

Marine Debris



NOAA Marine Debris Program | Office of Response and Restoration | NOAA National Ocean Service

Gulf of Mexico Marine Debris Project

During the 2005 hurricane season, Hurricanes Katrina and Rita inflicted severe damage on the Gulf of Mexico coastal region and deposited huge amounts of debris over large areas of the Gulf nearshore waters. This submerged marine debris posed a persistent hazard to commercial navigation, fishing activities, recreational boating, and living marine resources. A collaborative effort between NOAA's Office of Response and Restoration and Office of Coast Survey, the team is working with federal, state, and local stakeholders to provide ongoing support to the recovery efforts in the Gulf of Mexico.

Project Description

In an effort to address marine debris impacts on the Gulf Coast, Congress tasked NOAA in July 2006 to conduct survey and mapping of nearshore waters impacted by Hurricanes Katrina and Rita to facilitate debris removal. The NOAA Marine Debris Program led the coordination of this effort.

Phase I: Survey work began in August 2006 using side-scan sonar to image the sea floor and locate marine debris in Alabama, Mississippi, and eastern Louisiana. Sounding measurements were also taken to determine the depth of each object. By the end of Phase I (December 2007), 735 square nautical miles had been surveyed with over 5,000 submerged potential debris items (referred to as targets) identified, entered into a database, mapped, and posted on the project website to advise fishers and boaters of the submerged objects, and assist with U.S. Coast Guard (USCG)-led marine debris removal activities.

Phase II: In 2008 and 2009, Phase II of the project focused exclusively on Louisiana. Integrating lessons learned from Phase I of the project, NOAA staff maintained a consistent field presence to coordinate with the USCG, Federal Emergency Management Agency (FEMA), and Louisiana Department of Natural Resources (LDNR) the survey of Louisiana nearshore waters, map the identified targets, and post them on the project website. Targets requiring additional investigation were re-surveyed with multi-beam sonar, which provides a more accurate contact depth as



Marine debris is

any persistent solid material that is manufactured or processed and directly or indirectly, intentionally or unintentionally, disposed of or abandoned into the marine environment or the Great Lakes.



Side-scan sonar was conducted from a vessel (*left*). Resulting side-scan image showing ship containers and a sunken barge (*right*).

well as a multi-dimensional visualization of the debris item. Targets considered a danger to navigation were promptly reported to the USCG for inclusion in Local Notices to Mariners.

In total, the project surveyed more than 1,500 square nautical miles of nearshore waters across Alabama, Mississippi, and Louisiana, and over 7,100 individual targets were located and mapped.

Tools & Resources

Marine Debris Survey: The project team coordinated technological surveys of submerged marine debris that posed a persistent hazard to navigation, commercial and recreational fishing & boating, tourism, and living marine resources.

Marine Debris Assessment: Following marine survey operations, the team mapped and assessed the debris to help prioritize removal efforts, develop or amend removal strategies, and coordinate stakeholder involvement.

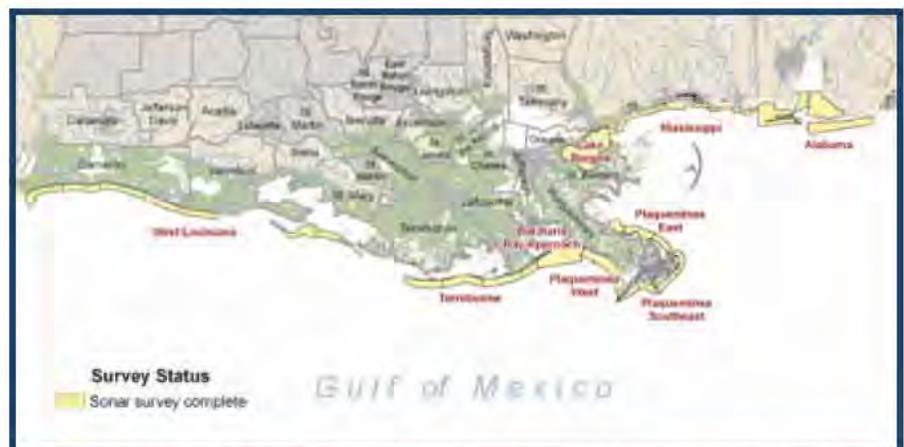
Target Review Process: GIS information and side-scan sonar images were incorporated into Google Earth™ software to provide the location, dimension, and image of marine debris targets, thus enabling FEMA and LDNR to determine what targets to investigate further for removal consideration.

Marine Debris Emergency Response Plan: The team also conducted a series of interviews and meetings with Gulf Coast managers of government agencies and private industry that resulted in the Marine Debris Emergency Response Plan, a document that provides lessons learned from responding to marine debris dispersion after Katrina and Rita, as well as practical recommendations for future responses.

Outreach & Education: Information acquired was posted on the project's website, and provided both static maps and GPS coordinates that can easily be downloaded and printed. During the project the NOAA Marine Debris Program worked closely with Louisiana Sea Grant and the Mississippi/Alabama Sea Grant Consortium to implement a comprehensive outreach program to effectively disseminate survey results to the public using media releases, posters, and maps to engage recreational boaters, recreational and commercial fishers, local fishing communities, state agencies, and other interested parties throughout the region.

For more information visit

<http://marinedebris.noaa.gov/projects/gomdebris.html>



The final survey map shows, in yellow, where sonar surveys were completed during the project.