

# Plastics found in stomachs of deepest sea creatures

By Matthew Taylor, The Guardian, adapted by Newsela staff on 11.27.17

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A sperm whale plays with plastic waste in the Atlantic Ocean off the coast of Portugal. A new study found animals from the deepest parts of the sea with plastic in their stomachs. Photo by: Reinhard Dirscherl/ullstein bild via Getty Images.

Animals from the deepest places on Earth have been found with plastic in their stomachs. The discovery confirms fears that man-made fibers have contaminated the most remote places on the planet.

The study was led by academics at Newcastle University. It found that animals from trenches across the Pacific Ocean were contaminated with plastic fibers. These fibers probably originated from plastic bottles, packaging and synthetic clothes.

Dr Alan Jamieson, who led the study, said the findings were startling. They proved that nowhere on the planet was free from plastics pollution.

“There is now no doubt that plastics pollution is so pervasive that nowhere – no matter how remote – is immune,” he said.

## Near-Permanent Contamination By Plastic

Evidence of the scale of plastic pollution has been growing in recent months. Earlier this year, scientists found plastic in 83 percent of global tap water samples. Other studies have found plastic in rock salt and fish.

Humans have produced an estimated 9 billion tons of plastic since the 1950s. Scientists said it risks near-permanent contamination of the planet.

Jamieson said the study underlined the need for swift and meaningful action.

“These observations are the deepest-possible record of micro-plastic occurrence and ingestion, indicating it is highly likely there are no marine ecosystems left that are not impacted by anthropogenic debris.”

He said it was “a very worrying find.”

“Isolating plastic fibers from inside animals from nearly 11 kilometers deep (7 miles) just shows the extent of the problem. Also, the number of areas we found this in, and the thousands of kilometer distances involved shows it is not just an isolated case, this is global.”

## Plastic In The Deepest Recesses Of Oceanic Trenches

The study tested samples of crustaceans found in the ultra-deep trenches that span the entire Pacific Ocean: the Mariana, Japan, Izu-Bonin, Peru-Chile, New Hebrides and Kermadec trenches.

These trenches range from 7 to more than 10 kilometers deep. They include the deepest point in the ocean, Challenger Deep in the Mariana Trench.

The team examined 90 individual animals. They found ingestion of plastic ranged from 50 percent in the New Hebrides Trench to 100 percent at the bottom of the Mariana Trench.

The fragments identified include semi-synthetic cellulosic fibers, such as Rayon, Lyocell and Ramie. These are all microfibers. They are used in products such as textiles. The fragments also include plastic fibers that are likely to come from plastic bottles, fishing equipment or everyday packaging.

Jamieson said deep-sea organisms are dependent on food “raining down from the surface” of the sea. In turn, this can bring “adverse components, such as plastic and pollutants with it,” he said.

“The deep sea is not only the ultimate sink for any material that descends from the surface,” he said, “but it is also inhabited by organisms well-adapted to a low-food environment.”

These creatures “will often eat just about anything.”

An estimated 330 million tons of plastic now litter the oceans. More than 5 trillion plastic pieces – weighing more than 275,000 tons – currently float on the surface. Around 9 million tons of plastic enter our oceans every year.

## **Litter Has Nowhere Else To Go**

Jamieson said: “Litter discarded into the oceans will ultimately end up washed back ashore or sinking to the deep-sea, there are no other options.”

“Once these plastics reach the deep seafloor there is simply nowhere else for them to go,” he said. “Therefore it is assumed they will simply accumulate in greater quantities.”