

**POLICY GUIDANCE
OFFICE OF NATIONAL MARINE SANCTUARIES**

**MARINE DEBRIS IMPACTS ON MARINE LIFE AND HABITAT
March 2009**

PURPOSE

The purpose of this policy guidance is to present how the Office of National Marine Sanctuaries (ONMS) will address the issue of marine debris and its impact on the resources of National Marine Sanctuaries, given the ONMS's best understanding of the issue and availability of response options. It is made to provide direction and/or guidance for conservation management actions for the ONMS, and will be updated as necessary. By addressing the impacts of marine debris, the ONMS can better manage and protect the ecosystems, habitats, and resources of the sanctuaries.

DEFINITION

Marine debris is any persistent, manufactured, or processed solid material that may be directly or indirectly, intentionally or unintentionally, disposed of or abandoned into the marine environment.¹

POLICY

The ONMS will use the tools and authorities at its disposal to prevent and/or mitigate the impacts of marine debris on sanctuary resources. Therefore, the ONMS will:

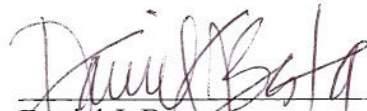
- Identify sources of marine debris and encourage voluntary action by producers of marine debris to mitigate or eliminate actions that may impact sanctuary resources;
- Incorporate marine debris into formal consultations, as appropriate, on activities affecting or potentially affecting sanctuary resources;
- As feasible and as necessary, include in management plans efforts to address marine debris including adopting regulations to mitigate or eliminate activities that generate marine debris;
- Enforce existing regulations to mitigate or eliminate activities that generate marine debris; and
- Work with our partners to conduct assessments of marine debris, conduct marine debris clean-ups, and to develop educational and outreach materials on the impacts and prevention of marine debris.

Management of marine debris goes far beyond sanctuary boundaries and will, therefore, require the formation of partnerships with other federal agencies and the international

¹ The Marine Debris Research, Prevention, and Reduction Act (33 U.S.C. 1951 et seq.)

community to address the issue. One of the ONMS's primary partners in this effort is the NOAA Marine Debris Program.

The mission of the NOAA Marine Debris Program is to support a national and international effort focused on preventing, identifying, and reducing the occurrence of marine debris and to protect and conserve our nation's natural resources, oceans, and coastal waterways from the impacts of marine debris.



Daniel J. Basta
Director

3/17/09

Date

BACKGROUND

Marine animals are threatened by entanglement or ingestion of marine debris, such as abandoned fishing nets or plastics. Modern fishing gear disposed of or lost at sea can continue to collect marine animals for years. This “ghost fishing” threatens the endangered monk seals of Hawaii as well as causing the loss of 4-10 million blue crabs a year in Louisiana alone. Fragile marine habitats such as coral reefs and seagrass beds are vulnerable to damage by marine debris. Marine debris can be a pathway in which non-native species are introduced into marine environments, as well.

NOAA administered the Marine Entanglement Research Program from 1985 to 1996 to conduct research and management of marine debris due to heightened public concern. Since then NOAA continues to support marine debris management with other projects, such as the debris assessment and removal project in the Northwestern Hawaiian Islands. Methods of marine debris removal include the use of satellite and aerial remote sensing for locating and tracking oceanographic features likely to accumulate floating marine debris and the development and testing of protocols for removing derelict fishing gear.

These early efforts to manage marine debris were not organized under one centralized program. In 2005, however, Congress appropriated funds to re-establish a centralized capability within NOAA to organize, strengthen, and increase the visibility of the marine debris efforts.

In December 2006, President George W. Bush signed the Marine Debris Research, Prevention, and Reduction Act (33 U.S.C. 1951 et seq.) into law establishing the Marine Debris Program (MDP) within NOAA. NOAA must work with other federal agencies, including EPA and the U.S. Coast Guard, to build on existing marine debris inventories on the navigable waters of the United States and the United States exclusive economic zone. The program must develop strategies for preventing and removing marine debris as well as identify the origin, location, and projected movement of marine debris. The Act targets fishing gear as a threat to the marine environment and navigation safety and authorizes the research and development of alternative types of fishing gear to enhance the tracking and recovery of discarded gear. The Act reactivates the Interagency Marine Debris Coordinating Committee to encourage a comprehensive approach to marine debris research and reduction among federal agencies. The Interagency Committee is required to prepare a report every other year detailing the status of the committee’s recommendations and a review of the NOAA and Coast Guard programs. ONMS staff actively participates in this program, and the ONMS has been the recipient of funding from the program for a number of marine debris projects.

On November 2, 2007, First Lady Laura Bush announced a new marine debris initiative which includes increasing public education and awareness through the launch of NOAA’s Marine Debris Web Education Campaign, educational events at Coastal Ecosystem Learning Centers, working with regional and local partners to clean up marine debris, turn debris into energy, recover lost fishing gear, and recycle fishing lines. Finally, it was announced that by working with international organizations, the United

States will lead the global effort to prevent fishing gear from becoming lost, develop environmentally friendly fishing gear, and promote the annual International Coastal Cleanup in 100 countries around the world.

Marine debris removal and prevention continues to be a high priority for the Papahānaumokuākea Marine National Monument. An estimated 52 metric tons of derelict fishing gear and other marine debris collect on Monument reefs and beaches each year, presenting an entanglement hazard to wildlife, damaging fragile habitats and may act as a vector for accelerated introduction of alien species. Through a multi-agency, NOAA-led effort, over 500 metric tons of debris has been removed from the Northwestern Hawaiian Islands over the last ten years. Future efforts will focus on continuing this removal, as well as developing methods for removing the debris at sea before they enter and damage shallow water environments. Additional prevention measures will include education and outreach to raise public awareness of the issue, and hopefully change behaviors that are contributing to the problem. Over the course of the next year the Monument will also develop a five-year marine debris mitigation plan for the Northwestern Hawaiian Islands.

At the Stellwagen Bank NMS a team of specially trained divers removed ghost fishing gear from a shipwreck within the sanctuary to make the site safer for divers, wildlife and robotic submersibles used for exploration and research. The divers targeted a trawl net on the wreck of the coal schooner, Paul Palmer, located near Provincetown, Massachusetts. By removing the net, the team reduced entanglement threats and increased the aesthetic value of the site. A team of divers from the ONMS, NOAA Fisheries, NOAA Office of Marine and Aviation Operations, and the University of Connecticut using the sanctuary's research vessel, Auk, undertook this effort in September 2006.

Also at Stellwagen Bank NMS, in 2007 the sanctuary partnered with a local fisherman to determine the feasibility of fishermen collecting derelict gear they recover or come across as they fish and returning it to port without jeopardizing their safety or impacting their available fishing time.

Sanctuary staff observations of derelict fishing gear in the Cordell Bank NMS led to a ban on the use of bottom contact fishing gear on Cordell Bank in waters shallower than 50 fathoms. In 2002, sanctuary staff observed the gear on 18 of 20 dives over rocky habitat on Cordell Bank. Based on these findings, sanctuary staff worked with their advisory council and the Pacific Fisheries Management Council to recommend protection for the habitat. As a result, Cordell Bank was identified as a Conservation Area by the Fisheries Management Council under NOAA Fisheries Essential Fish Habitat designation, and the prohibition on bottom contact gear was implemented. Two recent projects in the sanctuary in cooperation with the MDP focused on assessing the derelict gear that is currently impacting sanctuary resources, and working on an outreach campaign.

The extreme weather conditions and complex seabed features of the Olympic Coast NMS result in fishing gear entanglement and loss. Sanctuary staff observed derelict gear in the course of remotely-operated vehicle surveys of the sanctuary. Derelict gear has been identified as an imminent threat to marine mammals within the sanctuary. To address these concerns, the MDP awarded funds to Olympic Coast NMS in 2005 for a pilot project to identify and remove abandoned fishing gear in the northern part of the sanctuary, as well as to develop safe operating protocols for gear removal operations while working in the open ocean environment. This project, conducted in partnership with the Makah tribe, is building a capacity in the affected community to conduct future derelict gear removal projects using resident commercial diving expertise and local people and vessels.

Projects within the Florida Keys NMS have focused on the debris relating to the lobster fishery, the removal of Lobster Aggregating Devices and assessment of the impacts to species and habitat of the lobster aggregating devices and derelict lobster pots.

The Hawaiian Islands Humpback Whale Sanctuary took the lead for a community cleanup of the Waiohinu – Ka Lae (southeast Hawaii Island, Hawaii) coastline in cooperation with the Hawaii Wildlife Fund (HWF) and with funding from the MDP. With the help of over 220 volunteers, approximately 9 miles of the Waiohinu - Ka Lae coastline was cleaned. Over 1,100 45 gallon bags of small loose plastic items and an estimated 5 tons of larger plastic/rubber items (e.g., fishing floats, tires, plastic pipe, 5 gallon liquid containers, misc. large plastic pieces) were collected by the volunteers and hauled to the dump. Separate from the community event, HWF removed, hauled away from the coast and loaded 72,399 pounds of net/line bundles into three 40' Matson containers for shipping to Oahu to be burned in the Honolulu trash-to-energy conversion plant (H-Power).

ONMS HQ has also gotten involved in marine debris efforts by undertaking a project to create a database of all available information and data on local, state and federal spending on marine debris cleanup programs, and then design a socio-economic model that will estimate the economic costs and benefits of marine debris prevention. Among a wide host of potential economic impacts are the cost of removal off beaches and reefs and at sea, lost tourism revenues, commercial fishing losses, the cost of repairing boats and ships damaged by marine debris, and the cost to human health. This project has been supported by the MDP in FY06 and FY07.

Many sanctuaries in the ONMS rally volunteers for marine debris clean-up events. At the Channel Islands NMS more than 4,000 tons of marine debris was removed from Santa Barbara Harbor's Marine #3 and divers recovered nearly 10 tons of abandoned fishing gear from waters around the Channel Islands in 2006. At the Gray's Reef NMS, sanctuary staff work with volunteers and scuba clubs to removed debris from local beaches and sanctuary waters. Sanctuary staff train the volunteers to remove trash from the reef without damaging the soft corals and other invertebrates living there.