



U. S. Department of the Interior
Bureau of Ocean Energy Management
Gulf of Mexico OCS Region

Technical Announcement

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Contact: Caryl Fagot
(504) 736-2590

Corals on Oil and Gas Platforms Near the Flower Garden Banks: Population Characteristics, Recruitment, and Genetic Affinity

[OCS Study BOEM 2013-216](#)

The Bureau of Ocean Energy Management (BOEM), Gulf of Mexico OCS, announces the availability of a new study report, *Corals on Oil and Gas Platforms Near the Flower Garden Banks: Population Characteristics, Recruitment, and Genetic Affinity*.

This report determined whether extensive scleractinian coral populations have colonized oil and gas platforms in the northern Gulf of Mexico (GOM), quantified them, and determined their population and community characteristics. It examined the relationship between these variables and distance from the Flower Garden Banks (FGB), platform age, and depth. Surveys were performed on 13 oil or gas production platforms, down to 33-m (110-ft) depth, encompassing an ellipse around the FGB. Corals occurred in abundance on most of the platforms. Eleven species were found: eight hermatypic (reef-building) scleractinians, two ahermatypic scleractinians, and one hydrozoan coral. The most abundant corals were *Madracis decactis*, *Diploria strigosa*, and *Tubastraea coccinea*. Distance from the FGB was not related to the coral community variables measured, including total coral abundances of the dominant three species in shallow water (< 14 m, 46 feet), deep water (14-33 m, 46-110 feet), or both depths combined. Total coral abundance increased significantly with platform age, and the community was best developed on platforms > 12-15 years in age. Results show that platforms have facilitated the expansion of coral populations in the GOM.

This report describes coral settlement and recruitment on oil and gas platforms around the FGB. Density of coral spat settling on terracotta plates on the platforms was extraordinarily low when compared with other Caribbean sites or the Great Barrier Reef over a period of 10 to 12 months. This emphasizes the uniqueness and fragility of these artificial reef sites in comparison to natural sites.

This report also describes molecular genetic analyses of adult scleractinian corals on the FGB coral reefs and on surrounding oil and gas platforms. The analysis was designed to determine the degree of genetic affinity among the natural populations and those on the surrounding platforms. In all species, genetic distance increased significantly with geographic distance between populations. The results suggest that the FGB may be a source of larvae for platform populations.

This report is available on CD from the Bureau of Ocean Energy Management, Gulf of Mexico OCS Region, for \$15.00, and free of charge as a pdf file downloaded from the BOEM website. Copies can also be viewed at selected Federal Depository Libraries. The addresses are listed below.

To order a CD, use the Gulf of Mexico OCS Region contact information below and reference OCS Study BOEM 2013-216. To download a pdf copy, use the Environmental Studies Program Information System and search using the study report number:

http://www.data.boem.gov/homepg/data_center/other/espis/espismaster.asp?appid=1

U.S. Department of the Interior
Bureau of Ocean Energy Management
Gulf of Mexico OCS Region
Public Information Office (GM 217G)
1201 Elmwood Park Blvd.
New Orleans, Louisiana 70123-2394
Phone: (504) 736-2519, 1-800-200-GULF
Fax: (504) 736-2620

U.S. Department of Commerce
National Technical Information Service
5301 Shawnee Rd.
Springfield, Virginia 22312
Phone: (703) 605-6000, 1-800-553-6847
Fax: (703) 605-6900
Website: <http://www.ntis.gov/>

BOEM Main Website: <http://www.boem.gov/>