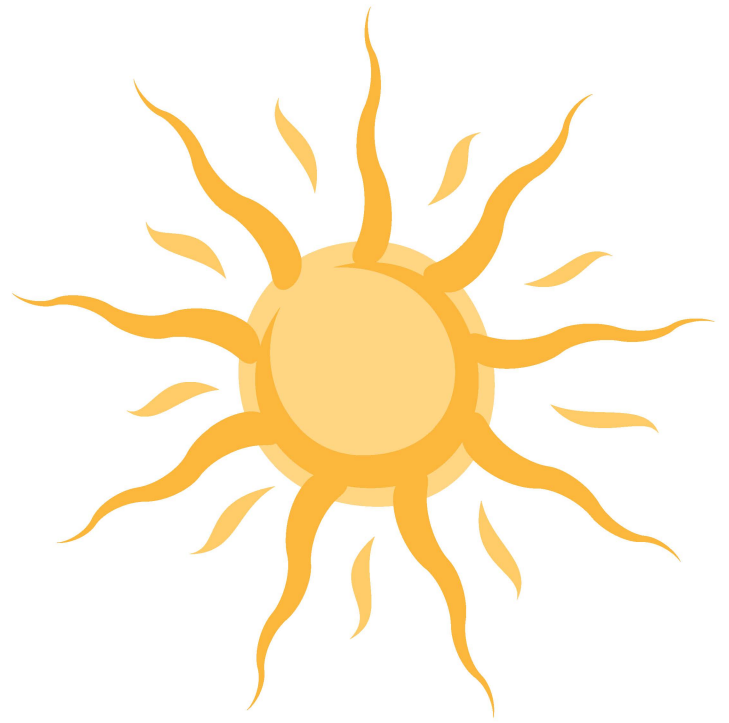
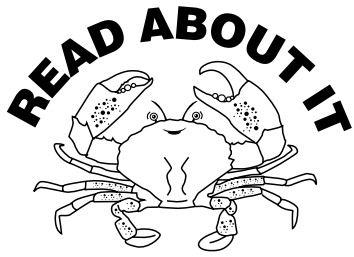


The Educator's Guide to Marine Debris

Southeast and Gulf of Mexico



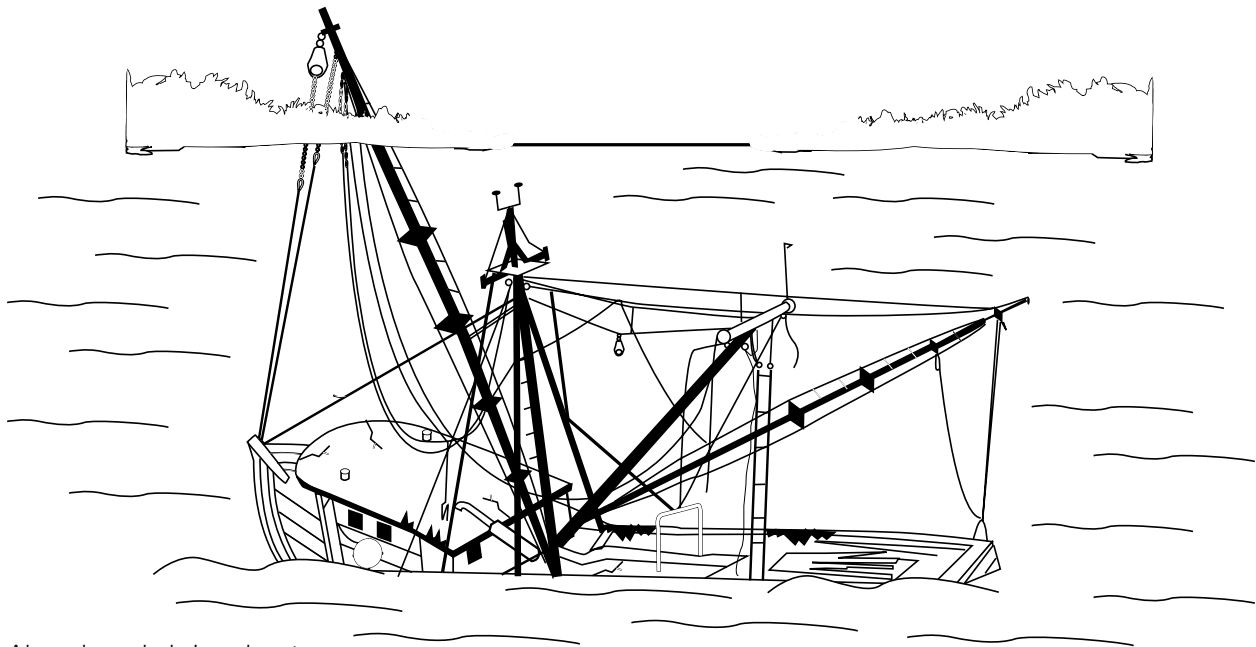


Abandoned and Derelict Boats

CHAPTER 4: DERELICT BOATS

Abandoned boats are a serious problem throughout coastal rivers, **estuaries**, sounds, and tidal creeks in the U.S. Southeast and Gulf of Mexico coast regions. When a boat is **unmoored**, abandoned, capsized, or in a state of disrepair, it can be classified as marine debris.

Abandoned boats are hazardous to the marine environment. They may contain gasoline, oil, and other chemicals that pollute the water. Submerged, abandoned boats pose a navigational danger to boaters. Imagine what running over a sunken boat could do to an outboard motor or water skier! Often, **derelict** boats drift to salt marshes, where they can slowly destroy critical habitat for diamondback terrapins and oysters.



Abandoned shrimp boat

How do boats become abandoned?

Sometimes storms break boats from their **moorings** or docks. Sometimes an owner just abandons a neglected boat. Owner neglect is the most common reason a boat becomes abandoned, as the sun and saltwater are harsh on boats and require owners to make constant repairs. When an owner can't afford to make these repairs, the boat falls into a state of disrepair and becomes unsafe to use. Owners sometimes break **moorings**, sink boats, or drive boats to **stranding** locations and leave them for someone else to find.

Georgia Estuaries Are Not a Junk Yard!

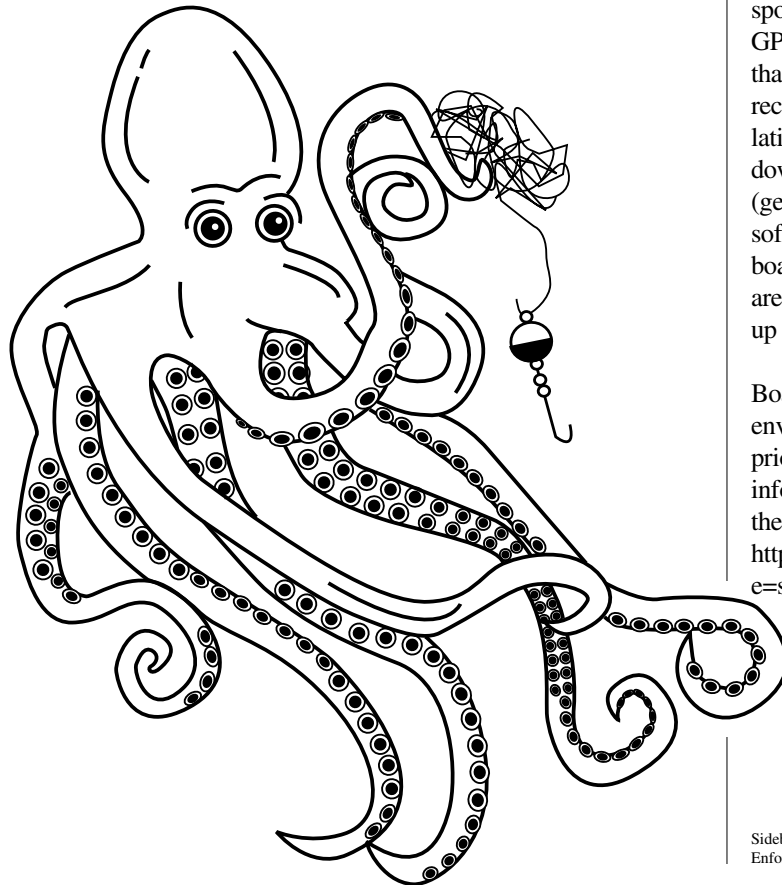
In 2008, sixty-five abandoned and derelict boats littered Georgia's coast and tidal rivers. These wrecks range from small powerboats to large shrimp boats. The extreme tidal range of Georgia's coast (six to nine feet) means that these wrecks are often hidden during high water. Abandoned vessels can be dangerous to commercial navigation, as well as to recreational boating and skiing. A large

Chapter 4: Derelict Boats, (continued)

What happens when an abandoned or **derelict** boat is found?

Every effort is made to locate the owner and arrange for proper removal and disposal. However, locating the owner of an abandoned boat is often difficult, as owners or harsh conditions may remove all identification from the boat. If an owner is found, he or she may be required to pay for removal or may be prevented from acquiring future boating licenses. If the abandoned boat is a threat to the habitat or navigational safety and owners cannot be located, the boat can be removed by a state or national agency at a high price!

Source: Modified from "Turning the Tide on Trash," Special Issue, *Post and Courier* (Charleston, S.C.), August 29, 2007.
Article by Dan Burger, S.C. Department of Health and Environmental Control, Office of Ocean and Coastal Resource Management.



Georgia Estuaries Are Not a Junk Yard! (continued)

vessel rubbing up against the marshes can tear up critical habitat of grasses or oyster reefs.

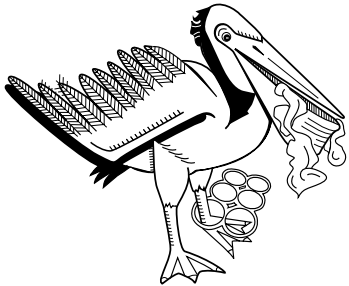
The Georgia Department of Natural Resources (GA DNR) locates and removes some of these hazardous structures. Although the coastline is only 118 miles long, there are more than 2,400 miles of tidal creeks and more than 400,000 acres of marshland. That is a lot of water in which to search and locate these boats.

Finding a wreck is one problem. Removing a **derelict** boat is another. It is expensive, often costing \$50,000 per boat. The Georgia Legislature allocated money in 2006 that assisted GA DNR in locating many abandoned boats and provided equipment to map the boats' locations. Once a boat is spotted, its position is marked by a GPS (Global Positioning System) unit that uses at least three satellites to record the boat's precise longitude and latitude. These data are then downloaded to a computer with GIS (geographic information system) software. Now the location of each boat can be plotted onto a map of the area. What an incredible way to keep up with **derelict** boats in Georgia!

Boats posing the greatest threats to the environment or to navigation are given priority for removal. All of the information that has been collected by the GA DNR is available to view. Visit <http://dev.gadnr.org/dev/imf/imf.jsp?site=sunk>.

Sidebar: Charles "Buck" Bennett, Compliance and Enforcement Manager, Coastal Resource Division, GA DNR

What's
the word?



Glossary

► **BRD**

Acronym for Bycatch Reduction Device, a device that makes it difficult for diamondback terrapins to enter crab traps.

► **BIODEGRADE**

Breakdown of living or organic substances typically by microorganisms, such as bacteria.

► **COSEE**

Acronym for Center for Ocean Science Education Excellence.

► **DECOMPOSE**

Breakdown of dead organisms into simpler components.

► **DBT**

Acronym for diamondback terrapin, a species of turtle.

► **DENSITY**

The mass of a substance per unit volume.

► **DERELICT**

Abandoned by owner.

► **EDDIES**

Circular currents, often spin-offs from the Gulf Stream.

► **ESTUARY**

Semi-enclosed coastal body of water with rivers flowing on the mainland side and having a connection to the sea. Estuaries have a mix of saltwater and fresh water that changes with the tides.

► **GHOST FISHING**

Unintentional catch of wildlife by discarded nets, traps and lines.

► **HEADWATERS**

The very beginning of a river, often a tiny stream or spring.

► **JELLIES**

Jellyfish, invertebrate animals with stinging tentacles that swim weakly and drift with currents in the water column.

► **MOORED**

Tied up to a dock or anchor.

► **NMMSN**

Acronym for National Marine Mammal Stranding Network.

► **NOAA**

Acronym for National Oceanic and Atmospheric Administration.

► **NECROPSY**

A thorough examination of a corpse to determine the cause and manner of death and to evaluate any disease or injury that may be present. It is usually performed by a specialized medical doctor called a pathologist.

► **PERSISTENT**

Lasting a long time.

► **PROTOCOL**

A standard way or procedure to communicate or transfer information or data.

► **RUST**

Chemical process that is a reaction of iron with oxygen in the presence of water or air moisture.

► **SENTINEL SPECIES**

A plant or animal whose presence or absence provides information about environmental conditions.

► **SIDESCAN SONAR**

Instrument towed by research vessels that sends out sound waves to detect changes in relief of the seafloor or obstacles on the bottom, e.g., boats or crabtraps.

► **SONAR**

Acronym for Sound Navigation And Ranging. SONAR instruments send and receive reflected sound waves to determine distance, depth or location of objects or even fish.

► **STEWARDSHIP**

The careful and responsible management of something entrusted to one's care.

► **TURBID**

Water that is very cloudy with particles.

► **UNMOORED**

When a boat is drifting not under a captain's command.

► **WATER COLUMN**

Vertical water from surface to seafloor.

► **WATERSHED**

All of the tiny streams, creeks, and rivers that flow together into an estuary. Ridges divide one watershed from another.

► **WRACK LINE**

A line of natural and man-made debris deposited at the last high tide.

RESOURCES ON MARINE DEBRIS

NATIONAL RESOURCES:

WEB SITES

Algalita Marine Research Foundation: <http://algalita.org>
Glossary, images, informational materials
DVD: *Synthetic Sea*

American Plastics Council: www.plasticfilmrecycling.org
Recycling plastic film and bag

Beachcombers' and Oceanographers' International Association: <http://beachcombersalert.org/>

Clean Beaches Council: www.cleanbeach.org

Diamondback Terrapin Working Group: www.dtwg.org
Regional crab trap information

Digital Library for Earth System Education:
Classroom activities

Keep America Beautiful: www.kab.org

Ocean Conservancy: www.oceanconservancy.org/
International Coastal Clean Up

Surfrider Foundation: www.surfrider.org/

The Bridge: <https://masweb.vims.edu/bridge/index.cfm>
Portal to marine activities

U.S. Department of Commerce National Ocean and Atmospheric Administration (NOAA):

Office of Ocean and Coastal Resource Management, Marine Debris Information Office:
<https://coast.noaa.gov/states/fast-facts/marine-debris.html>
Derelict vessel removal, derelict fishing gear removal

Office of Response and Restoration: <http://response.restoration.noaa.gov>
Marine debris emergency

Marine Debris Program: <http://marinedebris.noaa.gov/welcome.html>
Understanding Marine Debris (activity booklet, 21 pages)

Marine Mammal Stranding Network Contacts
Southeast Regional Hotline: 1-877-433-8299
(Includes Florida, Georgia, Mississippi, North Carolina, and South Carolina)

U.S. Environmental Protection Agency: <https://www.epa.gov/trash-free-waters>
Marine debris information and lessons

U.S. Coast Guard: www.uscg.mil/top/downloads/coloring.asp
The Adventures of Captain Clearwater (coloring book)
Inky the Whale (coloring book)

PUBLICATIONS/MEDIA

Burns, Loree G. *Tracking Trash: Flotsam, Jetsam, and the Science of Ocean Motion*. Boston: Houghton Mifflin Co., 2007. ISBN 13-978 0 618 58131-3.

Coe, James M., and D.B. Rogers, editors. *Marine Debris: Sources, Impacts, and Solutions*. New York: Springer-Verlag, 1997. ISBN 0-387-94759.

Environmental Media Corp., Beaufort, South Carolina:
DVD: *Journey of the Loggerhead* (life cycle and threat)
Video: *Death of a Whale*
Video: *The Yellow Hat* (debris from river to sea)

REGIONAL RESOURCES:

FLORIDA

Florida Coastal Cleanup: <https://floridadep.gov/rcp/coral/content/shore-based-beach-cleanups>

Florida Department of Environmental Protection: www.dep.state.fl.us/coastal/programs/coral/debris1.htm
Monofilament line recycling, hurricanes, and marine debris

Florida Fish and Wildlife Conservation Commission Monofilament Recovery and Recycling Program:
<https://mrrp.myfwc.com/>

Florida Sea Grant: <http://flseagrant.org> and http://stjohns.ifas.ufl.edu/sea/marine_marine.html
Monofilament line recycling, clean-up events, crab trap

Mote Marine Lab: www.mote.org
Marine debris impacts on marine mammals

University of Florida Agricultural Center: http://stjohns.ifas.ufl.edu/sea/marine_debris.html
Monofilament line recycling and recovery, clean up events, marine debris timeline

University of South Florida College of Marine Science: www.marine.usf.edu/beachbuddies/index.html
Marine debris lesson plans

Water Action Volunteers: <https://www.sjrwmd.com/>
Community clean-up calendar of events

GEORGIA

Georgia Department of Natural Resources

Coastal Resources Division: www.CoastalGaDNR.org

Fishing line recycling, documenting abandoned and derelict vessels

Environmental Protection Division

Rivers Alive Clean-Up Events: www.riversalive.org

Georgia Power: <https://www.georgiapower.com/community.html>

Clean-up events

Keep Georgia Clean and Beautiful: <https://www.kgbf.org/>

Downloadable education resources

Clean-up events

University of Georgia Marine Extension Service

Marine Advisory Services: <https://gacoast.uga.edu/>

Monofilament fishing line recycling maps and services

MISSISSIPPI

Mississippi Coastal Cleanup: www.masgc.org/cleanup/index.htm

Mississippi Department of Marine Resources: <https://dmr.ms.gov/>

Monofilament line recycling

Keep Mississippi Beautiful: www.kmbpal.org/index.html

Clean up events

Gulf of Mexico Program, Environmental Protection Agency

www.epa.gov/gmpo/edresources/debris_t.html

Marine debris timeline

Gulf of Mexico, NOAA: <https://marinedebris.noaa.gov/gulf-mexico>

Marine debris mapping project

NORTH CAROLINA

North Carolina Maritime Museum: <http://capelookoutstudies.org/NCMRRP/ncmrrp.shtml>
Monofilament line recycling program, wildlife entanglement

North Carolina Big Sweep: <https://www.ncdot.gov/initiatives-policies/environmental/litter-management/Pages/litter-sweep-volunteers.aspx>

Clean up events

Publications:

Ripples: A Big Sweep Elementary Activity Guide

Splash Splash: A Big Sweep Aquatic Primer

Undercurrents: A Big Sweep Middle School Teacher's Guide

SOUTH CAROLINA

Center for Ocean Sciences Education Excellence SouthEast:

<http://www.cosee.net/>

"Litter from Land and Sea" marine debris poster

National Marine Educators Association, "Marine Debris for Educators" PowerPoint presentation

Keep South Carolina Beautiful and Palmetto Pride: www.palmettopride.org

Clean-up events

South Carolina Aquarium: www.scaquarium.org

Marine debris exhibit

Marine debris programs

South Carolina Department of Health and Environmental Control

Office of Ocean and Coastal Resource Management: www.scdhec.gov

Marine debris

Adopt-A-Beach Program

"Marine Debris from Land and Sea"
poster

South Carolina Department of Natural Resources

Monofilament recycling program: <http://saltwaterfishing.sc.gov/monofilament.html>

South Carolina Sea Grant Consortium: <http://www.scseagrant.org>

South Carolina Beach Sweep/River Clean Up Event: www.scseagrant.org/content/?cid=49

"Turning the Tide on Trash," Special Issue, *Post and Courier* (Charleston, S.C.), August 29, 2007.