

Technical Announcement

MMS

U. S. Department of the Interior
Minerals Management Service
Gulf of Mexico OCS Region

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Lophelia Reef Megafaunal Community Structure, Biotopes, Genetics, Microbial Ecology, and Geology (2004-2006)

[OCS Study MMS 2008-015](#)

The Minerals Management Service (MMS), Gulf of Mexico OCS Region, announces the availability of a new study report, *Lophelia Reef Megafaunal Community Structure, Biotopes, Genetics, Microbial Ecology, and Geology (2004-2006)*.

This report represents results from a multidisciplinary project conducted by the U.S. Geological Survey (USGS) supporting the needs of MMS and was complimentary and concurrent with a separate MMS study that resulted in MMS publication OCS Study 2007-044 by Continental Shelf Associates (CSA) (with the same title). Subject areas in this USGS report include demersal fish associated with *Lophelia* coral biotopes, deep-sea coral biodiversity and molecular assessment, expressed genes in *Lophelia*, microbial ecology of *Lophelia*, deepwater antipatharian sclerochronology, and hard structure geological analysis of *Lophelia* substrate.

Field sampling cruises were performed at a total of up to 5 locations in the northern Gulf of Mexico (GOM) utilizing Harbor Branch Foundation vessels and one of the *Johnson Sea Link* submersibles in 2004 and 2005. The R/V *Tommy Munro* was used for an additional sampling cruise in 2005. Both samples and scientists were exchanged between the collaborating projects by CSA/MMS and USGS.

Results include the first quantitative analysis of fishes associated with *Lophelia* reefs in the GOM, patterns of *Lophelia* genetic differentiation across 290 km of the northern GOM, discovery of new expressed genes in *Lophelia*, significant differences of bacterial molecular analysis between *Lophelia* sites, and unexpected variations in substrate mineralogy between *Lophelia* sites. Results of this study will be utilized to develop additional studies of hard bottom habitats in the deep GOM and will also enhance the ability of MMS to protect sensitive deep-water biological features.

The report may be downloaded directly from the USGS website at:

http://fl.biology.usgs.gov/coastaleco/OFR_2008-1148_MMS_2008-015/index.html. You will be able to obtain this report also from the National Technical Information Service in the near future. Here is the address. You may also inspect copies at selected Federal Depository Libraries.

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