

Who Trashed the Ocean?



When exposed to light, plastics break down into small pieces through a process known as 'photodegradation.' These small bits of plastic, known as microplastics, make up the majority of items found in the so-called 'Pacific Garbage Patch,' where they float suspended in the water column. Image courtesy NOAA.

"During our 5,000-meter dive in Sirena Canyon, along the Mariana Trench wall, we saw multiple pieces of marine debris. A soda can, a food tin, and a piece of rope all accompanied the fish, corals, and rocks that we imaged as we moved up the slope. We encountered even more trash (nine pieces!) on our dive the following day, including several plastic bags and a piece of clothing. Even in one of the deepest places on Earth, humans have left their mark."

~ from NOAA Ocean Explorer 2016 Deepwater Exploration of the Marianas
Mission Log Earth Day, April 22, 2016
Diva Amon, University of Hawaii at Manoa

Deborah Glickson, NOAA Cooperative Institute for Ocean Exploration, Research, and Technology
oceanexplorer.noaa.gov/oceanos/explorations/ex1605/logs/apr22/welcome.html

• Marine debris is man-made trash that enters the ocean or Great Lakes environment.

• The world's ocean is constantly polluted with a wide variety of trash ranging from soda cans and plastic bags to derelict fishing gear and abandoned vessels. Every day, marine debris impacts marine animals and their habitats. Wildlife can become entangled in debris or eat pieces of plastic trash, and valuable habitats can be smothered or damaged. Humans are impacted, too. Divers, ships, and boats can also become entangled in debris and garbage that litters beaches and waterfronts not only looks awful—it also costs thousands of dollars to clean up.

• The NOAA Marine Debris Program is the federal lead to investigate and prevent the negative impacts of marine debris. They do that by learning more about debris in order to best address it, reducing the amount of debris in the environment by cleaning it up, and most importantly, working to prevent marine debris in the first place. We can prevent marine debris by educating people about its consequences and why we need to stop trashing the ocean.

And that's where you come in!

What You Will Do

Make a poster to inform people about why marine debris is bad and why we need to stop it.

What You Will Need

- Crayons, colored markers, or colored pencils
- Poster board
- Scissors (Be careful with sharp scissors!)
- (Optional) Copies of images from "Some Examples of Marine Debris Posters"
- (Optional) Laptop computer, printer

How to Do It

1. Use the examples and your own ideas to create a poster that explains the consequences of marine debris, and what we can do to stop it.
2. Show your poster at school, to your parents, and to other groups. The more people know about marine debris and what it does, the more they will take personal action to prevent it.

Want to Do More?

1. Visit the NOAA Marine Debris Program Web site at marinedebris.noaa.gov/ for more about marine debris, as well as information, videos, photographs and more about cleanup and prevention projects.
2. Check out marinedebris.noaa.gov/resources for more marine debris poster ideas.

Marine debris is everyone's problem.



Marine debris threatens marine life and our oceans and coasts. It affects us too, whether we are boating, fishing, swimming, or simply enjoying a day at the beach. Trash can travel through storm drains, streams, and rivers and end up in your community, as well as in the ocean.

Learn ways to stop this from happening.

www.marinedebris.noaa.gov



If you have a desktop computer and printer, you can download images from the NOAA Marine Debris Program web site (marinedebris.noaa.gov/) and create your own poster with your own ideas.

Here are some more facts you can use to create your poster also from NOAA's Marine Debris web site.

IMPACTS OF MARINE DEBRIS



INGESTION
Animals mistakenly eat plastic and other debris.



ENTANGLEMENT & GHOSTFISHING
Marine life gets caught and killed in ghost nets, trapped in derelict gear, and entangled in plastic bands and other marine debris.



HAZARD TO NAVIGATION
Marine debris can be difficult to see in the ocean if it's floating below the water's surface. Encounters with large items at sea can result in costly vessel damage, either to its structure or through a tangled propeller or obstruct mechanical gears.



HABITAT DAMAGE
Heavy marine debris crushes sensitive habitat, such as coral reefs and sea grass.



NON-NATIVE SPECIES
Marine debris transports alien and invasive species from one region to another.



ECONOMIC COST
Communities lose a lot of money cleaning up trash, as well as the economic benefit of beach tourism and recreation.

HOW YOU! CAN HELP!

GET INVOLVED and participate in local cleanups in your area.

REMEMBER that our land and sea are connected.

DISPOSE OF WASTE PROPERLY no matter where you are.

REDUCE the amount of waste you produce.

REUSE items when you can. Choose reusable items over disposable ones.

RECYCLE as much as possible! Bottles, cans, cell phones, ink cartridges, and many other items can be recycled.

DEBRIS FACTS

WORLDWIDE, MORE THAN **200** SPECIES ARE IMPACTED BY ENTANGLEMENT

AT LEAST **1/3** OF ALL SEABIRD SPECIES EAT DEBRIS

PACKING BANDS ARE RESPONSIBLE FOR MORE THAN HALF OF THE **STELLER SEA LION** ENTANGLEMENTS IN ALASKA

ALL SEA TURTLE SPECIES EAT DEBRIS



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Website
<http://marinedebris.noaa.gov>



GARBAGE PATCHES

Currents and winds move marine debris throughout the ocean, sometimes far from its origin. "Garbage patches" are areas in the ocean where marine debris accumulates because of converging currents. These areas are not solid islands of trash that you can see easily with the naked eye. They are made up mostly of tiny microplastics swirling throughout the ocean's water column. Garbage patches exist in ocean gyres all over the world.



PLASTIC MARINE DEBRIS

debris in the ocean. Globally, we are consuming more and more single-use plastic items, but many countries lack the waste infrastructure to process it. In places where there is good infrastructure, intentional littering or improper disposal may add to the problem.

Plastic does not biodegrade in the ocean. It can fragment into tiny pieces called microplastics, less than 5 mm in length, from weathering and sun exposure. Plastics in the ocean can last for hundreds

This background photo, taken after a 21-day marine debris removal effort by the Pacific Island Fisheries Service Coral Reef Ecosystem Division, shows 4,781 bottle caps collected from Midway Atoll's shoreline. Most plastic bottle caps are made from polypropylene, also known as plastic #5-- a hard, durable plastic that can be difficult to recycle in some municipalities.