged off the Mississippi coast and later observed on Rancho Nuevo beach, Mexico, during the May 2018 coming up of the turtles to the beaches, known as the arribada in Spanish.

The GoMMAPPS study maintains an active webpage with project updates and survey trip reports. Additionally, the GoMMAPPS Field Diaries provide frequent updates on notable observations during field work activities.

The study is being conducted through inter-agency agreements with NOAA's Southeast Fisheries Science Center, USFWS' Southeast Regional Office Migratory Bird Program, and USGS' Wetlands and Aquatic Research Center for the marine mammal, seabird, and sea turtle aspects of the study, respectively.

Tagged off Mississippi, the Kemp's ridley turtle "Big Nel was spotted months later on Rancho Nuevo beach, Mexico. Photo by Miguel Ramirez Castillo, Gladys Porter Zoo

The GoMMAPPS team will continue to actively collect marine life data through 2020. The results will be synthesized to inform BOEM's decisionmaking related to offshore energy and mineral development in GoM, such as measures to protect these Gulf species, as well as the regulatory needs of other agencies.

To learn more about BOEM's other regional and multi-disciplinary research activities, visit BOEM's Environmental Studies Program, which develops, funds, and manages rigorous scientific research to inform policy decisions regarding the development of energy and mineral resources on the OCS.

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