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109TH CONGRESS }  
*1st Session*

SENATE

{ REPORT  
109-56

MARINE DEBRIS RESEARCH PREVENTION  
AND REDUCTION PROGRAM ACT

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R E P O R T

OF THE

COMMITTEE ON COMMERCE, SCIENCE, AND  
TRANSPORTATION

ON

S. 362



APRIL 13, 2005.—Ordered to be printed

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SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED NINTH CONGRESS

FIRST SESSION

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## MARINE DEBRIS RESEARCH PREVENTION AND REDUCTION PROGRAM ACT

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Mr. STEVENS, from the Committee on Commerce, Science, and  
Transportation, submitted the following

### R E P O R T

[To accompany S. 362]

The Committee on Commerce, Science, and Transportation, to which was referred the bill (S. 362) to establish a program within the National Oceanic and Atmospheric Administration and the United States Coast Guard to help identify, determine sources of, assess, reduce, and prevent marine debris and its adverse impacts on the marine environment and navigation safety, in coordination with non-Federal entities, and for other purposes, having considered the same, reports favorably thereon with an amendment and recommends that the bill (as amended) do pass.

#### PURPOSE OF THE BILL

The purpose of S. 362, the Marine Debris Research Prevention and Reduction Act, is to establish programs within NOAA and the Coast Guard to “identify, assess, reduce and prevent marine debris and its adverse impacts on the marine environment and navigation safety” and establish an Interagency Committee on Marine Debris responsible for coordinating Federal efforts on this issue. The bill would authorize appropriations for each fiscal year 2006 through 2010 for NOAA (\$10,000,000) and the Coast Guard (\$5,000,000) to carry out this program.

#### BACKGROUND AND NEEDS

Each year, millions of marine mammals, sea turtles, fish and seabirds become entangled in marine debris or ingest plastics which they have mistaken for food. It is estimated that 1,267 different marine species have been reported to have been entangled in or to have ingested marine debris. The plastic in the debris con-

stricts the animals' movements or kills them through starvation, exhaustion, or infection from deep wounds caused by the tightening of tangled material. The animals may starve to death, because the plastic clogs their intestines, preventing them from obtaining vital nutrients. Toxic substances present in plastics can also cause death or reproductive failure.

Humans can also be affected directly by marine debris. Swimmers and divers can become entangled in abandoned netting and fishing lines. Beach users can be injured by stepping on broken glass, cans, needles or other litter. Floating debris is visually unappealing and can result in lost tourism revenues. Furthermore, marine debris acts as a navigational hazard by entangling propellers and clogging cooling water intake valves.

Land-based sources cause 80 percent of the marine debris found on our beaches and waters. The second source of marine debris derives from ocean-based sources, including lost or abandoned fishing gear, galley waste, trash from ships, and offshore oil and gas exploration and production facilities. In Hawaii, the impacts of marine debris are particularly apparent because of the convergence caused by the North Pacific Tropical High. Atmospheric forces cause ocean surface currents to converge on Hawaii, bringing with them the vast amount of debris floating throughout the Pacific. Since 1996, a total of 484 tons of debris have been removed from coral reefs in the Northwestern Hawaiian Islands. In 2003 alone, 122 tons were removed from this same area.

The U.S. Commission on Ocean Policy (Commission) devoted an entire chapter to the problem of marine debris in its Final Report, released on September 20, 2004. The Commission advocated strengthening interagency efforts and public-private partnerships to promote monitoring, prevention, reduction, and public awareness of marine debris and its impacts. It also recommends development of an international plan of action to target derelict fishing gear, which is a serious and persistent source of marine debris.

S. 362, the Marine Debris Research Prevention and Reduction Act, addresses many of the marine debris recommendations of the Ocean Commission. It would establish a Marine Debris Prevention and Removal Program within NOAA to reduce and prevent adverse impacts of marine debris on the marine environment and navigational safety. The NOAA program would undertake marine debris mapping, identification, prevention, and removal efforts; public education and outreach efforts; and research and development of gear alternatives to reduce threats to the marine environment and to enhance the tracking, recovery, and identification of lost gear.

The bill would also establish a marine debris grants program to States or other eligible groups to encourage cooperative approaches to address marine debris problems. The bill would establish a 50 percent non-Federal match requirement, and allow for in-kind contributions, including environmental mitigation funds provided under a consent decree, but not an administrative order. NOAA is also authorized to maintain a Federal information clearinghouse on marine debris that will be available to researchers and other interested parties, which is intended to assist in identifying sources and devising prevention strategies.

In addition, the bill would direct the United States Coast Guard to improve its enforcement of MARPOL Annex V and the Act to

Prevent Pollution from Ships (33 U.S.C. 1901 et seq.), which are designed to prevent ship-based pollution from plastics and other garbage. Specific measures authorized to be considered by the Coast Guard include those outlined in the 1997 International Maritime Organization's Guidelines for the Implementation of Annex V of MARPOL 73/78, such as regulations to ensure that ports and terminals have adequate waste receptacles and logging procedures for the proper disposal of plastics. These guidelines emphasize the importance of considering technological feasibility and cost in adapting these requirements to the variety of vessels and ports at issue.

As recommended by the Ocean Commission, the bill re-establishes and strengthens the Interagency Committee on Marine Debris (Committee), in order to re-invigorate marine debris research and activities among Federal agencies, in cooperation with non-governmental entities. The Committee would be required to prepare an Interagency Report on Marine Debris Impacts and Strategies within 12 months of enactment. The bill also directs the Committee to develop a strategy to pursue international action to reduce the incidence of marine debris through the International Maritime Organization and other appropriate international and regional fora.

The bill provides authorization of appropriations for NOAA (\$10 million annually) and the Coast Guard (\$5 million annually) for fiscal years 2006 through 2010 to carry out the programs authorized under the Act.

#### LEGISLATIVE HISTORY

S. 362 was introduced in the Senate on February 10, 2005, by Senator Inouye and referred to the Senate Committee on Commerce, Science, and Transportation. It is co-sponsored by Senators Stevens, Kerry, Snowe, Lautenberg, Sarbanes, and Cantwell.

On March 10, 2005, the bill was considered by the Committee in an open Executive Session. Senator Lott offered an amendment to section 4(a)(3) to clarify that in developing regulations to close the waste disposal record keeping gaps for small vessels entering United States ports, the Coast Guard should consider economic impacts and technical feasibility of such reporting requirements. The Committee, without objection, approved the Lott amendment and ordered S. 362 be reported as amended.

#### ESTIMATED COSTS

In accordance with paragraph 11(a) of rule XXVI of the Standing Rules of the Senate and section 403 of the Congressional Budget Act of 1974, the Committee provides the following cost estimate, prepared by the Congressional Budget Office:

##### *S. 362—Marine Debris Research Prevention and Reduction Act*

Summary: S. 362 would establish a program to reduce the amount of marine debris (such as plastic and lost fishing gear) in oceans and coastal areas and to mitigate its effects on health and navigation safety. Under the bill, the National Oceanic and Atmospheric Administration (NOAA) would conduct projects to identify and catalogue debris hazards and determine its sources, and to develop methods of removing existing debris and preventing further

occurrences. The bill would authorize NOAA to provide grants to nonfederal entities such as state or local governments and universities involved with those activities. S. 362 also would direct the U.S. Coast Guard (USCG) to improve enforcement and reduce violations of existing laws and treaties that address ocean pollution waste disposal at sea and would require the USCG to develop new regulations on disposal of plastics and fishing gear. For those purposes, the bill would authorize the appropriation of \$15 million (\$10 million to NOAA and \$5 million to USCG) for each of fiscal years 2006 through 2010.

Assuming appropriation of the authorized amounts, CBO estimates that implementing S. 362 would cost \$3 million in fiscal year 2006 and \$75 million over the 2006–2010 period. Enacting this bill would have no effect on revenues or direct spending.

S. 362 contains both intergovernmental and private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA). It would require the Coast Guard to issue regulations that improve the disposal of plastics and other garbage by public and private ports. In addition, the bill would impose requirements on the owners and operators of small commercial vessels. Based on information from the Coast Guard, CBO expects that the aggregate costs of the mandates in the bill would fall well below the thresholds (\$62 million for intergovernmental mandates and \$123 million for private-sector mandates, in 2005, adjusted annually for inflation) established by the act.

**Estimated cost to the Federal Government:** The estimated budgetary impact of S. 362 is shown in the following table. The costs of this legislation fall within budget functions 300 (natural resources and environment) and 400 (transportation). For this estimate, CBO assumes that the authorized amounts will be appropriated for each year and that outlays will follow historical spending patterns for similar activities of the agencies involved.

	By fiscal year, in millions of dollars—				
	2006	2007	2008	2009	2010
CHANGES IN SPENDING SUBJECT TO APPROPRIATION					
Authorization Level .....	15	15	15	15	15
Estimated Outlays .....	3	17	17	18	20

**Intergovernmental and private-sector impact:** S. 362 contains both intergovernmental and private-sector mandates as defined in UMRA. It would require the Coast Guard to issue regulations that improve the disposal of plastics and other garbage by public and private ports. In addition, the bill would impose requirements on the owners and operators of small commercial vessels. Based on information from the Coast Guard, CBO expects that the aggregate costs of the mandates in the bill would fall well below the thresholds (\$62 million for intergovernmental mandates and \$123 million for private-sector mandates, in 2005, adjusted annually for inflation) established by the act.

#### *Mandates on port terminals*

By requiring the Coast Guard to issue new regulations addressing the processing of marine waste, S. 362 would likely lead to new requirements on port terminals for the handling of such materials.

Current law requires ports to either provide disposal facilities on-site or provide vessels with a list of vendors to collect the waste. Owners and operators of the vessels that dock at ports generally pay vendors directly for the disposal of their solid wastes. In issuing the new regulations, the Coast Guard does not intend to reduce ports' flexibility. CBO assumes, therefore, that additional costs to port terminals would not be significant.

*Mandates on vessels*

S. 362 also would impose additional requirements on smaller commercial vessels by requiring the Coast Guard to develop new regulations that improve recordkeeping and ship-board waste management by fishing vessels. Under current law, vessels weighing 400 tons or greater are required to keep waste disposal records, and vessels forty feet or longer are required to maintain a waste management plan. The bill suggests that the Coast Guard may make regulations expanding those requirements to smaller vessels. Because the Coast Guard does not intend to make regulations that would be costly for owners and operators of smaller vessels, CBO assumes that additional costs to those groups would not be significant.

Estimate prepared by: Federal Costs: Deborah Reis; Impact on State, Local, and Tribal Governments: Gregory Waring; and Impact on the Private Sector: Selena Caldera.

Estimate approved by: Peter Fontaine, Deputy Assistant Director for Budget Analysis.

#### REGULATORY IMPACT STATEMENT

In accordance with paragraph 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee provides the following evaluation of the regulatory impact of the legislation, as reported:

##### NUMBER OF PERSONS COVERED

The reported bill would establish programs within NOAA and the Coast Guard to identify, assess, reduce, and prevent marine debris and its adverse impacts on the marine environment and navigation safety. It would authorize the Coast Guard to develop regulations to reduce violations of the provisions of MARPOL Annex V and the Act to Prevent Pollution from Ships (33 U.S.C. 1901 et seq.) requiring that United States ports and terminals maintain waste disposal receptacles, for plastics and other garbage. The Coast Guard would also be authorized to develop regulations to close record keeping gaps, which may include regulations regarding vessel waste disposal records and ship-board waste management, so individuals or businesses that generate waste on board ships could become subject to new regulations.

##### ECONOMIC IMPACT

Section 9 authorizes \$10,000,000 to the Administrator of NOAA and \$5,000,000 to the Secretary of the Department in which the Coast Guard is operating for each fiscal year 2006 through 2010 to implement provisions of this bill. Both of these amounts have 10 percent administrative caps. These funding levels are modest and

are not expected to have an inflationary impact on the nation's economy.

#### PRIVACY

The Coast Guard regulations authorized in section 4 of the reported bill may lead to changes in the way ship-board waste information is collected and reported, but it is not expected to have any adverse impact on the personal privacy of individuals.

#### PAPERWORK

The Coast Guard regulations authorized in section 4 of the reported bill may lead to changes in the paperwork requirements for recording and reporting ship-board waste, including loss and recovery of fishing gear, in the private sector.

#### SECTION-BY-SECTION ANALYSIS

##### *Section 1. Short title*

Section 1 states that this may be cited as "Marine Debris Research, Prevention and Reduction Act".

##### *Section 2. Findings and purposes*

Subsection (a) conveys the importance of the ocean environment and the fragility of ocean ecosystems, and identifies marine debris, particularly plastics, as a significant long-term threat to these systems. Subsection (b) states that a purpose of this Act is to establish programs within NOAA and the Coast Guard to "identify, assess, reduce, and prevent marine debris and its adverse impacts on the marine environment and navigation safety." Other purposes include increased Federal coordination, international cooperation, and better data management.

##### *Section 3. NOAA marine debris prevention and removal program*

This section would establish a program within NOAA to reduce and prevent marine debris. Subsection (b)(1) would require the program to develop methods for identifying the source of marine debris in United States navigable waters and the United States Exclusive Economic Zone, tracking and predicting its movement, and preventing and removing it. Subsection (b)(2) would require NOAA to research fishing gear that will pose less of a threat to the marine environment, develop tracking devices for lost gear, and develop voluntary programs to reduce the loss or discarding of old gear. Under subsection (b)(3), NOAA would be responsible for educating stakeholders on marine debris.

Subsection (c) would authorize grants to meet the purposes of the Act. The bill would require a 50 percent match from non-Federal sources, with a waiver provision, establish a merit-based peer review process for grant proposals, and require periodic reports from grantees. Formation of grant guidelines would require consultation with various groups, including regional fishery management councils established under the Magnuson-Stevens Fishery Conservation and Management Act.



#### *Section 4. Coast Guard program*

Section 4 directs the Coast Guard, in consultation with NOAA, to undertake measures to reduce violations of MARPOL Annex V and the Act to Prevent Pollution from Ships (33 U.S.C. 1901 et seq.), with respect to the discard of plastics and other garbage from vessels. The bill would require development of the following measures: (1) a strategy to improve monitoring and enforcement of current laws, as well as recommendations for statutory or regulatory changes to improve compliance, including amendments to MARPOL; (2) regulations to address any implementation gaps with respect to the requirement of MARPOL Annex V and the Act to Prevent Pollution from Ships that United States ports and terminals maintain receptacles for disposing of plastics and other garbage; (3) regulations to close record keeping gaps for vessels entering United States ports regarding disposal of plastics and other garbage, considering economic impact and technical feasibility; (4) regulations to improve shipboard waste management; (5) outreach to commercial vessel operators and recreational boaters toward the development of a voluntary reporting program, along with a central reporting location, for incidents of vessel damage caused by marine debris and observed violations of marine debris laws and regulation; and (6) a voluntary program for United States flag vessels to inform the Coast Guard of any non-U.S. ports that lack the adequate port reception facilities for garbage.

#### *Section 5. Interagency coordination*

This section would establish an Interagency Committee on Marine Debris to coordinate Federal activities and cooperate with non-Federal government entities in developing a comprehensive program of marine debris research and activities. Members would include NOAA, the United States Coast Guard, the Environmental Protection Agency, the United States Navy, the Maritime Administration, the National Aeronautics and Space Administration, United States Fish and Wildlife Service, the Department of State, the Marine Mammal Commission, and other interested agencies. Section 5(c) would require Committee meetings twice annually, and section 5(d) would direct the Committee to develop and promulgate through regulation a definition of the term “marine debris.” Section 5(e) would require an interagency report examining the sources and impacts of marine debris, potential solutions for those impacts, and the costs-benefits of those solutions. Section 5(e) would also require annual reports on progress made by the programs established in this Act and international partnership efforts. Subsection (f) adopts language in existing law (33 U.S.C. 1914) regarding coordinated use of marine debris data. Subsection (g) makes a conforming change to repeal section 2203 of the Marine Plastic Pollution Research and Control Act of 1987 (33 U.S.C. 1914), which authorized the establishment of an Interagency Marine Debris Committee, and which is now superseded by section 5.

#### *Section 6. International cooperation*

Section 6 would direct the Interagency Marine Debris Committee to develop a strategy to pursue international action to reduce the incidence of marine debris, through the International Maritime Organization and other appropriate international and regional fora.

Such action would include effective and enforceable marine debris prevention and removal measures in international and regional agreements, measures to strengthen and improve compliance with MARPOL Annex V, and an international database, consistent with the clearinghouse established under section 7, that will provide current information on location, source, prevention, and removal of marine debris.

*Section 7. Federal information clearinghouse*

This section would establish within NOAA a clearinghouse to store marine debris data and information, including information useful in identifying fishing gear fragments, to be shared with researchers and other interested parties. The clearinghouse will include (1) standardized protocols to map general locations of commercial fishing and aquaculture activities using Geographic Information System techniques; (2) a world-wide database which describes fishing gear and equipment, and fishing practices; (3) guidance on the identification of gear fragments and their sources; and (4) data on mapping and identification of marine debris to be developed under this Act.

*Section 8. Definitions*

Section 8 defines the following terms: (1) “Administrator”; (2) “Committee”; (3) “United States Exclusive Economic Zone”; (4) and “MARPOL”.

*Section 9. Authorization of appropriations*

For each of fiscal years 2006 through 2010, the bill would authorize \$10,000,000 to the Administrator and \$5,000,000 to the Secretary of the Department in which the Coast Guard is operating (i.e., the Department of Homeland Security), with the stipulation that no more than 10 percent of either sum may be used for administrative costs.

CHANGES IN EXISTING LAW

In compliance with paragraph 12 of rule XXVI of the Standing Rules of the Senate, changes in existing law made by the bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new material is printed in italic, existing law in which no change is proposed is shown in roman):

MARINE PLASTIC POLLUTION RESEARCH AND CONTROL  
ACT OF 1987 (33 U.S.C. 1914)

TITLE 33. NAVIGATION AND NAVIGABLE WATERS

CHAPTER 33. PREVENTION OF POLLUTION FROM SHIPS

**[SEC. 2003. COORDINATION.**

[33 U.S.C. 1914]

**[(a) ESTABLISHMENT OF MARINE DEBRIS COORDINATING COMMITTEE.—**The Secretary of Commerce shall establish a Marine Debris Coordinating Committee.

**[(b) MEMBERSHIP.—**The Committee shall include a senior official from—

[(1) the National Oceanic and Atmospheric Administration, who shall serve as the Chairperson of the Committee;

[(2) the Environmental Protection Agency;

[(3) the United States Coast Guard;

[(4) the United States Navy; and

[(5) such other Federal agencies that have an interest in ocean issues or water pollution prevention and control as the Secretary of Commerce determines appropriate.

[(c) MEETINGS.—The Committee shall meet at least twice a year to provide a forum to ensure the coordination of national and international research, monitoring, education, and regulatory actions addressing the persistent marine debris problem.

[(d) MONITORING.—The Secretary of Commerce, acting through the Administrator of the National Oceanic and Atmospheric Administration, in cooperation with the Administrator of the Environmental Protection Agency, shall utilize the marine debris data derived under title V of the Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 2801 et seq.) to assist—

[(1) the Committee in ensuring coordination of research, monitoring, education and regulatory actions; and

[(2) the United States Coast Guard in assessing the effectiveness of this Act and the Act to Prevent Pollution from Ships in ensuring compliance under section 2201.]