

**The 2006 DOI Cooperative Conservation Award
The 2007 NOPP Excellence in Partnering Award**

Project Title: *Deepwater Program: The Archaeological and Biological Analysis of World War II Shipwrecks in the Gulf of Mexico: A Pilot Study of the Artificial Reef Effect in Deepwater*

Location Gulf of Mexico, Central Planning Area

This study is jointly sponsored by MMS and NOAA's Office of Ocean Exploration (OE) as part of the National Oceanographic Partnership Program (NOPP). With expanding development of oil and gas activity in deepwater comes increasing challenges in managing Submerged Cultural Heritage on the Outer Continental Shelf and Slope. In order to fulfill our obligations under Section 106 of the Historic Preservation Act of 1966 (36 CFR 800), the MMS needs a clearer understanding of the size of debris fields to be expected around deepwater wrecks, as well as their state of preservation and future research potential. This information is critical for making management decisions concerning disturbance avoidance areas. The MMS has played an instrumental role in the development of the Rigs-to Reefs program in the Gulf of Mexico leading to the passage of the National Fishing Enhancement Act of 1984 and publication of the National Artificial Reef Plan in 1985. Converting offshore oil and gas structures has been well accepted as a benefit to fisheries on the continental shelf of the entire GOM. The archaeological objective of the study is to ground-truth, document, positively identify, and assess the National Register status of up to eight wrecks sunk during World War II. This objective will require both historical research and field investigation to be conducted for each site. The biological component of this study is intended to approach one basic question: do man-made artificial structures or objects, *i.e.*, shipwrecks, function as artificial reefs in deep water? Although there is not yet a complete understanding of how artificial reefs function on the continental shelf, particularly in the photic zone above 100 m, it is generally accepted that artificial reefs can serve a positive function by the creation of new hard bottom habitat in areas where hard bottom is naturally lacking (most of the Gulf of Mexico). In the case of fish, artificial reefs can act both as attraction devices and as new habitat where new fish biomass is created and exported, meaning production. The fouling community growing on new hard bottom provided by artificial substrate is unquestionably new production for those organisms that require hard substrate. Although artificial structures alone do not add food or nutrients to the marine environment, the biofouling community may be very efficient in stripping both nutrients and suspended material from passing water and plankton and building a high standing stock community. The trophic linkages between the flux of organic material to deepwater fouling communities and potentially related fish communities have not been investigated

Examples of Key Partners

MMS
NOAA Office of Ocean Exploration
National Oceanographic Partnership Program
C&C Technologies
Sonsub
Hornbeck Offshore Services
Droycon Bioconcepts
Dauphin Island Sealab/Univ. of Alabama
University of West Florida
University of Alaska Fairbanks
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