**Oil or Chemical Spill Notification**
call the National Response Center at
**800-424-8802**

**Oil Spill Response**
in the Region IV Coastal Zone,
contact the U.S. Coast Guard
Marine Safety Office (MSO):

MSO Wilmington, NC
910-792-8408

MSO Charleston, SC
843-724-7616

MSO Savannah, GA
912-652-4353

MSO Jacksonville, FL
904-247-7310

MSO Miami, FL
305-732-0160

MSO Tampa, FL
813-228-2189

MSO Mobile, AL
334-441-5121

In the Region IV Inland Zone,
contact the U.S. Environmental
Protection Agency:
404-562-8700

Inland Zone U.S. Coast Guard Offices are:

MSO Huntington, WV
800-253-7465

MSO Louisville, KY
800-253-7465

MSO Paducah, KY
502-442-1621

MSO Memphis, TN
901-544-3912

State Pollution Response Contacts are:

North Carolina
919-733-3867

South Carolina
888-481-0125

Georgia
404-656-4300

Florida
850-413-9911

Alabama
334-242-4378

Mississippi
601-352-9100

Tennessee
800-258-3300

Kentucky
800-928-2380

**Suggested References:**

*Oil in the Sea*
National Academy Press 1985

*Introduction to Coastal Habitats and Biological Resources for Oil Spill Response*
NOAA / Hazmat

*Introduction to Oil Spill Physical and Chemical Processes and Information Management*
NOAA / Hazmat

*EPA's Oil Program Web site*
www.epa.gov/oilspill/

*United States Coast Guard's Marine Safety and Environmental Protection web site.*
www.uscg.mil/hq/g-m/gmhome.htm

*National Response Team*
www.nrt.org/

*NOAA Hazardous Materials Response and Assessment Division*
http://response.restoration.noaa.gov

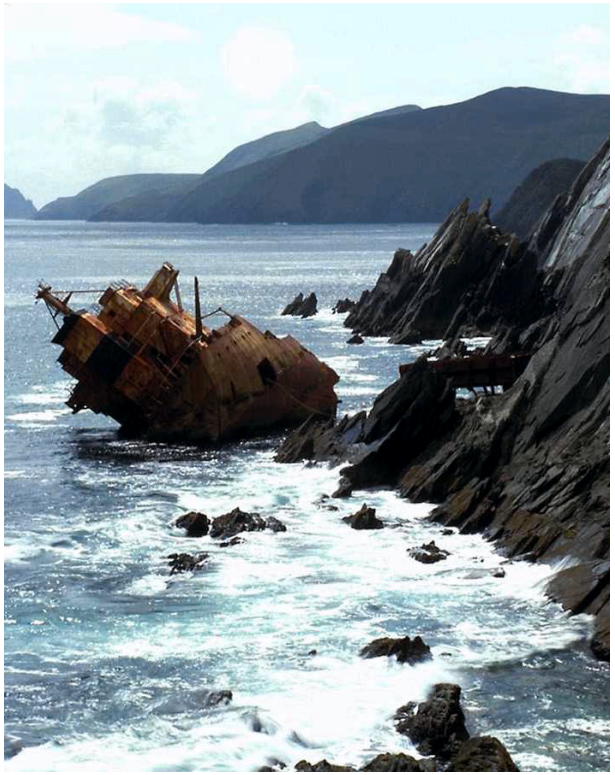
*Oil Spill Intelligence Report's Oil Spill Basics: A Primer for Students*
www.cutter.com/osir/primer.htm

Document prepared by:
Region IV
Regional Response Team

RRT IV Co-Chairs:
U.S. Coast Guard 305-536-5651
U.S. EPA 404-562-8721

Additional informational pamphlets about various response subjects are available on the RRT IV Web Site at www.nrt.org

# Vessel Groundings in the Coastal Environment



## The Vessel Grounding Occurs

The crunching sound of the impact between ship and the ocean bottom is a frightening sound for any mariner. The damage to the ship is not the only damage the grounding causes. Depending on the type of bottom, the vessel's impact may have substantial effects on the environment. These effects range from the minor displacement of sediment on a mud or sand bar to catastrophic damage to coral reefs or seagrass beds. By following a few simple procedures the impacts of the grounding on the environment can be greatly minimized.

## Initial Actions

Immediately following the impact, the vessel's master should determine the extent of damage to the vessel and crew and take proper action to ensure their safety. Communication with the U.S. Coast Guard should be initiated immediately.

The first impulse is to power the vessel off the bottom. This action may greatly damage the ocean bottom habitat in the area and could cause further damage to the vessel. The vessel's propeller wash will scour the bottom and the displaced sediment will cover undamaged substrate in the area. Before attempting to power off, determine the extent of the grounding. If the vessel is barely aground and the ocean bottom has not

created any known damage to the vessel, an attempt to back out of the same area the ship entered may be warranted. However, if the vessel is hard aground it may be necessary to wait for the next high tide, tug support, and conduct a through damage survey of the hull, voids, and tanks before attempting to refloat the vessel.

## The Environment and Weather

Wave activity may cause the vessel to roll excessively and "work" on the ocean bottom, comprising the vessel and creasing the damage to the hull and ocean floor. Taking on additional ballast into clean tanks may minimize the rolling motion if the vessel is being driven harder aground by the wave action. The use of minimal astern propulsion may be useful in countering this effect.

Winds and currents can also affect the vessel's ability to remain stable within a tidal energy zone. If the surf action is severe, safety of the vessel's crew while on deck should be a priority. The deck of the vessel could become immediately awash carrying members of the crew over the side.

## Salvage Support

The proper use of tugs during high tide can minimize the damages to the environment. The tug should use a floating hauser instead of steel towing cables to stabilize or refloat the vessel. As the vessel and tug pivot during the removal process, the catenary in the steel cables can act like a scythe on the ocean bottom. The back and forth motion may destroy acres of seagrass and coral. The towing vessel should be deployed in the deepest water available and use the least amount of power necessary to free the vessel. The propeller wash from the tug can also damage to the ocean bottom.

Once the decision is made to refloat and move the vessel, it is best if the vessel is removed on the same track line as she grounded. This ensures that further damage to the bottom resources will be minimized. Also this will reduce the possibility of damage to the vessel from unseen hazards if removed via a different route. If possible, a bottom survey should be conducted and an egress channel should be identified or marked.

## Vessel Discharges, Fluid Transfers, and Lightering

Upon grounding, at the soonest opportunity, the vessel's tanks and voids should be sounded. The type, location, and amounts of all oil should be identified. It may be necessary to shift fluids internally to stabilize the vessel or during refloating operations. The shifting of fluids should be in accordance with any agreed upon salvage plans. If possible, the identification of tankage to move oil products from the skin of the vessel's hull should be identified.

Under no circumstances should oily ballast water be released into the ocean. Consultation with the U.S. Coast Guard should take place before releasing freshwater, heavily discolored, or super saline ballast.

Lightering of any fluids from the vessel should be in accordance with salvage/lightering proposals/plans accepted by the U.S. Coast Guard/Unified Command.