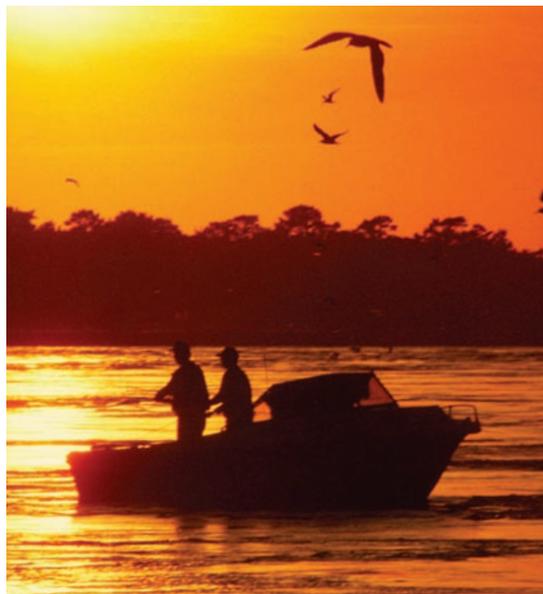




REELING IN MARINE DEBRIS



A Reference Guide to Recycling
Monofilament Fishing Line



NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / WWW.MARINEDEBRIS.NOAA.GOV



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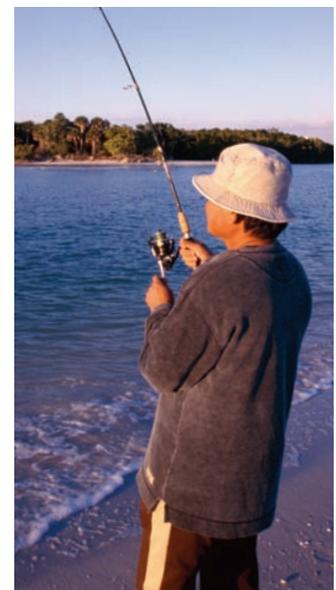


In 2005, volunteers participating in the International Coastal Cleanup (ICC) – the world’s largest single-day volunteer effort to benefit the marine environment – found 101 marine animals

(fish, birds, invertebrates, mammals and reptiles) entangled in various forms of marine debris. Of these, about 60 percent were entangled in discarded fishing line and nets.¹ Even though these materials represent a fraction of the total number of items collected during the ICC, fishing line, nets and other related debris can be extremely dangerous to marine wildlife and marine habitats.

It is estimated that ingestion of, and entanglement in, marine debris causes the deaths of more than one million birds and 100,000 marine mammals each year. A 1998 study in Hawaii revealed that discarded monofilament fishing line had caused significant damage to cauliflower coral colonies,² which provide important habitat for fish and invertebrates. Fishing line can also collect underwater on pier pilings, posing a threat to animals that swim in and around them. This abandoned line can ghost fish – continue to catch marine species – for many years. Fishing line, nets, rope and other debris can also wrap around boat propellers and clog seawater intakes, causing costly engine damage and becoming a safety hazard.

While it has become one of the most pervasive environmental problems, marine debris is also one of the most preventable – and fishermen can help contribute to the solution.



¹ The Ocean Conservancy, *The International Coastal Cleanup Report* (2005): 27

² Tomoko Yoshikawa and Kazue Asoh, "Entanglement of Fishing Line and Coral Death," www.sciencedirect.com/science/article/B6V5X-4B1SK68-2/2/e8677ea7b0e16be3f9510bfd54de804e (Accessed May 14, 2007)



What Is Marine Debris?

According to the National Oceanic and Atmospheric Administration (NOAA), marine debris is defined as any man-made object discarded, disposed of or abandoned that enters the coastal or marine environment. It may enter directly due to human action, or indirectly when washed out to sea via rivers, streams and storm drains.

Unlike earlier generations, today's world relies heavily on synthetic materials. When these durable and highly buoyant items – such as fishing line, nets, gear and other materials – become lost in the ocean environment they can travel thousands of miles on ocean currents, posing a threat to ocean ecosystems and wildlife.

Where Does It Come From?

While there are countless types of marine debris, it all shares a common origin – people. In fact, people's mishandling of waste materials and other items makes up the bulk of the marine debris problem. Most researchers classify marine debris as coming from **land-** or **ocean/waterway-based** sources.

Most **land-based** marine debris reaches the ocean when people carelessly discard trash while on land. Debris is also blown into the water or carried by creeks, rivers, storm drains and sewers into the ocean.

People can also generate debris while at sea. Like land-based debris, a large portion of **ocean-waterway-based** debris reaches the ocean through failure to properly dispose of or stow trash while onboard boats and vessels.

Failure to retrieve fishing gear or improperly dispose of fishing-related trash can also contribute to the debris problem. Abandoned fishing line, gear, nets and other litter, whether discarded on land or at sea, can become debris with damaging and deadly effects. Even when disposed of properly, fishing line and gear can still end up in the environment by being blown out of a garbage container or landfill.



What Are the Impacts?

In addition to being unsightly, marine debris poses significant threats to ocean ecosystems, wildlife and human health and safety.

Abandoned nets, crab and lobster pots, fishing gear, plastic tarps and other debris can smother and crush sensitive coral reef and seagrass ecosystems and their benthic (bottom-dwelling) species. Animals can mistake many types of debris – including cigarette filters, food bags, pieces of plastic and packaging – for food. Once ingested, these materials can cause choking and/or starvation. Medical and personal hygiene debris can enter waterways when sewer systems fail or overflow. These items often contain harmful bacteria and viruses. In addition, syringes, broken glass and other hazardous items pose obvious dangers to human safety.

Impacts of Fishing Gear Debris

Marine debris also poses threats to fishermen, the fish they catch and important fish habitat and breeding grounds.

Because it is strong, thin, durable and nearly invisible, monofilament is widely used by anglers. But those same qualities can make it extremely hazardous to wildlife when left behind. Discarded or abandoned fishing equipment is a serious threat for marine wildlife: it can entangle, maim and cause many species to drown. It is difficult to estimate the total number of debris-related deaths and injuries to marine animals; however, entanglement and ingestion incidents have been reported for at least 267 animal species worldwide, including 43 percent of marine mammals, 44 percent of seabird species and all but one sea turtle species.³

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Working Toward Solutions

Curbing the debris problem requires more than just removing existing debris. Prevention – changing the behavior that causes marine debris to enter the environment – is the most effective way to manage the marine debris pollution issue long term.

Consequently, multiple organizations and local, regional and state agencies are collaborating on outreach projects designed to bring awareness to and lessen the problem of marine debris. Several efforts are focusing on monitoring the behaviors and activities that result in marine debris and developing prevention strategies that educate people on marine debris issues, their role in the problem and how to prevent it. For more information on these programs, visit www.marinedebris.noaa.gov.

³ Marine Mammal Commission. 1998. *Marine Mammal Commission, Annual Report to Congress 1997*. Marine Mammal Commission, Bethesda, MD, p 174

RECYCLING MONOFILAMENT LINE

In addition to disposing of used gear properly, fishermen can also help alleviate the problem by recycling their used fishing line. Most brands and sizes of monofilament fishing line can be recycled, as long as it is clean – line with growth or plant material on it may not be recyclable. Most programs – which can be state-, local- or privately-run – encourage fishermen to deposit their cleaned, used fishing line in specially marked containers for recycling.

Numerous line recycling programs exist throughout the country. The following section lists some of the major programs and resources available for fishermen interested in recycling their monofilament line.

Monofilament Recovery & Recycling Program

www.fishinglinerecycling.org or
<http://myfwc.com/mrrp/index.asp>

One of the best-known line recycling programs in the country, the Monofilament Recovery & Recycling Programs (MRRP) is a statewide effort initiated with funding from the Florida Fish and Wildlife Conservation Commission to educate the public on the problems caused by monofilament line left in the environment, encourage recycling through a network of line recycling bins and drop-off locations and conduct volunteer monofilament line cleanup events. While the program is based in Florida, the MRRP website provides visitors with specific guidelines and information to implement their own monofilament recovery and recycling program.



Berkley Conservation Institute Recycling Program

www.berkley-fishing.com/about_conservation.php

One of the largest manufacturers of monofilament fishing line, Berkley (a subsidiary of Pure Fishing) has recycled more than nine million miles of fishing line since 1990. The company recycles old and used line (along with other post-consumer materials) into artificial underwater habitat structures called Berkley Fish-Hab™. Anglers can mail their used monofilament line directly to Berkley's collection center at the following address: Berkley Recycling, 1900 18th Street, Spirit Lake, IA 51360.

Reel In and Recycle BoatU.S. Foundation National Monofilament Recycling Program

www.boatus.com/foundation/Monofilament

Partnering with anglers and volunteer groups across the country, the BoatU.S. Foundation has established a nationwide monofilament recycling program. The BoatU.S. Foundation, the non-profit arm of the Boat Owners Association of the United States, is dedicated to promoting safe and environmentally sensitive boating. Fishermen can visit the website to find a recycling site near them or contact the BoatU.S. Foundation to learn how they can host a bin site. Contact cleanwater@boatus.com for more information.

WHAT YOU CAN DO



SERVE AS AN EXAMPLE TO OTHERS AND GET INVOLVED IN CLEANUPS IN YOUR AREA.

People who enjoy fishing and its related activities can help reduce the amount of debris that enters the oceans and other waterways by following these guidelines:

- Bring ALL of your trash back to shore for proper disposal in trash cans or recycling bins, including all pieces of fishing line and other fishing gear.
- Properly stow and secure waste materials on your boat so that it won't be blown or washed overboard.
- Collect pieces of fishing line and other trash that you see in or near the water and dispose of it properly. Recycle it if possible.
- Follow the marine debris regulations required by Annex V of MARPOL. Remember that it is illegal to dispose of any plastic in all navigable waters of the United States and anywhere at sea.
- Encourage your tackle shops, docks, marinas, fishing piers and boat ramps to provide adequate trash cans and recycling bins for used line and other trash.
- Support environmentally responsible marinas.
- Serve as an example to others. Get involved in cleanups in your area and keep the oceans free of debris.

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