

Great Pacific Garbage Patch an example of growing plastic pollution

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Image 1. A piece of floating debris snagged during an ocean sampling operation. Photo from Ocean Cleanup/TNS.

The Great Pacific Garbage Patch, or GPGP, is getting greater. It sits in the eastern Pacific Ocean between California and Hawaii. It's also a lot bigger than scientists thought. It's now twice the size of Texas. And, it is getting bigger.

A team of scientists recently studied the GPGP from above in an aerial study. They found that it was made of about 79,000 metric tons of plastic. That's up to 16 larger than previously thought. The new numbers were published in *Scientific Reports*, a science journal. Worse, they found that the garbage patch is still growing, and at a rapid pace.

GPGP Even Bigger Than It Looks

The GPGP is even bigger than it looks. That's partly because some of the plastic has been broken down into smaller and smaller bits over time. The garbage patch isn't equally tightly packed throughout.

Laurent Lebreton is the study's lead scientist. "It's quite frightening because we are so far from any mainland or island," he said. Out in the middle of the water, the plastic is a shocking reminder of what humans can do to the environment.

"Biofouled" Plastic Harms Food Chain

This garbage patch is just one of many in the ocean. Plastics are meant to last. That's great for making grocery bags or six-pack can holders. It's not so great when those plastics end up in the guts of sea turtles. A plastic that floats around for too long can become biofouled. That means a layer of slime, shellfish, and other ocean life has attached itself to the trash. Studies show that biofouled plastic can attract fish and seabirds and end up in the food chain. The full effects of these plastics on nature aren't yet known, but scientists are worried. Large or small, plastics of all sizes can harm ocean life.



Scientists have tried to get a closer look at the garbage patch to find out more. They drag nets through parts of the patch and take samples of the plastic they find. But this only gives them a snapshot. Most of the samples come from smaller pieces of plastic. The scientists aren't usually able to look at larger chunks.

Samples From Bird's-Eye Survey

Lebreton and his team decided to take a bird's-eye view. They did aerial surveys of the patch from above. They also sent boats to take samples of the trash. Then they brought all those samples back to shore for closer inspection.

The researchers split the plastic they collected into four groups, from super tiny (microplastic) to large (megaplastic). Microplastics made up 94 percent of the estimated 1.8 trillion pieces of trash in the patch. But they only accounted for 8 percent of the total mass. More than three-quarters of the rest of it came from larger plastic pieces.

Nets Left By Fishing Boats A Big Problem

Fishing nets accounted for just under half of the garbage patch's mass. They often get lost or abandoned by fishing boats. They're fairly cheap and easy to replace, but they can float through the ocean, trapping animals in their path.

Fifty plastic items had readable dates. One was from 1977, seven from the 1980s, 17 from the 1990s, 24 from the 2000s and one from 2010. Of course, they might not have been in the water that whole time. There were 386 pieces that had words from nine different languages. A third of them were in Japanese and another third were in Chinese.

