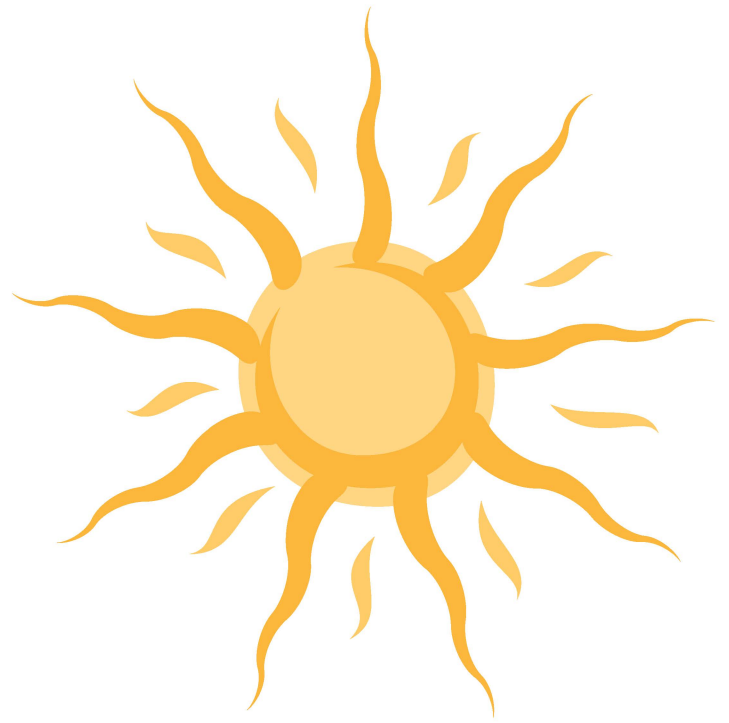
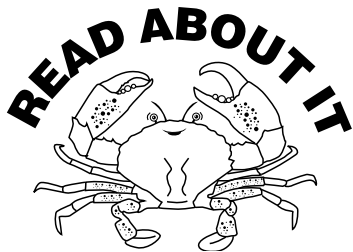


The Educator's Guide to Marine Debris

Southeast and Gulf of Mexico



CHAPTER 3: LOST OR ABANDONED FISHING GEAR



Get Your Gear Out!

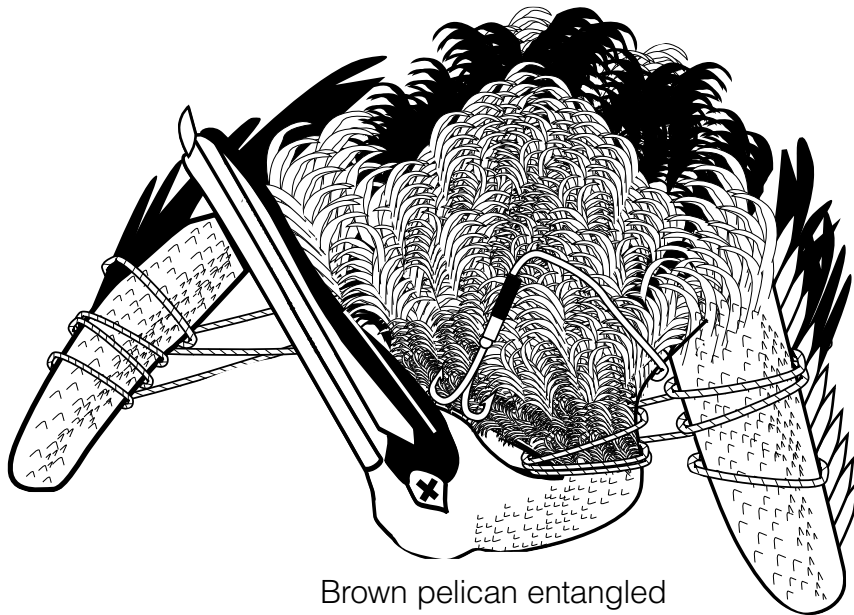
Lost or abandoned fishing gear includes fishing rods, nets, monofilament line, ropes, and crab traps from recreational and commercial industries. Long ago, most fishing gear was made of natural fibers, like cotton or hemp. These materials decayed or **biodegraded** over time. Today's fishing gear is made of, or coated in, synthetic plastics, designed to last a long time. That is great news for the fisherman, but not good news for the animals when the gear is lost or abandoned.

"Ghost fishing" occurs when lost or discarded line, nets, and crab traps continue to catch marine crabs, fish, turtles, and marine mammals. This form of "fishing" can cause serious injury to animals and is considered a leading cause of marine animal deaths each year.

Ropes from crab traps, fishing nets, and monofilament fishing line can injure sea turtles, dolphins, seals, and whales.

Even seabirds are harmed by abandoned fishing gear! The thick ropes or plastic lines can cut into fins, flippers or wings.

The animal often becomes completely entangled and is no longer able to swim or fly properly. If the debris is cut free, often times the animals can recover.



Brown pelican entangled in fishing line

Florida is Reeling In the Line: One Inch At a Time

Nylon monofilament fishing line became popular in the 1950s. It is thin, strong, and almost invisible in water. The same characteristics that make it popular with anglers make it deadly to wildlife when loose monofilament line fragments are discarded in the water.

Florida knows the problems with fishing line and started one of the first recovery projects in Brevard County. For almost 10 years, the Monofilament Recovery and Recycling Program (MRRP) has collected discarded line from responsible fishers and tackle shops. Now this program has spread to 43 counties throughout the state.

MRRP sets up monofilament line recycling containers at piers, boat ramps, and places where anglers can deposit loose and unwanted pieces of monofilament line. Volunteers collect and sort the line, then mail bundles to Berkley Pure Fishing Company in Iowa. Since 1990, Berkley has received over 15 million miles of monofilament fishing line for recycling.

Recycled fishing line is turned into plastic pellets, which are used in the manufacture of recycled plastic products such as tackle boxes and toys.

Volunteers can make their own containers for private docks by cutting an "X" into the lid of a tennis ball canister. It's a small storage bin with a user-friendly opening to poke the pieces of line through.

Every inch counts! Currently, Florida is joined by 25 states, including North Carolina, South Carolina, Georgia, and Mississippi, along with seven countries, in fishing line recycling efforts. What a great way to keep unwanted fishing line out of our oceans and waterways.

Chapter 3: Lost or Abandoned Fishing Gear (continued)

Seabirds, whales, dolphins, sea turtles, and diamondback terrapins are among the air-breathing marine animals that become entangled and often die because of abandoned fishing gear. If air-breathing animals are caught in gear and unable to return to the surface to breathe, they drown.

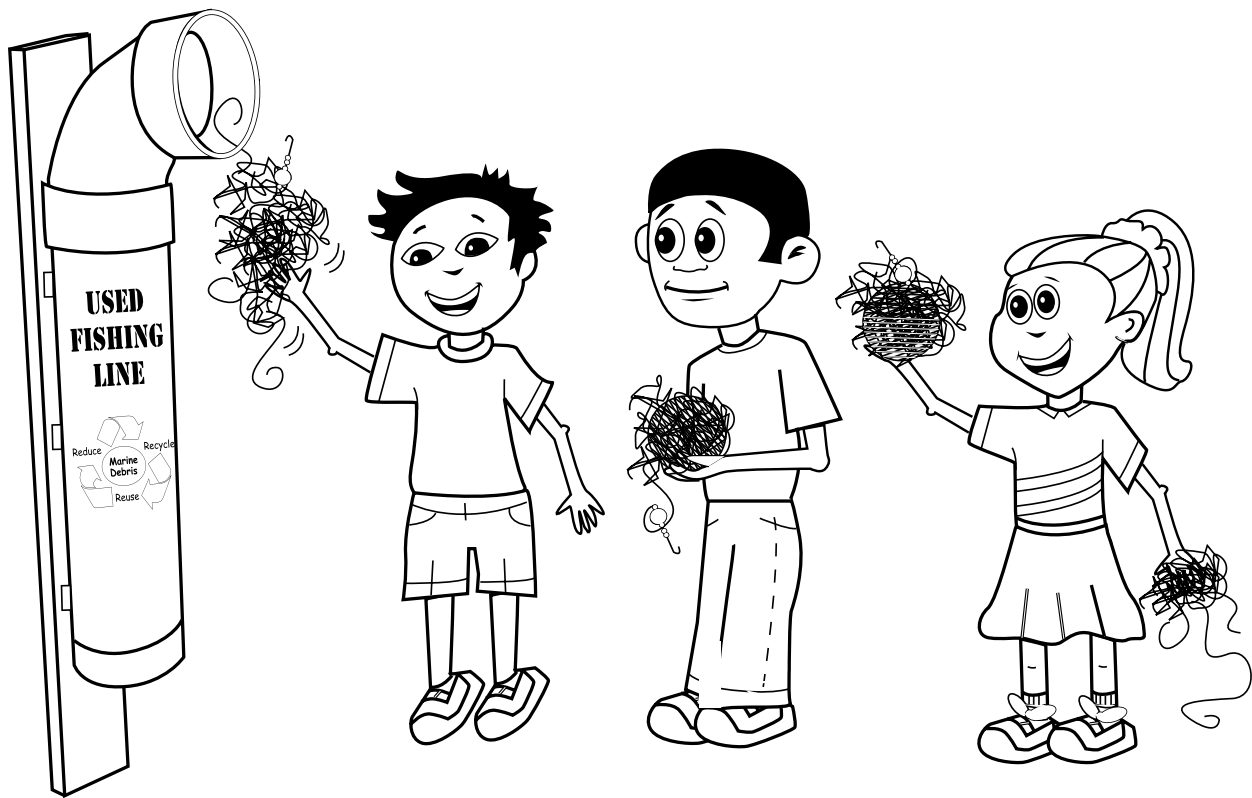
The Ocean Conservancy's 2007 International Coastal Cleanup reported that 235 animals were found entangled in marine debris—either dead or alive. Seabirds were the most-often reported victims of entanglement, and fish were the second most often reported. We can work together to prevent harm to animals and remove marine debris!

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

Florida is Reeling In the Line: One Inch At a Time (continued)

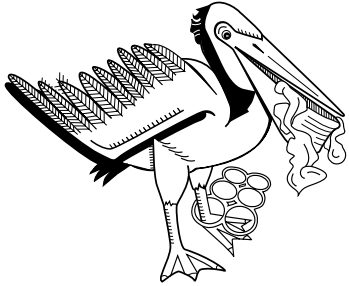
If you collect line and do not have a recycling bin or a cooperating tackle shop, then you can mail your recycled line to Berkley Pure Fishing Company at 1900 18th Street, Spirit Lake, Iowa 51360-1041. For more information on monofilament recycling, visit www.fishinglinerecycling.com.

Sidebar: Maia McGuire, Ph.D., Extension Agent,
Florida Sea Grant



Fishing line recycling bin and student volunteers with used line

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.