

# Scientists set 2020 goal for improving Pacific Ocean's health

June 1 2009, By Suzanne Bohan

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The world faces well-known milestones for reducing carbon dioxide emissions in the coming decades to reduce the dangers of climate change. Now an international consortium is doing the same to demand action against threats to the Pacific Ocean that they say endangers environmental and human well-being in countries rich and poor.

The Center for [Ocean](#) Solutions and Stanford University's Hopkins Marine Station released a scientific consensus in May that spells out the grim consequences of inaction in reversing the threats of overfishing, pollution and habitat destruction, while providing a road map to recovery.

The report calls for measurable improvements to the Pacific Ocean's health by 2020, and it fulfills a key objective set by the International Union for Conservation of Nature's "[Pacific Ocean](#) 2020 Challenge." The United Nation's-affiliated group, founded in 1948 and representing 1,000 organizations worldwide, set as its first priority the release of a scientific consensus on threats to the ocean, which covers one-third of the Earth's surface.

"This is the first time where there have been scientists and experts around the world saying, 'These are threats, these are the solutions. Let's take some action,' " said Tegan Hoffmann, an Oakland, Calif.-based consultant. She worked with Center for Ocean Solutions in corralling the 400 signatures from scientists and experts on the consensus, called the "Pacific Ocean Synthesis."

Neil Davies, director of University of California-Berkeley's South Pacific Research Station in French Polynesia, was one of the signers of the report. In an e-mail from the university's distant outpost, he described the approach of the synthesis.

"It took a holistic approach to understanding the ecological health of the Pacific, with the promotion of human well-being at its heart," Davies said.

"A non-obvious finding was that many of the same challenges are felt across this vast and diverse region," he added. "The recommendations in the synthesis recognize that societies across the Pacific can learn from one another's successes and failures."

Throughout the Pacific, from the Southeast Pacific to the Pacific Northwest, pollution from sewage, plastic marine debris, toxic waste, oil spills and agricultural and urban runoff top the list of threats. Destroying productive marine and coastal habitats for development or through poor agricultural practices was next on the list, followed by commercial and recreational overfishing.

If left unchecked, this human-caused damage is sure to weaken coastal economies, reduce food supplies while populations expand, compromise public health and increase political instability, the report noted. It would also reduce marine biodiversity and damage natural ecosystems.

But the report paired details on what ails the Pacific with remedies governments across the ocean region can adopt. That's the chief goal of the synthesis: to provide a scientifically grounded analysis -- which experts worldwide support -- for developing constructive policies for protecting the ocean's health.

"The consensus statement is really giving voice to the scientific

community," said Meg Caldwell, interim director of the Center for Ocean Solutions in Monterey, Calif. "That there are scientific underpinnings to support strong policies."

She added: "You don't have to be a rocket scientist to figure out how to address those threats."

A straightforward solution for protecting the size of fish populations while also supporting commercial and recreational fishing, for example, is the creation of what are called marine protected areas.

California pioneered the concept with the 1999 passage of the Marine Life Protection Act. It permits a temporary or permanent ban on harvesting in designated areas, creating small nurseries where marine species can reproduce and raise their young without human predation. The state law followed a successful program years earlier in the Monterey Bay that set aside small "no-take" zones. Researchers noticed a growth in marine life throughout the bay afterward, as juvenile marine life had a healthier start, and more survived.

The 1999 law took a new approach to managing marine resources, Caldwell said. It moved agencies away from "a 150-year-old tradition of single-species management to an ecosystem conservation approach," she said.

Caldwell and Davies also struck an optimistic note.

"While the problems are serious, there are signs of hope," Caldwell said, pointing to the establishment of 29 marine protected areas along the Central Coast of California, covering 18 percent of the region's coastal waters between Pigeon Point in San Mateo County to Point Conception in Santa Barbara County. By 2011, these marine protected areas are expected to dot the entire California coastline.

"The threats are enormous and often accelerating," wrote Davies from UC Berkeley's oceanfront research complex in French Polynesia. "But there is hope because our ability to learn is also accelerating at an unprecedented rate."

View the report, Pacific Ocean Synthesis, at [www.centerforoceansolutions.org ... \(underscore\)poi.html](http://www.centerforoceansolutions.org..._(underscore)poi.html).

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## MAJOR THREATS FACING THE PACIFIC OCEAN

**Pollution:** Organic pollutants from sewage, nutrient pollution from fertilizer runoff, plastic marine debris, toxic dumping and oil spills, urban runoff, and other pollutants create critical ocean threats.

**Habitat destruction:** Productive marine and coastal habitats are lost to destructive fishing practices, poor agricultural land use, inappropriate coastal development, and industrial wastewater discharges.

**Overfishing and exploitation:** Unsustainable harvesting of marine life reduces fish stocks throughout the Pacific, and it causes ecological changes that further reduce biodiversity and productivity.

**Climate change:** Carbon dioxide discharged into the atmosphere dissolves into seawater, making the ocean more acidic. This change in seawater chemistry could harm many marine species.

Source: "Pacific Ocean Synthesis" by the Center for Ocean Solutions

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