Committed to cleaning the 'Great Pacific Garbage Patch' from the Partnership for Public Service
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In the Pacific Ocean, a floating garbage dump exists between Hawaii and California that is hundreds of thousands square miles wide and has been estimated to contain approximately 3.5 million tons of debris.

This "Great Pacific Garbage Patch" is the most extreme example of a serious nationwide and international problem: marine debris dumped into the oceans and waterways.

As director of the National Oceanic and Atmospheric Administration's (NOAA) marine debris program, it is Holly Bamford's role to coordinate nationwide clean-up efforts, collaborate internationally on solutions to problems such as the garbage patch and develop prevention methods.

"Marine debris knows no political boundaries. It is an international problem," Bamford said. "The vision of the program down the road is global oceans and coasts free of the impact of marine debris. The whole purpose is to protect our marine environment."

Though types of debris vary, from land-based to ocean-based sources, there is a common origin: people.

"Marine debris does not fall out of the sky, it comes from someone's hands," Bamford said. "We are the main cause of the problem, but also the key to the solution."

One way that Bamford and her team are helping to reduce marine debris is through an innovative program that focuses on the removal of discarded fishing nets and other equipment. This gear can entangle and kill marine life. To combat this problem, NOAA's marine debris program, with Covanta Energy Corporation, the National Fish and Wildlife Foundation and Schnitzer Steel, has created the Fishing for Energy partnership. This program provides bins at 16 ports mainly on the East Coast for fishermen to dispose of their gear at no cost. The gear is then transported to the nearest Covanta facility and converted into energy. It is estimated that a ton of nets can power a home for 25 days.

"The Fishing for Energy program is a great example of a public-private partnership," Bamford said. "We are not only cleaning up the environment but also creating an alternative source of energy. There is a direct commerce relationship."

The program is one of 160 projects developed since Bamford set up operations in 2005. There have been efforts to identify the best practices for preventing, removing and disposing of abandoned vessels; a program to deal with abandoned lobster pots and fishing traps; and a number of educational campaigns.

"Holly has an incredible strategic vision," said Brian Julius, deputy director of NOAA's Office of Response and Restoration. "NOAA is a science agency, and I think that one of the things that Holly has really worked to do is to make sure the work that they do is grounded in science."
One of the areas that Bamford and her team are taking a lead role in researching is microplastics. Plastic products never completely breakdown, but instead divide into tiny, multi-colored plastic bits that resemble confetti. These microplastics can make up a sizable portion of marine debris and are ingested by marine species, from whales to zoo plankton.

With very few people in the world working on the issue, Bamford is collaborating with Joel Baker, a University of Washington professor, to examine the problem and develop practical solutions.

"Sometimes it is hard to demonstrate the impacts of this form of marine pollution to the public, the fishing community and coastal managers because it is typically submerged and not seen," Bamford said. "However, once we present our research on the degradation caused by litter and debris on our seafloors, on our beaches, and in our waterways, people will be more inclined to reduce, reuse and recycle a non-degradable item, which in turn reduces marine debris."

This article was jointly prepared by the Partnership for Public Service, a group seeking to enhance the performance of the federal government, and washingtonpost.com. Visit www.ourpublicservice.org for more about the organization's work and go to www.serviceamericamedals.org to nominate a federal employee for a Service to America Medal.