



STEMMING THE FLOW OF MARINE DEBRIS

ENVIRONMENTAL LAW INSTITUTE, WASHINGTON D.C.

DECEMBER 8, 2009

SEMINAR SUMMARY

The Environmental Law Institute hosted a seminar on the persistent problem of marine debris, including discussion of the laws that affect marine debris, current efforts to reduce it, and potential opportunities to strengthen mechanisms intended to reduce its sources and address its impacts. Individuals from the federal government, private sector, and non-governmental arena informed the audience of the steps their agencies and entities are taking to prevent the proliferation of marine debris, and the role that consumers can play.

Speakers

- Holly Bamford, Program Director and Division Chief, Marine Debris Program, NOAA Office of Response and Restoration
- Dianne Sherman, Director, International Coastal Cleanup, The Ocean Conservancy
- April H. Crow, Global Sustainable Packaging Manager, Coca-Cola Company
- David Major, Environmental Protection Specialist, Commercial Regulations and Standards Directorate (Environmental Standards Division), U.S. Coast Guard

Moderator

- Jordan Diamond, Staff Attorney, Environmental Law Institute

Ms. Jordan Diamond introduced the panelists and the seminar topic. She noted the severity of the issues surrounding marine debris, as highlighted by reports of plastic and other debris in the North Pacific subtropical gyre, better known as the Great Pacific Garbage Patch. Marine debris enters through both land- and ship-based pathways. Marine debris can cause environmental, economic, and human health problems, including altered water quality, affected fish stocks, and reduced tourism to trash-impacted areas. Ms. Diamond noted that efforts are being undertaken by private and nongovernmental entities, such as the Ocean Conservancy's International Coastal Cleanup. In 2006 the federal government took action with the passage of the Marine Debris Research, Prevention, and Reduction Act, which created a NOAA and U.S. Coast Guard program to research and reduce marine debris and its impacts.

Dr. Holly Bamford described NOAA's efforts to research marine debris, in order to answer such basic questions as what marine debris is and how it can be prevented. She explained that the working definition of marine debris is "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."¹ Dr. Bamford stated that 'ghostnets' and microplastics are some of the most harmful forms of debris due to the extent of their impacts and difficulty of removal. She noted the difficulties in determining the original source of marine debris, whether from land or water, which creates a need for shoreline monitoring programs. NOAA has begun developing such programs.

Dr. Bamford explained the numerous impacts marine debris is having on the environment and humans. The abundant amount of debris in ocean waters is affecting everything from the economy and human health to habitat degradation and the health of marine mammals. For example, she reported the mortality of 372,000 Dungeness crabs annually in lost traps in the Northwest Straits, which otherwise would have amounted to roughly 744,000 pounds of crab meat and \$1.2 million. She reported that in Florida each lobster trap moves 3.4 square meters during wind events (when winds are higher than 17 knots for 3 days or more), which results in approximately 340,000 square meters of habitat damaged each wind event. She explained that this is greater than the habitat damaged by vessel groundings; however vessel groundings receive much greater press and attention.

Dr. Bamford described the four primary pieces of legislation related to marine debris: the Coastal Zone Management Act, the Marine Plastic Pollution Research and Control Act, the Coral Reef Conservation Act, and the Marine Debris Research, Prevention, and Reduction Act. Each statute explicitly mentions marine debris. However, these laws are focused only on monitoring, outreach and removal of marine debris rather than regulating its sources. The most specific mandate is found in the Marine Debris Research, Prevention, and Reduction Act, in the creation of the NOAA Marine Debris Program and the Interagency Marine Debris Coordinating Committee. Dr. Bamford concluded by noting several key solutions to the problem of marine debris: fishing gear modifications, use of biodegradable polymers, source control and prevention, regional coordination and cooperation, outreach and behavioral change, and continuing scientific and technologic research. She stressed that each individual can make a difference by learning and understanding the issue and the legal aspects, and by being a vocal advocate.

Ms. Dianne Sherman explained what Ocean Conservancy is doing to reduce and calculate the impact of marine debris, as well as how individuals and groups can take action. She emphasized the importance of the ocean to humans and the environment and highlighted the dangers trash poses to wildlife and humans. In partnership with numerous organizations and individuals, Ocean Conservancy tries to reduce marine debris by organizing the International Coastal Cleanup. Started 24 years ago, it is the world's largest volunteer effort for the ocean. Volunteers remove marine debris and trash from beaches and other waterbodies. Ms. Sherman noted that the International Coastal Cleanup is a unique cleanup event because volunteers identify and record the types and amounts of debris collected. The Ocean Conservancy tabulates, analyzes, and publishes a report on the data.

Ms. Sherman stated that last year's Cleanup volunteers, with approximately 400,000 volunteers in 100 countries and 42 U.S. states, collected more than 6.8 million pounds of trash. Ms.

¹ Definition of Marine Debris for Purposes of the Marine Debris Research, Prevention, and Reduction Act, 74 Fed. Reg. 45560 (Sept. 3, 2009).

Sherman noted that cigarettes were the most common type of debris, followed by plastic bags, food wrappers and containers, caps and lids, and plastic bottles. Ocean Conservancy, in collaboration with UNEP, has observed little annual variation in the most frequently collected items. She stressed that it is time for bold leadership on the issue, for we need more research and monitoring, better regulations, innovation, financial incentives, increased participation from business and industry, and financial means to improve systems.

Ms. April Crow discussed Coca-Cola Company's involvement in reducing marine debris by using sustainable packaging, as well as by sponsoring Ocean Conservancy's International Coastal Cleanup. She stated that Coca-Cola is striving for zero waste and is the first company to do a life-cycle product assessment. From a recovery standpoint, Ms. Crow stated that Coca-Cola's goal is to recover 50% of the equivalent bottles and cans sold by 2015; current direct recovery stands at roughly 35-40%. In addition, she emphasized the importance of inspiring others to join Coca-Cola's sustainable packaging journey through engaging partners and advertisements.

Ms. Crow described Coca-Cola Company's long-term partnership with Ocean Conservancy to support and participate in the International Coastal Cleanup and noted that last year Coca-Cola had more than 50,000 volunteers present in 35 countries to assist the Cleanup. Ms. Crow also explained several other partnerships. For example, Coca-Cola worked with Wal-Mart to develop a t-shirt that shows how it was made from the recycling of three to five plastic bottles. It worked with Michigan State to create a new center for packaging and sustainability research. She also highlighted the many opportunities ahead for Coca-Cola, including creating a greater global reach; establishing social networking opportunities; leveraging consumers and employees; working towards solutions with policy and behavior changes; and building a stronger partnership with all partners.

Mr. David Major gave a brief overview of the laws related to marine debris. He mentioned the Ocean Dumping Act, which domestically implements the London Dumping Convention and regulates dumping at sea, the Clean Water Act, and the Rivers and Harbors Act. He focused his discussion on Annex V to the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78), which addresses pollution by garbage from ships and entered into force in 1988. Mr. Major explained that the agreement regulates the discharge of ship-generated garbage both inside and outside of Special Areas (sea areas where, for recognized technical reasons, the adoption of special mandatory methods for the prevention of sea pollution by garbage is required); the Annex then establishes much stricter discharge requirements within Special Areas.

Mr. Major spoke in detail about MARPOL Annex V and the U.S. Coast Guard regulation of reception facilities and inspections of U.S. commercial and foreign vessels. When a vessel violates these regulations, the U.S. Coast Guard may pursue various enforcement actions, including written warnings, monetary civil penalties, and criminal sanctions. Mr. Major noted that due to their size, type of service, and arrangement, some recreational and commercial fishing vessels are not required by MARPOL Annex V to maintain garbage management plans and record books. MARPOL Annex V is currently being reviewed, with the U.S. actively involved in the process. A report recommending revisions or additions to the Annex has not yet been filed.

Mr. Major described how the U.S. Coast Guard combats sea-sourced marine debris by regulating at-sea disposal of vessel-generated waste under the Act to Prevent Pollution from Ships. He discussed how larger vessels are required to keep records about the time and date, type, location, and amount of garbage discharged. Mr. Major spoke about the persistence of

marine debris and stated that the U.S. Coast Guard will continue to do what it can to reduce or eliminate it. The U.S. Coast Guard participates in a marine debris removal partnership with NOAA and several other entities in the Hawaiian Islands, and works with NOAA on the tracking of derelict fishing gear in Alaska. He concluded by emphasizing that the U.S. Coast Guard continues in its efforts to, among other things, educate the public, work with federal government partners and international counterparts to develop policies and regulations, and assist industry to develop strategies to further reduce marine debris.

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