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# Petition Filed to Force EPA Regulation of Ocean Acid Levels

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**Action exploits better water quality as a way to reduce CO2 emissions that acidify the seas**

Global warming exhibit at Monterey Bay Aquarium
Image: Courtesy of Tom Clifton on Flickr

SAN FRANCISCO—The Center for Biological Diversity (CBD) here has filed a petition with the U.S. Environmental Protection Agency that calls on the EPA to override lax water quality standards in 15 coastal states and territories. Requiring those states to meet or exceed minimum federal standards intended to limit the amount of acidification that can occur in coastal waters would in effect force the states to reduce carbon dioxide emissions. As CO2 in the atmosphere accumulates, more is absorbed by the ocean, which feeds chemical reactions that are making seawater increasingly acidic.

The EPA has the authority to regulate standards for ocean acidification as part of its work under the Clean Water Act to preserve water quality. EPA has said that the pH of ocean water should not vary by more than 0.2 units from its natural state as a result of human influences. The pH scale runs from 0 (highly acidic) to 14 (highly basic); 7 is neutral. Many ocean waters hover around 8.2 or 8.1, although the value varies along U.S. coasts and can vary season to season in a given location. The scale is logarithmic, so a 0.1 decline corresponds to a 30 percent increase in acidity, according to the CBD. New evidence from around the world indicates that even small relative changes in pH can cripple the ability of marine organisms of many sizes to form the skeletons or shells needed for life.

States are responsible for water quality out to three miles (4.8 kilometers) from shore. The EPA is responsible for quality out to 200 miles (320 kilometers), the limit of national waters. Most states have standards for acidity, but many are outdated and do not reflect current science, says Miyoko Sakashita, oceans director at the CBD.

Some state rules allow a 0.5 or 1.0 deviation from "normal" values. Other states simply allow the pH to vary from 6.5 to 8.5 or even 6.0 to 9.0—levels that would wipe out most microscopic organisms and shellfish in the ocean, in the process destroying the food chain that fish and marine mammals depend on. Some states do not even have a way to systematically measure the pH levels in their waters. Part of the CBD's motivation in filing the petition is to "get to a point where we have better monitoring and good assessment," Sakashita says.

Indeed, she adds, the petition's intent is to prompt states and the EPA to create a robust monitoring system and to devise more rigorous standards in light of all the new science. "Ideally, EPA would create a nationwide plan," she says. In the meantime, she notes, "the action could help reduce CO2 emissions from some of our states that are the biggest emitters." The Clean Water Act requires states to identify all sources of emissions and determine how much they are contributing to the state's overall output.

States may object on the grounds that atmospheric CO2 comes from states and countries everywhere. But Sakashita notes that the same argument holds true for mercury emissions, and for pollution that causes acid rain—and that state and federal regulations have been successfully brought to bear on both those issues through the Clean Water Act.

The 15 states and U.S. territories targeted by the petition are: Maine, Connecticut, Delaware, Maryland, Virginia, North Carolina, Alabama, Mississippi, Louisiana, Oregon, Washington and Hawaii as well as Puerto Rico, Guam and the Northern Mariana Islands in the western Pacific. By law, the EPA must grant or deny the petition, which Sakashita expects to happen within a year. Her organization is also talking with individual states to see if they might act on their own. Washington State, for example, has already said it would review pH monitoring and standards as part of its regular environmental work.