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***Sperm Whale Seismic Study in the Gulf of Mexico,
Summary Report: 2002-2004***

[OCS Study MMS 2006-034](#)

The Minerals Management Service (MMS), Gulf of Mexico OCS Region, announces the availability of a new study report, *Sperm Whale Seismic Study in the Gulf of Mexico, Summary Report: 2002-2004*.

The Sperm Whale Seismic Study (SWSS) is a 3-year field study (with limited field work in the summer of 2005) conducted under a Cooperative Agreement through the Texas A&M Research Foundation with additional cooperation and funding support from the Industry Research Funders Coalition (IRFC), the Office of Naval Research, and (beginning in year 2) the National Science Foundation. This document reports on 2002-2004 field work conducted in the northern Gulf of Mexico with objectives to (1) establish the normal behavior of sperm whales in this area, (2) characterize their habitat use, and (3) determine possible changes in the behavior of sperm whales when subjected to manmade noise, in particular, seismic airgun arrays.

This report summarizes three years of field research conducted during the summers of 2002 through 2004 in the northern Gulf of Mexico of which the preliminary results of the individual tasks are presented. The research focus for 2002-2004 was on the region off the Mississippi Delta between 86° W. and 91° W. longitude. With the completion of limited field work in the summer of 2005, the remainder of 2005 and 2006 will be followed by analysis, synthesis, and integration in a final SWSS report to be completed in 2007.

The behavior of the sperm whale population in the northern Gulf of Mexico was studied using satellite-tracked tags for seasonal movements over large distances, digital-recording tags for fine-scale movements over hours, group follow studies for group structure and movements over days, and genetic analyses of biopsy samples. This research provides a description of the sperm whale population and its structure in the northern Gulf. Initial observations seem to suggest that neither gross diving behavior nor direction of movement changed for any of the eight exposed whales at the onset of gradual ramp-up at ranges of 7.3-12.5 km, nor during full-power exposures at ranges of 1.5-12.8 km. This suggests that there is no horizontal avoidance of sperm whales in the Gulf of Mexico to seismic survey activities. Results from observing foraging behavior suggest that

there is a reduction in foraging during airgun exposure; however, additional studies are required to increase the sample size to numbers yielding the desired statistical power.

This report is available only in compact disc format from the Minerals Management Service, Gulf of Mexico OCS Region, at a charge of \$15.00, by referencing OCS Study MMS 2006-034. The report may be downloaded from the MMS website through the [Environmental Studies Program Information System \(ESPIS\)](#). You will be able to obtain this report also from the National Technical Information Service in the near future. Here are the addresses. You may also inspect copies at selected Federal Depository Libraries.

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