

Environmental Affects of Rita/Katrina Hurricanes

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Natural Disaster

- ◆ August and September 2005, Southern Louisiana was hit with two hurricanes: Rita and Katrina
 - ◆ Destroyed Lives and Property
 - ◆ Along the States Coastline
 - ◆ New Orleans, and
 - ◆ Up to 100 miles Inland.
- ◆ USEPA serves as the lead federal agency for cleanup of hazardous materials and oils.

Response Action

- ◆ Region 6 office in Dallas, TX coordinated the Response Effort
- ◆ Volunteers from all 10 regions.
- ◆ More than 70 from the San Francisco Office
- ◆ Partners
 - ◆ US Coast Guard
 - ◆ LDEQ (Louisiana Dept Enviro Quality)

Cameroon Parish, Louisiana

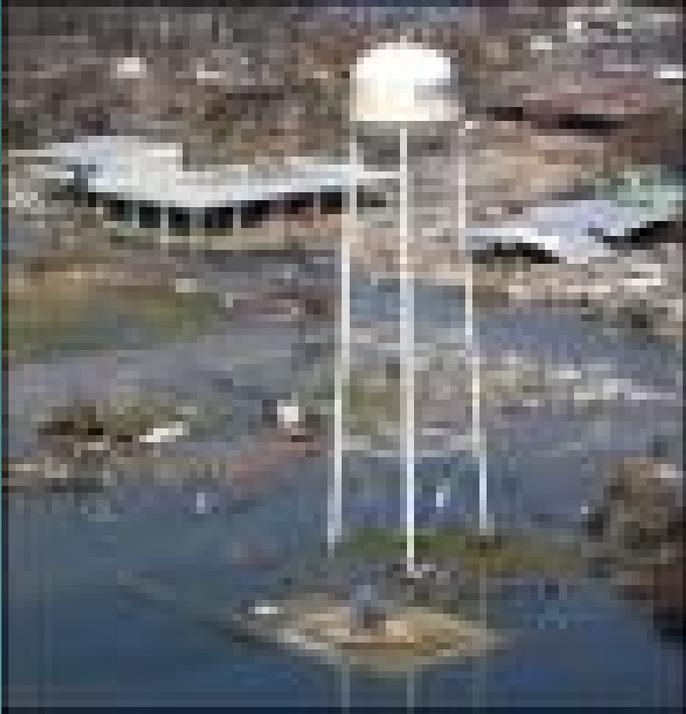
Rita Impacts



Incident Command
Center Staged
Chemicals at the
Gibbstown Bridge



**NPR Morning Edition,
September 28, 2005**



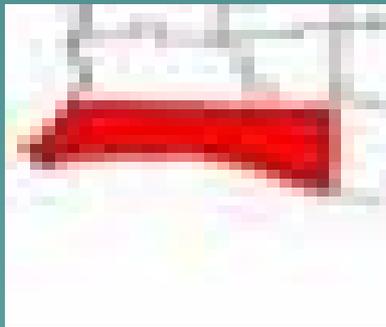
“The small community of Cameron Parish, La. is under water following Hurricane Rita; trees have been stripped and the city's water tower is one of the few structures still standing”.

Actions

- ◆ Clean up Oil Spills
- ◆ Clean up Toxics Spills
- ◆ Remove/Collect Industrial Waste
- ◆ Remove/Collect Household Hazardous Waste
- ◆ Test for contaminated flood waters
- ◆ Assess Drinking Water
- ◆ Minimize Impact during Clean Up
- ◆ Protect Sensitive Habitats and Wetlands

Process

- ◆ Container Recovery in Marshlands
 - 5 to 50,000 gallons!
- ◆ 44 Zones clearly designated
 - **Ease of tracking and documentation**
 - ◆ Pre Recovery
 - ◆ Recovery
 - ◆ Post Recovery
 - ◆ Zone Recovery Reports



Industrial Hazardous Waste

- ◆ **Flooded businesses & Industrial Areas**
- ◆ **Fuel, raw materials, products, more**
- ◆ **Drums partially filled with chemicals floated away on floodwaters and deposited miles away & in remote locations & in debris fields**
 - ◆ Find and Locate
 - ◆ Retrieve, Sample and Identify Chemicals
 - ◆ Recovery
 - ◆ Properly dispose
 - Return to Responsible Party (if identified)
 - Recycled
 - Treated/disposed

Find and Locate



Helicopter Recon

- Photo/Video Logs
- GPS lat/long
- ID system



Find and Locate (cont'd)



Ground Recon

- Specialists
- Reality Check
- Site Access
 - Habit sensitive
- Staging Areas



Find and Locate (cont'd)

- ◆ Tactical Field Packages
 - ◆ Aerial Photos
 - ◆ GPS Map Overlays
 - ◆ Color Coded
 - **Descriptions**
 - **Spreadsheets**
 - ◆ Ground Crew Notes
 - ◆ PDA



Retrieve, Sample and Identify

Field Tests

- Volatile Organics
- Headspace
- PH



Recovery Action



- January 4-April 5, 2006
- Pre-entry Briefing with LDEQ and EPA
- Best Management Practices used
- Amphibious draglines, buggies, excavators, airboats

Recovery with Caution

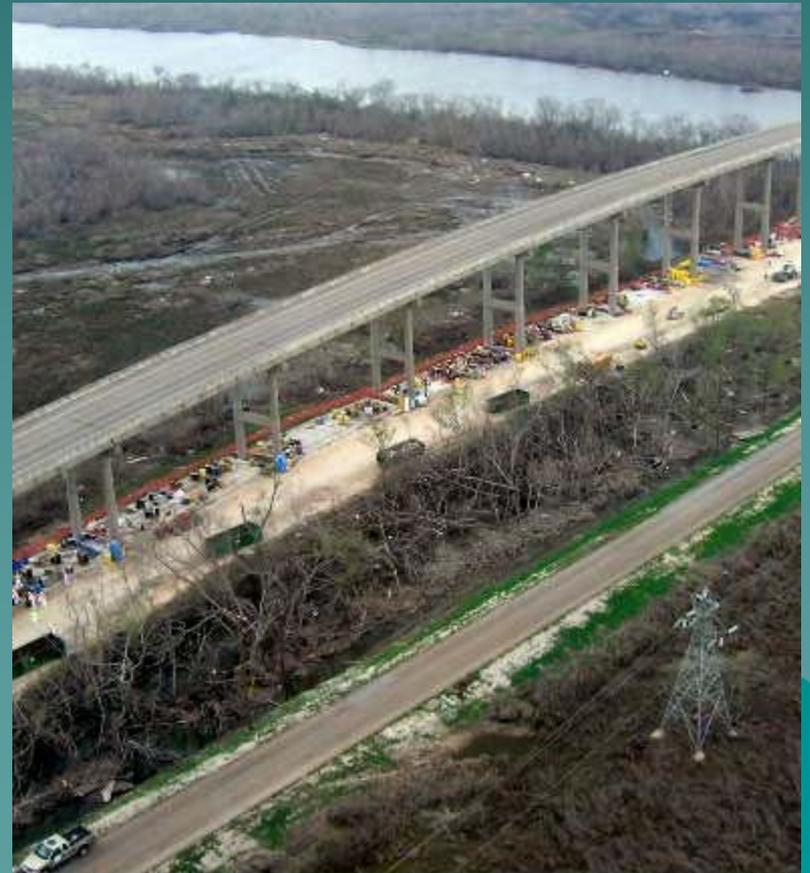


- Minimized damage to the marshlands
- Orphan containers left in place

Proper Disposal



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- HW Staging Various Locations
- Gibbstown Bridge Main Collection Point
- Intercoastal WW Access

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Recovered Items

CONTAINER TYPES	QUANTITY	STATUS
TANKS, DRUMS, TOTES,GAS CYLINDERS, ETC.	3545	ALL RECOVERED
TANKS, DRUMS, GAS CYLINDERS	137	LEFT IN PLACE
ASTs, TANKS, CONEX BOXES	16	REFERRED TO RESPONSIBLE PARTY
TOTALS	3698	REMOVED OR ACCOUNTED

Documentation

- **Zone Recovery Reports for each zone**
 - **Rationale**
 - **Workplan for Recovery**
 - **Tactical Map w/access routes, staging areas**
 - **Physical description, habitats**
 - **Recovery Activities**
 - **Digital photo documentation**
- **Video before, during and after Recovery**

Issues Still to Be Addressed Or Opportunities missed?

- ◆ Demolition Waste
- ◆ Claims that city, state and federal officials waived many environmental regulations to allow cleanup
 - ◆ landfills, asbestos removal, oil refinery operations.

Issues Still to Be Addressed Or Opportunities missed?

- ◆ Total of 109.9 acres incurred temporary marshland impacts
(Total Work Area was 29, 602 Acres)
- ◆ Most damage caused by agencies other than EPA (public service, etc.)

Lessons Learned

- **Interagency Coordination**
- **Interface w/field**
 - Sampling database
 - Palm Pilots and GIS
- **Heavy Equipment scheduling**
- **Shortage of gulf wetland biologists**
- **Appropriate PPE and logistics**
- **QA/QC and verification**

Questions?

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