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Report says government agencies must act faster to counter ocean acidification

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Ocean waters are getting more acidic, spelling trouble for shell-bearing fish, corals and the ecosystems that depend on them, but federal agencies have lagged in their efforts to understand the problem and respond to it, said an investigative report issued Tuesday by the U.S. Government Accountability Office.

The report was issued at the request of Sen. Mark Begich, chairman of the Senate Commerce Subcommittee on Oceans, Atmosphere, Fisheries and the Coast Guard, and the requests of other coastal-state senators.

The GAO report says the numerous federal agencies currently researching acidification need to step up their response to the challenge. Action might be quicker, according to the GAO, if an independent acidification office is established to coordinate the relevant agencies' work and map out future federal responses.

"Without designating such an entity, federal agencies may struggle to advance the federal response to ocean acidification," the report says.

Still, some important progress has been made, the GAO reports.

An interagency working group has been established, in accordance with the law Federal Ocean Acidification Research and Monitoring Act of 2009, also known as FOARAM.

The National Oceanic and Atmospheric Administration leads the working group, and the National Science Foundation, NASA, the U.S. Fish and Wildlife Service and the U.S. Geological Survey signed on as early members. As of August, six other agencies had joined the group -- the Bureau of Ocean Energy Management, Department of Energy, Department of State, Environmental Protection Agency, Department of Agriculture and U.S. Navy.

That working group developed a 10-year research plan that was publicly released in March by the White House Office of Science and Technology Policy.

NOAA has an ocean acidification program, to which it has devoted about $6 million a year since fiscal 2011, and the National Science Foundation and NASA are well engaged in research, the GAO reports.

But other targets of FOARAM have been missed, the GAO said in its report. Of particular importance, the GAO said, is the release of budget estimates from the disparate agencies involved in the acidification program. A clearer definition of each agency's duties is also needed, the GAO said. "Because the research and monitoring plan does not establish each

agency's role or the budget needed for implementation, as required by FOARAM, it is unclear to what extent the actions outlined in the plan will be taken," the report says.

In its report, the GAO summarizes much of the current knowledge about ocean acidification, which is the ongoing shift in the alkaline-acid balance measured by the logarithmic pH scale that ranges up to 14.

Globally, ocean pH levels have moved from 8.2 to 8.1 since the 1700s, a 26 percent increase in acidity, the report says. Most of the change is linked to industrial-age carbon dioxide emissions into the atmosphere, of which about 30 percent are absorbed by the oceans, according to the report.

At current carbon dioxide emissions levels, global ocean pH levels are expected to sink to somewhere between 7.9 and 7.7, representing a 100 percent to 200 percent increase in acidity over preindustrial levels, the GAO report says. Fertilizer runoff, wastewater discharges and local air pollution also contribute to acidification, according to the report.

High-latitude areas, "which include some of the richest fishing areas in the world," are particularly vulnerable to acidification because colder water holds more carbon dioxide and because far-north waters naturally have lower carbonate mineral saturation, the GAO report says.

Begich, in an emailed statement, said he agrees that agencies have not acted quickly enough on acidification.

"Ocean acidification is a very real phenomenon that is threatening Alaska's fisheries. I've held more than a dozen meetings on the reauthorization of the Magnuson-Stevens Act and I can tell you that commercial fishermen, sport fishermen and subsistence fishermen all voiced their concerns to me about ocean acidification," he said. "It's a problem for Alaska's fisheries from an economic standpoint but also for Alaskans who rely on fish as a main source of food. I'm determined to do all I can to protect our fisheries and I agree that we aren't moving fast enough."

Begich and Sen. Maria Cantwell of Washington announced in August that they are crafting legislation to create a new NOAA mandate to assess fisheries' acidification risks.

More than research is required to address acidification, said one environmental group.

"While it's vital that we study ocean acidification, what the GAO report points out is that it isn't enough," Miyoko Sakashita, oceans director at the Center for Biological Diversity, said in a statement issued Tuesday. "We know enough about the harmful impacts of ocean acidification to act now to tackle this crisis. And there are several government agencies, from NOAA to the EPA, that have an important role to play in that fight. They need to get out of their huddle now and take bold action to stop acidification."

The Center for Biological Diversity a year ago sued the EPA in U.S. District Court in western Washington for alleged failures to respond to acidification in the Pacific Northwest.