

APPENDIX C

Marine Debris Facts and Information

Marine debris can cause enormous harm to our fragile marine ecosystems, and poses a rapidly growing threat to our world's oceans.

Marine animals can be harmed, even fatally, by marine debris. Plastic marine debris affects at least 267 species worldwide, including 86 percent of all sea turtle species, 44 percent of all sea bird species, and 43 percent of marine mammal species. The most common impacts are brought on by entanglement or ingestion. Common items like fishing line or nets, strapping bands, and six-pack rings can hamper the mobility of marine animals. Once entangled, animals have trouble eating, breathing or swimming, all of which can have fatal results. Plastic debris poses an especially large problem, since it takes hundreds of years to break down, and may never fully biodegrade. Meanwhile, it may continue to trap and kill animals year after year. In addition, birds, fish, and mammals often mistake plastic and other debris for food. Sea turtles mistake plastic bags for jellyfish, one of their favorite foods. Gray whales have been found dead with plastic bags and sheeting in their stomachs. Some birds even feed it to their young. With debris filling their stomachs, animals have a false feeling of being full, and may die of starvation. Plastic debris also acts as a sponge for toxic, hormone-disrupting chemicals (like PCBs and DDT) that reside in seawater, and the chemical components of plastics themselves may also be a potential source of other toxins that find their way into the food chain.

There are no estimates as to exactly how much marine debris currently resides in the ocean. However, when Californians can remove more than 1.6 million pounds of debris during a three-hour Cleanup on a single day in September, or when estimates that show weight ratios of plastic to plankton in certain parts of the Pacific Ocean to be 6:1 or higher, a natural question to ask is, "Where is all this trash coming from?" Well, look around the next time you walk down the street. When it rains, trash on sidewalks and streets accumulates in the gutter and is swept into your city's storm drain system. Most storm drain systems discharge directly into the nearest waterway, which eventually flows to the ocean. So much trash reaches the ocean through our storm drain systems that NOAA estimates that 60-80% of all marine debris originates from land-based sources. Trash may also be dumped directly into the ocean by recreational and commercial boaters, and it is often left on the beach by beachgoers.

What can be done? With so much debris entering our ocean every year, it seems an almost insurmountable challenge to address. Improving this dire picture is going to require change on the part of individuals as well as institutions and society as a whole. There is no easy fix; however, there are many ways that we can confront this problem at its source. The phrase, "Reduce, Reuse, Recycle," still provides the best guidance, but reduction is the key. The growing amount of trash in our ocean corresponds to the growing amount of debris that we create; in 2001, Americans used an average of 223 pounds of plastic and, according to the plastics industry, will use 326 pounds per capita by the end of the decade. We can break this cycle by choosing to purchase items that are more durable, and with little or no packaging, so that there will be that much less waste leftover that could potentially become marine debris. For every other item we recycle or reuse, there is one less piece of trash that could become a part of the marine debris cycle threatening people and wildlife.

Be Part of the Solution

The debris that we collect from our beaches is a symptom of a much larger water pollution problem that is caused by everyday people doing every day things. Rain scours oil from parking lots, fertilizer from lawns, pet droppings from sidewalks and other contaminants from "non-point" sources and transports this toxic stew down storm drains and over land into the ocean. These toxins are poisoning marine life and our water sources. We can all be part of the solution by recycling used motor oil and repairing car leaks, picking up after our pets and switching to non-toxic products and improve other everyday practices to help keep our waterways clear and clean. Everyone that lives in a coastal home, whether it is sea otters, plankton or you and me, is vulnerable to the hazards of ocean pollution. The California Coastal Commission's Adopt-A-Beach program is dedicated to helping Californians work together to create solutions to a problem that affects us all.

HOW CAN I HELP?

- ✚ Reduce, reuse and recycle at home, work and school.
- ✚ Buy products made from recycled materials with little or no packaging.
- ✚ Keep storm drains clean – they drain to beaches.
- ✚ Keep cigarette butts off streets and beaches.
- ✚ Properly dispose of fishing lines, nets and hooks.
- ✚ Participate in the Coastal Commission’s programs, call (800) COAST-4U:
 - Volunteer for Coastal Cleanup Day - Saturday, September 19, 2015
 - Volunteer for the year ‘round Adopt-A-Beach program.
 - Buy a Coastal Whale Tail License Plate.

RESOURCES

California Coastal Commission
Adopt-A-Beach Program
45 Fremont Street, Suite 2000
San Francisco, CA 94105
(800) COAST-4U
www.coastforyou.org

National Park Service
Pacific West Region
www.nps.gov

1-800-CLEAN-UP
Call for information on
where to recycle and how
to dispose of household
hazardous waste

Ocean Conservancy
1300 19th Avenue, NW
8th Floor
Washington, DC 20036
www.oceanconservancy.org

The Marine Mammal Center
www.tmmc.org
(415) 289-7335

For “Green” shopping:
National Green Pages
www.greenpages.org

NOAA Marine Debris Program
www.marinedebris.noaa.gov