Assessing Distribution and Abundance of Priority Species in the Gulf of Mexico: A Seasonal, Spatial and Taxa Based Approach to Identifying Gaps in Knowledge

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The Bureau of Ocean Energy Management (BOEM) is responsible for managing the development of energy and mineral resources and associated activities on the outer continental shelf by using the most current and best available scientific information to properly mitigate and monitor negative impacts to protected living marine species. The Gulf of Mexico Marine Assessment Program for Protected Species (GoMMAPPS) is a BOEM initiative aimed at understanding and quantifying long-term trends in species distribution and abundance. In support of this initiative, Quantum Spatial has completed a data inventory and gaps analysis of distribution and abundance studies conducted since 1995.

Initial findings suggest most studies collected data during summer and fall, with less data collected in spring and winter. Most data collected focused on sea turtles, followed closely by marine mammals and then seabirds respectively for all seasons. Across taxa, seabird data were the most limited in both the number of studies performed and the number of species studied. Lack of seasonal data severely limits the ability to predict seasonally explicit spatial distribution for all taxa but especially for seabirds, which disperse widely during the “nonbreeding” season. In addition to seasonal information, collecting data on the behavior of marine mammals, the abundance of sea turtles, and any data on the distribution, abundance, or behavior of seabirds would fill major gaps. When prioritizing by region, future distribution and abundance research conducted within the western and central regions of the Gulf of Mexico for these taxa would also be useful for filling knowledge gaps.