

**TESTIMONY OF  
DR. HOLLY BAMFORD  
DEPUTY ASSISTANT ADMINISTRATOR FOR  
OCEAN SERVICES AND COASTAL ZONE MANAGEMENT  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
U.S. DEPARTMENT OF COMMERCE**

**LEGISLATIVE HEARING ON  
H.R. 1171, THE MARINE DEBRIS ACT REAUTHORIZATION AMENDMENTS OF  
2011 AND S. 363, A BILL TO AUTHORIZE THE SECRETARY OF COMMERCE TO  
CONVEY PROPERTY OF THE NATIONAL OCEANIC AND ATMOSPHERIC  
ADMINISTRATION TO THE CITY OF PASCAGOULA, MISSISSIPPI AND FOR  
OTHER PURPOSES**

**BEFORE THE  
COMMITTEE ON NATURAL RESOURCES,  
SUBCOMMITTEE ON FISHERIES, WILDLIFE, OCEANS, AND INSULAR AFFAIRS**

**DECEMBER 15, 2011**

**Introduction**

Mr. Chairman and members of the Subcommittee, thank you for this opportunity to testify on H.R. 1171, the Marine Debris Act Reauthorization Amendments of 2011. My name is Holly Bamford, Deputy Assistant Administrator for the National Ocean Service at the National Oceanic and Atmospheric Administration (NOAA) within the Department of Commerce. Previous to my current position, I served as the Division Chief and Director of the NOAA Marine Debris Program and was involved in its inception in 2005 and formal codification in 2006. I look forward to contributing my experience on the marine debris issue to today's hearing.

NOAA supports undertaking the activities detailed in the reauthorization language, which will codify efforts already underway within the NOAA Marine Debris Program and allow continued growth and progress in addressing the impacts of marine debris. Marine Debris is currently defined for the purpose of the Marine Debris Research, Prevention, and Reduction Act as, "any persistent solid material that is manufactured or processed and directly or indirectly, intentionally or unintentionally, disposed of or abandoned into the marine environment or the Great Lakes." NOAA wrote this definition cooperatively with the U.S. Coast Guard (USCG) as directed by the original Marine Debris Research, Prevention, and Reduction Act.

As the lead federal agency addressing marine debris and Chair of the Interagency Marine Debris Coordinating Committee, NOAA continually works in partnership across federal agencies to ensure coordination in its national and international marine debris efforts, within existing bodies such as the Interagency Committee, and through the National Ocean Policy.

**Marine Debris Impacts**

Marine debris, which can be anything from lost or abandoned fishing gear and vessels, to plastics of any size, to glass, metal, and rubber, is an on-going international problem that impacts our natural resources. In addition to being an eyesore, it can threaten oceans, coasts, wildlife, human health, safety, and navigation. Every year, unknown numbers of marine animals are injured or die because of entanglement in or ingestion of marine debris. It can scour, break, smother, or otherwise damage important marine habitat, such as coral reefs. Many of these habitats serve as the basis of marine ecosystems and are critical to the survival of many important species. Derelict fishing gear can also cost fishermen untold economic losses. For example, crab pots and nets can continue to capture fish – something we refer to as “ghost fishing” - for years after they’re lost or abandoned, depleting fisheries and reducing abundance and reproductive capacity of the stock. In addition to the ecosystem impacts, coastal communities spend millions of dollars annually trying to prevent debris from washing up on their shorelines and trying to remove it once it does wash up. It not only degrades our coasts’ natural beauty, but it threatens the safety of those who work and play there.

Marine debris can also present a navigation hazard to vessels of any type. Ropes, plastics, derelict fishing gear, and other objects can get entangled in boat propellers and cause operational problems and large items such as lost containers can actually be collision dangers. Plastic bags can clog and block water intakes and are a common cause of burned-out water pumps in recreational crafts. Such incidents involve costly engine repairs and disablement. These dangerous and costly impacts are problems for both the recreational and commercial boating and shipping communities, and NOAA’s Marine Debris Program is actively seeking partnerships within these communities to expand our area of knowledge and begin to proactively address the dangers.

These impacts to navigation and the economy are being investigated in a study conducted by the Marine Debris Program and the Hawaii longline fishing community since 2007. The study, utilizing the NOAA National Marine Fisheries Service Observer Program in Hawaii to gain better understanding of the overall impacts of derelict fishing gear to the Hawaii-based longline fishing industry, has produced some interesting results. During 125 separate vessel trips, observer vessels encountered over 34,000 pounds of marine debris, with an average of 287 pounds per encounter.

Abandoned and derelict vessels are another type of marine debris posing a threat to marine resources and navigational safety in U.S. waters. Because older or inoperable vessels are expensive to remove and become even more costly the longer they are left in place, owners sometimes leave such vessels on the shoreline or sunk close to shore after removing identifying numbers. With the economic downturn, many states are finding abandoned vessels to be a serious marine debris problem.

In addition to improving navigation safety, removal of marine debris eliminates the risks of entanglement and trapping of marine species, reduces risks to human health, and promotes vital marine habitat recovery.

## **Marine Debris and Natural Disasters**

Coastal storms and natural disasters are another source of marine debris creating hazards on our inland and coastal waters.

For example, there is a chance that debris swept into the ocean by the tragic tsunami that struck Japan last March could reach the United States over the next few years. In addition to the incredible human tragedy of the earthquake and tsunami, part of its aftermath has become a marine debris issue that could directly impact our coasts.

NOAA has been working with partners to coordinate efforts to understand the nature and amount of items that may reach the United States. Our activities have included working with vessels in the North Pacific to report significant debris sightings, collecting scientific data, and predicting debris movement at sea with computer models. At this point there is not an accurate estimate of the number and type of items that will reach the United States given the uncertainty and unprecedented scale of this situation.

We have also been hard at work preparing an assessment and response framework that will facilitate holistic and cooperative action planning for potential threats posed by the debris. Moving forward, the activities outlined in the framework will be executed and coordinated by the Interagency Marine Debris Coordinating Committee, so that NOAA can leverage resources and expertise from across the federal government.

In another example, during the 2005 hurricane season, Hurricanes Katrina and Rita inflicted severe damage on the Gulf of Mexico coastal region, and deposited extensive amounts of debris over various areas of the Gulf coast. Immediately following the storms, NOAA's Navigation Response Teams worked with the USCG, the U.S. Army Corps of Engineers, and other state and private sector partners to quickly survey and clear marine debris from shipping channels vital to the response and recovery effort. In addition, the amount of storm-generated marine debris outside the navigation channels was huge, posing a threat to safe vessel movement throughout Gulf coastal waters. Recognizing this, Congress provided Fiscal Year 2006 and 2007 supplemental funds to NOAA and USCG to survey and remove debris that posed a hazard to safe navigation and commerce in the coastal areas of Alabama, Louisiana, and Mississippi.

NOAA responded by surveying and mapping over 1,570 square nautical miles along all state waters of Alabama, Mississippi, and Louisiana. Over 7,000 marine debris hazards were identified and plotted on marine debris maps. This information was provided to USCG, the Federal Emergency Management Agency, and the States in order to assist with cleanup and outreach efforts.

### **NOAA Marine Debris Program in 2011**

I would like to also highlight some of the recent accomplishments of the NOAA Marine Debris Program and how these efforts relate to the new program components in the Marine Debris Act Reauthorization Amendments of 2011.

*NOAA leads international collaboration*

In March 2011, the NOAA Marine Debris Program hosted the Fifth International Marine Debris Conference in Hawaii, the first international marine debris conference held in over 10 years in Hawaii. Over 450 people from more than 30 countries attended, generating a new excitement to work together, combine knowledge and resources, and collaborate to comprehensively address marine debris. The major outcome of this conference was the Honolulu Strategy. This Strategy will be a major step forward for the international marine debris community, providing common terminology, outlining consistent ways of referring to goals and objectives, and establishing a mechanism for cooperative efforts. It also provides a comprehensive overview of the marine debris issue, sources, potential impacts, and prevention and reduction methods, so that any new efforts build on existing efforts to further evaluate the overall problem. This Strategy has been drafted under the guidance of NOAA and the United Nations Environment Programme, with input from the conference participants and other interested parties.

#### *Partnerships to Address Marine Debris*

Working with non-governmental organizations, academia, regional organizations, local, state and federal governments, and international organizations is a priority for the NOAA Marine Debris Program. NOAA's marine debris regional coordinators extensively cover marine debris issues in the Pacific Islands, West Coast, Alaska, Great Lakes, East Coast, and Gulf of Mexico. While these coordinators focus on the local, state, and regional issues as a part of the national program, they are also able to bring in lessons learned and make connections across the country and the world. NOAA has held lead roles in developing marine debris plans for Hawaii and the West Coast Governors Agreement, planned multiple workshops for New England, the Great Lakes, Alaska, and Hawaii, and worked on specific projects throughout all regions. NOAA continues to work with partners throughout the country to develop and test innovative and cost-effective methods of detection and removal of marine debris, and to engage the public and industry, including shippers and fishermen, and the recreational community on marine debris.

One shining example of such a strategic partnership is the Fishing for Energy program. Launched in 2008 through a partnership among Covanta Energy Corporation, the National Fish and Wildlife Foundation, NOAA, and Schnitzer Steel Industries, Inc., the partnership works closely with state and local agencies, community and fishing groups, and local ports to install bins at convenient and strategic locations into which fishermen can deposit fishing gear. When these bins fill up, the gear is collected and transported to a nearby Schnitzer Steel facility where the metal (e.g., crab pots, gear rigging) is pulled for recycling, and rope or nets are sheared for easier disposal. Then the waste is brought to the nearest Covanta Energy-from-Waste facility, where the gear is converted into clean, renewable electricity for local communities. This partnership is designed to give fishermen a place to dispose of derelict gear they come across while on the water, and ease the burden of high costs associated with disposing of old fishing gear into landfills. The program also began providing grant awards for community groups to proactively remove derelict fishing gear in 2009. These investments, which are estimated to remove over 92 tons in the first year, provide the fishing community with a means to become more actively involved in addressing marine debris issues. Since 2008, 500 tons of gear has been collected through the Fishing for Energy program at 24 ports across the country.

Another example of a highly successful partnership is the NOAA Marine Debris Program's ongoing work with the University of Georgia. Under this partnership, NOAA has partnered with

the Southeast Marine Debris Initiative (SEA-MDI), a consortium of marine debris stakeholders and decision makers from across Georgia, North Carolina, and South Carolina, to develop tools for the public and share best practices and resources to address the impacts of marine debris off the Atlantic coast. The SEA-MDI partnership launched the first tool developed for a wide audience, the Marine Debris Tracker, in March 2011. This tool is a smartphone application that allows anyone to track marine debris worldwide and then post the locations to an online map and database.

In addition to new partners, NOAA continues to collaborate with long-time NOAA partners in new ways. For example, the Ocean Conservancy and NOAA are in the early phases of developing online resources to educate a larger audience on marine debris and its impacts. Additionally, NOAA has supported the Alice Ferguson Foundation's (AFF) annual Trash Summit, which brings together local components that are needed to prevent marine debris, including local lawmakers, enforcement officers, non-governmental organizations, and companies.

#### *Regional marine debris efforts*

Since its inception in 2005, the NOAA Marine Debris Program has been actively involved in marine debris abatement projects on the East and West Coasts, Hawaii, Alaska, and the Gulf Coast and Great Lakes regions.

For example, in the State of Alaska, the NOAA Marine Debris Program has been working to remove debris accumulations, research the impact of marine debris, and conduct outreach to prevent the introduction of new debris. The vast and diverse nature of the Alaskan shoreline, combined with the frequent high density of debris has led to the development and adaptation of innovative and specialized approaches to these goals in executing projects.

In Prince William Sound, NOAA has partnered with the Gulf of Alaska Keeper Foundation to remove debris from remote shorelines both inside the Sound and on the outer coast in order to prevent the re-mobilization of debris that can threaten marine species through entanglement and ingestion and help to restore valuable coastal habitat. In many areas, this removal has been paired with annual returns to the same beaches to monitor how much and how quickly debris accumulates. At Gore Point, an outer coast beach where currents and storms aggregate debris, over 20 tons of debris was cleaned from less than a mile of shoreline during an initial cleanup in 2007. Since then, high accumulation rates of debris have been observed, underscoring the need for continued vigilance.

In Washington State, the NOAA Marine Debris Program has supported the Northwest Straits Marine Conservation Initiative in its effort to survey for, assess the impact of, and remove derelict fishing gear in Puget Sound, resulting in the removal of thousands of derelict fishing nets and crab pots. Similarly, in 2007 NOAA supported the Stlilaguamish Tribe of Indians in surveying for crab pots using side scan sonar, and removing derelict crab pots deeper than the reach of divers with a remotely operated vehicle.

The NOAA Marine Debris Program is also partnering with the University of Washington - Tacoma to investigate the sources, prevalence and impacts of microplastics, an emerging marine

debris challenge. Two workshops held in Tacoma in 2008 and 2010 brought together leading international scientists in diverse fields ranging from physical oceanography and ecology to emergency response and chemistry in an unprecedented international and coordinated focus on the microplastics issue.

### *Derelict fishing gear*

Derelict traps have the potential to move across the seafloor and cause abrasion and breakage of structural habitat. The NOAA Marine Debris Program is planning to publish research results from projects funded over the past five years to study the impacts of derelict fishing gear used for crab, lobster, and fish in different parts of the country. These research results will provide statistics for fishery managers to understand and address, if necessary, the impacts of lost pots and traps to their resources. One such example comes from a joint NOAA-Virginia Institute of Marine Science study to assess impacts on the Virginia portion of the Chesapeake Bay, where the Governor of Virginia created a marine debris removal program in the Virginia Blue Crab Fishery Resource Disaster Relief Plan. Out-of-work fishermen were hired to recover lost and abandoned crab pots. In the winters of 2008, 2009, and 2010, the fishermen removed over 28,000 derelict crab pots which contained more than 27,000 crabs, fish, and other animals. It is estimated that approximately 1.4 million market-sized crabs would have been lost to these derelict pots, negatively impacting this coastal economy.

Additional derelict fishing gear research across the U.S. includes investigation of habitat recovery time after nets and crab pots are removed (about a year), the time it takes for bird species caught in nets to decay and be consumed (about 10 days), and the cost-benefit analysis of removing derelict crab pots. The conclusion from this research is that it makes economic sense to remove derelict pots.

### *Tools to Aid the Marine Debris Community*

To be responsive to the needs of marine debris practitioners, NOAA is developing tools to aid in the dissemination of information and best practices on marine debris identification and removal. One such effort is the development of standardized, scientifically rigorous monitoring protocols for marine debris, which will be available for worldwide use. With limited resources available in the international marine debris community, the NOAA Marine Debris Program wants to reduce duplication of effort to make sure that all resources can be used to move forward to arrest and reverse the impacts of marine debris.

Finally, a new tool that the marine debris community has requested is the NOAA Marine Debris Information Clearinghouse, as required by both the original Marine Debris Act and included in the Reauthorization Amendments Act of 2011. The Clearinghouse is the result of significant scoping to ensure the best product and resource prioritization to address current gaps in marine debris information as well as fill future needs. NOAA gathered input through workshops and interviews with stakeholders throughout the marine debris community, including federal and state government partners and the many non-governmental organizations active in the field. The Marine Debris Program then organized and translated these inputs into a set of specifications that synthesizes and prioritizes features in a cohesive design. To evaluate the accuracy and utility of the design, staff conducted follow-up interviews with representative users from each sector of the marine debris community. In parallel, NOAA staff worked to evaluate potential development

partners, striving to balance the forward looking approach the design required with the cost-effectiveness and stability that spatial data projects demand. When unveiled, the Clearinghouse will be a one-stop shop for marine debris practitioners to learn about current and ongoing projects, tools, products, and related marine debris-related publications. This site, targeted specifically to marine debris practitioners, will augment the existing NOAA Marine Debris Program public website for general audiences, which currently receives approximately 300,000 visits annually.

## **H.R. 1171**

NOAA supports undertaking the activities detailed in the Marine Debris Act Reauthorization Amendments of 2011. The bill will codify efforts already underway within the NOAA Marine Debris Program and allow continued growth and progress in addressing the impacts of marine debris. The reauthorization lists program components which closely parallel the primary effort areas of the Marine Debris Program, including investigation and assessment; prevention, reduction, and removal; interagency, regional, and national coordination; development of tools and products; and international cooperation.

H.R. 1171 emphasizes the importance of education and outreach, two critical components of the NOAA Marine Debris Program. Reducing marine debris requires that boaters, fishermen, industry, academia, non-governmental organizations, and the general public have the knowledge and training to change their behaviors.

H.R. 1171 will also support priority objectives under the National Ocean Policy, including, Water Quality and Sustainable Practices on Land, to address marine debris and its impacts.

One recommendation NOAA would make on H.R. 1171 is to revise the definition of marine debris to better align with the jointly developed NOAA-USCG definition now in regulation, per direction from the original Marine Debris Act.

## **S. 363**

S. 363 would allow for the Secretary of Commerce to convey property of NOAA to the City of Pascagoula, Mississippi. Many years ago, for security purposes, and without objection from the County, which was the owner of the land at the time, NOAA fenced off two small parcels of land plus a portion of a street outside of the Pascagoula facility. Over the years, NOAA's use of this property has evolved into storage and parking. The City of Pascagoula now owns this land. In addition, the City is interested in developing the local waterfront, and that concept would include a park on a separate piece of land currently owned by NOAA. The City is willing to "swap" the two small parcels already in use by NOAA as well as other contiguous space in exchange for the Government transferring a section of its land where the City would like to build the park. The exchange would be mutually beneficial. NOAA needs expansion space at or near its waterside operations to construct a boat and research sampling gear storage facility and could release the space desired by the City without disruption to NOAA's operations.

## **Conclusion**

Marine debris is a problem we can prevent. The NOAA Marine Debris Program will continue to pursue on-the-ground research, prevention, and reduction of marine debris nationwide. While the problem of marine debris has existed for decades, there is still much to learn as we work to address the impacts of marine debris to the environment and marine species. Additional research is needed to understand and assess the impacts of marine debris on diverse species and habitats as well as the economic impacts and the dangers to navigation posed by marine debris. NOAA is committed to the goal of eradicating marine debris from our oceans, and looks forward to working with the Committee to achieve this outcome.

Thank you again for inviting me to discuss H.R. 1171 and the benefits of reauthorizing this NOAA program. NOAA would welcome the chance to work further with you to advance this legislation.