



BOATING AND MARINE DEBRIS



Boater's Guidebook to
Marine Debris and Conservation



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Boater's Guidebook to Marine Debris



Of all the resources on our planet Earth, water is the most valuable! Life began in water over 3.5 billion years ago and life as we know it can only survive with the presence of water.

Water is critical to practically every biological process in plants and animals. Our own bodies are nearly two-thirds water. And while we can live for about one month without food, we can survive only a few days without water.

IN 2005, marine recreational fishing anglers took more than 83 million fishing trips to the Atlantic, Gulf and Pacific coasts, which translates into more than \$30.5 billion in economic activity.

More than 97 percent of all the water found on Earth is saltwater. Of the remaining 2.5 percent of freshwater, some 70 percent is frozen in the polar ice caps; the other 30 percent is mostly found in underground aquifers or as soil moisture. Ultimately, less than **one percent of the Earth's water** (about 0.007 percent) is readily accessible for direct human consumption.¹

Not only do we rely on water for our daily functions, we rely on it for livelihoods as well. In the United States alone, commercial and recreational fishing, boating, tourism and other coastal industries provide more than 30 million jobs nationwide.² In 2005, marine recreational fishing anglers took more than 83 million fishing trips to the Atlantic, Gulf and Pacific coasts, which translates into more than \$30.5 billion in economic activity.³ The U.S. Marine Transportation System employs more than 13 million individuals, contributes more than \$742 billion to the U.S. domestic product and supplies goods to every U.S. state.⁴ Unfortunately, environmental damage and pollution continue to threaten this valuable national resource.



Marine Debris



Marine debris is one of the most pervasive pollution problems facing our world's oceans and waterways. The National Oceanic and Atmospheric Administration (NOAA) defines marine debris as any man-made object discarded, disposed of or abandoned that enters the coastal or marine environment. It may enter directly from a ship, or indirectly when washed out to sea via rivers, streams and storm drains.

Since the 1960s, the world's dependence upon natural materials has been largely replaced with durable, highly buoyant synthetic items. Once they enter the ocean environment, these products – such as cigarette filters, food wrappers, beverage bottles and cans, trash and grocery bags, and fishing line, nets and gear – can travel for hundreds and thousands of miles on ocean currents, posing a threat to ocean ecosystems and wildlife along the way. Many of these items are also very slow to decompose, meaning that marine debris may remain in the environment for hundreds of years.

WE MUST use and manage
our resources and the environment
so that they maintain a strong
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All types of marine debris can be traced to one source – people. Every three months, the average American throws away their weight in product packaging. Every day, the average American discards about 4.5 pounds of trash.⁵ People's mishandling of these waste materials and a host of other items constitutes the bulk of the world's marine debris problem.

Most researchers classify marine debris as coming from land- or ocean/waterway-based sources. Land-based sources account for approximately 70 percent of marine debris. Ocean/ waterway-based sources account for about 30 percent. Still, the National Academy of Sciences estimated that in the early 1970s, ocean sources (maritime commercial and recreational traffic, the military, oil platforms and other sources) dumped approximately 7 million tons of garbage into the sea every year⁶ while commercial fishing fleets added another 26,000 tons of plastic packing material. Ocean disposal of solid waste has been illegal in the United States since 1989, and subsequently records of any dumping are no longer kept by a ship's crew.

We have only years, not generations, to undo this damage and bring our waters to the point where they can maintain themselves naturally. We must use and manage our resources and the environment so that they maintain a strong economy and preserve a healthy environment for years to come.⁷

Fortunately, each of us can make thoughtful choices in our efforts to protect this important resource while still enjoying all it has to offer.



Understanding Aquatic Ecosystems

Saltwater Ecosystems

Oceans

The vastness of our planet's oceans is difficult to comprehend. The enormity of these waters can only be fully seen from outer space. The oceans cover 70.8 percent of the Earth's surface; contain 97.5 percent of all the water on Earth; house 80 percent of all life on Earth; and contain 95 percent of all habitat space on the planet. Over 62 percent of our planet lies beneath 1,000 meters (3,273 feet) of seawater.⁸ The Atlantic Ocean alone covers over 91.7 million square kilometers (35.4 million square miles). It contains productive fisheries on its continental shelves.⁹ The Pacific Ocean holds more than half the seawater on Earth – nearly as much as the Atlantic and Indian Oceans combined.¹⁰

The oceans supported the beginnings of life on this planet when the first living microbes and algae developed 3.5 billion years ago. The oceans are home to both the largest animal in the world, the blue whale, and the tiniest microscopic plankton and bacteria. They are also home to giant kelp, which can grow up to 213 feet in length. And each year the ocean and its neighboring seas provide 29 million tons of fish for human consumption.¹¹

The oceans touch the lives of virtually every American, regardless of whether we live in a coastal community or deep in the American heartland. One out of six jobs in the U.S. is ocean related. Marine recreational fishing supports 350,000 jobs in the U.S. and generates \$30.5 billion in economic impact annually.¹² The U.S. ranks third in the world in fish exports and fishery products, and receives 95 percent of all incoming trade through American sea-ports. One out of every two Americans lives within 50 miles of the coast and the beach is the leading tourist destination in the country, generating an annual estimated income of \$16.3 billion¹³ – 85 percent of all tourist revenues.



Coastal Waters

The coastal waters, those areas of the ocean extending from the shore to approximately five miles out to sea, are where most of us enjoy our recreational activities – sunning, fishing, surfing, and boating. They are also very profitable. There are 25,500 recreational facilities along the U.S. coasts¹⁴ – almost 44,000 square miles of outdoor public recreation areas.¹⁵ The average American spends 10 recreational days on the coast each year. In 2000, the EPA estimated that a third of all Americans visited coastal areas each year, making 910 million trips and spending about \$44 billion.¹⁶ According to 2000 estimates, ocean related activities directly contributed more than \$117 billion to the nation's economy and supported more than two million jobs.¹⁷

Sadly, as more and more Americans live, work and play along the coast, our activities and actions are having more environmental impacts. It is estimated that the U.S. coastal population will reach 165 million people by the year 2015. The issue of population density is particularly acute in near shore areas. This region contains 11 percent of the U.S. population on only four percent of the land: at 230 persons per square mile, the population density is three times that of the nation as a whole.¹⁸



POPULATION

density is particularly acute in near shore areas because these regions contain 11 percent of the U.S. population on only four percent of the land.

Along with increasing coastal populations comes increasing coastal pollution, mainly from polluted runoff. In agricultural areas, pesticides, fertilizers and animal wastes enter waterways and are carried to the coast. In towns and cities, oil, grease and other toxic chemicals – along with debris from our streets and parking lots – are carried off into storm drains, which are rarely treated at sewage plants, and then into our waterways. Large amounts of sediment from construction sites enter our waterways annually, which can reduce vital sunlight required by plankton, smother seagrasses and clog navigable channels. Sewage from aging and over-

loaded sewer and septic systems also enters our waterways. All of these pollutants eventually reach our coasts. The results can lead to beach closures.

Coastal areas are more than just sandy beaches and pounding surf. Some other important coastal environments are discussed below.

Estuaries

Estuaries are special areas of coastal waters, formed wherever fresh water from rivers, creeks, or streams mixes with saltwater from the seas. These partially enclosed bodies of water are called bays, lagoons, harbors, inlets, marshes, sloughs (pronounced “slews”), sounds or swamps. A few examples of familiar estuaries are Boston Harbor, the Chesapeake Bay, Puget Sound, San Francisco Bay and Tampa Bay. These unique ecosystems, affected by the tides but sheltered by the land, have many important environmental, cultural and economic functions.¹⁹

Estuaries support tens of thousands of birds, mammals, fish and other wildlife. They act as nurseries for many marine organisms, including most commercially valuable fish species. Estuaries support wetlands, which filter water draining off the uplands, reducing the amount of sediments and pollutants that could enter the open ocean and creating cleaner, clearer water. Estuarine wetlands also pro-





ESTUARIES support tens of thousands of birds, mammals and fish and provide habitat for more than 75 percent of America's commercial fish catch.

protect the uplands, acting as flood control, absorbing floodwaters and dissipating storm surges.²⁰

In addition to their ecological importance, estuaries also provide cultural, educational and aesthetic benefits. They support boating, fishing, swimming and bird watching. They are a living laboratory, providing lessons in biology, chemistry, geology, physics and history for students and scientists. And their beauty provides enjoyment for those fortunate enough to live or work near them.²¹

Finally, estuaries support the economy in many ways. They provide habitat for more than 75 percent of America's commercial fish catch, and for 80 to 90 percent of the recreational fish catch.²² Estuarine-dependent fisheries are among the country's most valuable resources.²³ In just one estuarine system – Massachusetts' Cape Cod Bay – commercial and recreational fishing generate about



\$240 million per year. In that same estuary, tourism and beach-going generate \$1.5 billion per year, and shipping and marinas generate \$1.86 billion per year.²⁴

Seagrass Beds

Another special coastal habitat is the seagrass bed. Seagrasses, such as eel grass, turtle grass, widgeon grass, shoal grass and manatee grass, are flowering plants that live underwater in salt water and brackish (a mixture of fresh and salty) water environments. Seagrasses are important for many reasons. Like land plants, they produce oxygen for fish and other marine life. Their roots and rhizomes stabilize the bottom, much like land grasses slow soil erosion. The leaves slow water flow, which allows suspended materials such as silt to settle on the bottom. The leaves also trap fine sediments and other particles. Both of these functions help maintain water clarity, which increases the amount of light reaching the seagrass beds.²⁵

In this clear and calm water, numerous species thrive. Seagrass beds provide habitat for many fish, crustaceans and shellfish. Seagrass beds are nurseries for certain fishes and other marine life. Seagrass leaves are food for animals such as green turtles, sea urchin and manatees. As the seagrass decays, the decaying matter becomes food for microbes, many fish, shrimp and other invertebrates.

Mangroves

Mangrove forests are also an important coastal habitat. Mangrove trees thrive in tropical salty environments with high rainfalls. They grow along tidal estuaries, in salt marshes, and on muddy coasts. Interestingly, they have devised ways to survive in salty water, by excreting the salt through their leaves, by blocking the absorption of salt through their leaves or by blocking the absorption of salt at their roots. Like seagrasses, mangroves trap and cycle organic materials, chemicals and nutrients for the larger aquatic ecosystem.²⁶

Freshwater Ecosystems

Rivers

Rivers are bodies of fresh water fed by smaller tributaries flowing from upland sources. Seventy



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percent of the Earth's surface is drained from a system of rivers that carries 34,000 cubic miles of water to the sea each year.²⁷ All of this water is carried downhill through river channels that are surrounded on either side by an area known as the floodplain. A river transports not only water from the uplands, but also sediments and pollutants, and deposits them downriver and onto the adjoining flood plains. The Mississippi River, the largest river in the United States, has carried billions of tons of silt and sediment downstream to form the Mississippi Delta, upon which grew the historic city of New Orleans.²⁸



A RIVER transports not only water from the uplands, but also sediments and pollutants, and deposits them downriver.

Rivers are home to a large number of plants, animals, fish, amphibians, reptiles and the animals that prey upon them. Our rivers are home to more than half the bird species and 80 percent of the wildlife in the western United States.

The food webs or food chains found in river habitats are greatly dependent on the surrounding landscape, and can be severely affected by human activity. The main source of primary food in a river system is found not in the river itself but on land. Detritus – decaying plant material – is carried from the land by runoff flowing into creeks, streams, and

rivers where it is consumed by many species of plankton. The plankton are then eaten by newly hatched fish, crustaceans and aquatic insects, which are themselves food for commercially and recreationally valuable species such as trout, salmon, large mouth bass, small mouth bass, striped bass, catfish and crayfish. Increased runoff due to development or deforestation, or runoff polluted by toxic chemicals, can harm the entire riverine food web.

Not only is the water quality of our rivers important for the survival of wildlife, rivers also provide a great deal of drinking water. According to EPA, approximately 11,000 community water systems, serving 160 million people, rely on rivers, lakes and reservoirs as their main sources of drinking water.²⁹ Unfortunately, the water found in our rivers is extremely vulnerable to polluted runoff. Pesticides, fertilizers and animal waste enter our rivers from agricultural areas. A toxic brew of oil, grease and other chemicals enters rivers from the storm drains of the streets and parking lots of our urban areas.



A TOXIC BREW of oil and grease enters rivers from the storm drains of the streets of our urban areas.



In the United States, **LAKES** and reservoirs cover 39.9 million acres.

As a result, 40 percent of our rivers are so polluted that we cannot drink from, fish or swim in them.³⁰

Lakes

In the United States, lakes and reservoirs cover 39.9 million acres. These freshwater bodies provide most of our drinking water. In addition, they supply water for industry, irrigation and hydropower. Lakes support important food webs and are habitats for numerous threatened and endangered species. Lakes are also the base of the nation's \$19 billion freshwater fishing industry; they support numerous tourism industries and provide countless recreational opportunities.³¹

The largest of the lake ecosystems is the Great Lakes Basin – the largest freshwater body in the world. This 95,000-square-mile system contains 18 percent of the world's supply of fresh water, providing drinking water for over 24 million Americans. The Basin supports a wide variety of fish and wildlife species. Fish species include lake trout, lake sturgeon, lake whitefish, walleye, Pacific salmon and landlocked Atlantic salmon. The Basin provides critical breeding, feeding, and resting habitat as well as migration corridors for waterfowl, colonial nesting birds and many other species of migratory birds.³²

Lake ecosystems vary enormously depending on their size, depth and geographical location. Lakes have traditionally been considered closed, balanced ecosystems with water and nutrients constantly being recycled. Small lakes can experience enormous daily and seasonal environmental variations while large lakes present a more stable environment for wildlife. As with most aquatic food webs, the primary food source supporting life in lakes is supplied by phytoplankton, algae and other aquatic plants. In addition, aquatic plants such as hydrilla, coontail milfoil and fanwort provide food and habitat for many commercially important species – much like the seagrasses in the coastal marine environment.³³ Due to a lake's enclosed nature, it is highly vulnerable to the pollution-generating activities of humans.

Major environmental stresses to lakes include excessive nutrient and organic input from fertilizers and sewage; siltation from improper erosion control from construction, agriculture or mining activities; introduction of exotic species; acidification from mining operations and the effects from acid rain;

and contamination from toxic chemicals such as mercury, polychlorinated biphenyls (PCBs) and pesticides.³⁴

Environmental stressors come in many forms. Pollution can come from identifiable industrial or municipal sources or from less-easily identified sources such as urban and agricultural runoff within a lake's watershed. Pollution can even enter a lake system through long-range atmospheric transport of contaminants, such as when acid rain deposits excess nitrogen into the water, which can lead to unwanted growth of algae and other nuisance plants.³⁵

Because most aquatic life exists under the surface, we may not realize the impact that improper boating activities or marina operations may have on our lakes, rivers, coastal waters and oceans. It is important that we all take steps to protect these fragile aquatic environments. And the first step is to be aware of the connection between our waters and our actions.



Because most **AQUATIC LIFE** exists under the surface, we may not realize the impact that improper boating activities or marina operations may have on our lakes, rivers, coastal waters and oceans.

Impacts of Marine Debris

The effects of marine debris are found throughout the world, from high-density recreation areas to secluded beaches and uninhabited islands. But marine debris is more than an eyesore; it also poses threats to ocean ecosystems, wildlife and human health and safety.

Impacts on Human Health and Safety

Medical and personal hygiene debris can enter waterways when sewer systems fail or overflow. These items often contain harmful bacteria and pathogens. Syringes, broken glass and other hazardous items pose obvious dangers to bare-footed beachgoers.

Debris is also a hazard to navigation. According to the U.S. Coast Guard, collisions with floating and submerged objects caused 269 boating accidents, resulting in 15 deaths, 116 injuries and \$2.9 million in property damage in 2005.³⁶



MARINE DEBRIS is more than an eyesore; it also poses threats to ocean ecosystems.

Impacts on the Environment

Abandoned fishing nets and gear, plastic tarps and other debris can smother and crush sensitive coral

reef and seagrass bed ecosystems and their benthic (bottom-dwelling) species. Many of these ecosystems are essential fish habitat.

Marine debris also threatens marine wildlife. Monofilament fishing line, balloon ribbons, ropes, and netting or other materials can entangle, maim and even drown many wildlife species, including sea turtles, marine mammals, sea birds, fish and other



FISHING LINE can entangle, maim and even drown many wildlife species, including sea turtles.

species. Cigarette filters, food bags, pieces of plastic and packaging resemble food to many animals. Once ingested, these materials can cause strangulation and/or starvation.

It is difficult to estimate the total number of debris related wildlife injuries and deaths; however, entanglement and ingestion incidents have been reported for at least 267 species of animals, including at least 43 percent of the world's marine mammals, at least 44 percent of the world's seabird species and all but one of the world's sea turtle species. The vast majority of these reports are from the carcasses of dead animals found on beaches or sightings of animals that return to shore to molt, breed, nest or simply rest.³⁷



Many species of **BIRDS** are killed as a result of monofilament entanglement. Data indicates that monofilament line may persist for over 600 years before breaking down – if ever.

About 70 percent of sea turtles that undergo necropsies (animal autopsies) contain some form of plastic material in their digestive tract. In one case, a dead sea turtle found on a Hawaiian beach had swallowed an eight-inch square plastic bag, a golf tee, shreds of bag and sheeting, pieces of monofilament fishing line, a plastic flower, part of a bottle cap, a comb, chips of polystyrene and dozens of small, round pieces of plastic.³⁸

Not all species affected by marine debris live in the water. Many species of birds are killed as a result of entanglement. Monofilament line is an especially lethal type of debris. In one case in Florida, environmentalists found a piece of fishing line with seven dead pelicans entangled in its length. Data indicates that monofilament line may persist for over 600 years before breaking down – if ever.³⁹

Impacts on the Economy

Marine debris can cause direct economic impacts and damage to boats. Trash and grocery bags, fishing line, nets and rope can wrap around boat propellers and clog engine water intakes, causing costly damage. Debris can also deplete a coastal community's finances through increased beach cleaning costs. The indirect costs, though, are perhaps even greater.

Marine debris is unsightly and can be dangerous. Its presence discourages people from partaking in coastal activities, such as recreational fishing, boating, swimming or beachgoing. It even repels tourists from visiting coastal areas. Coastal communities rely on waterside businesses, and the clientele that support them, for their economic survival. Clean beaches promote tourism and economic health. Dirty beaches do just the opposite.

Working Toward Solutions

Regulations

There are several federal and state regulations designed to control, monitor and enforce the ban on ocean disposal of waste. In the United States, the U.S. Coast Guard (USCG) is the primary enforcement agency but individuals may also contact local marine patrol units if they see or suspect a violation. Two federal agencies, NOAA and EPA, are also mandated to monitor and control marine debris. See **Resources and Contacts** for more information. Below are just some of the key federal regulations that deal with marine debris issues.

MARPOL 73/78

In 1973, the International Convention for the Prevention of Pollution from Ships at Sea (**MARine POLLution**) was drafted and signed by several seafaring nations. In 1978, it was updated to include five annexes on ocean dumping. In 1997, an annex on air pollution by ships was added. By ratifying MARPOL 73/78, a country automatically adopts Annexes I and II; the remaining annexes are optional. The United States has ratified optional Annexes III and V.

- Annex I Oil
- Annex II Hazardous liquid carried in bulk
- Annex III Hazardous substances carried in packaged form
- Annex IV Sewage
- Annex V Garbage
- Annex VI Air Pollution

An optional annex goes into effect only after countries representing 50 percent of the world's shipping tonnage have ratified it. However, once ratified, an optional annex applies only to those countries that have ratified it and is applied to any vessels entering that country's territorial waters.⁴⁰



The MPPRCA requires all vessels 26 feet or longer to have a MARPOL placard displayed on board.

Annex V prohibits the at-sea disposal of all plastic materials. It also limits the ocean discharge of other types of garbage at specified distances from land. Annex V restrictions apply to all ocean-going vessels – recreational as well as commercial. Annex V went into effect in U.S. waters on December 31, 1988 when Congress passed the Marine Plastic Pollution Research and Control Act (MPPRCA).

Marine Plastic Pollution Research and Control Act

As mentioned above, Congress passed the Marine Plastic Pollution Research and Control Act (MPPRCA), which implemented Annex V in the U.S. waters. The law specifically prohibits the overboard disposal of plastics anywhere in the world by U.S. vessels. In addition, it prohibits the disposal of plastics by any foreign or domestic vessel within U.S. waters. The law also regulates the disposal of non-plastic items depending on a vessel's distance from shore.

The MPPRCA requires all vessels 26 feet or longer to have a MARPOL placard displayed on board. A MARPOL placard illustrates distances from shore and the materials that may be thrown overboard. Vessels 40 feet or longer that are engaged in commerce or have a gallery and berthing area must also

have a waste management plan and logbook on board. Waste management plans are designed to inform the crews about standard refuse practices applicable to the vessel.

The U.S. Coast Guard is the enforcement agency for MARPOL within the Exclusive Economic Zone (EEZ) of the United States, which extends 200 miles from shore. The Coast Guard cannot catch every violation, and relies on sharp-eyed citizens to report MARPOL violations. If you observe any boat not complying with water pollution regulations, document the event and report it to your local USCG Sector Office or your local Marine Patrol. See **Resources and Contacts** for more information.

Marine Debris Research, Prevention and Reduction Act

Signed into law in 2006, the Marine Debris Research, Prevention and Reduction Act establishes a program within NOAA to identify, assess, reduce and prevent marine debris and its effects on the marine environment. The Act also directs NOAA to reestablish the Interagency Marine Debris Coordinating Committee, work with the U.S. Coast Guard to establish a definition of "marine debris," develop a federal marine debris information clearinghouse, emphasize the importance of outreach and education and work with the international community to address marine debris on a global scale. For more information, visit www.ocean.us/node/524 or www.commerce.senate.gov/pdf/marinedebris_mark.pdf.

What Can People Do About Marine Debris?

Marinas, port and harbor managers, commercial shippers and fishermen, recreational boaters and fishermen and people who enjoy boating and its related activities must play a role in reducing solid waste pollution. One way is to incorporate best management practices (BMPs) into daily marina operations and boating activities. BMPs are management measures that ensure environmentally

responsible behavior. The following are some BMPs that boaters, port and harbor facilities can implement to reduce solid waste pollution.

Follow the three "R"s – Reduce, Reuse, and Recycle.

- **Reduce the amount of disposables you buy or stock.** Pay particular attention to unnecessary packaging. Careful planning and purchasing habits, such as buying items in bulk or in concentrated form when possible, can reduce the amount of packaging that must be discarded. Marinas can also reduce the initial amount of packaging waste by not purchasing double-packaged items when ordering maintenance, store or facility supplies.
- **Reuse materials whenever possible,** either for their original purpose or a new one, such as using plastic milk jugs as bailers.
- **Recycle** or discard materials appropriately, either into a recycling bin or a trash can.

Check List of Best Management Practices for Marinas, Ports and Harbors:

- ✓ Set up recycling bins for staff and customers. Call your local Department of Environmental Protection to find out what materials can be recycled in your area.
- ✓ Clearly label recycling bins and make sure that they are accessible.
- ✓ Encourage boaters to set up an onboard system to segregate trash for easy disposal and recycling on shore.
- ✓ Keep trash cans, dumpsters and recycling bins from overflowing by emptying them regularly. Make sure that they are secure and cannot be opened by strong winds or animals.
- ✓ Set up special collection bins for hazardous materials, such as batteries, flares and other items that contain metal and/or chemical components. Check with your local solid waste management authority for specific regulations on disposal.

In addition to practicing proper disposal at your marina, make sure your customers know how to reduce and eliminate marine debris. Encourage boaters to never throw any debris overboard and to bring all trash back to shore for proper disposal. Remind customers to save and reuse as many materials as possible and to either recycle or properly dispose of their monofilament fishing line. Educate all boaters and passengers about any relevant debris laws and the impacts debris can have on the environment.

Help larger or commercial vessels using your marina, port or harbor set up systems to segregate their waste into recyclable components; this will improve the on board waste management process and reduce the vessel's waste disposal costs in port. Recyclables can represent up to 30 percent of the total waste produced by each vessel.

Check List of Best Management Practices for Boaters:

- ✓ Use garbage facilities – trash cans, dumpsters and recycling bins – at your boatyard or marina. If the facilities are inadequate, request better services from the facility manager.
- ✓ Promote and utilize waste and oil recycling at docks, marinas and/or ports.
- ✓ Make sure no trash is discarded, washed or blown overboard. If an item does blow overboard, go back and retrieve it. Use this opportunity to practice “man-overboard” drills.
- ✓ Practice “Plus-One Boating.” Bring back everything you take out, plus one piece of litter from someone else’s wasteful wake.
- ✓ Participate in a beach cleanup, especially in remote areas accessible only boat. For information on the annual International Coastal Cleanup (ICC), contact the Ocean Conservancy at (800) 262-BEACH or visit www.oceanconservancy.org/icc for more information.

- ✓ Report any illegal dumping you witness to your local U.S. Coast Guard Sector Office. Call (800) 424-8802 to locate the Sector Office in your area.
- ✓ Remind others that plastic garbage generated aboard a vessel may not be discharged into the water but should be brought ashore for proper disposal.

Resources and Contacts

Solid Waste and Recycling Information

Call your local Solid Waste Operations Department if you have questions about the disposal of solid waste, used oil, household chemicals or questions about recycling.

Six-Pack Ring Recycling

To recycle plastic six-pack ring holders, contact the marina, your local recycling center, or ITW HI-Cone. ITW Hi-Cone is a producer of six-pack rings and supports a vigorous recycling program. Six-pack rings can be brought to a local recycling center or mailed to ITW Hi-Cone, Attn: Recycling Dept., 1140 W. Bryn Mawr Ave., Itasca, IL 60143-9918; 630-773-9300. Visit www.ringleader.com/ for more information.

To Report Pollution

If you observe any boat not complying with water pollution regulations, report it to your local USCG Sector Office. Call the Coast Guard National Response Center at (800) 424-8802 to locate the Sector Office near you or to make a formal report.

MARPOL Placards

To obtain a MARPOL placard that illustrates restrictions on dumping from vessels, contact the USCG Captain of the Port (COP) at your local USCG Sector in your community.

Visit the following websites for more information on marine debris pollution and prevention:

Alliance for a Living Ocean

www.livingocean.org

Clean Marinas

www.cleanmarinas.com

Clean Ocean Action

www.cleanoceanaction.org

Environmental Protection Agency

www.epa.gov/owow/nps/marinas.html

Keep America Beautiful

www.kab.org/

NOAA Marine Debris Program

www.marinedebris.noaa.gov

Ocean Conservancy

www.oceanconservancy.org

Save Our Seas

www.saveourseas.org

Save the Bay

www.savethebay.org

Save the Harbor/Save the Bay

www.savetheharbor.org

Sierra Club – Blue Water Campaign

www.hi.sierraclub.org/bluewater

U.S. Coast Guard

www.uscg.mil

U.S. Coast Guard Auxiliary

www.cgaux.org

U.S. Power Squadron

www.usps.org

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U.S. Boater & Marina Tip Sheet for Preventing Marine Debris

What You Can Do:

While treaties, laws and regulations are vital tools in combating the marine debris problem, individual action to curb marine debris is just as important, if not more so. People who enjoy boating and its related activities can help reduce the amount of marine debris that enters the oceans and waterways by following these guidelines:

Boaters

- **Bring ALL of your trash back to shore** and collect any debris that you find in or near the water and dispose of it properly.
- **Properly stow and secure all trash on your boat** so that it won't be blown or washed overboard.
- **Follow the marine debris regulations required by Annex V of MARPOL.** Remember that it is illegal to dispose of any plastic materials into any navigable waters of the United States.
- **Reduce, reuse, recycle.** Purchase reusable products and containers and recycle your plastic, metal, glass and paper products – including monofilament fishing line.
- **Support environmentally responsible marinas.** Encourage your docks, marinas, fishing piers and boat ramps to provide adequate trash cans and recycling bins.



Marinas

- **Set up and clearly label recycling bins for staff and customers.** Call your local department of environmental protection to find out what materials can be recycled in your area.
- **Encourage boaters to set up an onboard system to segregate trash** for easy disposal and recycling on shore.
- **Empty trash cans, dumpsters and recycling bins regularly.**

Report any illegal dumping you witness on the water or at a marina to your local U.S. Coast Guard (USCG) Sector Office on VHF marine radio Channel 16 or call the USCG National Response Center at (800) 424-8802 to locate the Sector Office near you.



