

Monitoring for Marine Debris



Marine debris is a threat to our environment, safety, economy, and health. What can you do to help monitor and alleviate this form of pollution?



What is marine debris?

Marine debris is human-generated waste that pollutes the ocean and may subsequently wash up on our shores. The most common materials that make up marine debris include: plastics, paper, rubber, wood, metals, and abandoned fishing gear. Marine debris can have detrimental impacts on wildlife and habitats, both in the water and on the beach. While some marine debris is jettisoned at sea, more than 80% washes out to sea via rivers and streams, and often comes from far inland. Debris can easily be ingested by marine species causing choking, starvation, and other impairments. Debris can be anything from plastic nets that can entangle large animals to tiny pellets that may be mistaken for food by shorebirds or invertebrates

Marine debris, especially plastics, can persist in the ocean indefinitely, circling around in what is known as "the Great North Pacific Garbage Patch" (and similar gyres in other oceans), until storms drive it onshore. These ever-shifting "garbage patches" concentrate debris

over huge marine areas. The U.N. Environment Program estimates that 6.4 million tons of garbage reaches the ocean every year. The "Great Pacific Garbage Patch" is a massive collection of marine debris (litter) in the North Pacific Ocean. The exact size of the "garbage patch" is difficult to predict because of the constant wind and water moving them around.

Tsunami Debris

In March 2011, a tsunami struck Japan and washed an estimated five million tons of debris into the Pacific Ocean. It is expected that a portion of this debris will reach U.S. shores over the next several years. Because marine debris washes ashore continually, it is sometimes difficult to distinguish what is tsunami debris and what isn't. However, significant changes in the types and quantities of debris at a shoreline over time may be a sign that tsunami debris is washing ashore. To observe a potential shift in debris types and abundance the Oregon Marine Debris Team, its partners, and dedicated volunteers are conducting

monthly shoreline surveys. Objects pulled to sea from Japan's shores by the tsunami may harbor non-native species and carry them to Oregon's coast. Some known invasive species currently being brought to the U.S. West Coast include: wakame, red alga, skeleton shrimp, Asian barnacles and unknown species of crabs and anemones.

What's been found in Oregon?

All of the ordinary types of debris, such as plastic bottles and aluminum cans, have been found throughout the various beaches along the Oregon coast. In 2014 alone, nearly 60 tons of debris have been picked up by volunteers, according to SOLVE. Almost 15 months after the tsunami, a large concrete dock made its way to Agate Beach. Since then there has been a significant increase in the amount of styrofoam and plastic pieces washing ashore as well. These types of marine debris are especially threatening to wildlife and may carry potentially invasive species. This past year we have and continue to collect numerous boats and debris with live organisms.



The Oregon Marine Debris Team

To organize debris monitoring, identification, cleanup, and public education, CoastWatch has teamed up with Surfrider, SOLVE, Washed Ashore, and Oregon Sea Grant to form the Oregon Marine Debris Team (OMDT).

OMDT is structured to:

1. Organize debris scouting for the entire length of the Oregon coast (with a particular concern for locating tsunami debris).
2. Organize cleanups where they are needed.
3. Conduct marine debris monitoring at selected sites to develop scientifically useful data about the amounts and types of debris reaching Oregon. CoastWatch, supported by the Oregon Marine Debris Team, is directing this project.

We are seeking volunteers to help with this project by joining the monitoring teams. Volunteers are a crucial, and much needed, aspect of these marine debris-monitoring efforts. No prior experience is

necessary. The Oregon Marine Debris Team will provide training on protocols and procedures, as well as provide support to your team. We also need one entirely new team to start a fresh site. For more information please contact our volunteer coordinator, Fawn Custer: fawn@oregonshores.org (541) 270-0027.

Marine debris monitoring

Participating groups will employ a “protocol” developed by the National Oceanic and Atmospheric Administration (NOAA) to gather data on the types and amounts of marine debris reaching the shore. Monitoring sites are approximately 100 meters (325 feet) long and are pre-selected according to specific criteria. Within each area, preference will be given to proposals for more remote areas with less human traffic and where it is less likely that litter will be picked up between monitoring sessions. Surveys must be conducted regularly on a monthly basis.

How can everyone help?

Our partnership efforts depend on citizens like you and there are many ways in which everyone can help us. You can attend cleanups, scout and monitor debris, collect data, and recycle and re-purpose. Please visit the Oregon Marine Debris Team website (<http://www.omdt.org>) to sign up for updates as well as check our calendar to participate in upcoming events.

<http://oregonshores.org/>

Oregon Marine Debris Monitoring Teams

Site: Haystack Rock Awareness Program
CoastWatch mile # 313
Team leader: Melissa Keyser

Site: Cape Falcon Marine Reserve: Arch Cape
CoastWatch mile # 306
Team leader: Vivianne Simon-Brown

Site: Manhattan Beach
CoastWatch mile # 294
Team leader: Nadja Paulissen

Site: Cascade Head Marine Reserve: Camp Westwind
CoastWatch mile # 247
Team leader: Matt Taylor

Site: Coronado Shores
CoastWatch mile # 235
Team leader: Kem Morrow

Site: Otter Rock Marine Reserve
CoastWatch mile # 225
Team leader: Michelle Rogers

Site: Otter Rock Marine Reserve 68th Street
CoastWatch mile # 221
Team leaders: Will Cotton, Kathy Kuebbing

Site: South Jetty-OMSI
CoastWatch mile # 221
Team leader: Anne Armstrong

Site: Muriel Ponsler State Park
CoastWatch mile # 182
Team leaders: Jonathan Hornung, Brittany Getz

Site: Tahkenitch Creek
CoastWatch mile # 158
Team leader: Elizabeth Roberts

Site: Seven Devils Wayside
CoastWatch mile # 111
Team leader: Mike Mueller

Site: Redfish Rocks Marine Reserve
CoastWatch mile # 46
Team leader: Tyson Rasor