

# Study: Plastic Pollution Increases Ocean Acidification

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Photo by Merrilee Malwitz-Jipson.

As we move on in time and more studies are done, we continually see new adverse effects from plastic in our environment. This study especially highlights plastic water bottles of which we can say nothing good.

About 91 per cent of the trillions of bottles produced annually go into our road ditches, landfills, rivers and oceans. Nestle and other soft drink producers lie about the numbers recycled and withhold facts from the public.

Read the complete article [here in EchoWatch](#).

Comments by OSFR historian Jim Tatum.  
[jim.tatum@oursantaferiver.org](mailto:jim.tatum@oursantaferiver.org)  
– A river is like a life: once taken,  
it cannot be brought back © Jim Tatum

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[Carly Nairn](#)

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A new study finds that plastic water bottles submerged three weeks at sea contained more detrimental bacteria than seawater, creating conditions that lead to ocean acidification.

In the [study](#), published last week in the journal *Marine Pollution Bulletin*, international scientists concluded that [plastic pollution](#), particularly single-use plastic water bottles, collected harmful bacteria and microorganisms, which flourish in carbon dioxide-rich environments.

Increased levels of CO<sub>2</sub> in the world's oceans are one of the causes of [coral bleaching](#), and rising carbon levels have accelerated the climate crisis. The Great Barrier Reef, the largest system of corals in the world, is now [50 percent bleached](#).

The study also found that beneficial bacteria, an important part of the [carbon cycle](#), were adversely affected.

“Discarded plastic drinking bottles have become a common sight in our oceans and we were expecting to see them being colonized

by different types of bacteria,” said Dr. Ben Harvey, assistant professor at the University of Tsukuba’s Shimoda Marine Research Center, and an author of the study.

As part of the experiment, the plastic bottles were immersed near Shikine, a Japanese island close to carbon dioxide seeps, where CO<sub>2</sub> evaporates into the seawater. This condition is expected to materialize more in subsequent years.

“It was surprising to see the extent of that change and how the raised levels affected species differently. To see beneficial species dwindling while harmful species thrive is an obvious present and future cause for concern,” said Harvey.

In addition to coral bleaching, ocean acidification is often a driver in [biodiversity](#) loss, with [disrupted food webs](#) threatening species.

“Up to 13 million tons of plastics from land end up in the oceans each year and they have been shown to affect all types and sizes of marine species,” said senior author of the study Jason Hall-Spencer, a professor of marine biology at the University of Plymouth...