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## Gulf of Mexico Marine Debris Mapping Project

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Center for Ocean Sciences Education Excellence: Central Gulf of Mexico  
Teacher Scientist Institute 2008*


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## Submerged marine debris

- Hazard to navigation
- Threat to fishing grounds
- 2005 storms distributed huge volumes
- This presentation describes NOAA effort to map and publicize submerged marine debris
- States responsible for removal

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## Marine debris

- Not a new problem
  - Will never be solved
  - Is ongoing
- Requires
  - constant vigilance
  - regular maintenance

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## Overview- Marine Surveying and Response Has Many Parallels to Coastal and Land Based Response

### The Tools of Surveying and Assessment and Removal Oversight Vary to Meet the Environment

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What is this?



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Side scan sonar (SSS) view of this while still submerged



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What is this?



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SSS view of this while still submerged



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### SSS Identifies Hazards & Debris

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### Single Beam Acoustic Sonar to Determine Depth

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### Equipment used

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### Supplemental Funding

- May 2007 – Congress appropriated \$24M to NOAA to scan, map and remove debris in LA traditional fishing grounds (Sup 2)
- Allows continuation of the survey effort that began in 2005 with \$20M appropriation (Sup 1)


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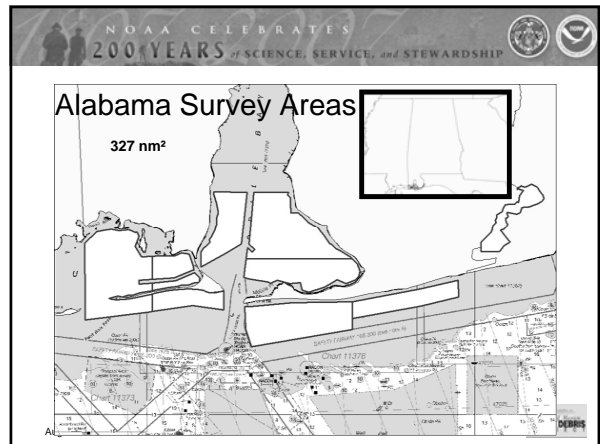
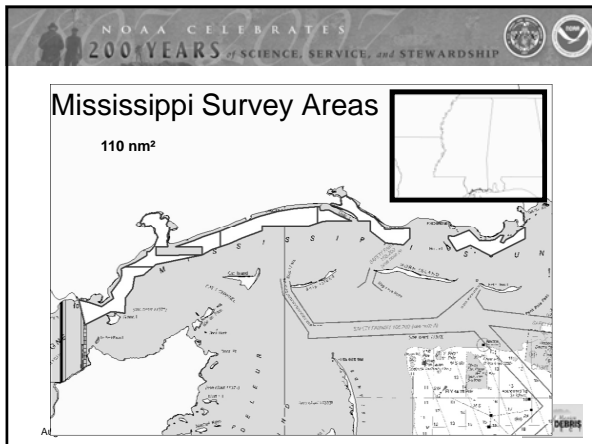
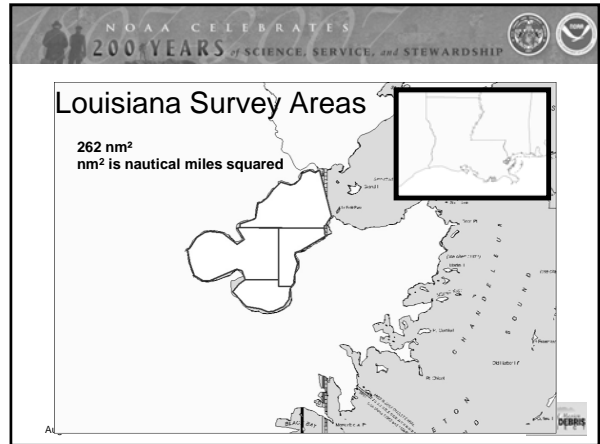
### Prioritization of Sup 1 Survey Areas

- Meetings in LA, MS, AL attended by
  - Marine Resources
  - Local USCG
  - Fish and Wildlife
  - Local fisherman
- Decisions based on
  - highest debris concentration
  - largest gain to local fishing community, specifically shrimpers



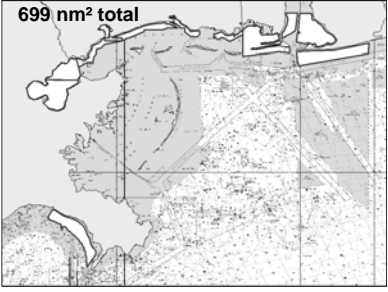
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## Survey Areas



699 nm<sup>2</sup> total

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- Utilized five companies
  - C&C Technologies - Mississippi
  - David Evans & Associates – Mobile Bay, AL & Plaquemines, LA
  - Fugro Pelagos – Dauphin Island, AL
  - SAIC – Lake Borgne, LA
  - Terrasond – offshore AL & Perdido Bay

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## Survey Requirements

- First priority
  - locate debris
  - Communicate to the states to aid in the removal effort
- Second priority – nautical charting
  - SSS scans to locate submerged objects, plus vertical beam echo sounder to provide depth on navigationally significant objects
  - 100 Dangers to Navigation (DTON) were reported as they were discovered
  - Sup 2 work requires enhanced SSS

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## Reporting & Data Dissemination

- Contractors submitted weekly reports of debris findings to a NOAA maintained Sharepoint (web-based data repository)
- This information was disseminated to the public and removal operators via OR&R's website

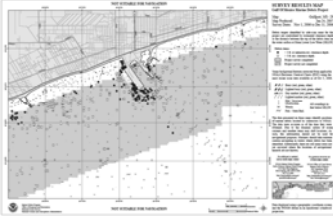
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## Office of Response and Restoration

- ORR roles in project
  - Maintain MDP database & website
  - Interact with local stakeholders on a regular basis
  - Ensure data are getting to the proper authorities to aid in the removal effort




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## The Project Website

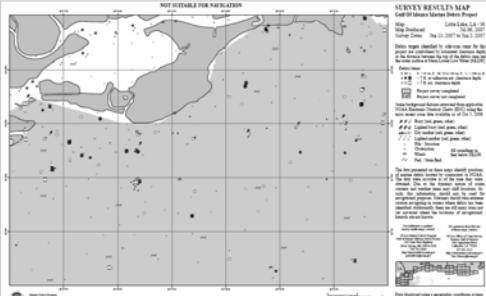
- Survey maps and data, updated every 2-3 weeks
- Link to interactive Internet Mapping Server (Arc IMS)
- FEMA debris removal maps and tables, updated weekly
- Links to internal /external project partners
- Outreach products, media information, related publications, photos, and videos



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## Survey Map – Lake Borgne, LA



NOT SUITABLE FOR NAVIGATION

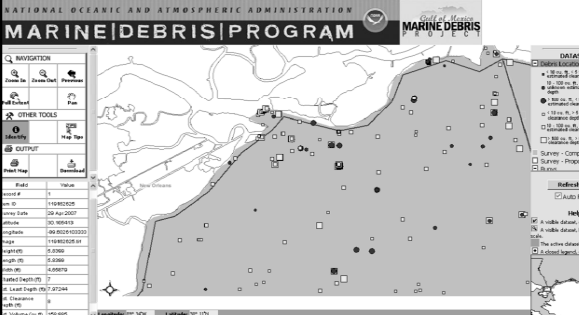
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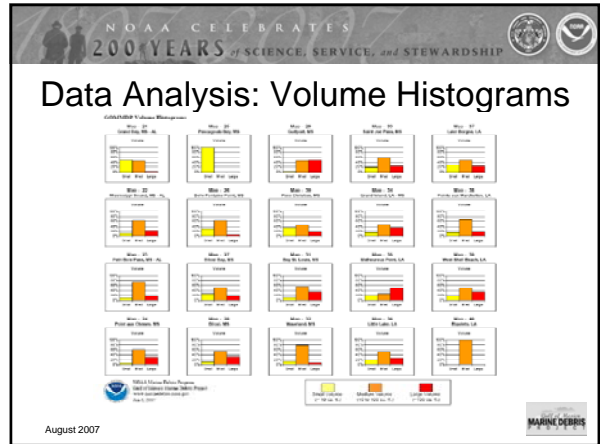
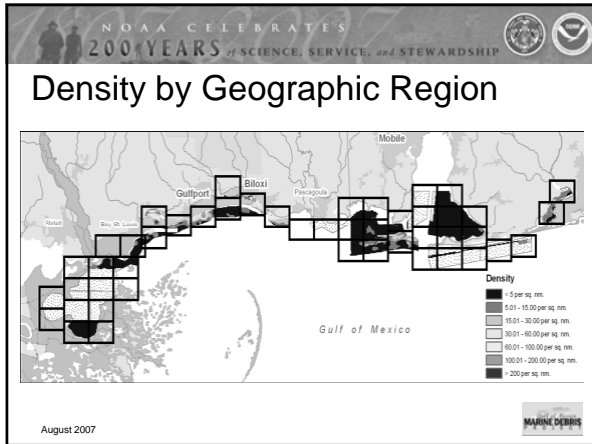
## Internet Map Server (IMS)

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

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## Outreach Products

Poster

Brochure

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## In Progress....

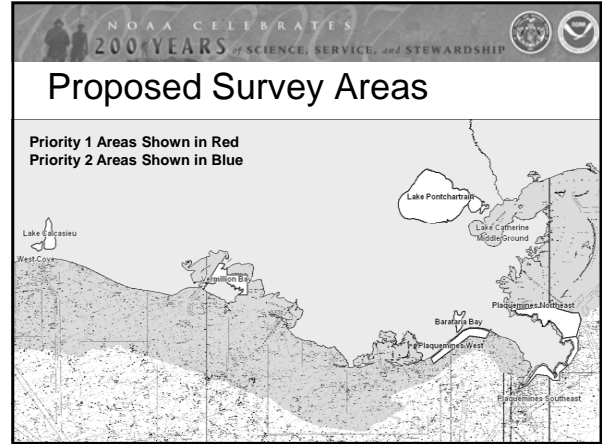
Marine Debris Density Model

Figure depicting debris density. Derived from actual survey data; 2006 / 2007

Goal: Increase efficiency of post-incident response to marine debris

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## Present and Future Goals

- Develop and Implement a Standardized Approach to Surveying and Mapping Marine Debris to Reduce Risk and Support Removal
- Work with Multiple Responders and State and Federal Trust Managers in Addition to the Fishing and Navigation and Port Communities

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## Thank You

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## Web Site Summary

On the Web:  
Gulf of Mexico Marine Debris Project:  
<http://gulfofmexico.marinedebris.noaa.gov>  
Marine Debris Program: <http://marinedebris.noaa.gov/welcome.html>  
Office of Response and Restoration:  
<http://response.restoration.noaa.gov/index.php>  
Office of Coast Survey: <http://nauticalcharts.noaa.gov/>  
NOAA National Ocean Service: <http://www.nos.noaa.gov>  
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