



Environmental Activities of the U.S. Coast Guard

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Summary

The U.S. Coast Guard's environmental activities focus on prevention programs, accompanied by enforcement and educational activities.

A key component of the Coast Guard's environmental activities involves maritime oil spill prevention. As required by several environmental statutes, including the Clean Water Act and the Oil Pollution Act, the Coast Guard's pollution preparedness and response activities aim to reduce the impact of oil and hazardous substances spills. Related to this duty, the Coast Guard inspects U.S. and foreign-flagged ships to ensure compliance with U.S. laws and international agreements. In addition, the Coast Guard's National Pollution Funds Center (NPFC) manages the Oil Spill Liability Trust Fund (OSLTF), which is primarily used to finance prompt responses to oil spills and to reimburse parties for applicable costs associated with oil spills (e.g., cleanup costs, natural resource damages, economic losses).

The Coast Guard's approach to marine debris (e.g., discarded fishing lines or nets) is preventive, promoting compliance by boarding and inspecting vessels, and working with local port agencies to ensure there are facilities to receive garbage from vessels. With other agencies, the Coast Guard monitors and measures marine debris.

The Coast Guard has a history of scientific study dating back to the 1880s, but its current role is that of a facilitator, supporting the scientific efforts of other groups. The Coast Guard operates three icebreakers in the Arctic and Antarctic, and provides supplies to remote stations.

Coast Guard operations must comply with applicable environmental laws. Requirements include air emission standards and waste management.

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Environmental activities of the U.S. Coast Guard fall within the service's program for protection of natural resources, and consist of maritime oil spill prevention, marine debris, and pollution response preparedness. Protection of living marine resources and fisheries also falls in this category, but is not discussed here.¹ Marine environmental protection is one of six "non-homeland security missions" specified in the Homeland Security Act of 2002.²

Marine Environmental Protection Budget

Congressional appropriations for the Coast Guard are not broken down by specific mission (e.g., marine environmental protection), but are allocated to broader categories, such as "operating expenses." The Coast Guard accounts for mission-specific funding by using a "sophisticated activity-based costing model."³ Table 1 identifies the estimated levels of spending for the marine environmental protection mission in recent years.

Table 1. U.S. Coast Guard Marine Environmental Protection Budget Estimates: FY2008-FY2010

(dollars in thousands)

	FY2008 Revised Enacted (% of budget authority)	FY2009 Revised Enacted (% of budget authority)	FY2010 Revised Enacted (% of budget authority)	FY2011 Proposed (% of budget authority)
Marine Environmental Protection Mission	\$180,481 (1.9%)	\$174,410 (1.7%)	\$202,241 (1.9%)	\$198,711 (2.0%)
Total Coast Guard Adjusted Budget Authority	\$9,319,760	\$10,115,682	\$10,418,466	\$10,078,317

Source: U.S. Department of Homeland Security, 2010, *Budget-in-Brief, Fiscal Year 2011*, p. 81, available at http://www.dhs.gov/xlibrary/assets/budget_bib_fy2011.pdf.

Note: The FY2008–FY2010 funding amounts are labeled as "revised enacted" because the figures are estimates based on Coast Guard performance assumptions. The performance assumption process is discussed in earlier versions of the annual *Budget-in-Brief* document.

¹ See CRS Report RL32154, *Marine Protected Areas: An Overview*, by Harold F. Upton and Eugene H. Buck.

² P.L. 107-296, Section 888 (6 U.S.C. 468). The other five are marine safety, search and rescue, aids to navigation, living marine resources (fisheries law enforcement), and ice operations.

³ U.S. Department of Homeland Security, 2007, *Budget-in-Brief, Fiscal Year 2008*, p. 52 (footnote 1).

Spill Response, Prevention, and Preparedness⁴

Protecting the marine environment from accidental oil and chemical spills is a key mission of the Coast Guard. Along with representatives of 15 other federal departments and agencies, the Coast Guard and the Environmental Protection Agency (EPA) comprise the National Response Team⁵ and 13 Regional Response Teams. EPA serves as the chair, and the Coast Guard is the vice-chair of these teams. The National Contingency Plan⁶ (NCP) provides the organizational structure and procedures for preparing for and responding to discharges of oil and hazardous substances on both water and land.

Deepwater Horizon Oil Spill in the Gulf of Mexico

On April 20, 2010, an explosion occurred at the *Deepwater Horizon* drilling platform in the Gulf of Mexico, resulting in 11 fatalities. The incident disabled the facility and led to a full evacuation before the platform sank into the Gulf two days later. A significant release of oil at the sea floor was soon discovered. According to the National Incident Command's Flow Rate Technical Group estimate of August 2, 2010, the well released approximately 206 million gallons of oil (4.9 million barrels) before it was contained on July 15, 2010. As the spill occurred in coastal waters, the Coast Guard played a key role in response activities.

For more background information specific to this incident, see CRS Report R41262, *Deepwater Horizon Oil Spill: Selected Issues for Congress*, coordinated by Curry L. Hagerty and Jonathan L. Ramseur.

In addition, the following websites provide more information:

Federal government's website for the Deepwater BP oil spill response and recovery, at <http://www.restorethegulf.gov/>.

EPA website, at <http://www.epa.gov/bpspill/>.

NOAA website, at <http://www.noaa.gov/>.

Coast Guard responsibilities can be divided into two categories: (1) spill response and (2) spill prevention/preparedness. As the primary response authority in coastal zone waters,⁷ the Coast Guard has the ultimate authority to ensure that a spill is effectively removed and that actions are taken to prevent further discharge from the source. During such response operations, a Coast Guard On-Scene Coordinator would coordinate the efforts of federal, state, and private parties.

Preventing and preparing for spills is also a Coast Guard responsibility, and the Coast Guard's jurisdiction covers vessels; onshore, transportation-related facilities; and deepwater ports. The Coast Guard's prevention/preparedness duties are based on international agreements and federal standards and regulations.

⁴ For more information, see CRS Report RL33705, *Oil Spills in U.S. Coastal Waters: Background and Governance*, by Jonathan L. Ramseur.

⁵ The National Response Team "coordinates a program of preparedness, planning, and response to oil and hazardous materials incidents at the local, regional, and national levels; facilitates research to improve response activities; and provides assistance for responses to specific incidents as needed." U.S. Dept. of Homeland Security, *National Response Plan*, Oil and Hazardous Materials Annex, p. 3.

⁶ 40 CFR Part 300. The full title of the NCP is the National Oil and Hazardous Substances Pollution Contingency Plan.

⁷ The EPA has response authority for inland zone oil spills. The terms inland zone and coastal zone are defined in the NCP (40 CFR Section 300.5). In general, the coastal zone covers all waters subject to the tide, the Great Lakes, and all seaward waters (extending 200 nautical miles beyond shore); the inland zone covers all other U.S. waters.

The Oil Pollution Act of 1990 (OPA) and the international treaty MARPOL 73/78 require the owners and operators of vessels that carry oil and designated hazardous substances to submit to the Coast Guard “Vessel Response Plans” and/or “Shipboard Oil Pollution Emergency Plans.” These vessel-specific plans address such matters as spill mitigation procedures, training requirements for the crew, and spill mitigation equipment required to be carried onboard. The Coast Guard must approve the plans for a ship to operate legally in U.S. waters. Under these authorities vessel operators also must submit to regular inspections, and the Coast Guard’s inspection program is a key component of their oil spill prevention effort.

The Coast Guard represents the United States at the International Maritime Organization (IMO), which, through treaties, sets international environmental and safety standards for vessels. Important treaties cover the following topics:

- accidental and operational oil and chemical pollution;⁸
- the right of a coastal state to take measures on the high seas to prevent, mitigate, or eliminate danger to its coastline from pollution by oil;⁹
- a global, cooperative framework for combating major incidents or threats of marine pollution from oil and hazardous and noxious substances;¹⁰ and
- pollution from the dumping of wastes and other materials.¹¹

Inspection of Foreign Ships (Port State Control Program)

The Coast Guard conducts “certificate of compliance” examinations—both on a random and targeted basis—on foreign vessels that make port calls in the United States. The inspection program emphasizes compliance with environmental and safety standards and, particularly since September 2001, is concerned with port security as well. The inspecting officers verify that the vessels and their crews are in substantial compliance with international conventions and applicable U.S. laws. The pollution prevention examination covers the various waste streams onboard and related record keeping, which vary for different types of ships, and may include the following:

- *Oil pollution prevention systems* include the oily water separator and the sludge containment system. The oily water separator is a high-maintenance device, and ships sometimes alter their piping to bypass the system. Further, pumping oily

⁸ The IMO International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78), implemented in the United States by the Act to Prevent Pollution from Ships, P.L. 96-478.

⁹ The International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969, implemented in the United States by the Intervention on the High Seas Act, P.L. 93-248. A 1973 protocol extended the convention to cover substances other than oil, and was implemented in the United States by P.L. 95-302. Amendments in 1991, 1996, and 2002 added additional substances.

¹⁰ The International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC), 1990, implemented in the United States by P.L. 102-241. A protocol to this convention (HNS Protocol, 2000) covers marine pollution by hazardous and noxious substances.

¹¹ Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972, generally known as the London Convention; seven amendments from 1978 to 1996 addressed such things as incineration, low-level radioactive wastes, and industrial wastes.

sludge ashore is expensive and ships have been known to take illegal steps to avoid it.

- The *black water system* includes marine sanitation devices and other systems to treat, store, and discharge sewage.
- *Hazardous waste* includes paints, thinners, and cleaning solutions that contain hazardous substances. The types and volumes of hazardous waste vary depending on the technology and processes used aboard.¹²
- *Non-hazardous waste* is shipboard garbage, including food waste, plastics, and other synthetic materials, as well as recyclables like glass, and aluminum and steel cans.
- The *gray water system* includes discharges from the galley, sinks, showers, and baths.

In recent years, cruise ships, most of which are registered in foreign countries, have gained attention. These very large vessels carry up to 5,000 passengers who generate a large amount of sewage and gray water. (For additional information, see CRS Report RL32450, *Cruise Ship Pollution: Background, Laws and Regulations, and Key Issues*, by Claudia Copeland.)

Inspection of Domestic Ships

The domestic inspection system is similar to the port state control program in assuring compliance with applicable laws and treaties. Rules vary according to size and type of vessel (e.g., tanker, passenger, cargo, and mobile offshore drilling units), and the number of passengers carried. In 1996, the Coast Guard initiated its Alternate Compliance Program (ACP), under which “classification societies”¹³ can perform inspections that satisfy certain periodic Coast Guard test and inspection requirements.

National Pollution Funds Center

The Coast Guard created the National Pollution Funds Center (NPFC) in 1991 to carry out many of the requirements of Title I of the OPA.¹⁴ The NPFC manages the Oil Spill Liability Trust Fund (OSLTF). The OSLTF is primarily used to finance prompt responses to oil spills and to reimburse parties for applicable costs associated with oil spills (e.g., cleanup costs, natural resource damages, economic losses).

Initially, the primary source of revenue for the fund was a 5-cents-per-barrel fee on imported and domestic oil.¹⁵ Collection of this fee ceased on December 31, 1994, because of a “sunset”

¹² Cruise ships, for example, may have dry cleaning wastes.

¹³ Classification societies are organizations that establish and apply technical standards in relation to the design, construction and survey of marine related facilities including ships and offshore structures.” For more information, see International Association of Classification Societies, “What Are Classification Societies?,” at <http://www.eagle.org/company/Classmonograph.pdf>. Examples include the American Bureau of Shipping and Lloyd’s Register.

¹⁴ For more discussion on issues regarding management of the trust fund, see CRS Report RL33705, *Oil Spills in U.S. Coastal Waters: Background and Governance*, by Jonathan L. Ramseur.

¹⁵ Other revenue sources for the fund include interest on the fund, cost recovery from the parties responsible for the (continued...)

provision in the law. However, in April 2006, the tax resumed as required by the Energy Policy Act of 2005 (P.L. 109-58). Moreover, in 2008, the Emergency Economic Stabilization Act of 2008 (P.L. 110-343) increased the tax rate to 8 cents per barrel through 2016; in 2017, the rate is scheduled to increase to 9 cents per barrel. The tax terminates at the end of 2017.

To ensure that responsible parties can be held accountable for cleanup costs and damages in the event of an oil spill (thereby preserving the oil spill fund), OPA requires that vessels show evidence of financial responsibility, such as insurance. The NPFC carries out this mandate by issuing Certificates of Financial Responsibility (COFRs) to shipping vessel owners when owners demonstrate the ability to pay for oil spill cleanup and damages. In general, vessels over 300 gross tons are required to have a valid COFR to operate in U.S. waters.

The NPFC also takes action to recover cleanup costs from responsible parties. It documents ongoing costs and damages from the spill area, and bills the responsible party. About 40% of spills in U.S. waters are “mystery” spills, and the costs go unrecovered.

Marine Debris

Marine debris (e.g., discarded fishing lines or nets) can endanger birds and marine animals, and cause damage to coral reefs. Even less lethal trash from recreational fishing and boating (such as beverage cans and bottles, food wrappers, and foam plastic pieces) degrades beaches, coral reefs, and the oceans. The Coast Guard’s approach to debris is preventive, promoting compliance by boarding and inspecting vessels, and working with local port agencies to ensure there are facilities to receive garbage from vessels. The Coast Guard also coordinates with the Environmental Protection Agency (EPA), the National Marine Fisheries Service, the National Park Service, and the Ocean Conservancy¹⁶ in monitoring and measuring amounts of marine debris. This activity is authorized in the Act to Prevent Pollution from Ships, 33 U.S.C. 1905 and 1915, as well as MARPOL Annex V.

Marine and Environmental Science

The Coast Guard has a history of scientific study of the oceans dating back to 1881, when it began Arctic cruises along the Alaska coast. Today the Coast Guard’s role is that of a facilitator, supporting the scientific efforts of other groups. Moreover, many of the oceanographic and other scientific activities conducted by federal agencies, including the Coast Guard, were consolidated in 1970 with the creation of the National Oceanic and Atmospheric Administration (NOAA).

The Coast Guard operates three icebreakers in the Arctic and Antarctic, and provides supplies to remote stations.¹⁷ The Coast Guard also participates in the International Ice Patrol, which monitors iceberg danger in the northwest Atlantic, particularly in the area of the Grand Banks of

(...continued)

spills, and any fines or civil penalties collected.

¹⁶ Formerly the Center for Marine Conservation.

¹⁷ For more information, see CRS Report RL34391, *Coast Guard Polar Icebreaker Modernization: Background, Issues, and Options for Congress*, by Ronald O'Rourke.

Newfoundland. The iceberg season is usually from February to July, but the Ice Patrol is logistically flexible and can commence operations when iceberg conditions dictate.

Environmental Compliance

Coast Guard operations must comply with applicable environmental laws. Ongoing initiatives include meeting the more stringent emission requirements of the Clean Air Act Amendments of 1990, and developing strategies to minimize the generation of hazardous waste. There also are continuing efforts to design pollution prevention into shore facility improvement projects, and to conduct environmental audits at facilities to find and correct potential environmental violations.

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