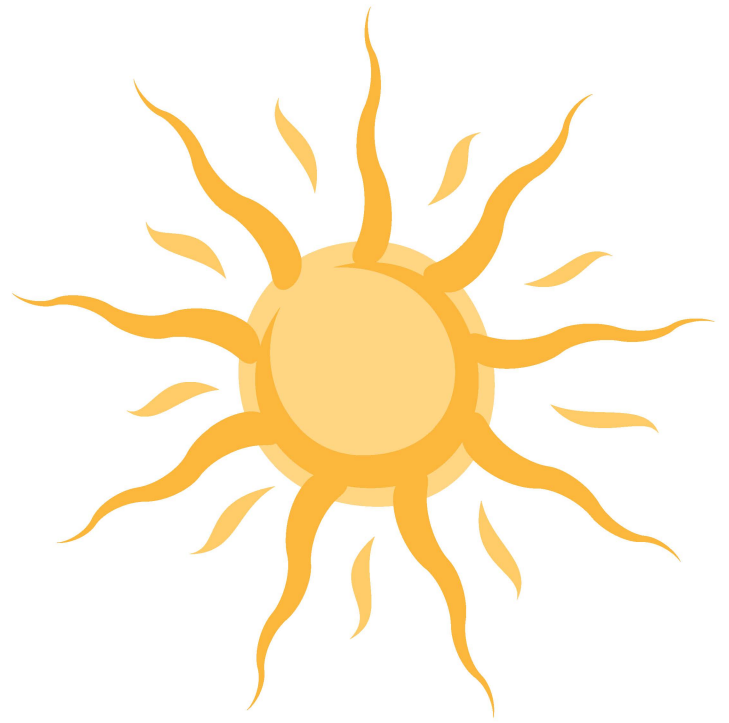
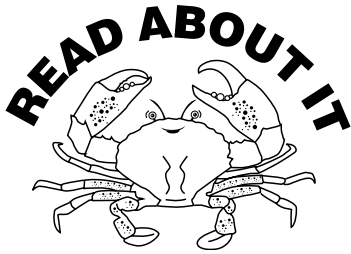


# The Educator's Guide to Marine Debris

Southeast and Gulf of Mexico





## CHAPTER 5: STEWARDSHIP & RESPONSIBILITY

In 2007, clean-up volunteers in North Carolina, South Carolina, Georgia, Florida, and Mississippi collected 1,711,803 pieces of marine debris along the coasts during the fall international marine clean-up day. That's more than 1.7 million items out of place—not reused and not recycled.

### What Can We Do?

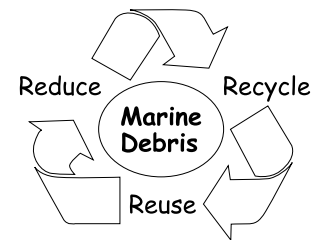
We all are affected by marine debris, which means we all must work together to prevent and reduce the growing problem of marine debris.

So, if we don't like it, how are we going to change it?

We need to develop strategies to reduce the amount of marine debris entering the environment.

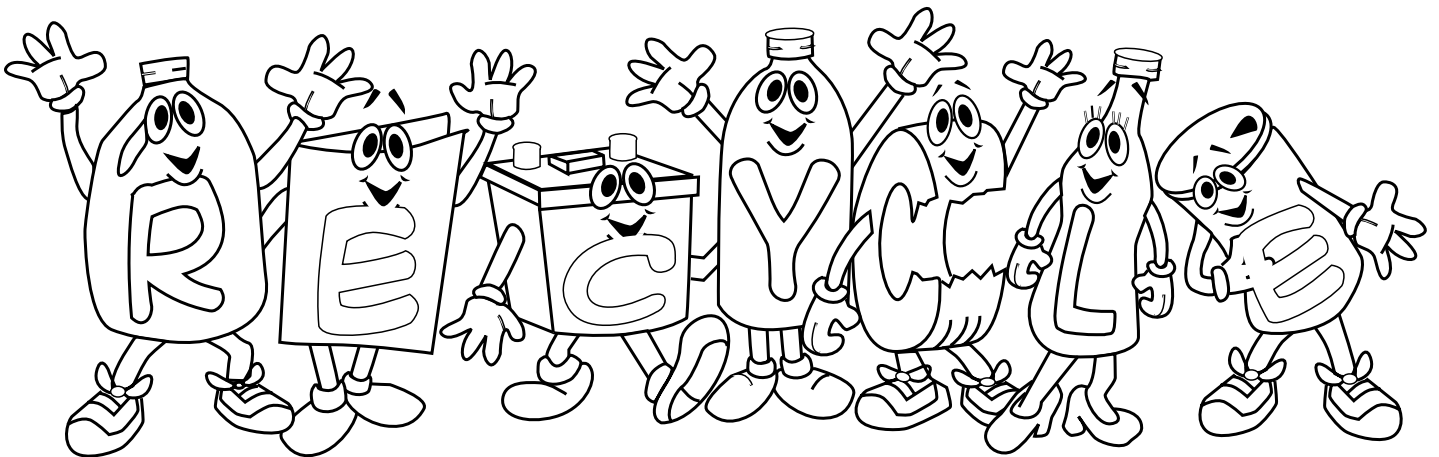
We need to recycle marine debris. This task is easier now that many plastic, glass, and metal items can be recycled. Also, we need to reuse items to prevent them from becoming marine debris.

Many tons of marine debris items are recovered each year in clean-ups on our beaches and inland shores. Thousands of volunteers assist local agencies with **stewardship** by picking up litter. These volunteers are role models and their actions influence other people.



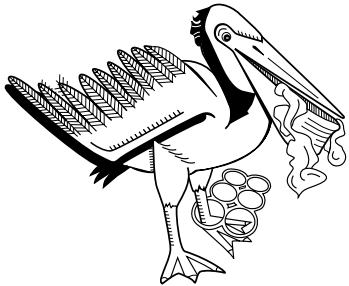
Join the North Carolina Big Sweep. Participate in the South Carolina Beach Sweep/River Sweep. Find the regional clean ups in Georgia, Florida, and Mississippi. Join one of the many state Adopt a Beach programs. Build fishing line recycling boxes and put them on private docks and boat ramps—don't forget to recycle the contents regularly. Ask for more trash containers on public beaches and boat ramps. Take care of your own litter.

Enjoy our wonderful coast. Leave only footprints.



(Note: color this word or make your own poster. Graphic credit: SCHEC)

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](http://www.plasticfilmrecycling.org)  
Recycling plastic film and bag

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

Clean Beaches Council: [www.cleanbeach.org](http://www.cleanbeach.org)

Diamondback Terrapin Working Group: [www.dtwg.org](http://www.dtwg.org)  
Regional crab trap information

Digital Library for Earth System Education:  
Classroom activities

Keep America Beautiful: [www.kab.org](http://www.kab.org)

Ocean Conservancy: [www.oceanconservancy.org/](http://www.oceanconservancy.org/)  
International Coastal Clean Up

Surfrider Foundation: [www.surfrider.org/](http://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](http://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](http://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](http://stjohns.ifas.ufl.edu/sea/marine_marine.html)  
Monofilament line recycling, clean-up events, crab trap

Mote Marine Lab: [www.mote.org](http://www.mote.org)  
Marine debris impacts on marine mammals

University of Florida Agricultural Center: [http://stjohns.ifas.ufl.edu/sea/marine\\_debris.html](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](http://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](http://www.CoastalGaDNR.org)

Fishing line recycling, documenting abandoned and derelict vessels

Environmental Protection Division

Rivers Alive Clean-Up Events: [www.riversalive.org](http://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](http://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](http://www.kmbpal.org/index.html)

Clean up events

Gulf of Mexico Program, Environmental Protection Agency

[www.epa.gov/gmpo/edresources/debris\\_t.html](http://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](http://www.palmettopride.org)

Clean-up events

South Carolina Aquarium: [www.scaquarium.org](http://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](http://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](http://www.scseagrant.org/content/?cid=49)

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